Coeur Alaska Inc.

Kensington Gold Project

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1.0 Introduction

This volume of the Annual Water Quality Monitoring Summary report contains the results of water quality monitoring conducted in 2008 in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit for the Kensington Gold Project, near Juneau, Alaska (Permit No. AK-005057-1). A graphical presentation of water quality data collected at both discharge and receiving water monitoring stations, along with tabular summary statistics is included in this summary report.

2.0 Methods

Monitoring of water quality at Outfall 001 (treated mine outflow discharge) occurred during 2008 as required by the NPDES permit. Outfalls 002 (Tailings Storage Facility) and 003 (Kensington Camp domestic waste water discharge) were not discharging during 2008, therefore no monitoring occurred at these sites. In addition to outfall sampling, monitoring was conducted at four receiving water streams (Johnson, Slate, Sherman and Ophir Creeks) for ambient upstream and downstream water quality. The following list describes the sampling activities at these outfall and receiving water stations:

2.1 Monitoring Currently Active

- Continuous monitoring of flow and pH at Outfall 001 effluent; daily samples from the influent and effluent of Outfall 001 for total suspended solids (TSS) analysis; weekly water sampling at Outfall 001 influent and effluent for analysis of field, general and trace parameters; quarterly sampling of the effluent for TDS, anions and cations; monthly sampling of the effluent for whole effluent toxicity testing.
- Monthly receiving water field, general and trace parameters from stations MLA, SLB, SLC on Slate Creek; stations SH113, SH105, SH109, SH111 and SH103 on Sherman and Ophir Creeks; stations JS2, JS4, JS5 on Johnson Creek.

2.2 Monitoring Currently Suspended

- Weekly monitoring of flow, pH, TSS, biochemical oxygen demand (BOD 5 day test) and fecal coliform at Outfall 003 (effluent from the Kensington domestic waste water treatment plant); quarterly monitoring of Outfall 003 influent for BOD and TSS.

2.3 Monitoring Currently Planned

- Continuous monitoring of flow and pH at Outfall 002 effluent; daily samples from Outfall 002 effluent for total suspended solids (TSS) analysis; weekly water sampling at Outfall 002 effluent for analysis of field, general and trace parameters; quarterly sampling of the effluent for TDS, anions and cations; monthly sampling of the effluent for whole effluent toxicity testing.
- Upon completion of the tailings storage facility, flows within the tailings dam seepage collection system (TSF-SCS) will be contained and pumped back to the tailings facility. Quarterly monitoring at this location is proposed to characterize the quality of seepage flows – if any.

2.4 Changes during 2008 Monitoring

Coeur experienced challenges with the Outfall 001 effluent auto-sampling setup for short periods during 2008. The effluent sampling lines were modified and the overall sampling setup was changed more than once to ensure the collection of representative samples. The original set-up began to cause excess solids build-up in the sampling line in June, 2008. New piping, valves and brass fittings were installed, which increased the velocity through the piping system and eliminated sediment accumulating in the lines. Directly following the sampler upgrade, elevated copper concentrations were detected in weekly effluent samples. It was soon determined through additional sampling that the brass fittings used in the sampling piping were the source of copper and were therefore replaced. Thus, the elevated copper concentrations in the composite samples that resulted in permit exceedences did not reflect the actual copper concentrations in the effluent discharge. All effluent auto-sampling set-up issues were resolved and no changes occurred after September, 2008.

3.0 QC Summary

3.1 Plan QC

Coeur Alaska has complied with the approved quality assurance plan for the 2008 water quality data. At least ten percent of all lab reports are reviewed for issues pertinent to the five categories of quality control;

- Precision
- Accuracy
- Comparability
- Representativeness
- Completeness

Based on the results of this review, lab reports, individual samples, or individual parameters within samples may be qualified on a variety of issues as;

- Accepted
- Estimated
- Rejected

No data were rejected from the 2008 dataset, but some parameters within individual samples were flagged as estimated within the database when one or more of the quality controls were not met. During 2008, Coeur implemented the practice of completing the QA/QC review of all data gathered for the NPDES permit on a monthly basis in conjunction with preparation of the monthly Discharge Monitoring Report. This allowed for a timely resolution of many issues identified during the QA/QC review with the contract laboratory or field personnel.

Based on issues identified in the QA/QC review of the 2008 data set, the following are recommendations for the 2009 monitoring year:

1. Obtain a waterproof container to transport field instruments. This will minimize the opportunity for field meters (pH, conductivity, temperature and dissolved oxygen) to freeze between sampling sites. In addition, a hand warmer pack can be stored in the water-proof container to further prevent freezing of the meters.

2. Field instruments are periodically used for multiple monitoring projects. Dedicated instruments for the NPDES project may prevent additional wear on meters and extend their lifespan.
3. A small number of daily Outfall 001 TSS samples were received by the laboratory after the recommended hold time. Changing the handling procedure for these samples so that the Water Treatment Plant Operators transport them to the Environmental Field Office on a daily basis will ensure they are shipped out on Tuesdays and Thursdays as planned, thus reaching the laboratory within the required hold times.

3.1.1 Precision

Precision is a qualitative measure of the reproducibility of a measurement under a given set of conditions. Precision in the analytical results of laboratory analysis is determined by laboratory quality control measures such as duplicate matrix spikes and sample duplicates. The plan criterion for laboratory precision is a relative percent difference (RPD) between duplicate samples of less than or equal to 20%. Two percent of all sample results in the 2008 data set had duplicate analyses outside this control criterion and were qualified appropriately in the database.

In addition, field blind duplicate sample pairs, which are collected throughout the year, are used as an indicator for the general precision of laboratory results. Results of comparisons between duplicate sets collected during 2008 are tabulated in **Appendix A**. The less than 20% RPD goal was applied to the field duplicate sets comparisons; however this is not a plan criterion.

Seven percent of all duplicated parameter results were greater than 20% RPD. This was a decrease from 2007, when 11.7% of duplicated parameter results were greater than 20% RPD. The parameters having the greatest number of results with high RPD between field duplicate samples in 2008 were total dissolved solids, aluminum, manganese, zinc and turbidity.

Field blind duplicates were collected from both the Outfall sampling sites as well as the receiving water sampling sites. A total of 42 field sample duplicates were collected in 2008. This was a significant increase in the collection of field blind duplicates from 2007 when 34 were collected.

3.1.2 Accuracy

Accuracy in the analytical results of laboratory analysis is determined by percent recovery of laboratory quality control measures such as matrix spikes, control samples and method blanks. The criterion for accuracy in most analytical procedures is a percent recovery between 85 and 115 percent. Less than 1 % of all sample results failed this criterion and were qualified appropriately in the database.

Accuracy in field measurements is controlled and verified by using calibrated instruments. Field meters were always calibrated prior to their use during 2008 monitoring.

3.1.3 Representativeness

Representativeness is controlled by sampling plan design, sampling techniques and sample handling procedures.

3.1.4 Comparability

Comparability is maintained by using consistent sampling and analytical methods as well as consistent units of measurement. In June of 2008, Colombia Analytical Services located in Kelso, Washington was awarded a contract for all NPDES project water quality analytical services. As a result, a single laboratory conducted all water quality analyses during the remainder of 2008. Coeur has previously worked with multiple contract laboratories to conduct the analytical services for this project and by consolidating to one laboratory, comparability within the 2008 data set was improved from previous data sets. In addition, the sample and data management process was streamlined.

3.1.5 Completeness

As stated in the quality assurance plan for the Kensington Gold Project, the completeness criterion goal for monitoring data is 90% due to the extreme conditions observed on site. Overall data capture was greater than 99% during the 2008 monitoring year. A small number of field instrument malfunctions, as well as three missed Outfall 001 daily samples for total suspended solids analysis, resulted in achieving slightly less than 100% completeness.

3.2 Detection

The laboratory Practical Quantitation Limit (PQL) remained consistent for each analytical method during 2008 water quality monitoring. Dissolved arsenic, chromium, lead, selenium and silver were not detected in any samples collected from the receiving water stations on Slate, Sherman, Ophir and Johnson Creeks. Dissolved aluminum, iron and manganese were detected in virtually all samples collected from Slate Creek stations. Dissolved metals in Johnson Creek samples were either detected in a fraction of samples or none at all. Dissolved aluminum was the only metal detected in all but two samples collected from Sherman Creek stations. Comparing the number of undetected metals per site between the three receiving water streams, Johnson Creek samples had the highest, then Ophir, Sherman and Slate Creeks. As expected, sulfate, TDS and hardness parameters were detected in all samples collected from all stations on each of the three receiving water creeks. Ultra low detection limits, provided through the use of method 1631, were used to determine mercury concentrations in the receiving waters. All samples collected from Johnson Creek and the majority of Sherman and Ophir Creek samples remained below the detection limit. In the case of Slate Creek, all but five samples were above the low level detection limit. A complete list of parameters that remained undetected at each monitoring station during 2008 is shown in Table 1 and Table 2.

3.3 Outlier(s)

A variance analysis was conducted on each monthly set of monitoring data. Variance analysis reports compare sample results to historical results for the same parameters at the same sampling stations. Those results that exceeded the threshold level of two standard deviations are listed in the table for the appropriate month in **Appendix B.** Other field measurements or analytical results were identified by data time series plots as potential outliers. Table 3 contains potential outliers in receiving water monitoring data determined using a combination of trend and statistical analysis.

4.0 General Major Chemistry

Area waters generally:

- Have peak water temperature in August or September
- Are at or near oxygen saturation
- Have mildly basic pH
- Seasonal fluctuation of conductivity with peak in winter (excluding Slate Creek)
- Contain low levels of sulfate (<10ppm, excluding Sherman Creek)
- Are generally soft (in most cases <100ppm hardness, excluding SH103)
- Have low concentrations of dissolved metals

5.0 Summary Statistics

Summary statistics were calculated for all parameters at each discharge and receiving water station. The calculations include the minimum, maximum, arithmetic mean and standard deviations for each monitoring station contained in the 2008 data set. The results are presented in Tables 4 through 15. Also included in the summary tables are the total number of samples collected, total number of non-detect results and the percentage of non-detects.

6.0 Watersheds

Upstream/downstream receiving water monitoring stations are present on Johnson, Slate, Ophir and Sherman Creeks. A comparison of the chemistry between these station pairs is discussed below. Tables 1 and 2 contain the monitoring parameters that remained undetected for the entire year at each station. These parameters will not be addressed in this section of the report. The absence of the majority of dissolved metals is typical of results obtained in all project area watersheds. In general, monitoring results indicate the water quality in the area of the project is very good with very little impact from project activities.

6.1 Receiving Waters- Johnson Creek

Monitoring Sites

- JS2- Johnson Creek upstream of disturbance
- JS5- Johnson Creek downstream of process area
- JS4- Johnson Creek downstream

6.1.1 Major Chemistry

Water quality monitoring on Johnson Creek was intended to identify potential impacts from Mill facility construction. Data collected during 2008 was similar in water quality trends to the data collected in 2007. Water quality from upstream to downstream on Johnson Creek shows consistent seasonal trends of temperature, TDS, nitrate, pH, and sulfate. Upstream temperature appears to be higher than downstream during the winter months and lower during the summer months.

Some elevation of DO, pH, conductivity, turbidity, TDS, sulfate, hardness, and color is seen from upstream to downstream (Figures 6a, 6b). Dissolved oxygen was typically greater in downstream measurements; however seasonal trends were not evident. Measurements of pH appeared slightly lower at all sites April through June and in September and November compared to other months. The highest pH was measured in July at all sites. Conductivity measurements were much higher downstream than upstream in winter months. Values were over 100umhos/cm from January through April at JS4 and JS5, but less than 50umhos/cm throughout the year at JS2. From May to September, downstream sites ranged from 40 to 70umhos/cm, increasing to 65 to 95umhos/cm from October through December.

Turbidity was less than 1ntu at all sites throughout the year, with an upstream to downstream pattern only observable from September to November. Total dissolved solids were typically low at JS2 (less than 30mg/L), but ranged from 50 to 90mg/L at downstream sites from January through April. TDS values were less than 50 at all sites from June to September. In

December, there was a reversal of upstream-downstream pattern with TDS slightly higher at JS2 and lowest at JS-4. Sulfate was consistently low (<2mg/L) at JS2, whereas the two downstream sites showed increasing sulfate from January through April (approaching 10mg/L) then a sharp decline to less than 5mg/l during May and June, followed by a gradual increase until October. Hardness was higher in winter than summer at all sites, through downstream sites had twice the hardness of JS-2 from January through April. All sites were less than 30mg/l from May through September. Color was only detected at JS2 during October and November likely due to the presence of tannins in the water from vegetation die-off in fall. Color was highest at JS5 and JS4 in March and October.

Ammonia increased from upstream to downstream in January 2008, but was not detected in subsequent samples. Nitrate results were very similar at all sites throughout the year except for April when higher results were obtained from upstream to downstream. From October through December this pattern reversed with slightly higher Nitrate upstream. Nitrate was lower at all sites from June through September than in winter. Chloride was only detected at JS4 in March and April. TSS was only detected at JS2 in July.

6.1.2 Trace Chemistry

The majority of dissolved metals tested at Johnson Creek were not detected at any sites at any time of the year. These included arsenic, cadmium, copper, chromium, iron, lead, nickel, selenium and silver. Downstream (JS5) dissolved aluminum and manganese appeared to remain at or above upstream (JS2) levels throughout 2008, although all values were within the most stringent water quality standards (Figure 6c). Downstream aluminum was high in May with 20.9ug/L and again in October with 26.1ug/L. JS2 remained below 5ug/L throughout the year. The lowest level at JS-4 was 3ug/L in February. Manganese was also elevated at JS4 in April (7ug/L) and October (6ug/L) with levels only detected at JS2 in February through April (1-2ug/L).

Only one sample analyzed for dissolved mercury had a detectable result and this was at JS4 in October. Dissolved zinc was only detected in Johnson Creek during February and March. Only one sample at JS2 had a result that was just above the detection level. Both JS5 and JS4 had detectable results in February and March with the highest level observed at JS5 in February at

7.3ug/L, which was still well below the most stringent water quality standard.

Comparison with 2006 and 2007 data show that Johnson Creek appeared to have a more variable pH in the latter half of 2008 than in previous years. Turbidity and TSS were lower (<1 NTU) than previous years, while the metals mercury, nickel and manganese were lower or detected less in 2008. Nitrate levels were similar to 2007, but sulfate was higher in April 2008 than the previous spring.

6.2 Receiving Waters- Slate Creek

Monitoring Sites

- MLA- Middle Lake Slate Creek upstream of disturbance
- SLB – East Fork Slate Creek upstream of confluence with West Fork Slate Creek
- SLC- Slate Creek downstream of confluence with West Fork Slate Creek

6.2.1 Major Chemistry

Water quality monitoring on Slate Creek in 2008 was intended to identify potential impacts from the Tailings Storage Facility (TSF) construction. Figures 7a through 7b are graphical presentations of analytical results gathered throughout the year.

As with the other receiving waters, Slate Creek's monitoring data exhibited trends in accordance with expected seasonal changes, increasing in summer and decreasing in winter. Compared to the other streams, Slate Creek was the warmest- most likely due to the presence of lakes in the system that warm up in summer due to their large surface area. Water temperature reached a maximum of 15.4 ^{o}C at SLB in August. Some increase of pH, DO, conductivity and chloride was evident from upstream to downstream (Figures 7a, 7b). An exception to this trend is pH, which was higher at SLB than SLC in February (8.14), June (8.02), July (7.98) and only slightly higher in November (7.78). SLB had the lowest pH in October (6.92) and December (6.69).

Dissolved oxygen measured at Slate Creek stations showed a seasonal trend similar to

those of the other receiving water streams. MLA consistently had lower DO measurements while SLB and SLC trended closely together. An exception was SLB in June, which had a DO just less than MLA. Dissolved oxygen increases as temperature decreases and is likely lower in the lake (near MLA) than downstream where several cascades help mix oxygen into the water. Conductivity tended to be lowest at MLA and was sometimes highest at SLB e.g. February, June and September. Conductivity was low at all sites in May, ranging from 58 to 68umhos/cm and was high at MLA and SLB in February (116-125umhos/cm) and high at all sites in July (118-125umhos/cm).

Sulfate at MLA remained relatively stable during the entire year compared to the two downstream stations. All three stations appeared to have lower sulfate during the summer. Sulfate was low at MLA (around 2mg/L) and highest at SLB, peaking there at 16.1mg/L in April and 14.8mg/L in September. Sulfate at SLC followed a similar pattern to SLB, but values were lower likely due to dilution by the West Fork of Slate Creek. Turbidity tended to be slightly higher at SLB, especially at times of higher flow; in April, September and October, turbidity was 2 NTUs at SLB (around 1 NTU higher than SLC). Nitrate and ammonia were only detected in January and February. Ammonia was present in January in the background sample at a level of 0.4mg/L and at SLB at 0.8mg/L. Nitrate results for Slake Creek were by far the lowest of all the streams. Nitrate was only present at just above the detection level at SLB and SLC in January and February.

Chloride results in Slate Creek samples were slightly higher than results from Johnson Creek, but still well within water quality standards. Chloride remained at or above the detection limit during the entire year at all three sites. Chloride results in SLC samples were either equal to or greater than results from the other two stations upstream indicating a possible difference in chloride levels between East and West Fork Slate Creek.

Hardness followed a similar pattern throughout the year at all three stations. Hardness was high at SLB in January and February (60mg/L) and declined at all 3 sites in May (<30mg/L). Hardness increased again at all sites in June and July (>50mg/L) then declined again through the fall. TDS was fairly similar at sites throughout the year, mostly between 60 and 70mg/L from January to March then decreasing to a low of less than 20mg/L in May. TDS increased again in summer then declined again in winter. SLB showed a few differences from the other two sites,

reaching 100mg/L in February and 129mg/L in September.

TSS was below detection limits at all three stations for all of 2008. Color appears to decrease from upstream to downstream, and was lowest at all sites during lower flows in the summer (around 35 CU). The highest level was reached in April when color at MLA reached 140 CU. SLB was slightly higher than MLA in October at 100 CU.

6.2.2 Trace Chemistry

All three sampling stations on Slate Creek showed high flow seasonal spikes in spring and fall for aluminum, cadmium, copper, iron, nickel and zinc (Figure 7c). Aluminum tended to be relatively low at all three sites in June and July (<50ug/L). Background aluminum at MLA was 106ug/L in April, exceeding the water quality standard (WQS) of 87ug/L. SLB was higher at 134ug/L and peaked at 145ug/L in September. In general, aluminum had a decreasing trend between SLB and SLC, with SLC often the lowest in concentration of all three stations.

The WQS for cadmium varied with hardness from 0.10ug/L to 0.18ug/L. Cadmium levels at SLB exceeded this standard at times during the year, peaking at 1.9ug/L in April and 0.8ug/L in October. Cadmium was lowest at SLB and SLC in June, July and December. This parameter remained undetected at MLA in all samples collected during 2008. Copper was not detected at MLA, but was detected every month at SLB and SLC. Copper at SLB approached, but did not exceed, the WQS in April and September. Iron levels were similar at SLB and MLA, which were both slightly higher than SLC, except in September, when SLB reached 0.45mg/L, while the other sites remained below 0.15mg/L. All samples were well below the WQS of 1mg/L.

The WQS used for manganese is 50ug/L, which was reached at MLA in January and decreased downstream. The pattern of higher manganese at MLA then decline downstream appears at low flow times of year, i.e. January, February and May through August. The manganese level at SLB however, increased to 70ug/L in March and 127ug/L in April with SLC reaching 66ug/L in April. All sites were low from May through August, mostly remaining below 16ug/L. A second peak occurred in fall with SLB increasing again to 112ug/L in October and 137ug/L in November. SLC was 83ug/L in September, even though SLB was only 37.5ug/L, indicating high manganese levels in the West Fork of Slate Creek. SLC was just over the WQS at 54ug/L in

October, but MLA exceeded the WQS in November, reaching 75ug/L, which brought SLC up to 62ug/L. SLB declined to 74ug/L in December while the other sites were below 30ug/L.

Nickel tended to be highest at SLB and was not detected at MLA. Nickel peaked at SLB in April at 13ug/L, but was highest at SLC in September at 7ug/L. Zinc was only detected at MLA at a low level in March, but SLB exceeded the WQS three times and SLC exceeded it twice. SLB reached 81ug/L in March while SLC remained below the WQS at 35ug/L. In April, SLB reached 180ug/L, while SLC reached 96ug/L, receiving some dilution from the West Fork. SLB and SLC peaked at different times in fall with SLC reaching 96.6ug/L in September when SLB was only 60ug/L. This suggests higher zinc levels in the West Fork in September. SLB was 73ug/L in October, but SLC was only 36.5ug/L suggesting dilution again. All sites had low zinc levels in summer.

Mercury was detected at very low levels in the majority of samples collected from all Slate Creek monitoring stations. No mercury was detected in February at SLB and MLA, or at SLC in November, or SLB in December. An elevated level of dissolved mercury was found at SLB in July at 0.0094ug/L, which was still well below the WQS of 0.05ug/L.

A comparison of 2008 Slate Creek data with 2007 and 2006 shows that pH was slightly lower at all sites in summer of 2008. SLB pH was lower in May, October and December 2008 than any time in 2007. Sulfate was highest at SLC in 2006, but increased at SLB in September 2006 and again in September 2007, April 2008 and September 2008. Nitrate, however, seems to have declined to non-detect levels.

Cadmium was not consistently detected at SLB until August 2007, reaching a peak in April 2008. Copper also increased around the same time. Zinc was present at low levels from September 2006, increased in October 2007 and peaked in April 2008. Nickel followed a similar pattern, being present at SLB and SLC at low level during 2006 the increasing in August 2007 and peaking in April 2008. Manganese had the highest concentration at MLA during the first part of 2006, then showed peaks at SLB in September 2006, November 2007, April 2008 and November 2008. Iron was also highest at MLA during the first part of 2006 and January through April of 2007. Iron peaked at SLB in July 2006 and September 2008.

6.3 Receiving Waters- Sherman Creek

Monitoring Sites

- SH109- Upper Sherman Creek upstream of disturbance
- SH113- Sherman Creek downstream of Outfall 001
- SH105- Sherman Creek downstream at mouth of creek

6.3.1 Major Chemistry

Water monitoring on Sherman Creek was intended to help identify any potential impacts from mine construction and water treatment activities (Figures 8a, 8b). Temperature consistently showed an increasing trend from upstream to downstream sites during 2008 with the greatest difference during the winter and spring months. Dissolved oxygen was typically higher at the site furthest downstream (SH105), with little difference between the two upper sites. This can expected with the presence of a large waterfall increasing aeration upstream of SH105. Measurements of DO tended to decline in summer as water temperature increased. Measurements of pH were higher at SH109 than sites downstream from July to October. Values of pH were slightly lower in May, July and October, particularly at SH105. Monitoring station SH105 appears to have the greatest distribution in pH values of all the Sherman Creek sites.

Conductivity was highest at site SH113 (middle site) and lowest at SH109 (upper site) throughout the year. Measurements ranged from below 52umhos/cm at SH105 in May to 345umhos/cm at SH113 in February. All three sites showed lowest conductivity from May to July and highest levels January to April. Turbidity was less than 2 NTUs throughout the year with the exception of May when it reached 7.1 NTUs at SH109 (upstream site) and 3.6NTUs at SH113. In the 2008 data set, total dissolved solids tended to be highest January through March, lowest in May and June. While SH113 monitoring data showed the highest levels of TDS during most months of the year, all three sites followed similar seasonal trends.

Ammonia was detected in one sample at SH113 in February and was only present at the detection level. It remained undetected in samples collected at SH105 and SH109 during 2008. Nitrate levels tended to be higher in winter and lower in summer at all three sites. Nitrate was typically highest at SH105 and lowest at SH113 in the winter months, then from June to

September, SH105 had the lowest levels. Sulfate, chloride and hardness tended to increase upstream throughout the year. Sulfate tended to be higher in winter and lower in summer and this was most evident at SH113, which showed a peak sulfate level of 83mg/L in February. Chloride remained highest at SH113 for most of the year, with the exception of SH105 in February with a chloride result of 11mg/L. This result was the maximum level recorded for Sherman Creek but was still well below the most stringent water quality standard of 230mg/L. Chloride tended to be higher at all sites from February through April, but was not detected at SH109 from May to December.

Total suspended solids were only detected in 4 out of 36 samples collected from Sherman Creek in 2008. The highest level recorded was at SH109 during May (17mg/L). SH113 showed a level of 14mg/L at the same time. A sample collected at SH113 in February showed a value of 16, while SH105 showed TSS present at the detection level in April. TSS was not detected in any other samples in 2008. Hardness was typically highest at SH113 with the highest values recorded January through April. SH105 downstream was very similar to the background site SH109 during February then June through October. Hardness declined steeply between April and May likely as flow increased with snowmelt. Color increased from upstream to downstream from January to May with values reaching over 35CU in April. Color declined steeply between May and June. Color results for samples collected in October are missing from the data set due to a laboratory error.

Higher results obtained at Station SH113 for temperature, conductivity, turbidity, ammonia (February only), sulfate, chloride, TDS and hardness, are likely attributable to discharge from Outfall 001.

6.3.2 Trace Chemistry

Trace metals not detected in Sherman Creek during 2008 were arsenic, cadmium, chromium, iron, lead, selenium and silver. Aluminum was often lowest at site SH113 suggesting removal of this metal by the water treatment plant to levels below that of upstream, background levels. Aluminum was slightly higher in May at all sites, perhaps due to snowmelt and was lowest in summer (Figure 8c). Copper was detected in 6 out of 36 samples, 3 of which were at SH105, 2

at SH109 and the highest at SH113 with a level of 1.9ug/L in May. Manganese was highest at SH113 and lowest at SH109, with the greatest difference occurring in February through April and August through October. Manganese was less than 10ug/L at all sites in January, May, June, July and November. Low level mercury was only detected at the upstream site in May and was also found at the downstream sites at this time. Dissolved mercury was also found in April at SH113 and SH105. Nickel was only found at the detection level in February through April at SH113. No other sample results were at detectable levels of nickel. Zinc was only detected at SH109 in February and August, at SH113 in February, April and September, and at SH105 in April, September and October.

A comparison with previous data shows that Sherman Creek appeared to have slightly lower pH in the latter half of 2008 than previous years with SH105 dipping below pH 7 twice during the summer of 2008. Turbidity was slightly higher in 2008 at 113 than 2007, but remained below 2 NTUs. Ammonia was present at a low level in September 2006, December 2006, January 2007, December 2007 and February 2008, but remained undetected for the remainder of 2008.

Chloride appeared to have an increasing trend from July 2007 to March 2008, but was present at much lower levels after June 2008. Nickel seems to have declined since a peak in July 2007 (not detected since June 2008). Manganese was low until July 2007, increasing at SH113 at high flow in fall of 2007 and 2008. Iron was detected at SH105 in previous years (twice in 2006 and twice in 2007), but was not detected in 2008. Sulfate, TDS and conductivity follow hardness patterns, peaking at SH113 in February 2008, but thereafter present at much lower levels. Nitrate has declined since it peaked in February and May 2007.

6.4 Receiving Waters- Ophir Creek

Monitoring Sites

- SH111- Ophir Creek upstream of Comet Development Rock Stockpile
- SH103- Ophir Creek downstream of Comet Development Rock Stockpile

6.4.1 Major Chemistry

Water monitoring on Ophir Creek was intended to help identify any potential impacts from mine construction and development activities associated with the Comet Development Rock Stockpile. Figures 9a through 9c are graphical presentations of analytical results gathered throughout the year. Monitoring station SH111 is typically unavailable for sampling due to frozen conditions in the winter. The data reflects the intermittent surface stream flow that occurred between spring and fall of 2008. In general, Ophir Creek exhibited water quality characteristics similar to those found at Sherman Creek.

As with the other receiving waters, Ophir Creek's monitoring data exhibited many trends in accordance with expected seasonal changes, increasing in summer and decreasing in winter. However, unlike the other receiving waters, dissolved oxygen at SH111 and SH103 was not lowest during the summer months. This can be counter-intuitive since colder water generally holds more oxygen. One explanation for this anomaly may be that since Ophir Creek has very little flow, if any, during the winter months. As a result, minimal aeration occurs during this period and oxygen in the air is less readily diffused into the water at these monitoring stations.

Measured conductivity at SH103 was highest of all 11 monitoring sites on the project receiving waters. Between January and April, conductivity steadily increased from 897umhos/cm to 1140umhos/cm. During this time, the stream flow at this site is generally at its lowest of the year. However during the summer and fall months when stream flow increases, conductivity at SH103 was less than 100umhos/cm, which was very similar to that of the background site SH111.

Total dissolved solids (and its constituents) at SH111 exhibited consistent concentrations throughout the year with very little change between seasons. Total dissolved solids at SH103, however, as well as chloride, nitrate, sulfate and hardness results peaked in February or April, which was consistent with the conductivity trends. Six of the 7 samples collected at SH111 had a higher pH than the samples collected downstream at SH103, while all samples collected on Ophir Creek remained between 6.7 and 7.7 pH units. A slight overall increase in pH appeared to have occurred at both sites on Ophir Creek during 2008. Ammonia remained undetectable (less than 0.1ug/L) in all Ophir Creek samples but one, which was collected from SH103 in January with a

result of 0.6mg/L. This value appears to be an anomaly.

6.4.2 Trace Chemistry

Dissolved aluminum remained detectable in all samples collected at both Ophir Creek sites during 2008 with upstream site SH111 results generally higher than SH103 results (Figure 9c). However, SH111 and SH103 had by far the lowest concentrations of dissolved aluminum of all the receiving waters with very little variation throughout the year. Low detectable levels of copper, manganese, nickel and zinc were found in SH111 and/or SH103, but all results were well below state water quality standards. A single anomalous dissolved mercury concentration was found in a SH111 sample collected in September.

7.0 Discharges

7.1 Outfall 001

The Comet water treatment plant (WTP) discharge (Outfall 001) was sampled weekly, resulting in at least four times the data compared to most receiving water stations. This larger group of sample results is a greater opportunity to identify trends (Figures 10a – 10d). Discharge Monitoring Reports containing results of required monitoring (Permit No. AK-005057-1) were submitted each month during 2008. The results can also be found in this annual report in **Appendix C**.

As was the case during 2007, variances in Outfall 001 effluent data may reflect subtle changes to treatment techniques and levels and areas of activities in the underground mine. Aside from care and maintenance activities, all underground construction and development activities ceased during the 4th quarter of 2008.

7.1.1 Major Chemistry

Dissolved oxygen (DO) in the effluent tended to be higher in winter and lower during the summer season, but was always well within a healthy concentration for freshwater life. DO is negatively correlated with temperature and measured values range from 12.5 to 13.5 mg/l in January and February when water temperature dipped down to 0.6 ^{o}C in February, declining to less than 12mg/l in May when water temperature reached 10 ^{o}C. Effluent DO increased again in

August to 13mg/l as water temperatures declined to 6.7 ^{o}C.

Grab samples from the effluent and background station SH109 are collected weekly in conjunction with the influent/effluent composite samples. The difference between background turbidity and effluent turbidity remained low for most of the year (well under the limit of 5 NTUs). Two isolated occurrences of elevated turbidity in the effluent water are shown in Figure 10b.

Both TDS and sulfate (associated with calcium and magnesium) were well below permit limits in 2008. Throughout the year, major cations (represented by hardness) and anions (represented by sulfate), plus total dissolved solids showed similar trends. Effluent TDS, sulfate and hardness were highest in concentration during March, and then had decreased by June. Downstream hardness, measured at SH113, was over 100 mg/l from January through April then was less than 75 mg/l through the summer months. There were short-term peaks in concentration on September 11 and December 11 of around 135 mg/l, with downstream hardness tending to increase overall from October to December as both effluent and Sherman Creek flows declined again.

TSS remained below the detection limit in 75% of the daily samples collected during 2008. The vast majority of the remaining 25% of the samples collected were at or slightly above the detection limit with the exception of a single elevated result occurring in July. Nitrate and ammonia remained well below daily maximum permit limitations throughout the year. Both ammonia and nitrate were slightly higher from January through May with lower values during the rest of the year. The higher concentrations seen in effluent monitoring early in the year were likely due to the increased mining activity in the underground mine at that time.

7.1.2 Trace Chemistry

Arsenic, cadmium and silver were undetected in effluent samples during 2008. Chromium was only detected in one sample at 3.4ug/l on July 29. Lead, mercury, and nickel vary in concentration but are essentially at or near the detection limit. One exceedence of aluminum occurred on January 2nd at a concentration of 348ug/l, but remained below the permit daily limit of 150ug/l throughout the rest of the year. Aluminum was below 55ug/L from August 7 onward. Iron was over the permit limit on January 2nd at 1.79mg/l, but remained below the limit for the rest

of the year. Little iron was detected April-June, but iron levels were 0.5 to 1mg/l for most of July through December.

Four exceedences of copper occurred in July when levels reached 12ug/l and the limit was 7.3ug/l. The cause of the elevated copper in the effluent composite samples is discussed in section 2.0 of this report. These elevated copper results are not believed to reflect the actual concentrations in the discharged effluent. Out of 65 samples, copper was non-detect in 47 of them. Lead was only detected 10 times out of 63 samples and all were below the permit limit. The highest levels were found in July, with a similar level found on January 2.

Manganese was slightly higher during the first half of the year, with most results between 50 and 100ug/l, and then declined to mostly 25 to 60ug/l from June through December. Nickel was not detected in 17 out of 63 samples and was always well below the permit limit. Selenium was not detected in 19 out of 63 samples and only reached a maximum of 2ug/l, well below the permit limit of 8.2ug/l. Zinc was less than 20ug/l throughout most of the year and was less than 10ug/l from August 26 onward. Mercury was only detected in 5 samples out of a total of 63 collected and was always well below the permit limit.

On the whole, total recoverable metals monitored from the 001 effluent discharge were at or only slightly above detection limits in the discharge water and well under permitted limits, with the exception of aluminum and iron in January and Copper in July.

7.1.3 Whole Effluent Toxicity Testing

Whole Effluent Toxicity (WET) Tests were conducted monthly on the 24hour composite samples collected from Outfall 001 effluent. The following three tests were rotated throughout the year such that each test was conducted once a quarter:

- *Pimephales promelas* (fathead minnow)- static, renewal, larval survival and growth test.
- *Ceriodaphnia dubia* (water flea)- 7-day static, renewal, survival and reproduction test.
- *Selanastrum capricornutum* (green algae)- 4-day static, growth.

A total of 13 WET tests were conducted during 2008. In September, the monthly average

permit limit (1.1 TU) was exceeded when the WET test with *Ceriodaphnia dubia* passed on survival but failed on reproduction resulting in a monthly average toxic unit value of 1.17 TU. The anomalous elevation in chronic toxic units was attributed to collecting the composite sample using a sampler configuration that was the cause of previous issues of elevated constituents in the composite samples. The auto-sampler set up configuration was changed in an effort to prevent similar issues. In addition, a single accelerated test was collected in accordance with Permit AK-005057-1 Part I.D.4.a. This test demonstrated the cause of the exceedence was corrected.

7.2 Outfall 002

Outfall 002 is the tailing storage facility, which has not yet been constructed and therefore, no discharge occurred during 2008.

7.3 Outfall 003

Outfall 003 is the Comet Beach Camp sewage treatment plant with a marine discharge. The plant was decommissioned at the end of October 2007 as a result of the camp population moving to the Jualin facilities. Since there was no longer any discharge from this outfall, monitoring ceased.

Tables

Table 1: Non-detect Parameters at Sherman, Slate and Johnson Creek Stations

SHERMAN CREEK

SH109

Parameter	PQL	Units
Ammonia	<0.1	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

SH113

Parameter	PQL	Units
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

SH105

Parameter	PQL	Units
Ammonia	<0.1	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

SLATE CREEK

MLA

Parameter	PQL	Units
Nitrate as N	<0.05	mg/L
TSS	<5	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Copper	<1	ug/L
D-Lead	<0.16	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

SLB

Parameter	PQL	Units
TSS	<5	mg/L
D-Arsenic	<2.5	ug/L
D-Chromium	<2.5	ug/L
D-Lead	<0.16	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

SLC

Parameter	PQL	Units
TSS	<5	mg/L
D-Arsenic	<2.5	ug/L
D-Chromium	<2.5	ug/L
D-Lead	<0.16	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

JOHNSON CREEK

JS-2

Parameter	PQL	Units
Chloride	<1	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Copper	<1	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Mercury	<0.001	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

JS-5

Parameter	PQL	Units
TSS	<5	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Copper	<1	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Mercury	<0.001	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

JS-4

Parameter	PQL	Units
TSS	<5	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Copper	<1	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

Table 2: Non-detect Parameters at Ophir Creek and Outfall 001 Stations

OPHIR CREEK

SH111

Parameter	PQL	Units
Ammonia	<0.1	mg/L
Chloride	<1	mg/L
TSS	<5	mg/L
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Manganese	<1	ug/L
D-Nickel	<1	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

SH103

Parameter	PQL	Units
D-Arsenic	<2.5	ug/L
D-Cadmium	<0.1	ug/L
D-Chromium	<2.5	ug/L
D-Iron	<0.05	mg/L
D-Lead	<0.16	ug/L
D-Mercury	<0.001	ug/L
D-Selenium	<1	ug/L
D-Silver	<0.1	ug/L

OUTFALL 001

001 Effluent

Parameter	PQL	Units
TR-Arsenic	<2.5	ug/L
TR-Cadmium	<0.1	ug/L
TR-Silver	<0.1	ug/L

001 Influent

Parameter	PQL	Units
No parameter remained non-detect for all of 2008		

Table 3: Potential Outliers in Receiving Water Monitoring Data 2008

Site(s)	Date	Parameter
JS2, JS4, JS5	1/2/2008	Ammonia
SH103	1/7/2008	Ammonia
MLA, SLB, SLC	1/9/2008	Ammonia
SH109	2/11/2008	D- Manganese
SH105	2/20/2008	Chloride
JS2, JS4, JS5	7/8/2008	Field pH
SH105	7/8/2008	Field pH
SLB	7/15/2008	D- Mercury
001 Effluent	7/29/2008	T- Chromium
MLA	8/20/2008	Dissolved Oxygen
SH111	9/8/2008	D- Mercury
SLB	9/10/2008	D- Iron
SH105	10/1/2008	Field pH
JS2	11/4/2008	Field pH
JS4	11/4/2008	Field pH
JS4	12/9/2008	Field pH
001 Effluent	12/30/2008	Dissolved Oxygen

Table 4: Station JS2 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	2.7	5.5	2.8	12	0	0.0%	3.86	0.9
Dissolved Oxygen	mg/L	11.1	12.72	1.62	12	0	0.0%	12.03	0.6
pH	pH	6.51	7.91	1.4	12	0	0.0%	7.09	0.4
Conductivity	umhos/cm	27	46.3	19.3	12	0	0.0%	37.73	6.4
Turbidity	NTU	<0.1	0.7	0.7	12	3	25.0%	0.21	0.2
Nitrate as N	mg/L	<0.05	0.36	0.36	12	1	8.3%	0.20	0.1
Ammonia as N	mg/L	<0.1	0.5	0.5	12	11	91.7%	0.04	0.1
Sulfate	mg/L	1	2.2	1.2	12	0	0.0%	1.49	0.4
Chloride	mg/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Total Dissolved Solids	mg/L	13	55	42	12	0	0.0%	24.67	10.8
Total Suspended Solids	mg/L	<4	5	5	12	11	91.7%	0.42	0.5
Hardness, Total	mg/L	11.6	20	8.4	12	0	0.0%	16.19	3.4
Dissolved Aluminum	ug/L	<1	4.7	4.7	12	3	25.0%	2.14	1.2
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	<1	2	2	12	8	66.7%	0.58	0.5
Mercury Dissolved	ug/L	<0.001	<0.001	<0.001	12	12	100.0%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	2.8	2.8	12	11	91.7%	0.23	0.1
Color	color unit	<5	5	5	12	10	83.3%	0.83	0.0

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 5: Station JS5 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0.3	6.1	5.8	12	0	0.0%	3.29	1.9
Dissolved Oxygen	mg/L	11.31	14.35	3.04	12	0	0.0%	12.28	1.0
pH	pH	6.6	8.11	1.51	12	0	0.0%	7.28	0.5
Conductivity	umhos/cm	37.7	115.9	78.2	12	0	0.0%	74.30	27.5
Turbidity	NTU	<0.1	0.7	0.7	12	1	8.3%	0.34	0.2
Nitrate as N	mg/L	0.06	0.46	0.4	12	0	0.0%	0.23	0.1
Ammonia as N	mg/L	<0.1	0.8	0.8	12	11	91.7%	0.07	0.2
Sulfate	mg/L	2.1	9.1	7	12	0	0.0%	4.62	2.1
Chloride	mg/L	<1	1	1	12	10	83.3%	0.17	0.0
Total Dissolved Solids	mg/L	15	70	55	12	0	0.0%	41.83	17.9
Total Suspended Solids	mg/L	<4	<5	<5	12	12	100.0%	0.00	0.5
Hardness, Total	mg/L	16.9	50	33.1	12	0	0.0%	31.48	11.7
Dissolved Aluminum	ug/L	1	14	13	12	0	0.0%	6.68	3.9
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	<1	2.7	2.7	12	2	16.7%	1.61	0.6
Mercury Dissolved	ug/L	<0.001	<0.001	<0.001	12	12	100.0%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	7.3	7.3	12	10	83.3%	1.04	1.5
Color	color unit	<5	16	16	12	5	41.7%	5.00	3.5

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 6: Station JS4 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0.1	6.6	6.5	12	0	0.0%	3.18	2.1
Dissolved Oxygen	mg/L	12.14	14.18	2.04	12	0	0.0%	13.00	0.7
pH	pH	6.29	8.08	1.79	12	0	0.0%	7.27	0.5
Conductivity	umhos/cm	47.9	126.6	78.7	12	0	0.0%	87.27	28.6
Turbidity	NTU	<0.1	0.8	0.8	12	1	8.3%	0.34	0.2
Nitrate as N	mg/L	0.06	0.35	0.29	12	0	0.0%	0.21	0.1
Ammonia as N	mg/L	<0.1	2.3	2.3	12	11	91.7%	0.19	0.6
Sulfate	mg/L	2.7	9.9	7.2	12	0	0.0%	5.68	2.2
Chloride	mg/L	<1	1	1	12	10	83.3%	0.17	0.0
Total Dissolved Solids	mg/L	21	90	69	12	0	0.0%	49.33	22.5
Total Suspended Solids	mg/L	<4	<5	<5	12	12	100.0%	0.00	0.5
Hardness, Total	mg/L	22.1	60	37.9	12	0	0.0%	37.78	12.4
Dissolved Aluminum	ug/L	3	26.1	23.1	12	0	0.0%	11.94	7.0
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	<1	7	7	12	1	8.3%	3.14	1.9
Mercury Dissolved	ug/L	<0.001	0.0012	0.0012	12	11	91.7%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	4.4	4.4	12	10	83.3%	0.64	0.6
Color	color unit	<5	23	23	12	5	41.7%	7.17	6.4

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 7: Station MLA 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0.8	14.3	13.5	12	0	0.0%	5.03	5.3
Dissolved Oxygen	mg/L	7.54	12.21	4.67	11	0	0.0%	10.55	1.3
pH	pH	6.82	7.73	0.91	12	0	0.0%	7.24	0.3
Conductivity	umhos/cm	58.6	125.6	67	12	0	0.0%	93.48	20.7
Turbidity	NTU	0.3	1.3	1	12	0	0.0%	0.68	0.3
Nitrate as N	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Ammonia as N	mg/L	<0.1	0.4	0.4	12	10	83.3%	0.04	0.1
Sulfate	mg/L	1.4	2.2	0.8	12	0	0.0%	1.89	0.3
Chloride	mg/L	<1	2	2	12	2	16.7%	0.92	0.3
Total Dissolved Solids	mg/L	20	104	84	12	0	0.0%	59.08	24.3
Total Suspended Solids	mg/L	<4	<5	<5	12	12	100.0%	0.00	0.5
Hardness, Total	mg/L	25.7	62.7	37	12	0	0.0%	45.40	12.2
Dissolved Aluminum	ug/L	25	106	81	12	0	0.0%	67.33	26.6
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Iron	mg/L	0.054	0.23	0.176	12	0	0.0%	0.15	0.1
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	12.9	75.4	62.5	12	0	0.0%	30.03	18.8
Mercury Dissolved	ug/L	<0.001	0.0027	0.0027	12	2	16.7%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	8.4	8.4	12	11	91.7%	0.70	1.7
Color	color unit	35	140	105	12	0	0.0%	77.58	27.3

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 8: Station SLB 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0.14	15.4	15.26	12	0	0.0%	5.05	5.3
Dissolved Oxygen	mg/L	9.34	14.68	5.34	11	0	0.0%	12.33	1.6
pH	pH	6.69	8.14	1.45	12	0	0.0%	7.54	0.5
Conductivity	umhos/cm	59.8	126.2	66.4	12	0	0.0%	101.72	21.4
Turbidity	NTU	0.4	2	1.6	12	0	0.0%	1.15	0.6
Nitrate as N	mg/L	<0.05	0.06	0.06	12	10	83.3%	0.01	0.0
Ammonia as N	mg/L	<0.1	0.8	0.8	12	10	83.3%	0.08	0.2
Sulfate	mg/L	4.4	16.1	11.7	12	0	0.0%	10.24	3.4
Chloride	mg/L	<1	2	2	12	1	8.3%	1.25	0.5
Total Dissolved Solids	mg/L	18	129	111	12	0	0.0%	74.92	28.9
Total Suspended Solids	mg/L	<4	<5	<5	12	12	100.0%	0.00	0.5
Hardness, Total	mg/L	25	60	35	12	0	0.0%	46.30	10.9
Dissolved Aluminum	ug/L	41.1	145	103.9	12	0	0.0%	80.64	35.4
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	0.2	1.9	1.7	12	0	0.0%	0.57	0.5
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	1.2	4.1	2.9	12	0	0.0%	2.44	0.9
Dissolved Iron	mg/L	0.064	0.454	0.39	12	0	0.0%	0.19	0.1
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	3.1	137	133.9	12	0	0.0%	56.56	47.0
Mercury Dissolved	ug/L	<0.001	0.0094	0.0094	12	2	16.7%	0.00	0.0
Dissolved Nickel	ug/L	2	13	11	12	0	0.0%	4.66	2.9
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	12.1	180	167.9	12	0	0.0%	57.35	44.0
Color	color unit	25	110	85	12	0	0.0%	63.92	24.3

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 9: Station SLC 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0.3	12.7	12.4	12	0	0.0%	4.34	4.4
Dissolved Oxygen	mg/L	10.23	14.97	4.74	12	0	0.0%	12.97	1.4
pH	pH	7.02	7.97	0.95	12	0	0.0%	7.58	0.3
Conductivity	umhos/cm	66.44	129.3	62.86	12	0	0.0%	96.68	20.0
Turbidity	NTU	0.2	1.4	1.2	12	0	0.0%	0.72	0.4
Nitrate as N	mg/L	<0.05	<0.1	<0.1	12	11	91.7%	0.01	0.0
Ammonia as N	mg/L	<0.1	0.6	0.6	12	11	91.7%	0.05	0.1
Sulfate	mg/L	3.8	14.1	10.3	12	0	0.0%	7.25	2.9
Chloride	mg/L	1.6	4	2.4	12	0	0.0%	2.30	0.7
Total Dissolved Solids	mg/L	12	95	83	12	0	0.0%	59.92	21.2
Total Suspended Solids	mg/L	<4	<5	<5	12	12	100.0%	0.00	0.5
Hardness, Total	mg/L	27.8	60	32.2	12	0	0.0%	43.24	9.4
Dissolved Aluminum	ug/L	33	90	57	12	0	0.0%	60.69	19.3
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	1	1	12	1	8.3%	0.33	0.3
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	1	3.6	2.6	12	0	0.0%	1.67	0.7
Dissolved Iron	mg/L	<0.05	0.16	0.16	12	1	8.3%	0.09	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	1.7	82.7	81	12	0	0.0%	32.59	27.1
Mercury Dissolved	ug/L	<0.001	0.0023	0.0023	12	1	8.3%	0.00	0.0
Dissolved Nickel	ug/L	1.2	7	5.8	12	0	0.0%	2.83	2.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	6.9	96.6	89.7	12	0	0.0%	35.03	30.4
Color	color unit	20	73	53	12	0	0.0%	46.83	17.5

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 10: Station SH109 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0	7	7	12	0	0.0%	3.18	2.5
Dissolved Oxygen	mg/L	11.56	14.24	2.68	12	0	0.0%	12.58	0.8
pH	pH	7.12	7.86	0.74	12	0	0.0%	7.56	0.2
Conductivity	umhos/cm	52.3	117.5	65.2	12	0	0.0%	86.90	23.4
Turbidity	NTU	<0.1	7.1	7.1	12	1	8.3%	0.80	2.0
Nitrate as N	mg/L	<0.05	0.3	0.3	12	1	8.3%	0.17	0.1
Ammonia as N	mg/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Sulfate	mg/L	3	10.7	7.7	12	0	0.0%	6.66	2.7
Chloride	mg/L	<1	1	1	12	9	75.0%	0.25	0.0
Total Dissolved Solids	mg/L	26	80	54	12	0	0.0%	60.08	18.0
Total Suspended Solids	mg/L	<4	17	17	12	11	91.7%	1.42	3.7
Hardness, Total	mg/L	24.8	60	35.2	11	0	0.0%	40.20	11.4
Dissolved Aluminum	ug/L	2	25.7	23.7	12	0	0.0%	8.34	6.0
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	1.9	1.9	12	9	75.0%	0.33	0.3
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	<1	3	3	12	8	66.7%	0.52	0.6
Mercury Dissolved	ug/L	<0.001	0.0011	0.0011	12	11	91.7%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	2.7	2.7	12	10	83.3%	0.45	0.1
Color	color unit	<5	20	20	11	5	45.5%	4.27	4.5

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 11: Station SH113 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	1.1	7.4	6.3	12	0	0.0%	4.12	2.2
Dissolved Oxygen	mg/L	11.67	14.2	2.53	12	0	0.0%	12.60	0.8
pH	pH	7.31	7.73	0.42	12	0	0.0%	7.52	0.1
Conductivity	umhos/cm	78.5	345	266.5	12	0	0.0%	186.84	84.1
Turbidity	NTU	0.13	3.6	3.47	12	0	0.0%	1.11	0.9
Nitrate as N	mg/L	0.05	0.41	0.36	12	0	0.0%	0.15	0.1
Ammonia as N	mg/L	<0.1	0.1	0.1	12	11	91.7%	0.01	0.0
Sulfate	mg/L	8.7	82.9	74.2	12	0	0.0%	34.90	22.6
Chloride	mg/L	1.4	8	6.6	12	0	0.0%	3.98	2.0
Total Dissolved Solids	mg/L	33	220	187	12	0	0.0%	113.83	57.7
Total Suspended Solids	mg/L	<4	16	16	12	10	83.3%	2.50	4.2
Hardness, Total	mg/L	33.5	150	116.5	11	0	0.0%	80.65	37.2
Dissolved Aluminum	ug/L	<1	37.5	37.5	12	2	16.7%	8.29	9.6
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	1.9	1.9	12	11	91.7%	0.16	0.3
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	4	51	47	12	0	0.0%	20.78	16.6
Mercury Dissolved	ug/L	<0.001	0.0021	0.0021	12	10	83.3%	0.00	0.0
Dissolved Nickel	ug/L	<1	1	1	12	9	75.0%	0.25	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	7.4	7.4	12	9	75.0%	1.18	1.4
Color	color unit	<5	30	30	11	2	18.2%	7.91	7.5

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 12: Station SH105 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	1	8.5	7.5	12	0	0.0%	3.98	2.5
Dissolved Oxygen	mg/L	11.92	14.01	2.09	12	0	0.0%	13.00	0.6
pH	pH	6.85	8	1.15	12	0	0.0%	7.46	0.3
Conductivity	umhos/cm	67.4	212	144.6	12	0	0.0%	121.31	53.2
Turbidity	NTU	0.19	0.6	0.41	12	0	0.0%	0.35	0.1
Nitrate as N	mg/L	0.06	0.44	0.38	12	0	0.0%	0.23	0.1
Ammonia as N	mg/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Sulfate	mg/L	6.3	41.2	34.9	12	0	0.0%	18.41	12.2
Chloride	mg/L	1	11	10	12	0	0.0%	3.31	3.2
Total Dissolved Solids	mg/L	24	130	106	12	0	0.0%	78.50	35.4
Total Suspended Solids	mg/L	<4	5	5	12	11	91.7%	0.42	0.5
Hardness, Total	mg/L	28.6	90	61.4	11	0	0.0%	51.65	21.0
Dissolved Aluminum	ug/L	7.2	35.1	27.9	12	0	0.0%	20.25	9.3
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	1.3	1.3	12	9	75.0%	0.28	0.1
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	1.5	9	7.5	12	0	0.0%	4.08	2.3
Mercury Dissolved	ug/L	<0.001	0.0015	0.0015	12	10	83.3%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	9.1	9.1	12	9	75.0%	1.27	1.9
Color	color unit	<5	36	36	11	2	18.2%	14.64	10.2

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 13: Station SH111 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	2.9	6.7	3.8	7	0	0.0%	4.94	1.6
Dissolved Oxygen	mg/L	11.52	12.58	1.06	7	0	0.0%	12.05	0.3
pH	pH	7.06	7.73	0.67	7	0	0.0%	7.44	0.2
Conductivity	umhos/cm	37.2	57	19.8	7	0	0.0%	46.03	7.8
Turbidity	NTU	<0.1	0.7	0.7	7	2	28.6%	0.21	0.2
Nitrate as N	mg/L	<0.05	0.68	0.68	7	1	14.3%	0.21	0.2
Ammonia as N	mg/L	<0.1	<0.1	<0.1	7	7	100.0%	0.00	0.0
Sulfate	mg/L	1.6	3.2	1.6	7	0	0.0%	2.19	0.5
Chloride	mg/L	<1	<1	<1	7	7	100.0%	0.00	0.0
Total Dissolved Solids	mg/L	11	50	39	7	0	0.0%	32.43	17.0
Total Suspended Solids	mg/L	<4	<4	<4	7	7	100.0%	0.00	0.0
Hardness, Total	mg/L	18.1	24.8	6.7	7	0	0.0%	20.64	2.5
Dissolved Aluminum	ug/L	2.5	7.9	5.4	7	0	0.0%	4.10	2.0
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	7	7	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	7	7	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	7	7	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	1.4	1.4	7	6	85.7%	0.20	0.2
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	7	7	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	7	7	100.0%	0.00	0.0
Dissolved Manganese	ug/L	<1	<1	<1	7	7	100.0%	0.00	0.0
Mercury Dissolved	ug/L	<0.001	0.0054	0.0054	7	6	85.7%	0.00	0.0
Dissolved Nickel	ug/L	<1	<1	<1	7	7	100.0%	0.00	0.0
Dissolved Selenium	ug/L	<1	<1	<1	7	7	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	7	7	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	2.9	2.9	7	6	85.7%	0.41	0.2
Color	color unit	<5	5	5	6	5	83.3%	0.83	0.0

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 14: Station SH103 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0.8	6.4	5.6	12	0	0.0%	3.57	2.0
Dissolved Oxygen	mg/L	9.11	12.85	3.74	12	0	0.0%	11.42	1.0
pH	pH	6.74	7.38	0.64	12	0	0.0%	7.13	0.2
Conductivity	umhos/cm	54.4	1140	1085.6	12	0	0.0%	461.06	444.1
Turbidity	NTU	<0.1	1.2	1.2	12	5	41.7%	0.22	0.3
Nitrate as N	mg/L	0.15	16.5	16.35	12	0	0.0%	5.17	6.3
Ammonia as N	mg/L	<0.1	0.6	0.6	12	11	91.7%	0.05	0.1
Sulfate	mg/L	7	394	387	12	0	0.0%	149.23	156.7
Chloride	mg/L	<1	10	10	12	5	41.7%	2.97	3.3
Total Dissolved Solids	mg/L	16	840	824	12	0	0.0%	314.92	322.1
Total Suspended Solids	mg/L	<4	7	7	12	11	91.7%	0.58	0.9
Hardness, Total	mg/L	23.6	490	466.4	12	0	0.0%	190.68	184.6
Dissolved Aluminum	ug/L	<1	6	6	12	1	8.3%	3.03	1.4
Dissolved Arsenic	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Cadmium	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Chromium	ug/L	<2.5	<2.5	<2.5	12	12	100.0%	0.00	0.0
Dissolved Copper	ug/L	<1	2	2	12	6	50.0%	0.63	0.3
Dissolved Iron	mg/L	<0.05	<0.05	<0.05	12	12	100.0%	0.00	0.0
Dissolved Lead	ug/L	<0.16	<0.16	<0.16	12	12	100.0%	0.00	0.0
Dissolved Manganese	ug/L	<1	13	13	12	6	50.0%	2.29	3.5
Mercury Dissolved	ug/L	<0.001	<0.001	<0.001	12	12	100.0%	0.00	0.0
Dissolved Nickel	ug/L	<1	2	2	12	7	58.3%	0.71	0.5
Dissolved Selenium	ug/L	<1	<1	<1	12	12	100.0%	0.00	0.0
Dissolved Silver	ug/L	<0.1	<0.1	<0.1	12	12	100.0%	0.00	0.0
Dissolved Zinc	ug/L	<2.5	9.4	9.4	12	8	66.7%	1.83	2.1
Color	color unit	<5	29	29	11	3	27.3%	9.18	7.7

*Non-detects are assigned a value of zero in the arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 15: Station CAK-001EFF (Outfall 001 Effluent) 2008 Water Quality Data Summary Statistics

Parameter	Units	Min	Max	Range (Max - Min)	Number of Samples	Number of NonDetects	Percent NonDetects	Arithmetic Mean	Standard Deviation
Temp	oC	0	10	10	62	0	0%	5.9	2.2
Dissolved oxygen	mg/L	10.53	17.83	7.3	63	0	0%	12.19	1.05
Lab Turbidity	NTU	<0.1	6.8	6.8	64	1	2%	1.7	1.4
Ammonia as N	mg/L	<0.01	1.1	1.1	63	48	76%	0.06	0.13
Nitrate as N	mg/L	<0.05	0.74	0.74	63	2	3%	0.20	0.15
Sulfate (as S)	mg/L	21.3	46	24.7	63	0	0%	29.6	6.9
Total Dissolved Solids	mg/L	107	350	243	63	0	0%	224	54.1
Total Suspended Solids	mg/L	<4.0	21	21	364	273	75%	1.78	2.48
Total Recoverable Aluminum	ug/L	<1	348	348	68	2	3%	33	46
Total Recoverable Arsenic	ug/L	<2.5	<2.5	0	63	63	100%	0.0	0.0
Total Recoverable Cadmium	ug/L	<0.1	<0.1	0	63	63	100%	0.0	0.0
Total Chromium	ug/L	<2.5	3.4	3.4	63	62	98%	0.05	0.11
Total Recoverable Copper	ug/L	<1	12	12	65	47	72%	1.3	2.5
Total Recoverable Iron	mg/L	<0.05	1.79	1.79	69	11	16%	0.46	0.33
Total Recoverable Lead	ug/L	<0.16	0.61	0.61	63	53	84%	0.06	0.09
Total Recoverable Manganese	ug/L	20	120	100	63	0	0%	54	20
Total Recoverable Nickel	ug/L	<1	4	4	63	17	27%	1.1	0.6
Total Recoverable Selenium	ug/L	<1	2	2	63	19	30%	1.0	0.3
Total Recoverable Silver	ug/L	<0.1	<0.1	0	63	63	100%	0.0	0.0
Total Recoverable Zinc	ug/L	4	25.5	21.5	63	0	0%	9.5	5.3
Total Mercury (1631)	ug/L	<0.001	0.0055	0.0055	63	58	92%	0.0002	0.0007
Hardness (Downstream of Outfall)	mg/L	30.5	136	105.5	64	0	0%	77.4	30.4

* Non-detects are treated as 0.0 in range and arithmetic mean calculation

**Non-detects are assigned a value equal to the detection limit in standard deviation calculation

Table 16: Applicable Alaska Water Quality Standards

Parameter	Water Quality Standard Used	Hardness Based Y/N	Value or Formula if hardness based	Units
aluminum	Chronic Toxicity	N	87	ug/l
arsenic	Drinking Water	N	10	ug/l
cadmium	Chronic Toxicity	Y	EXP(0.7409*(LN Hardness)-4.719	ug/l
chloride	Chronic Toxicity	N	230	mg/l
chromium	Drinking Water	N	100	ug/l
copper	Chronic Toxicity	Y	EXP(0.8545*(LN Hardness)-1.702	ug/l
iron	Chronic Toxicity	N	1	mg/l
lead	Chronic Toxicity	Y	EXP(1.273*(LN Hardness)-4.705	ug/l
manganese	Human Health*	N	50	ug/l
mercury	Human Health*	N	0.05	ug/l
nickel	Chronic Toxicity	Y	EXP(0.846*(LN Hardness)+0.0584	ug/l
nitrate (as N)	Drinking Water	N	10	mg/l
selenium***	Chronic Toxicity	N	5	ug/l
silver	Acute Toxicity	Y	EXP(1.72*(LN Hardness)-6.52	ug/l
zinc	Acute Toxicity	Y	EXP(0.8473*(LN Hardness)+0.884	ug/l

Chronic and Acute Toxicity refer to aquatic life in freshwater
*Human Health Criteria for NonCarcinogens

Figures

Figure 1: Project Area Map

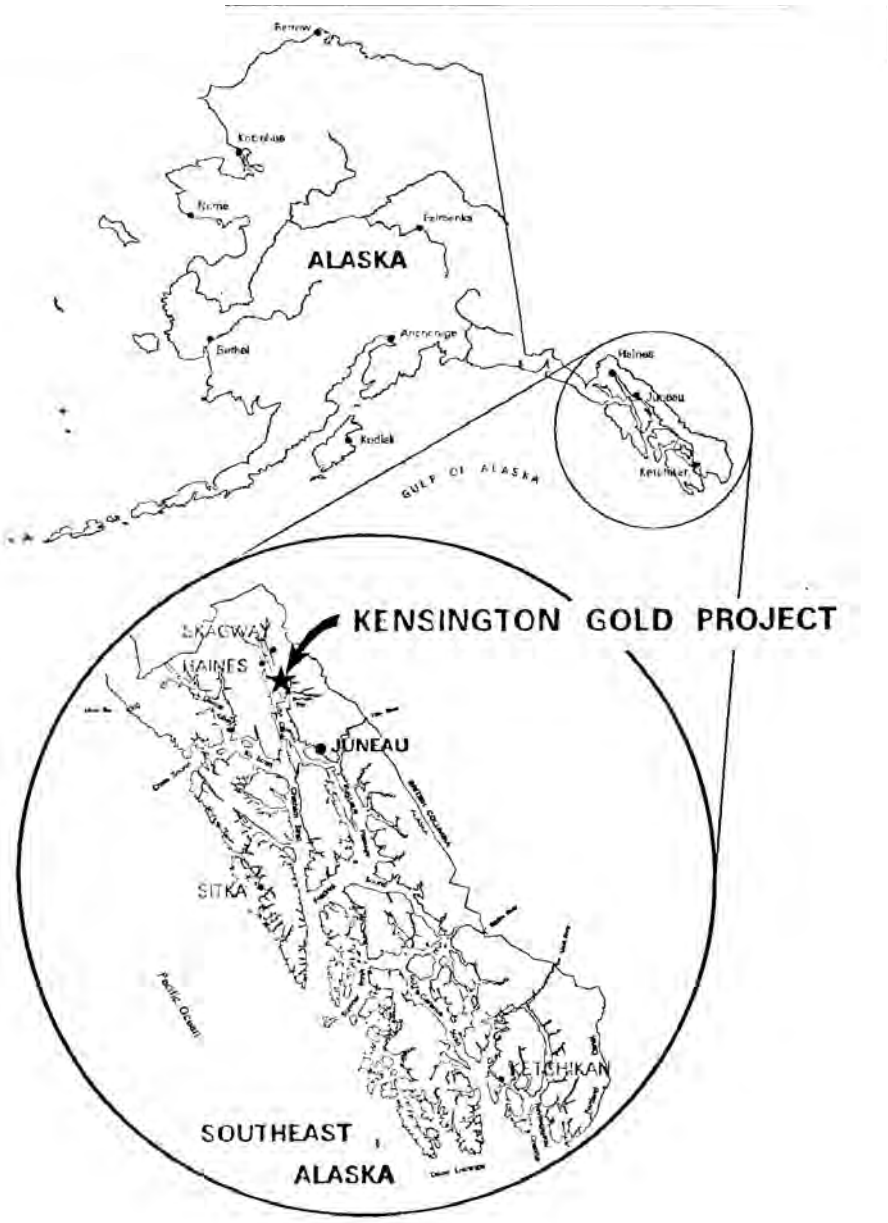


Figure 2: Location of streams and permitted outfalls near Kensington and Jualin Mines, Lynn Canal, southeast Alaska. Water quality monitoring is conducted on Sherman, Ophir, Slate and Johnson Creeks.

Figure 3: Water Treatment Facility Monitoring Sites.

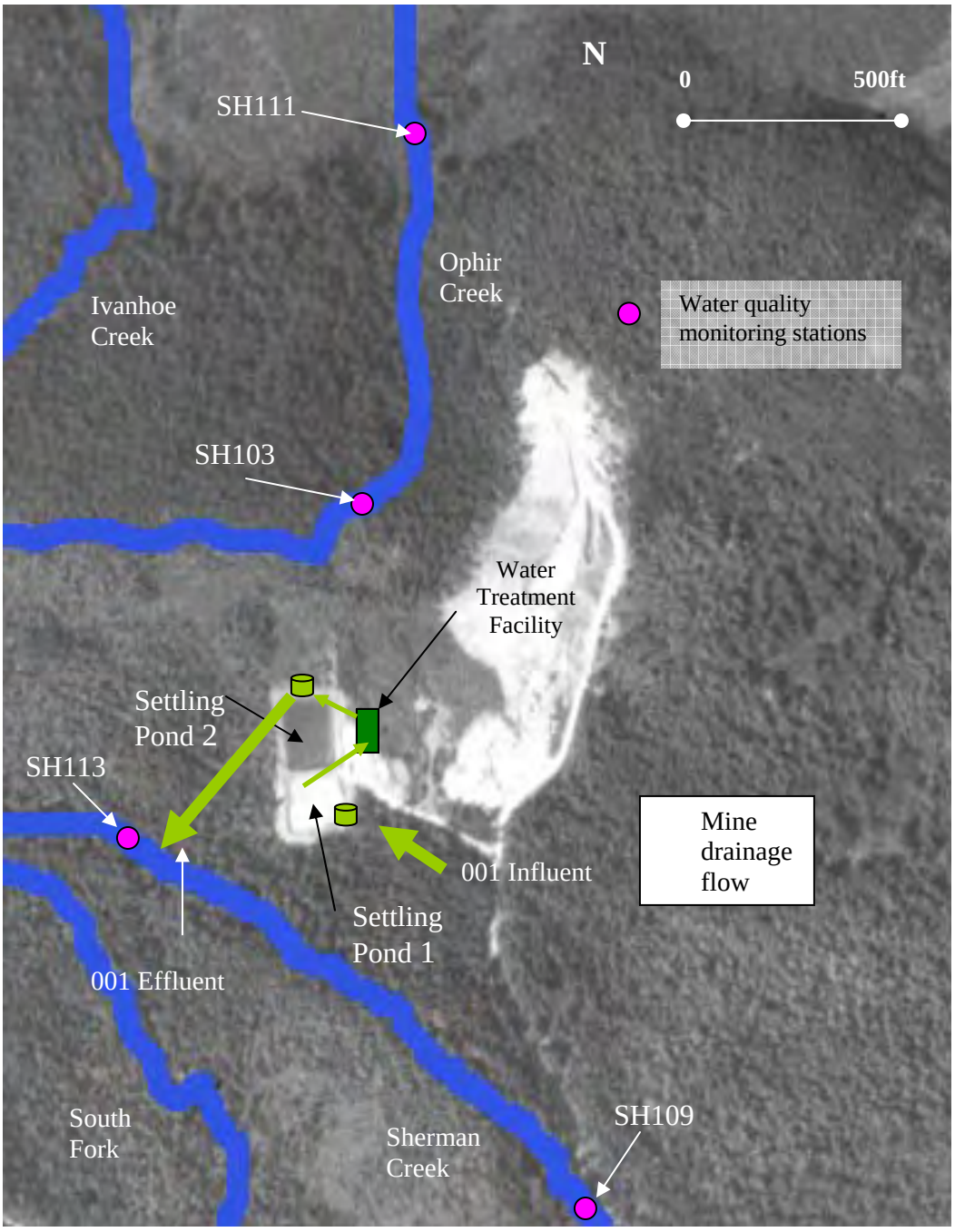


Figure 4: Location of receiving water quality monitoring stations on Sherman and Ophir Creeks.

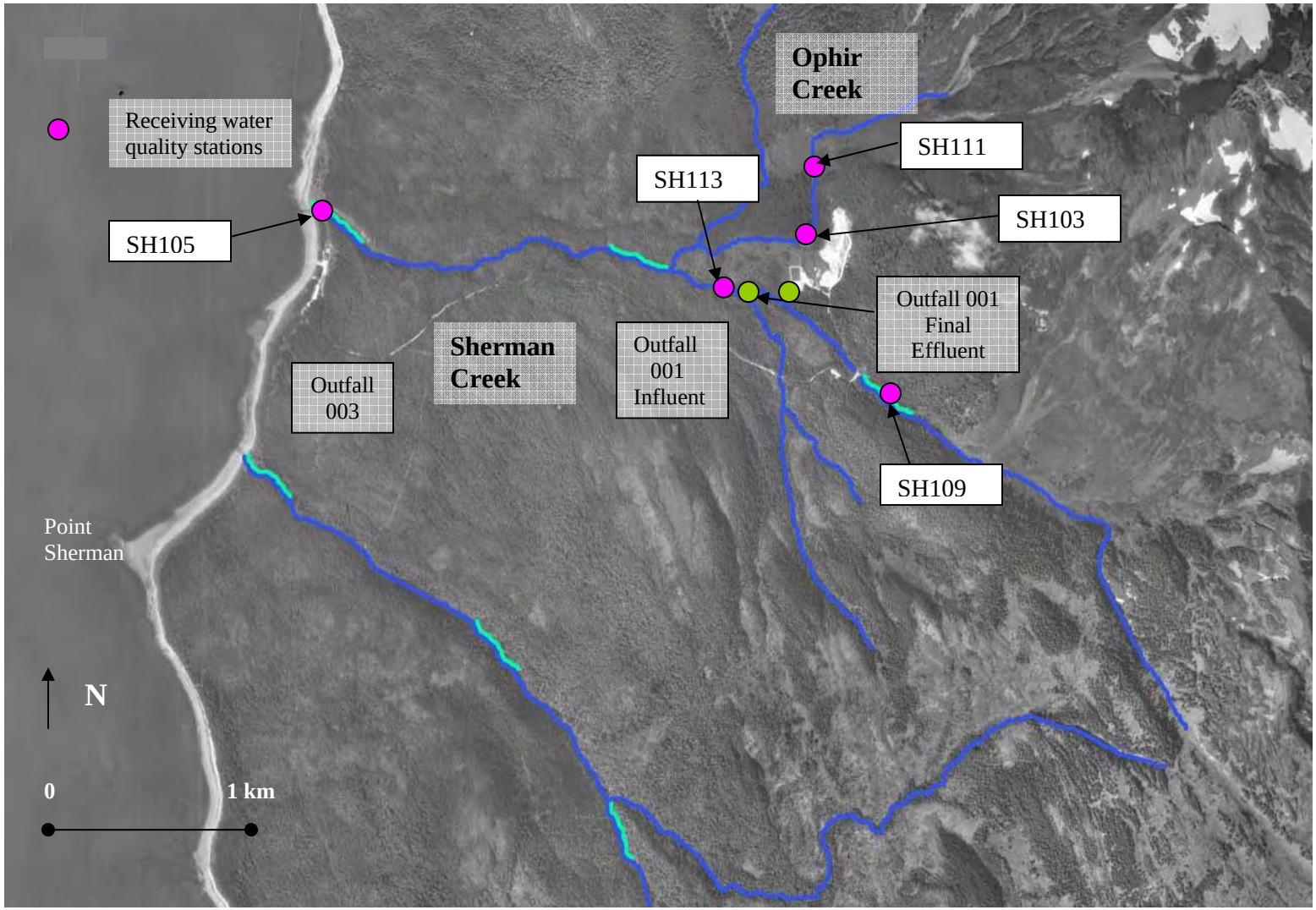


Figure 5: Locations of receiving water quality monitoring stations on Slate and Johnson Creeks.

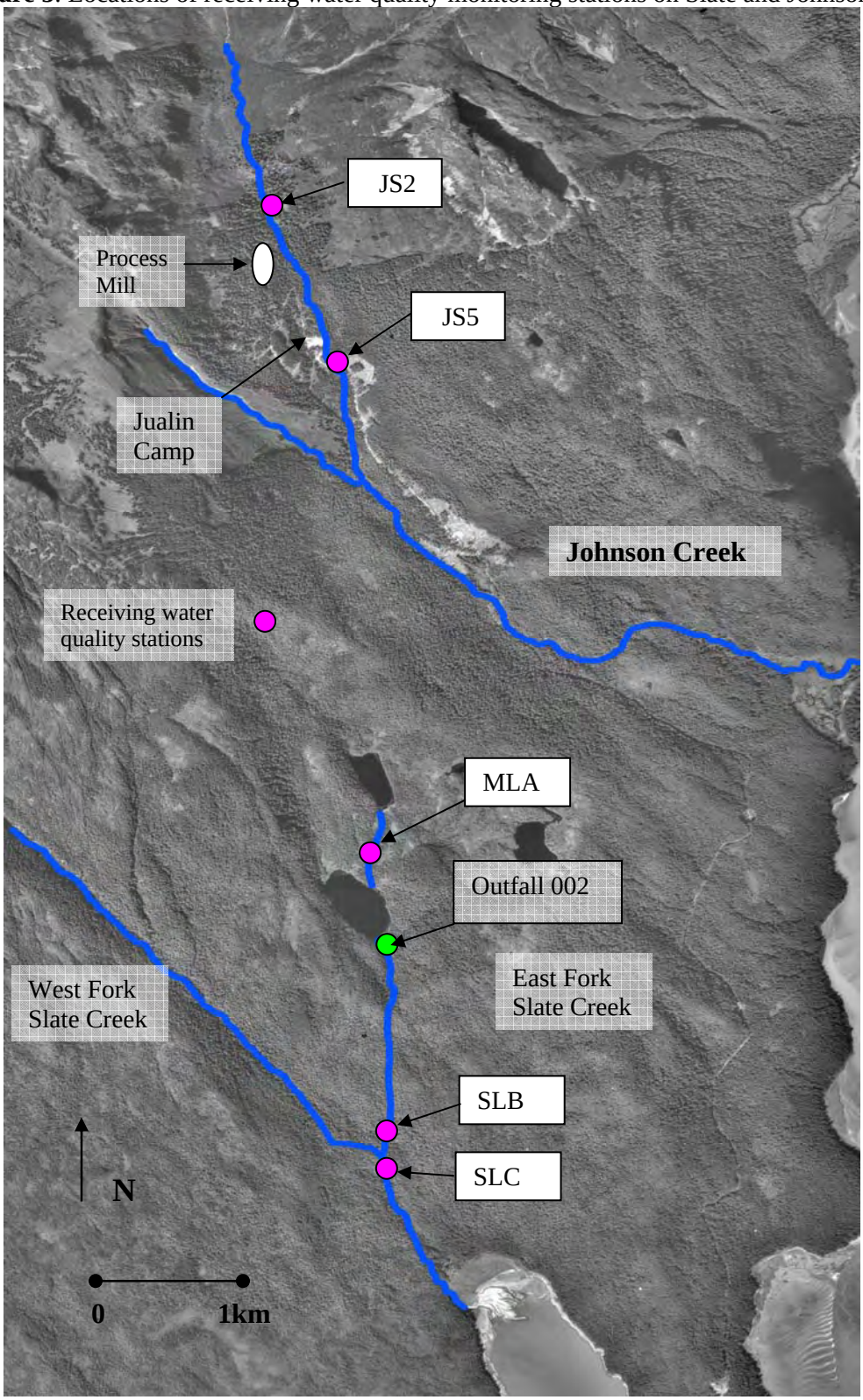
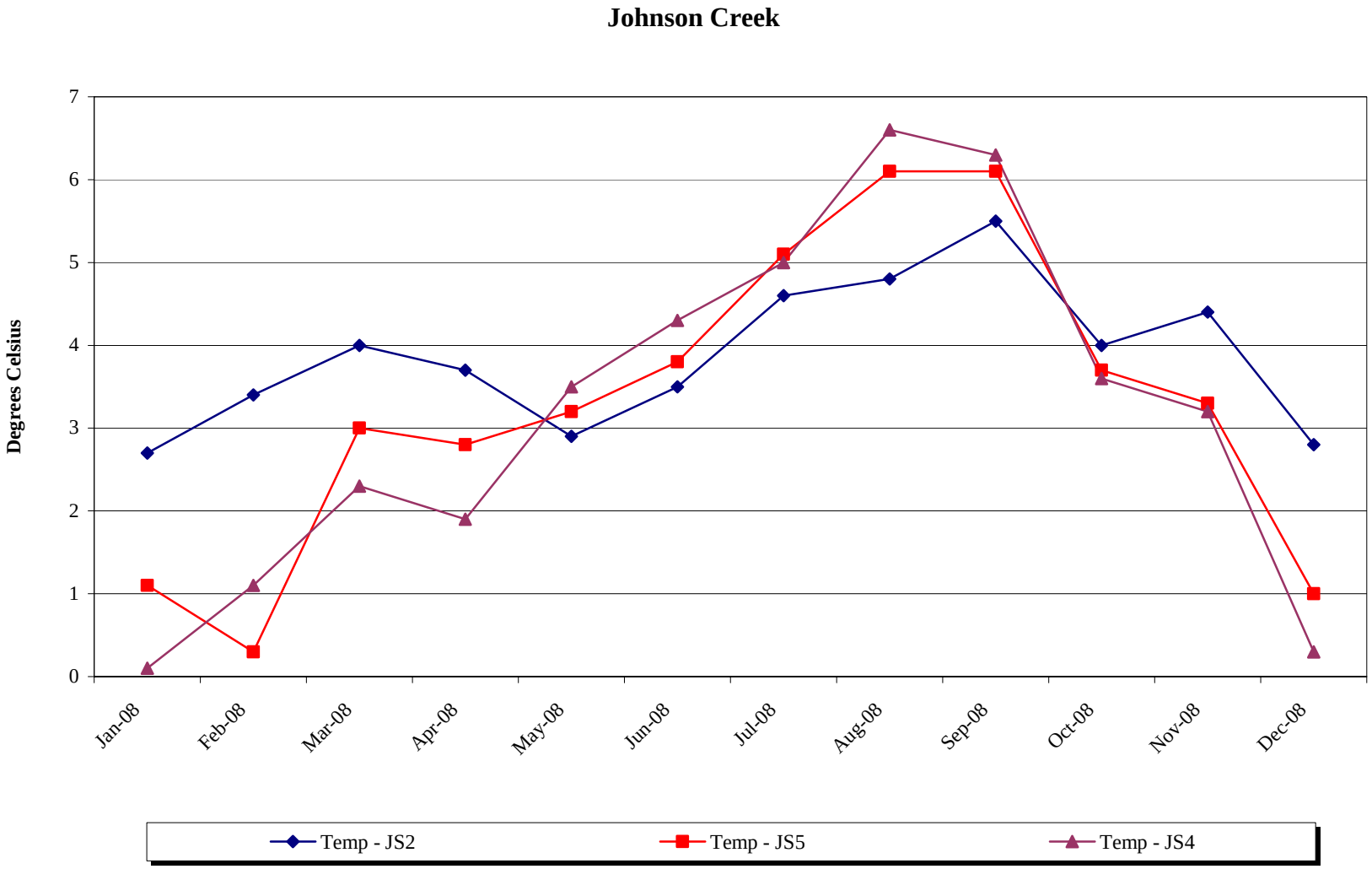


Figure 6a: Johnson Creek Monitoring Results 2008, Field Parameters



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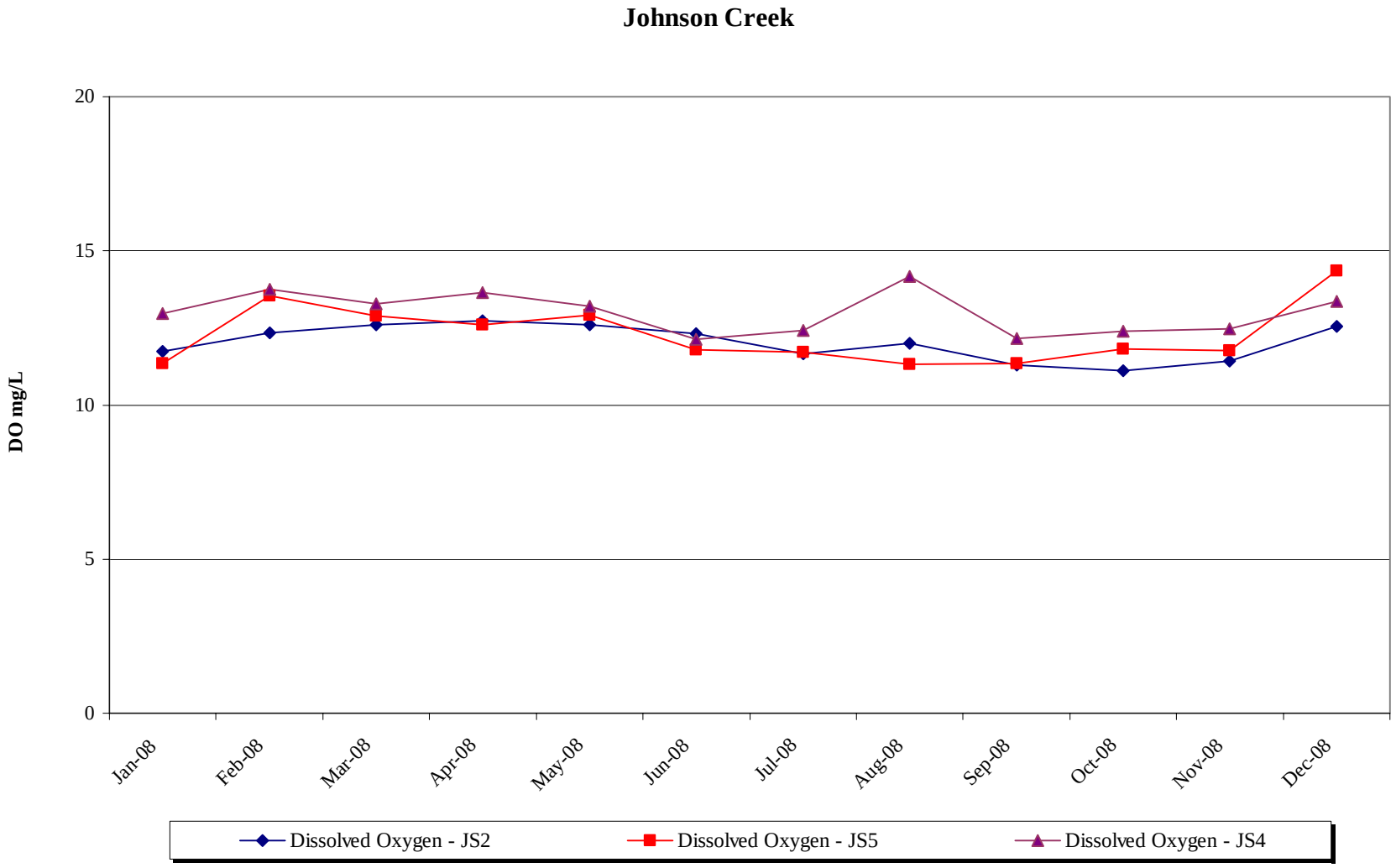

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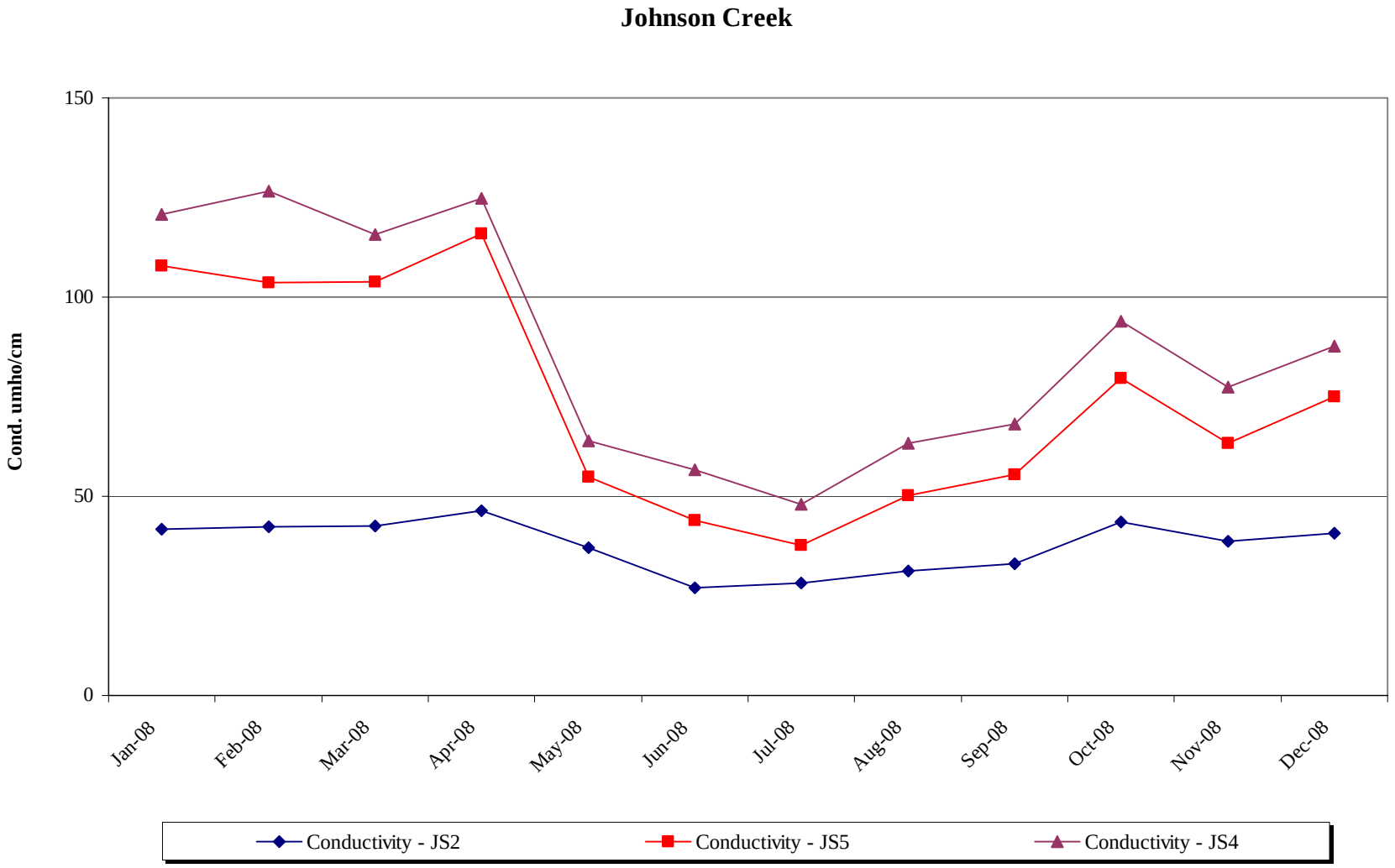

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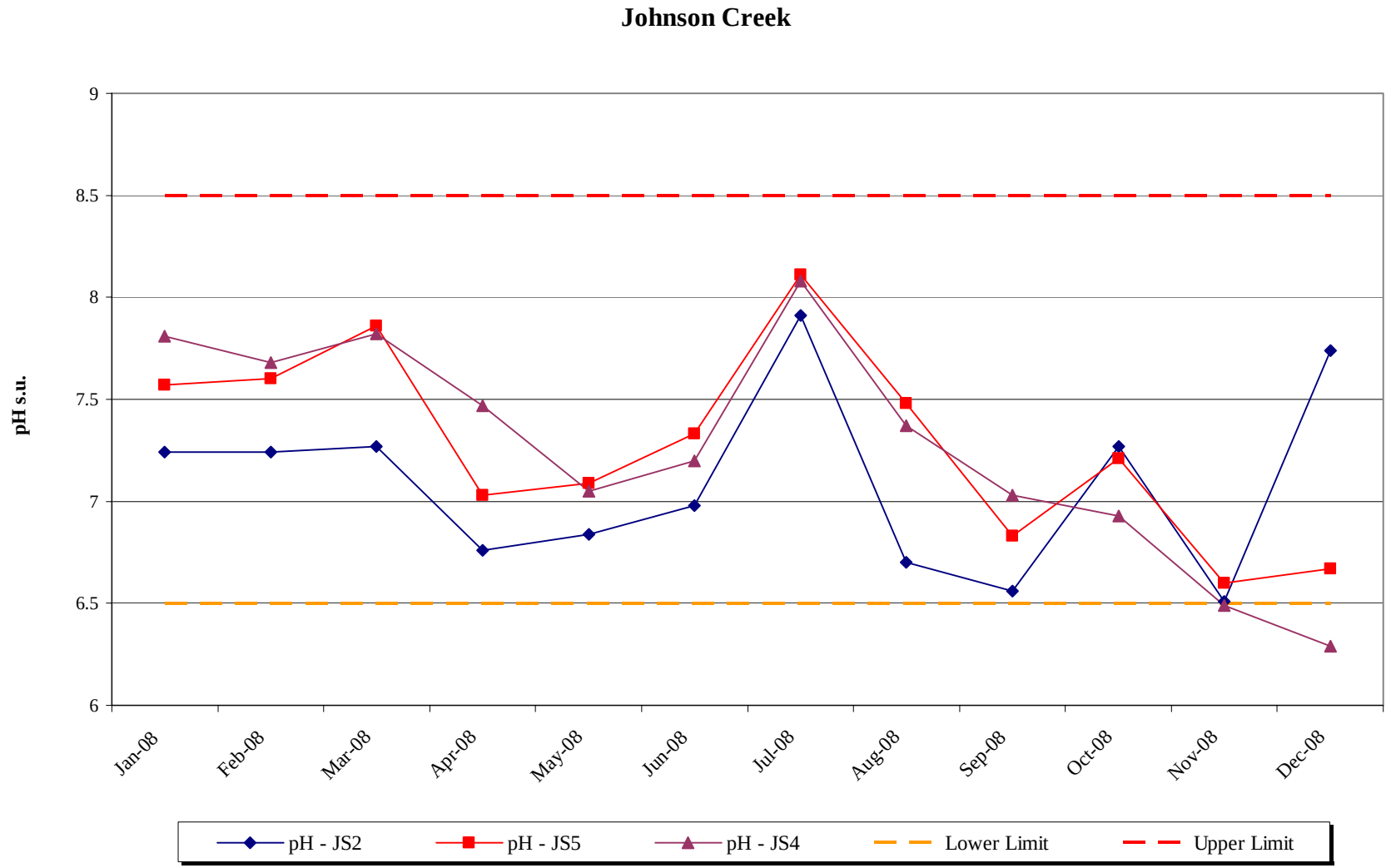
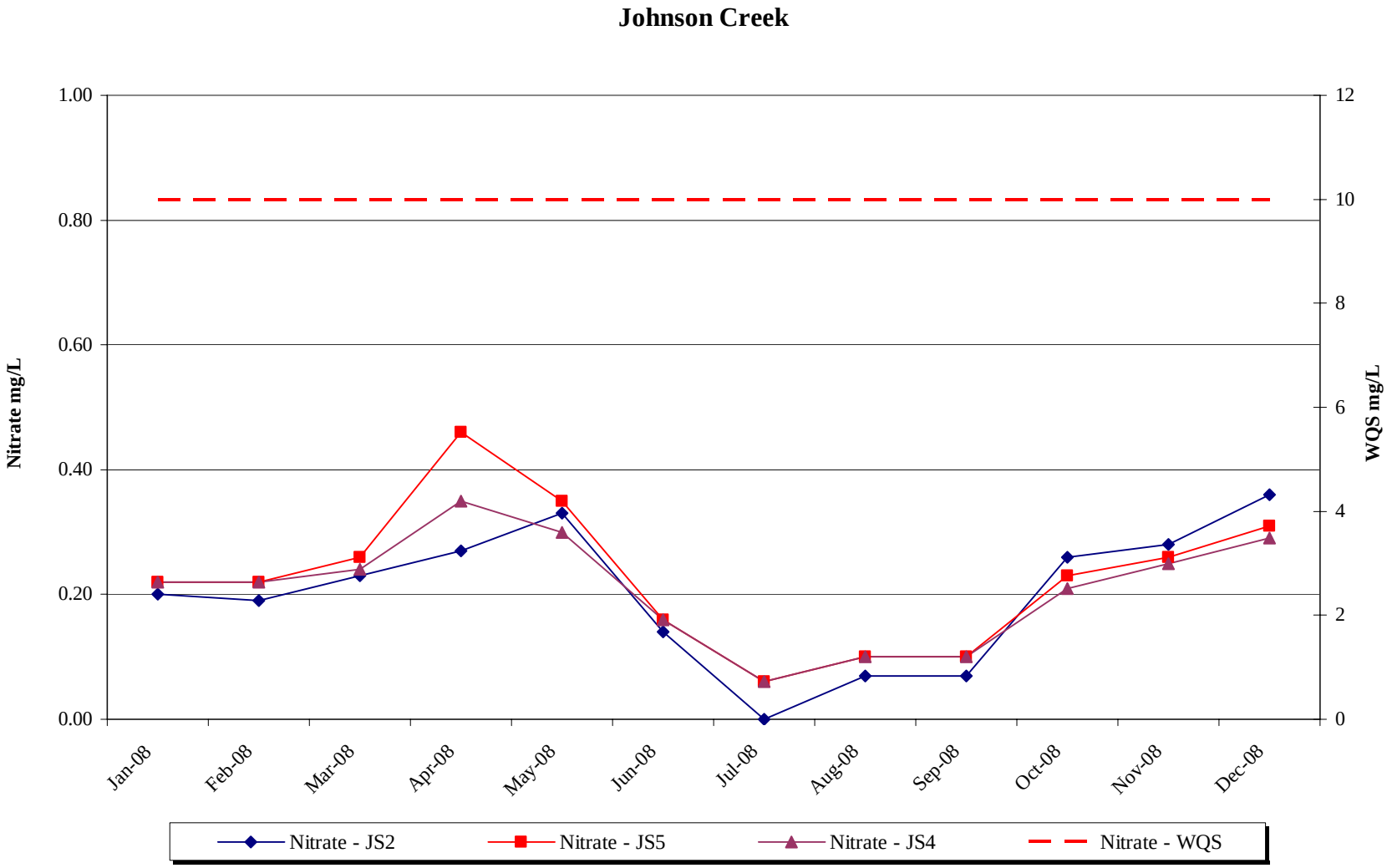


Figure 6b: Johnson Creek Monitoring Results 2008, Major Chemistry



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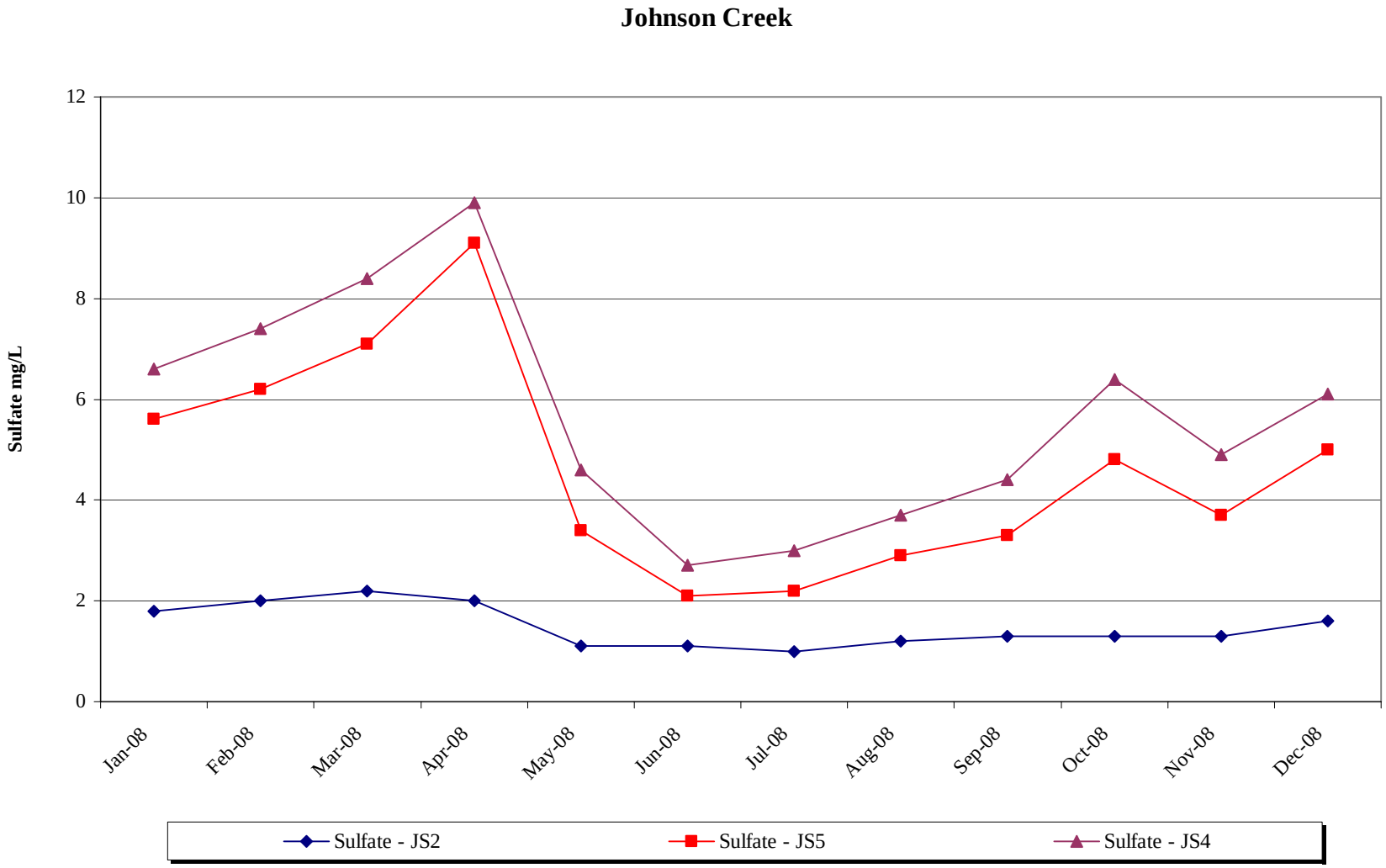

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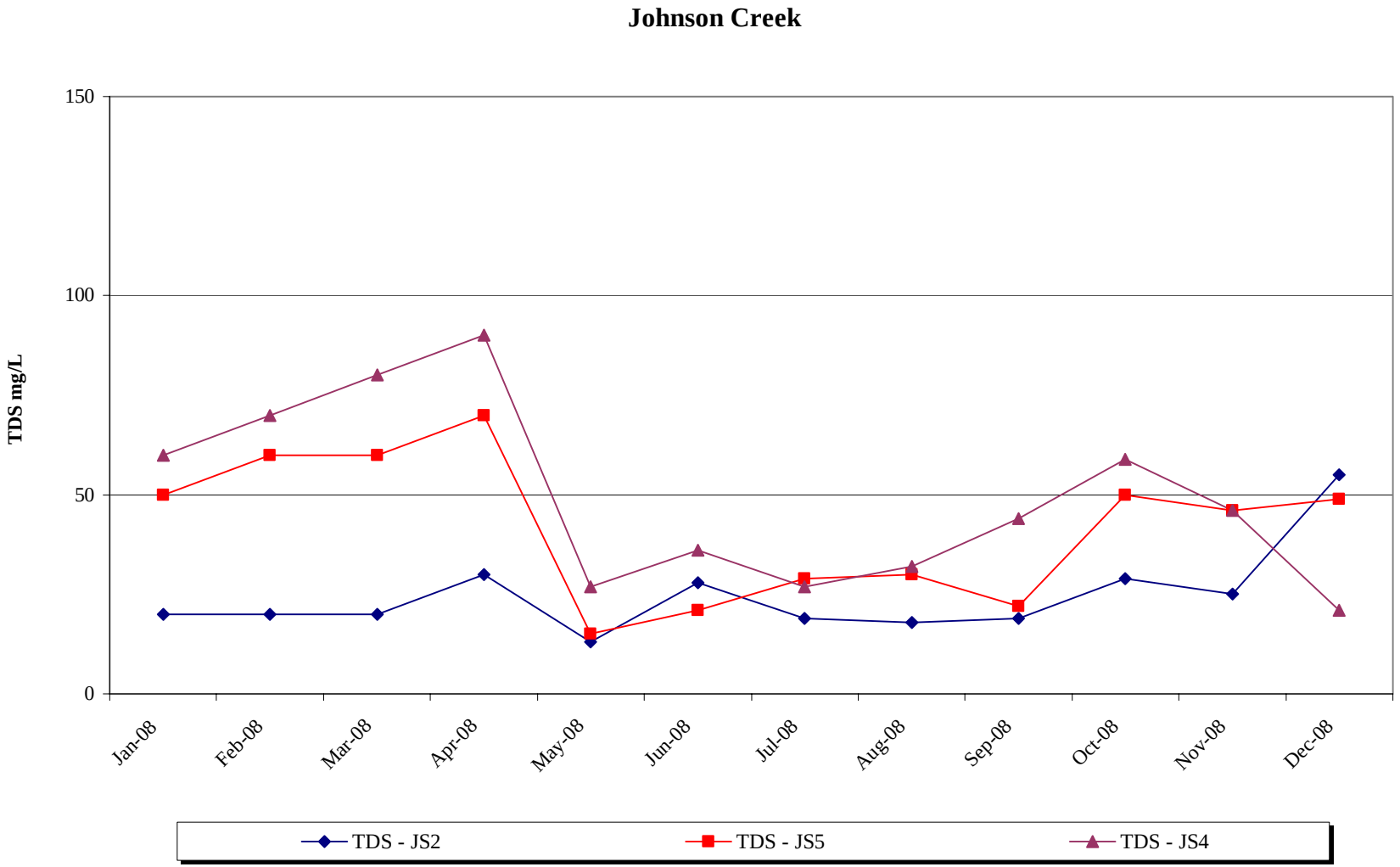

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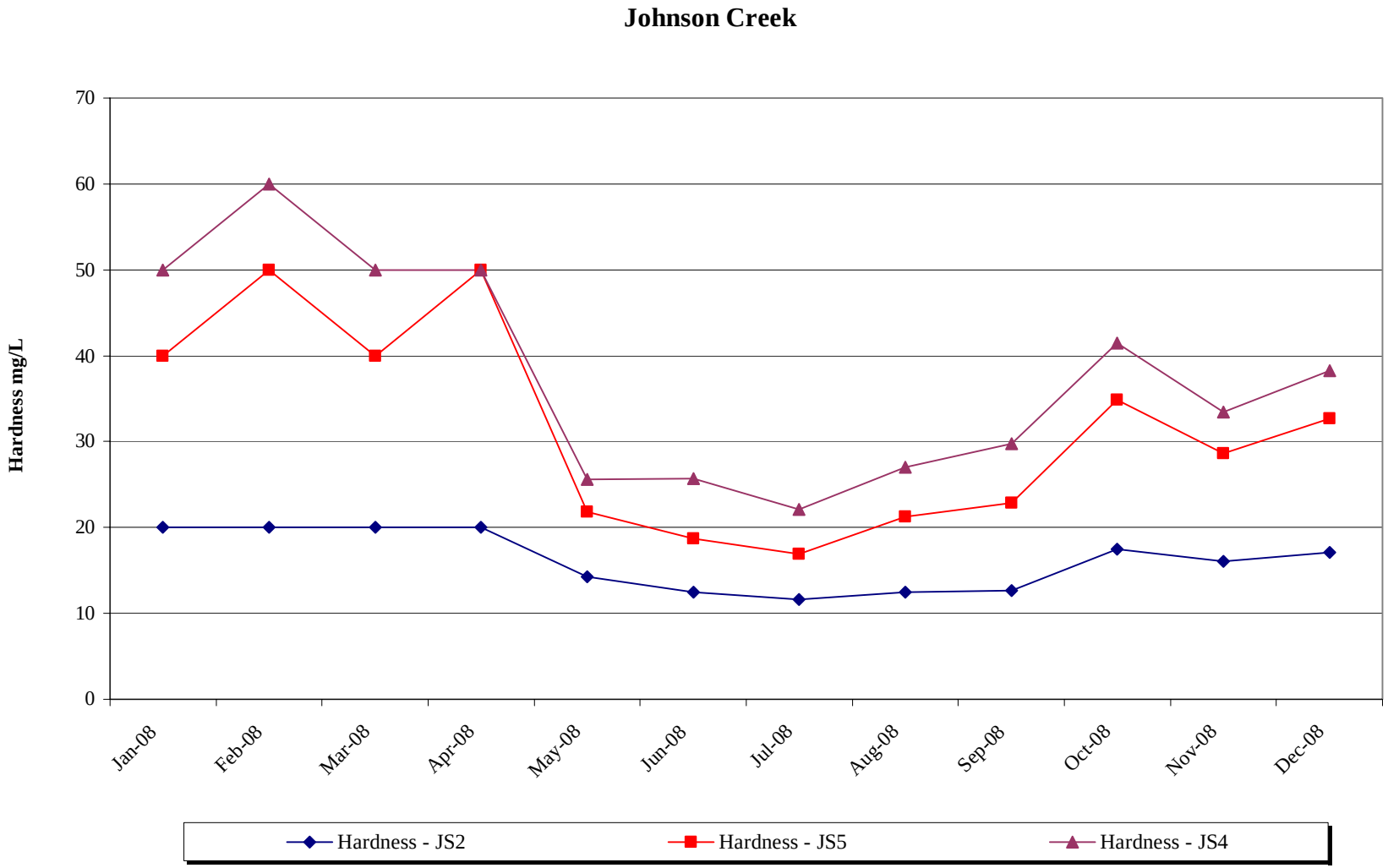

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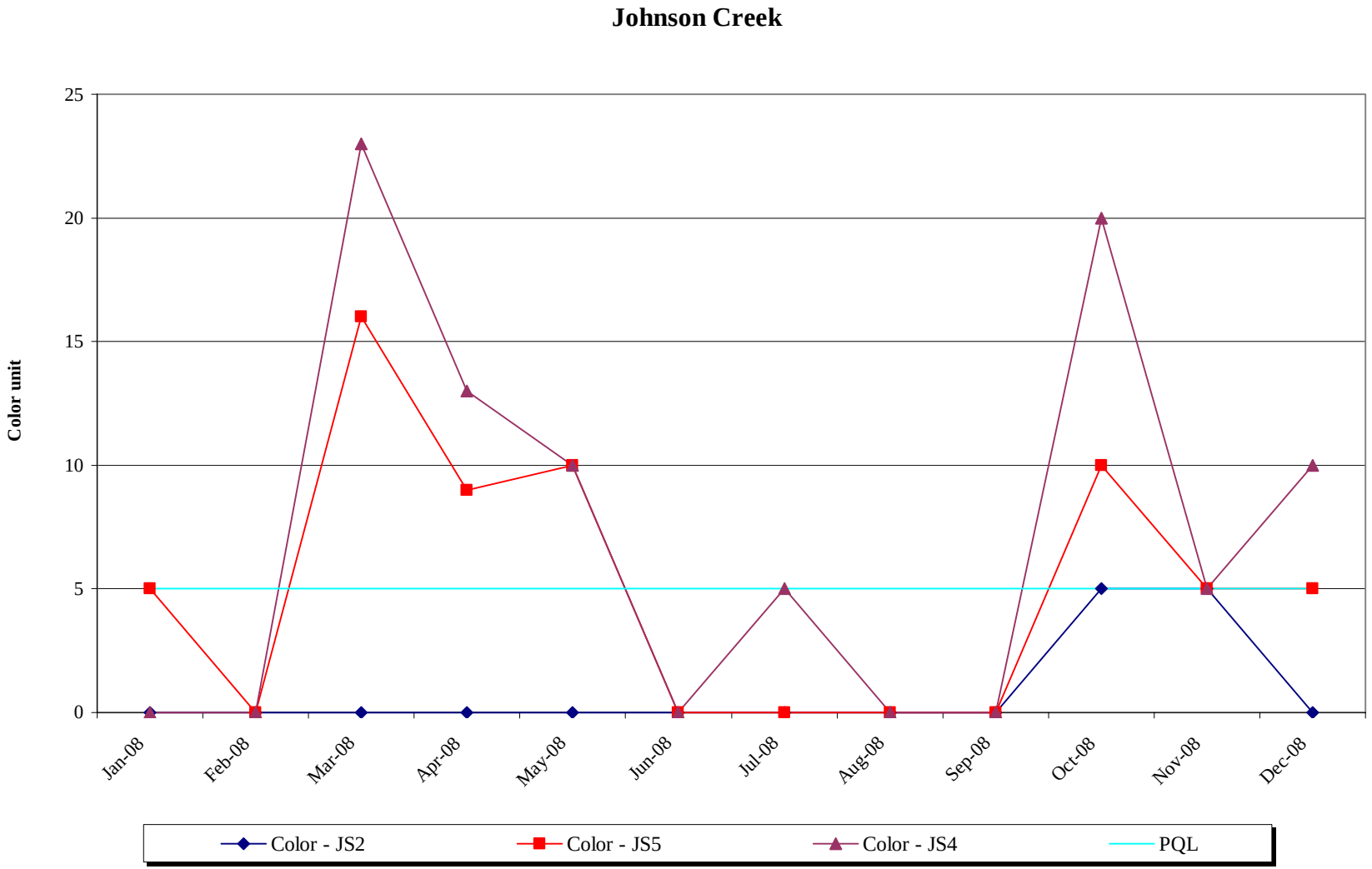

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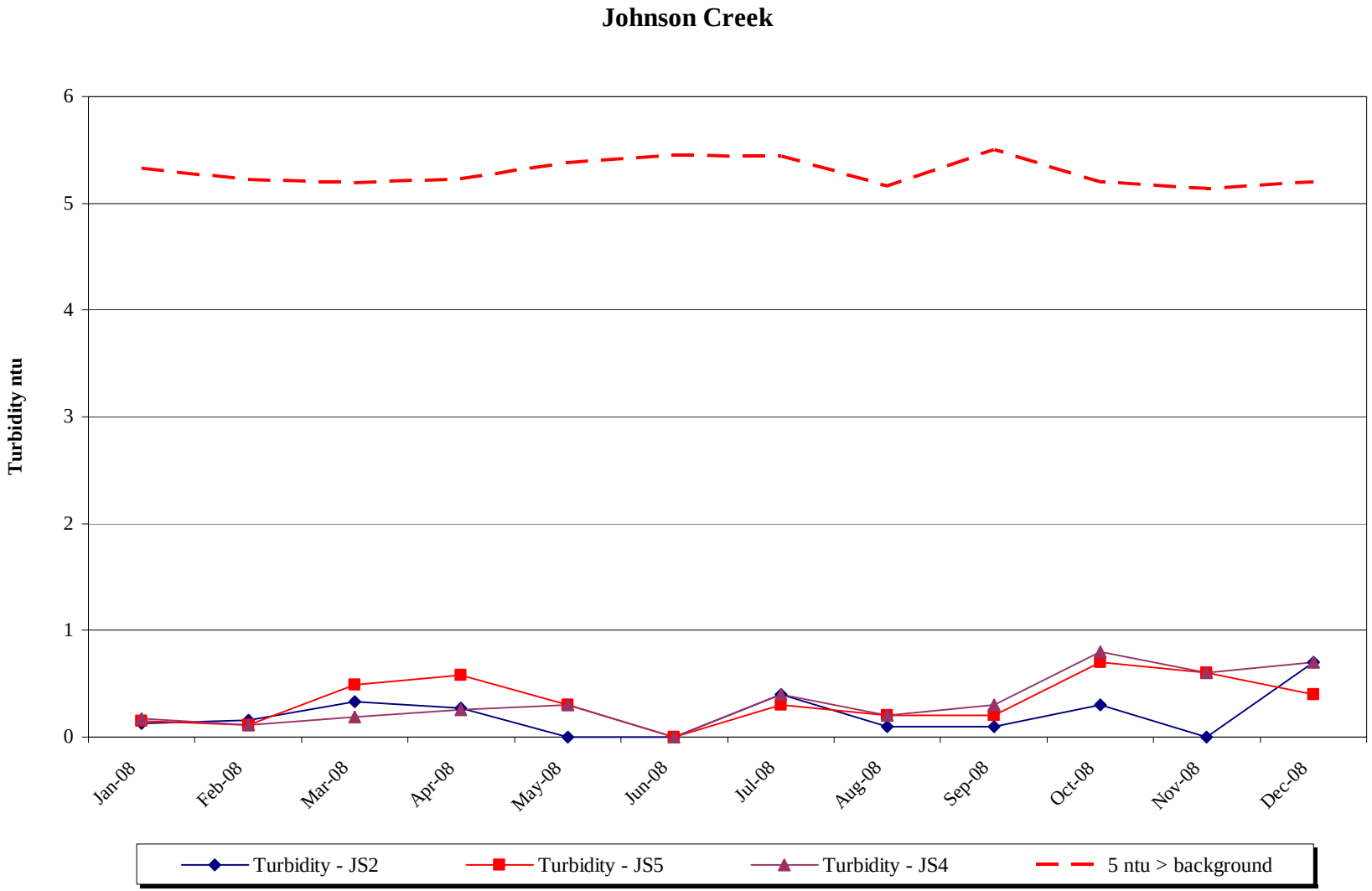

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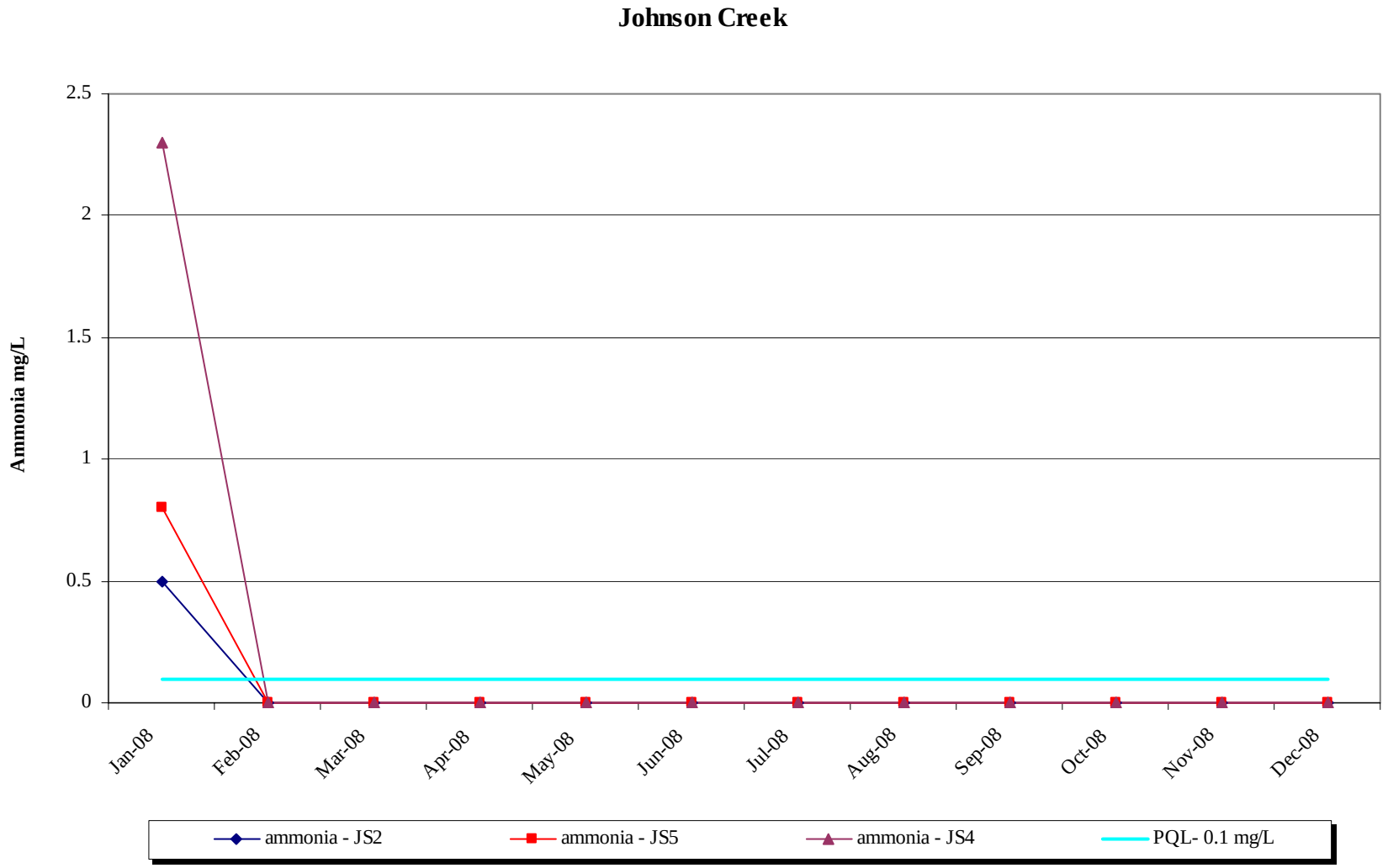

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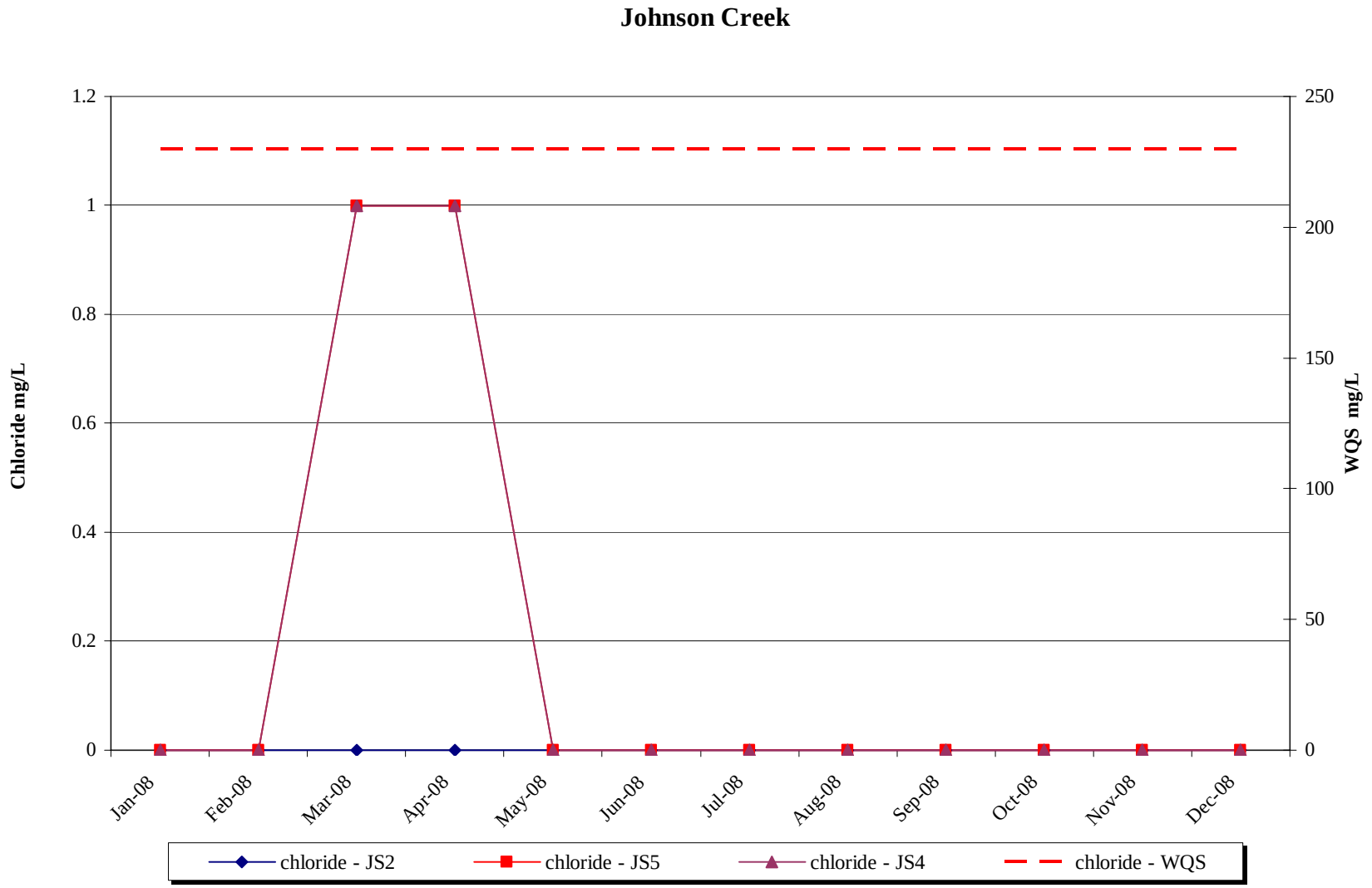

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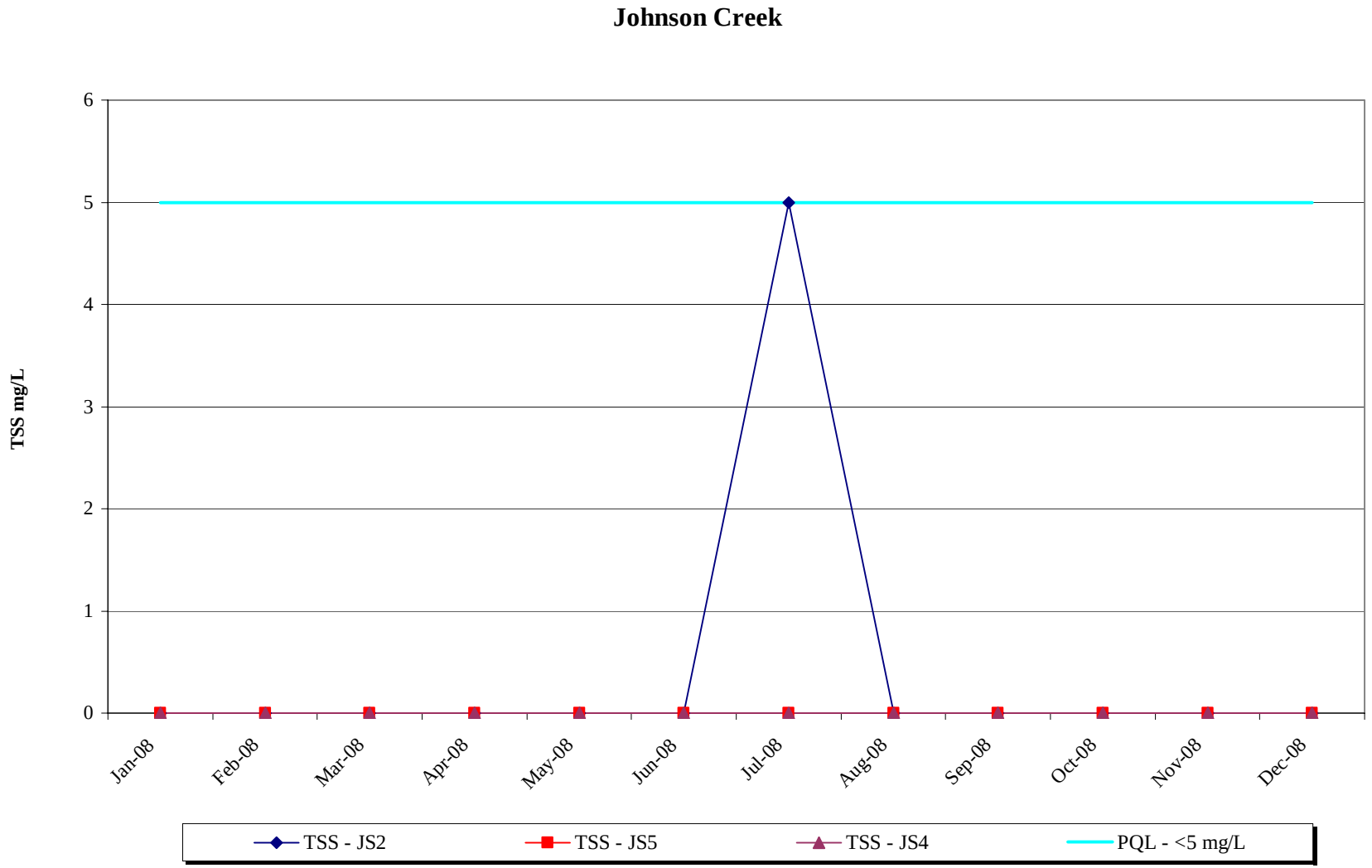
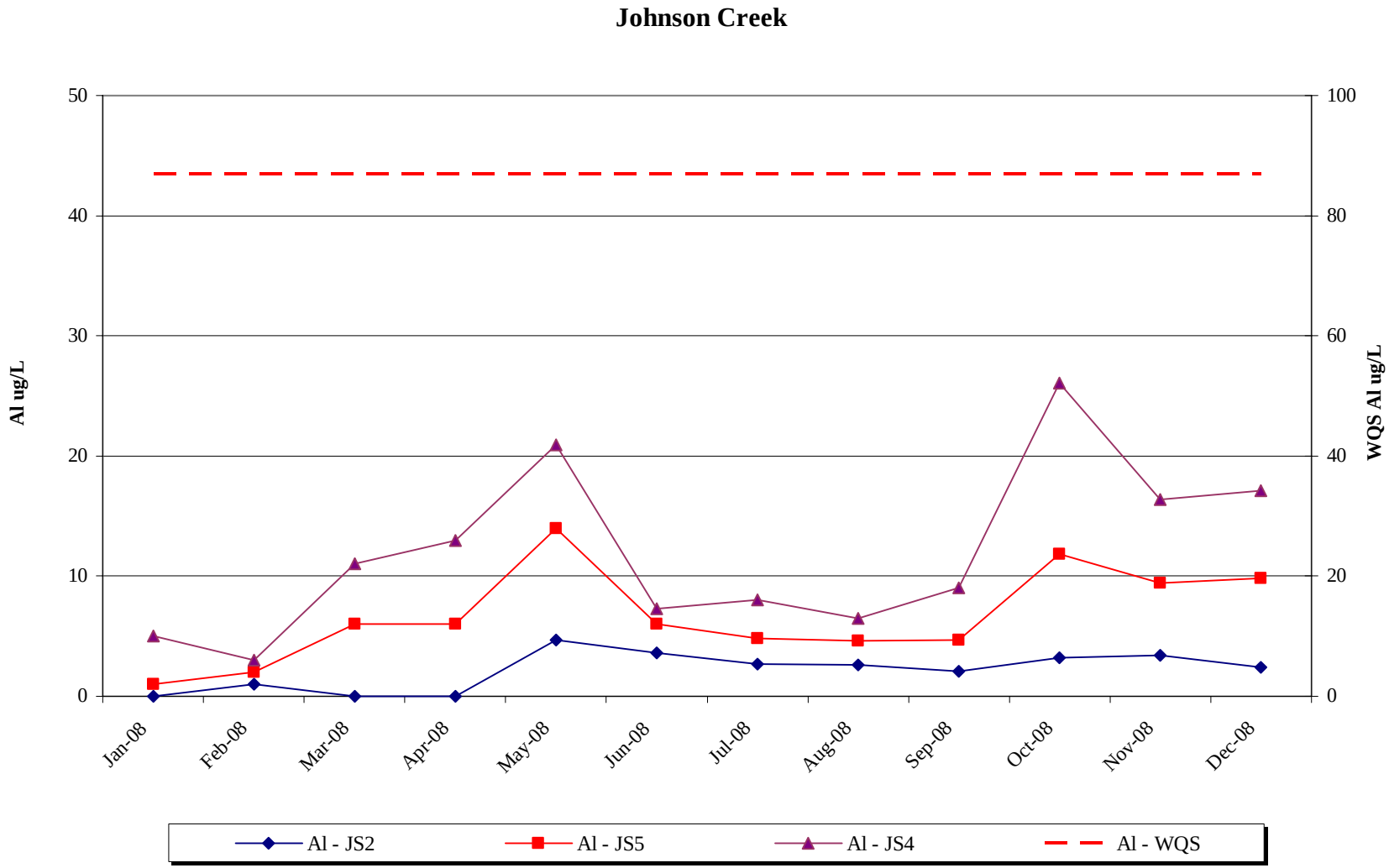


Figure 6c: Johnson Creek Monitoring Results 2008, Trace Chemistry



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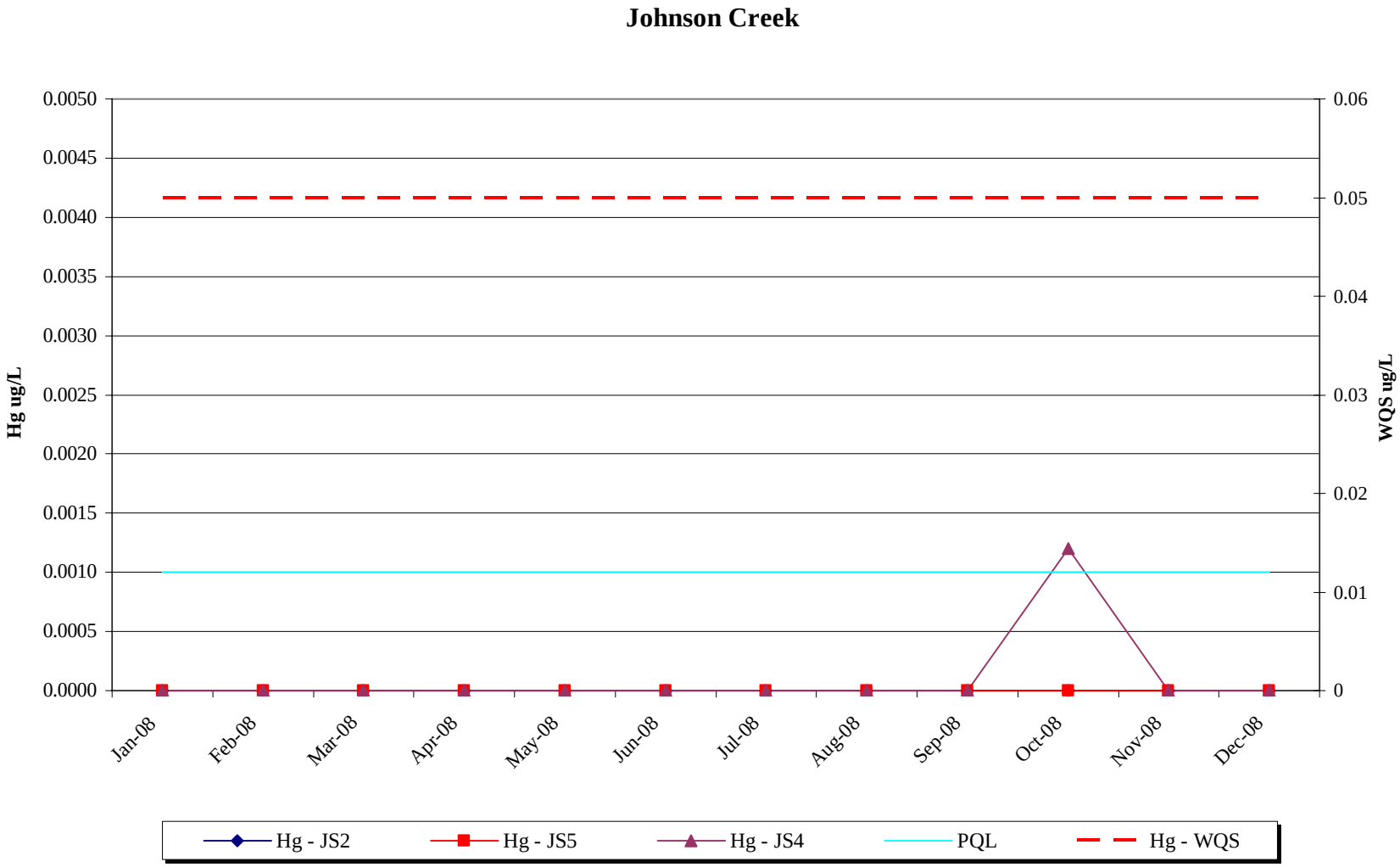

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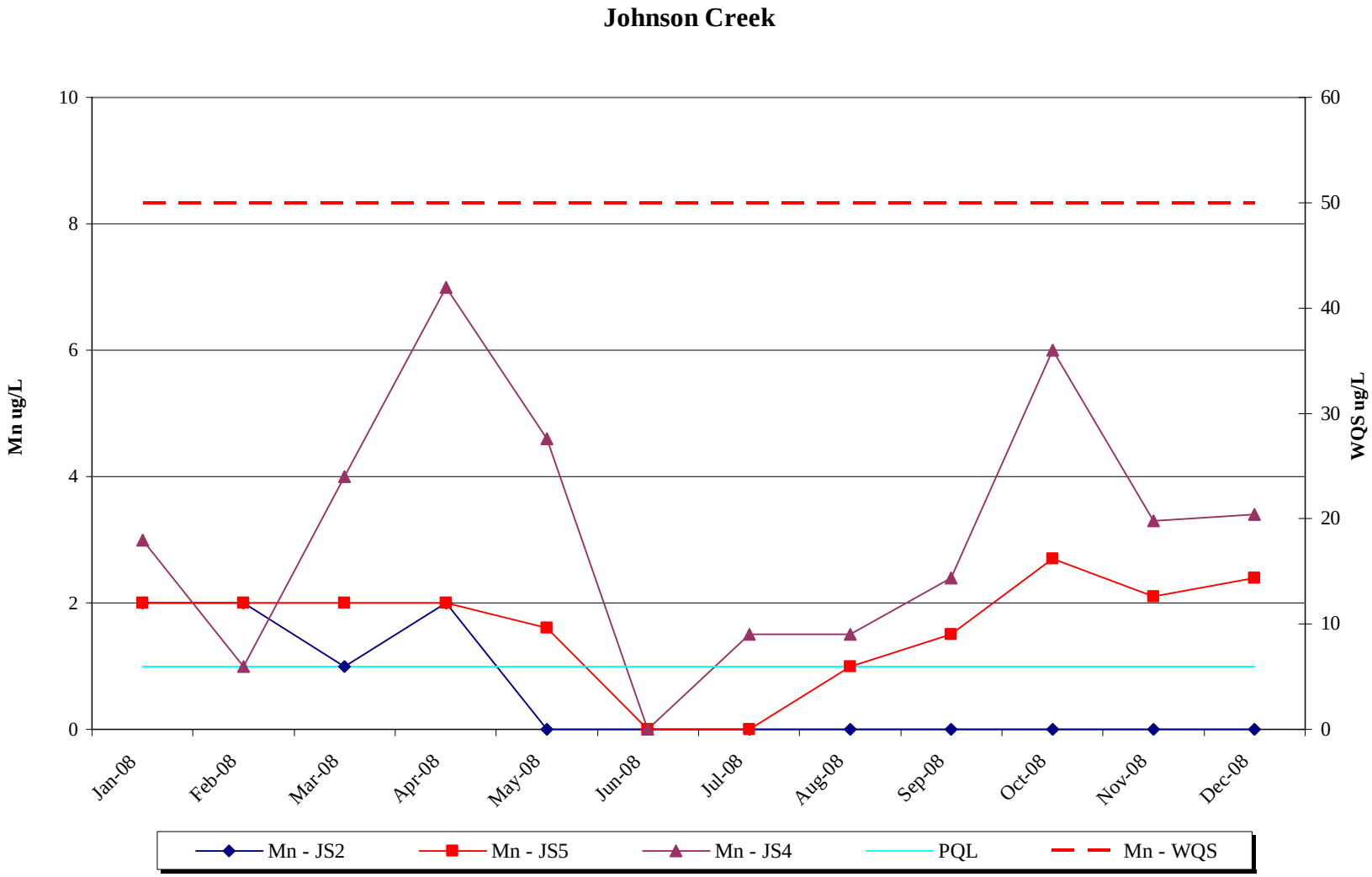

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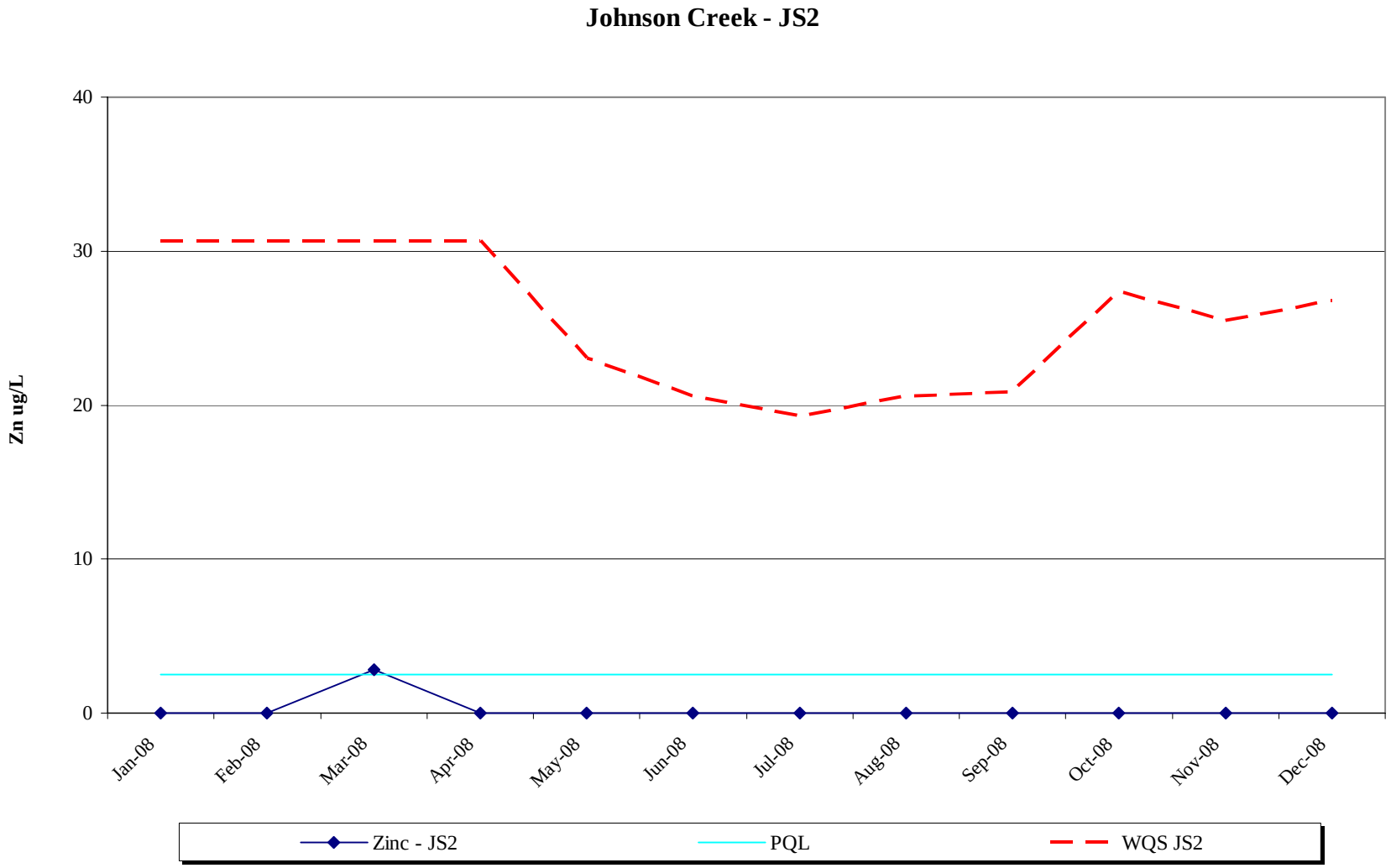

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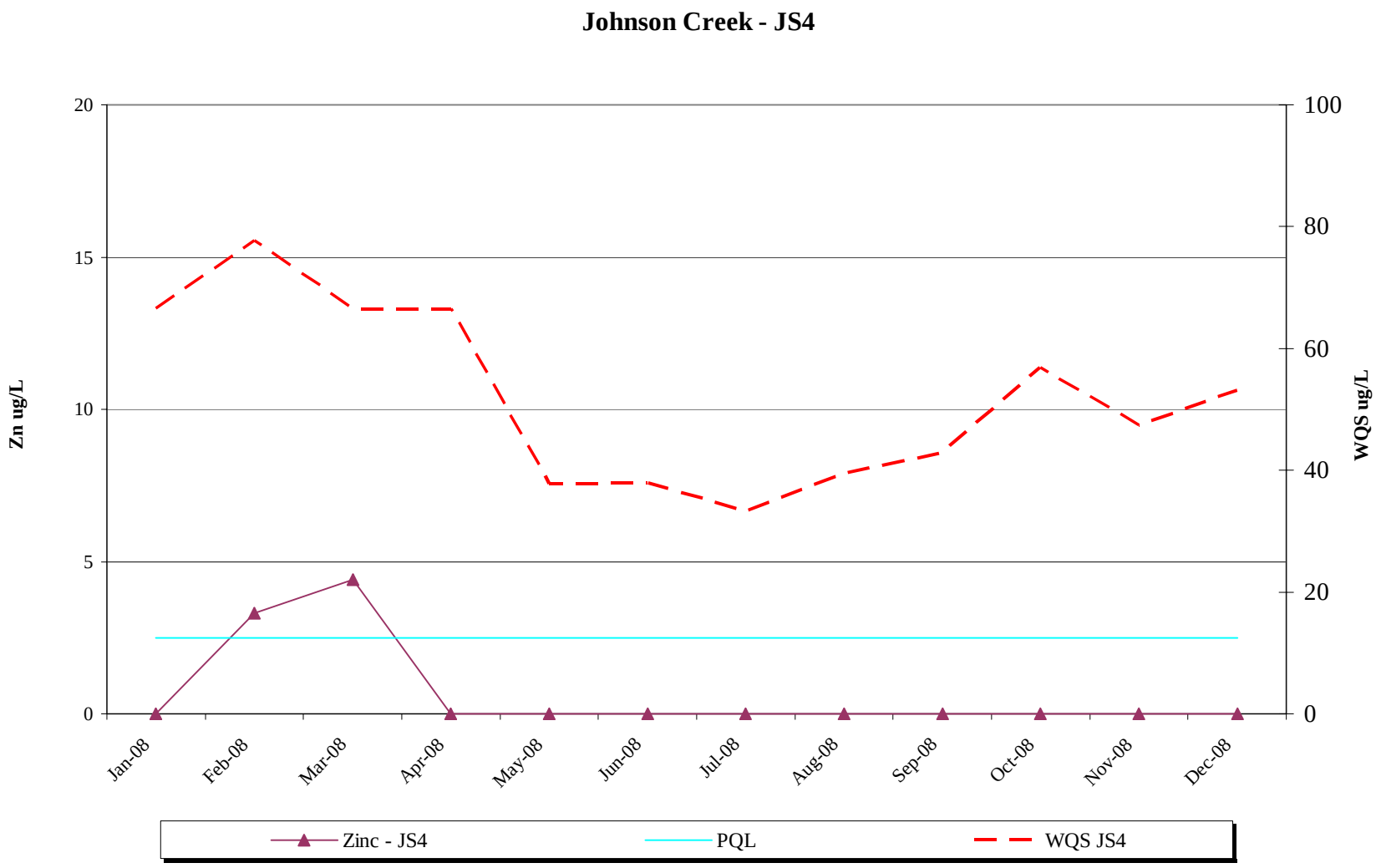

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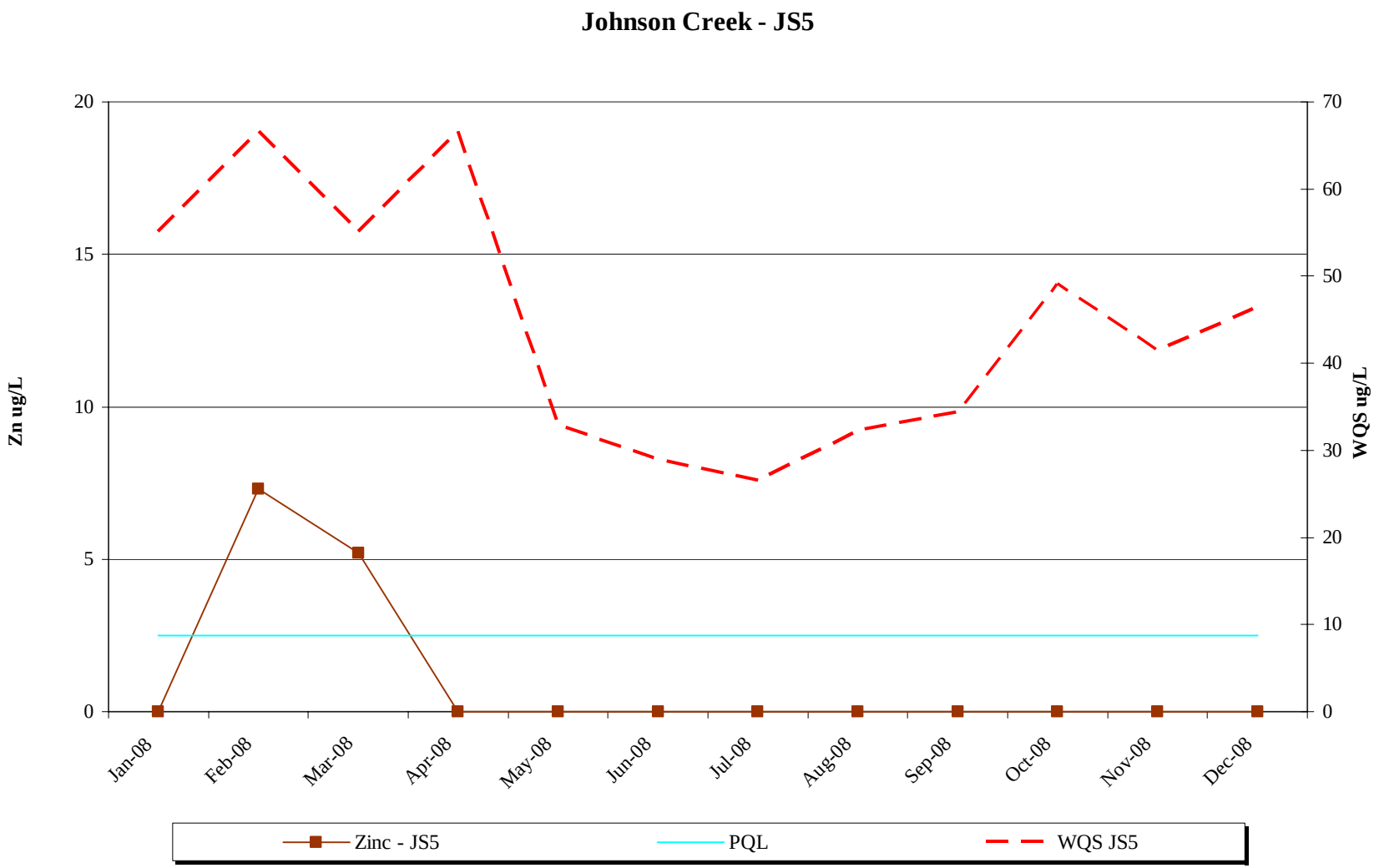
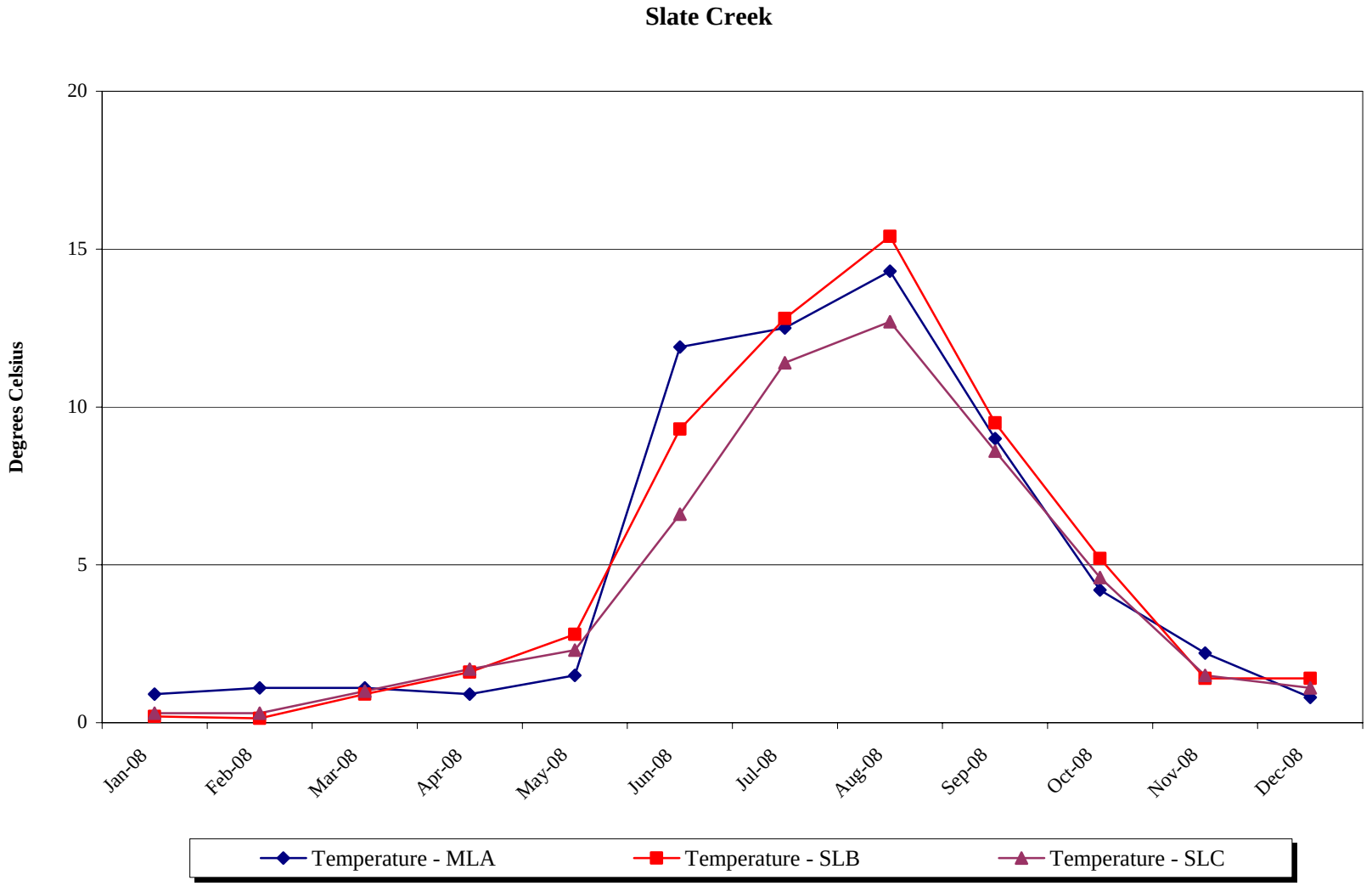


Figure 7a: Slate Creek Monitoring Results 2008, Field Parameters



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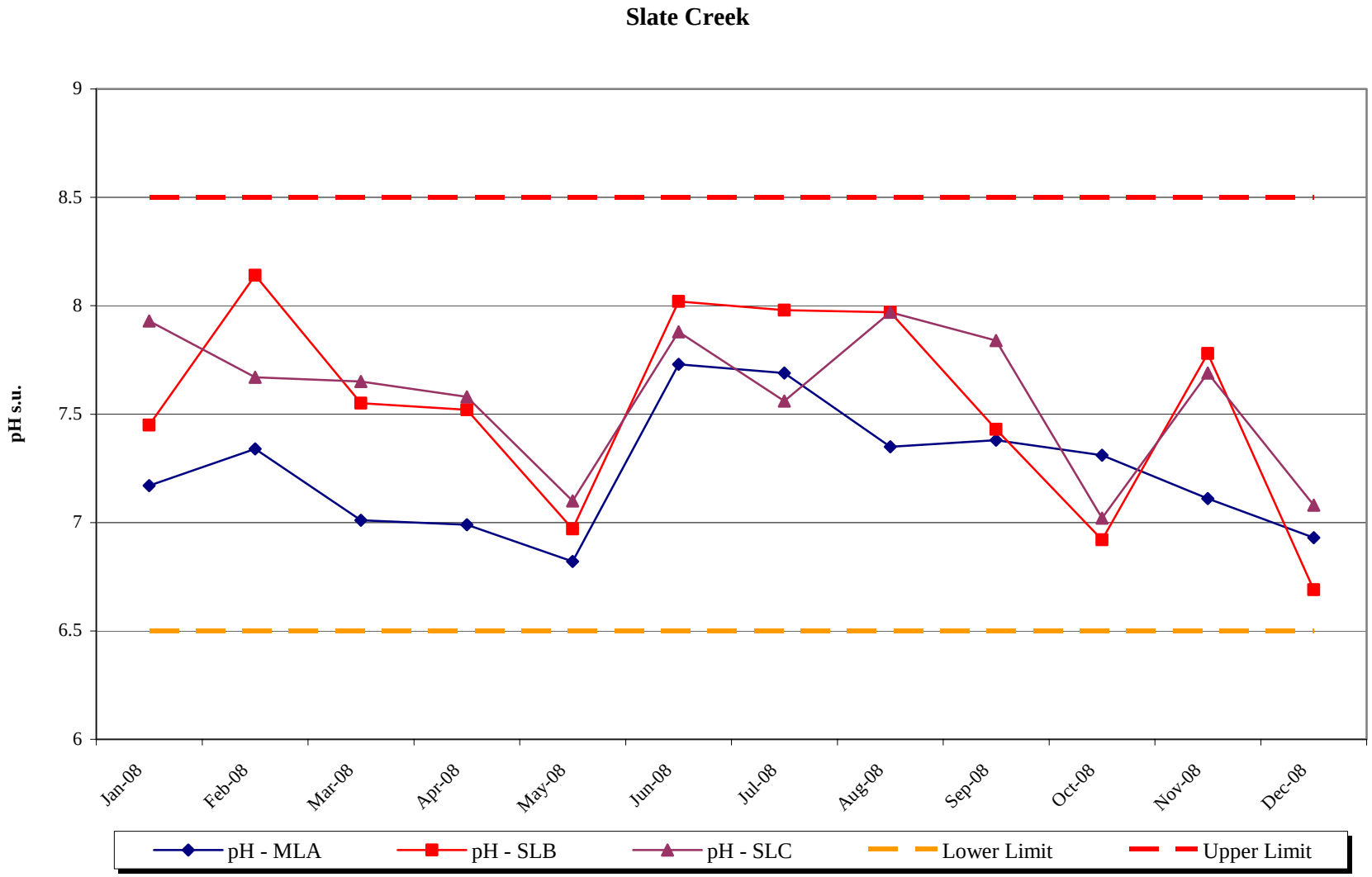

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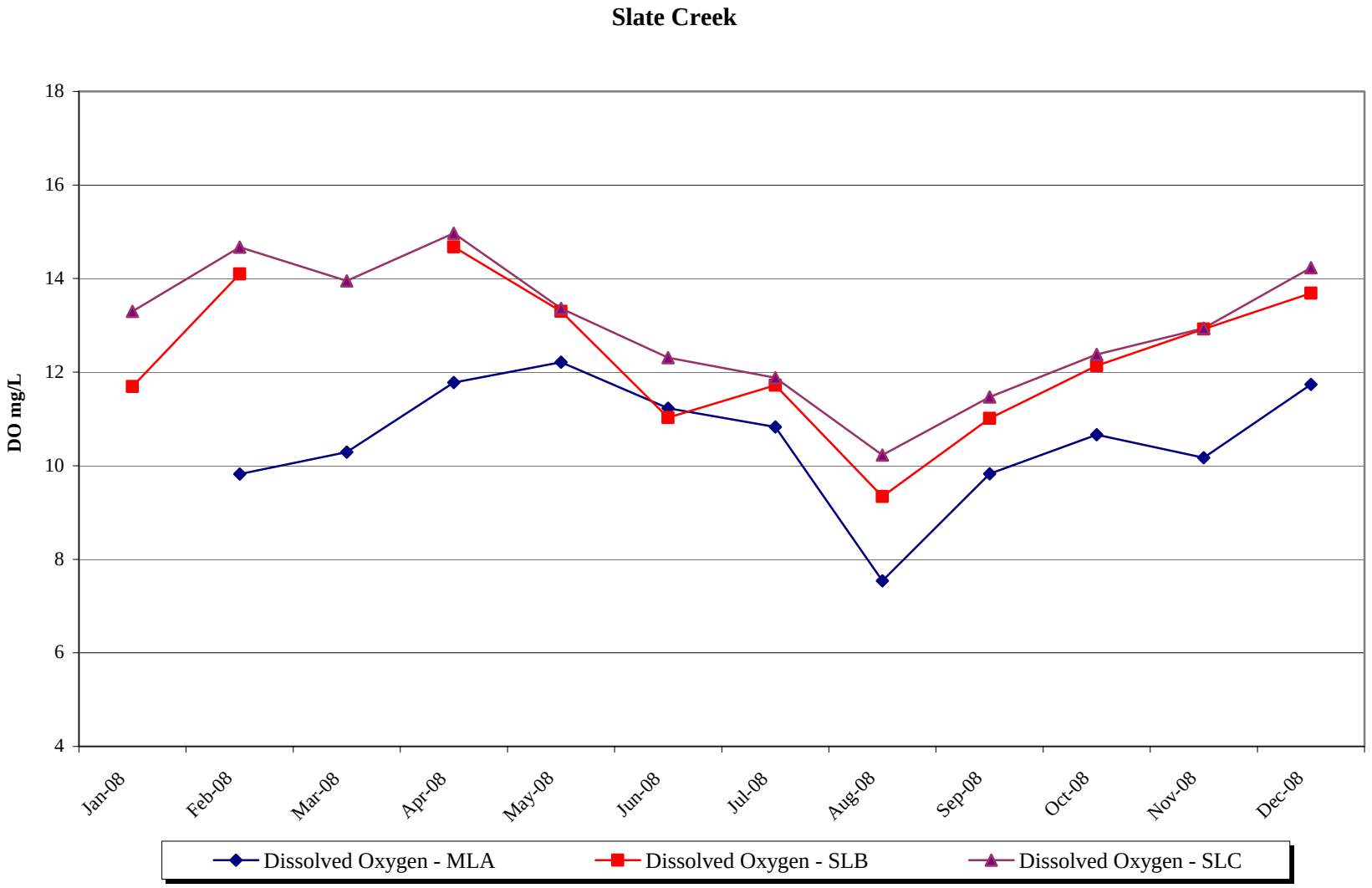

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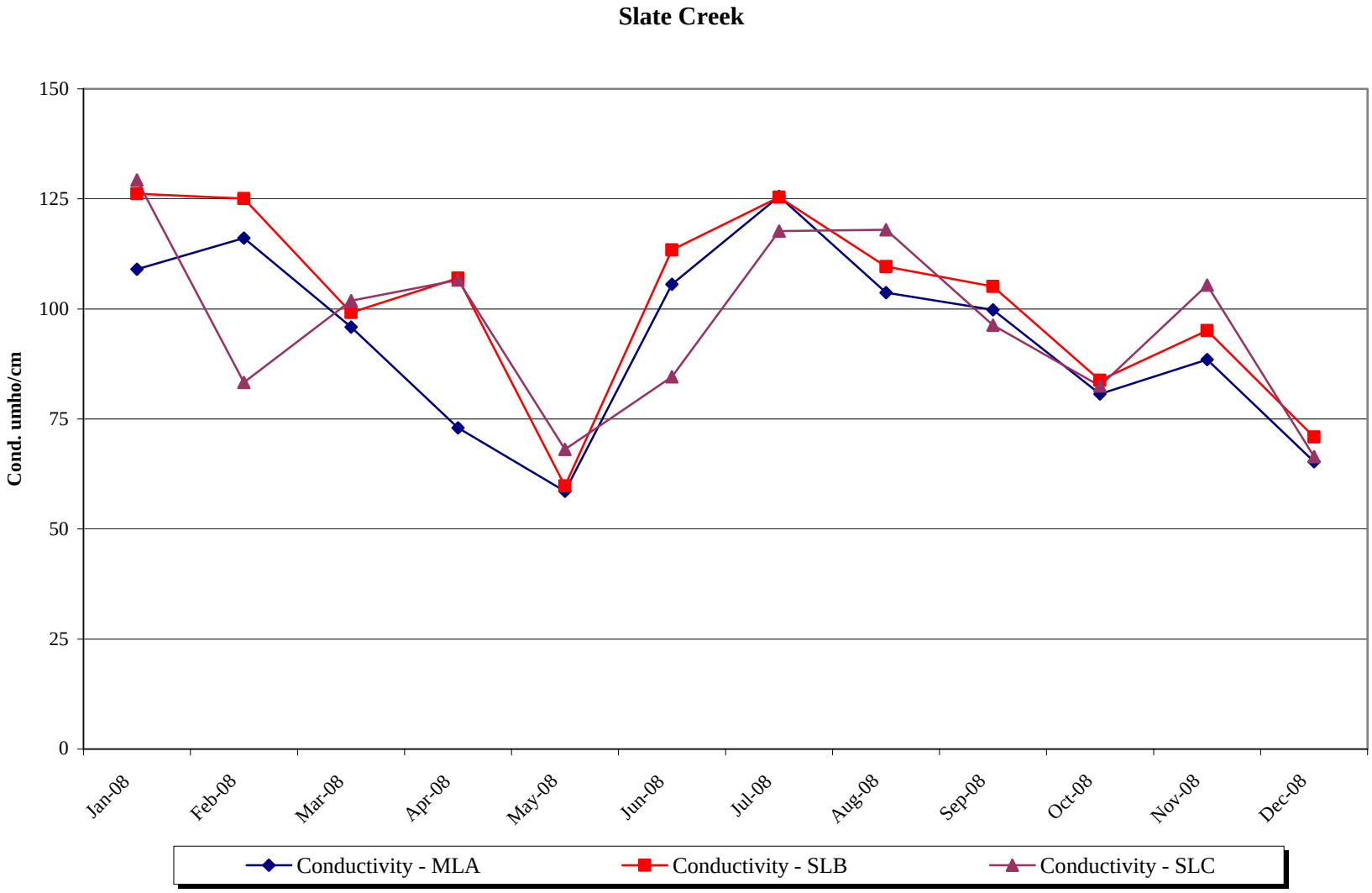
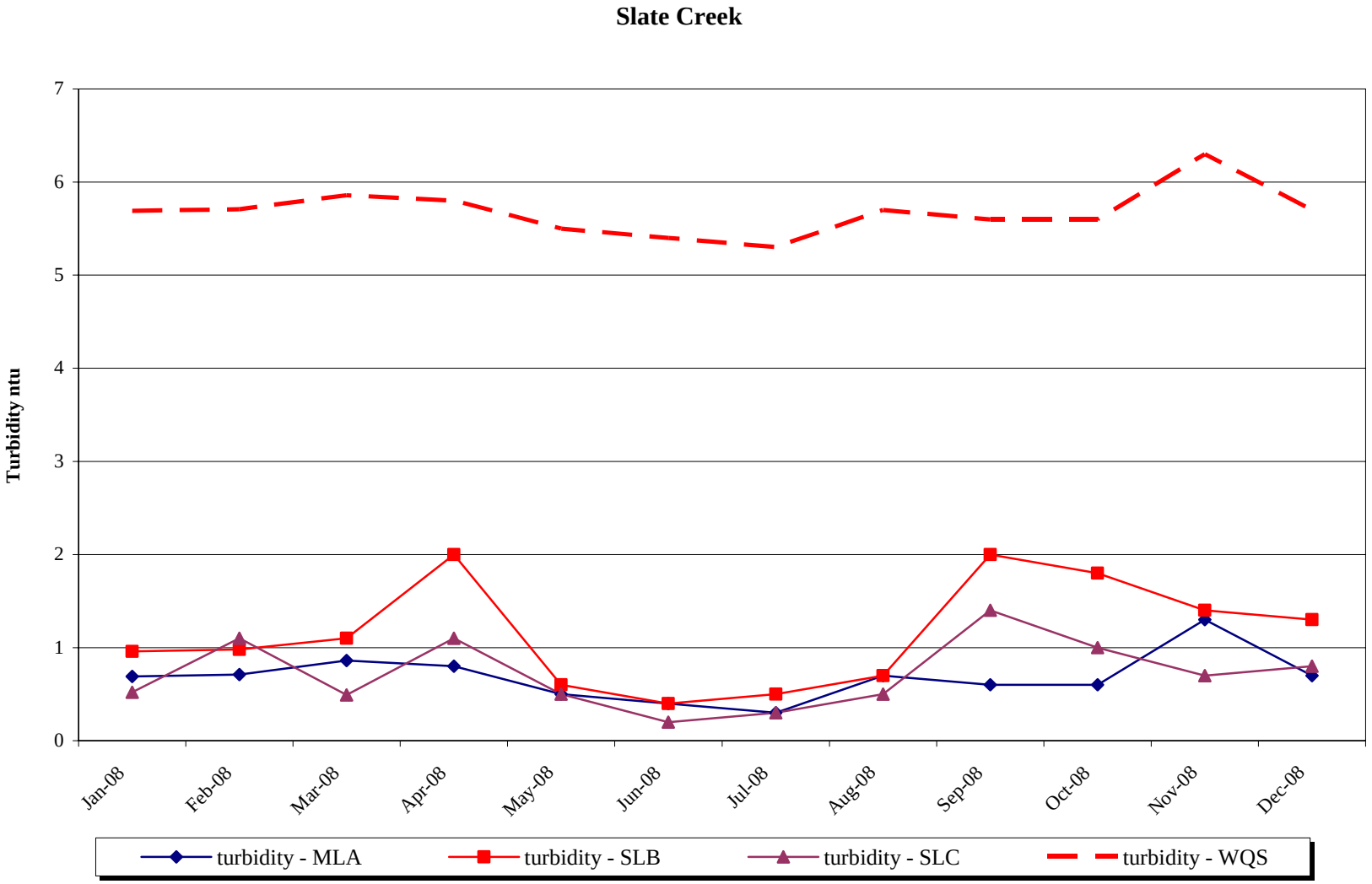


Figure 7b: Slate Creek Monitoring Results 2008, Major Chemistry



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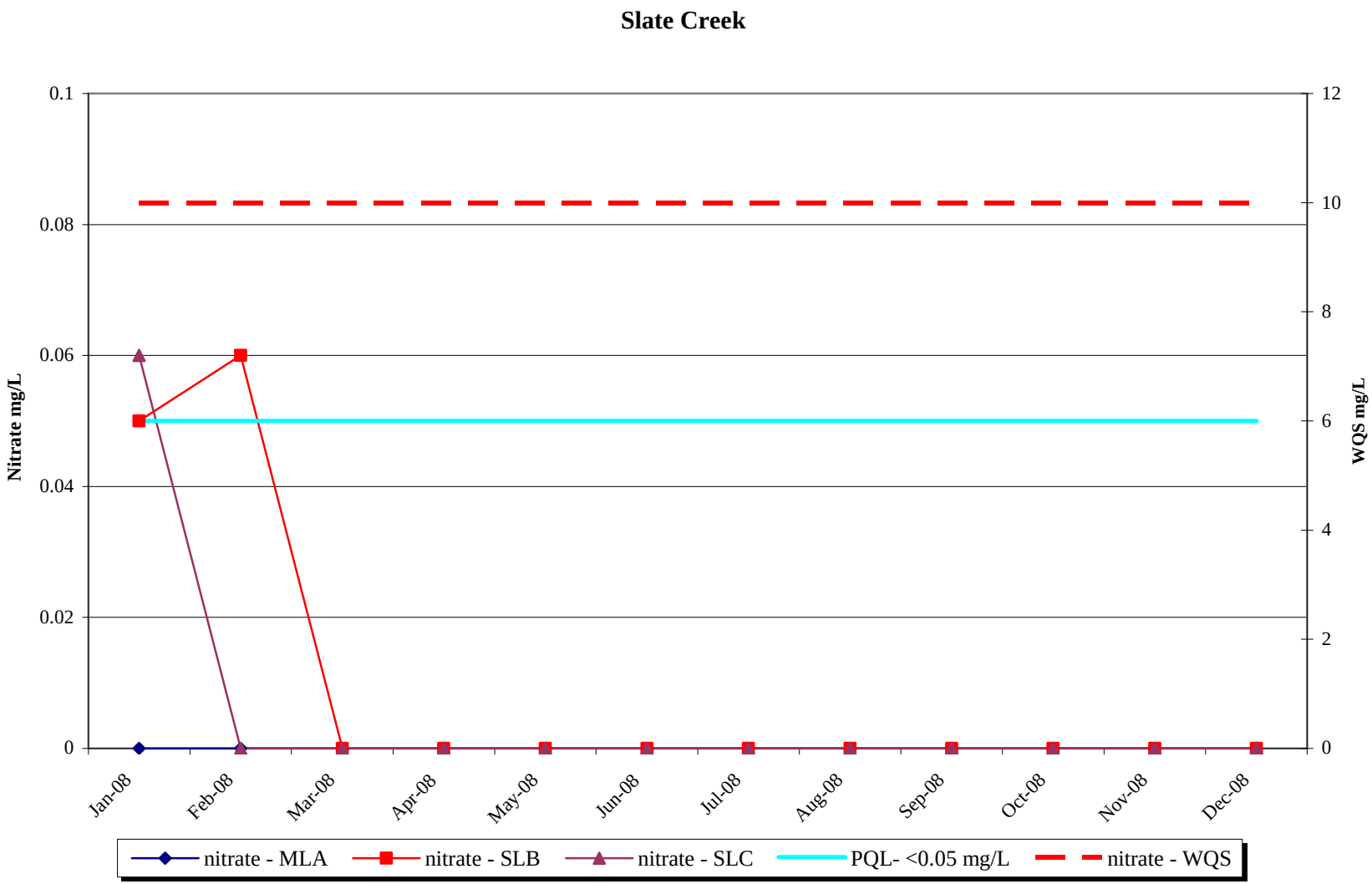

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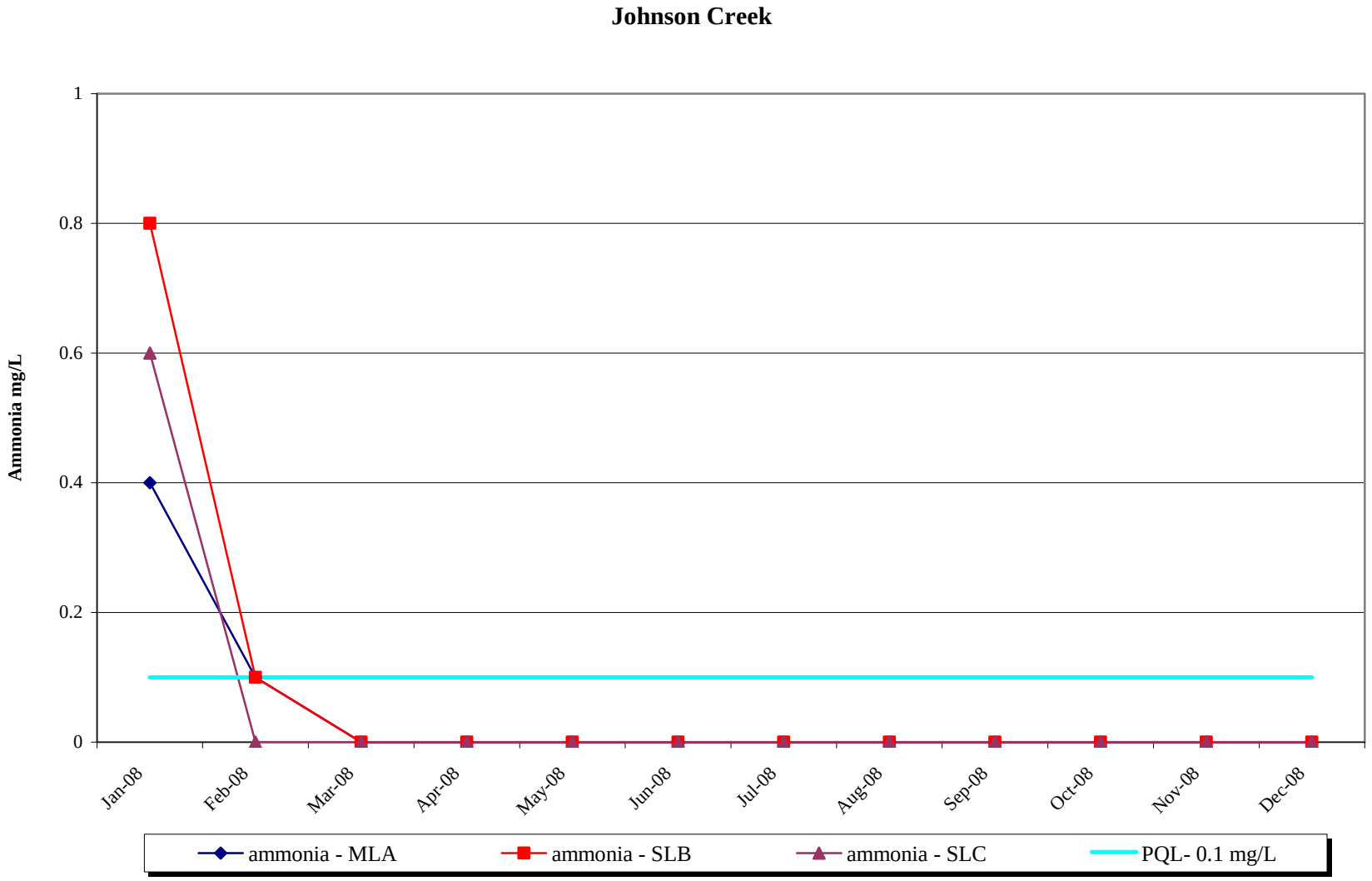

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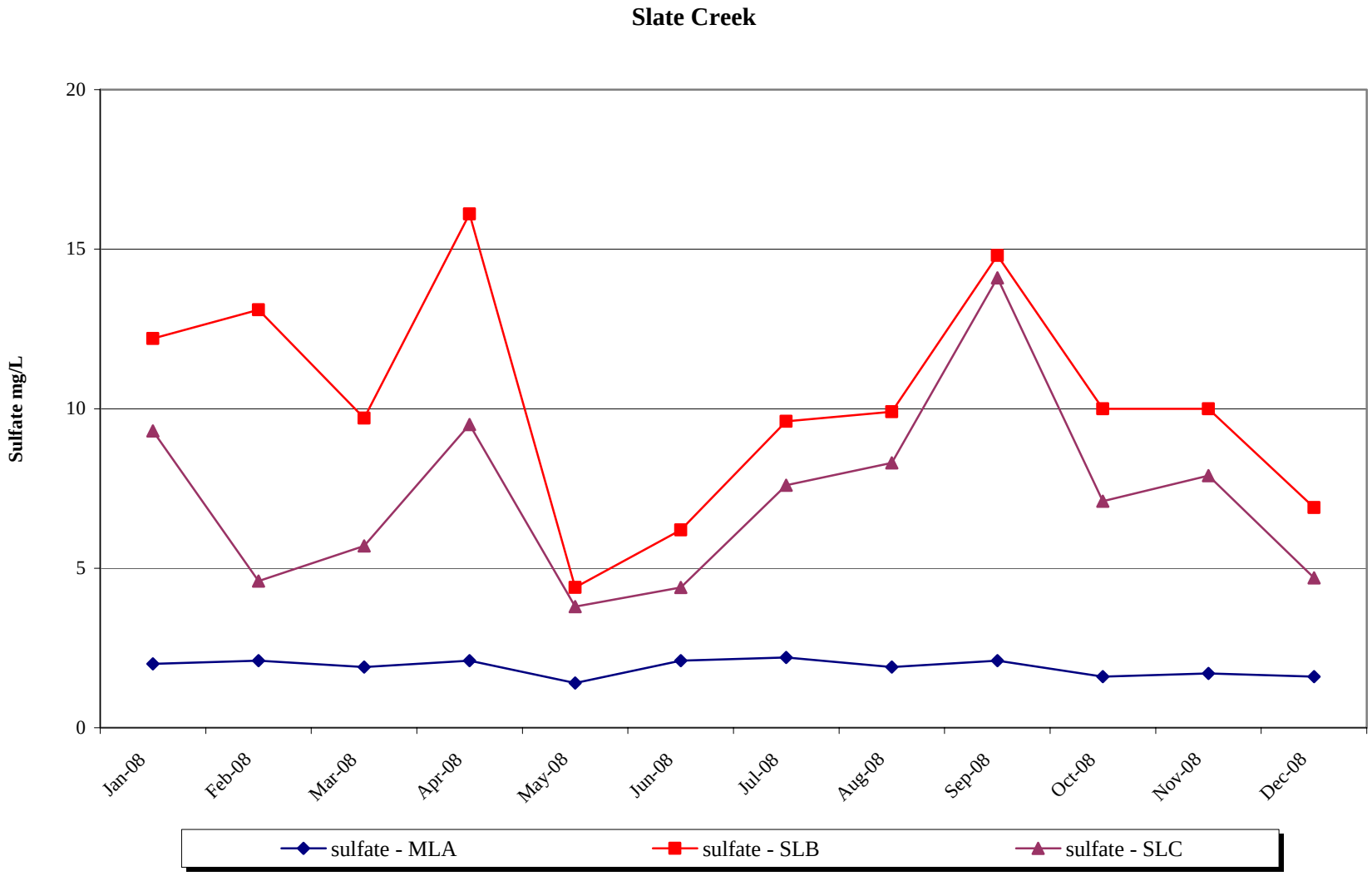

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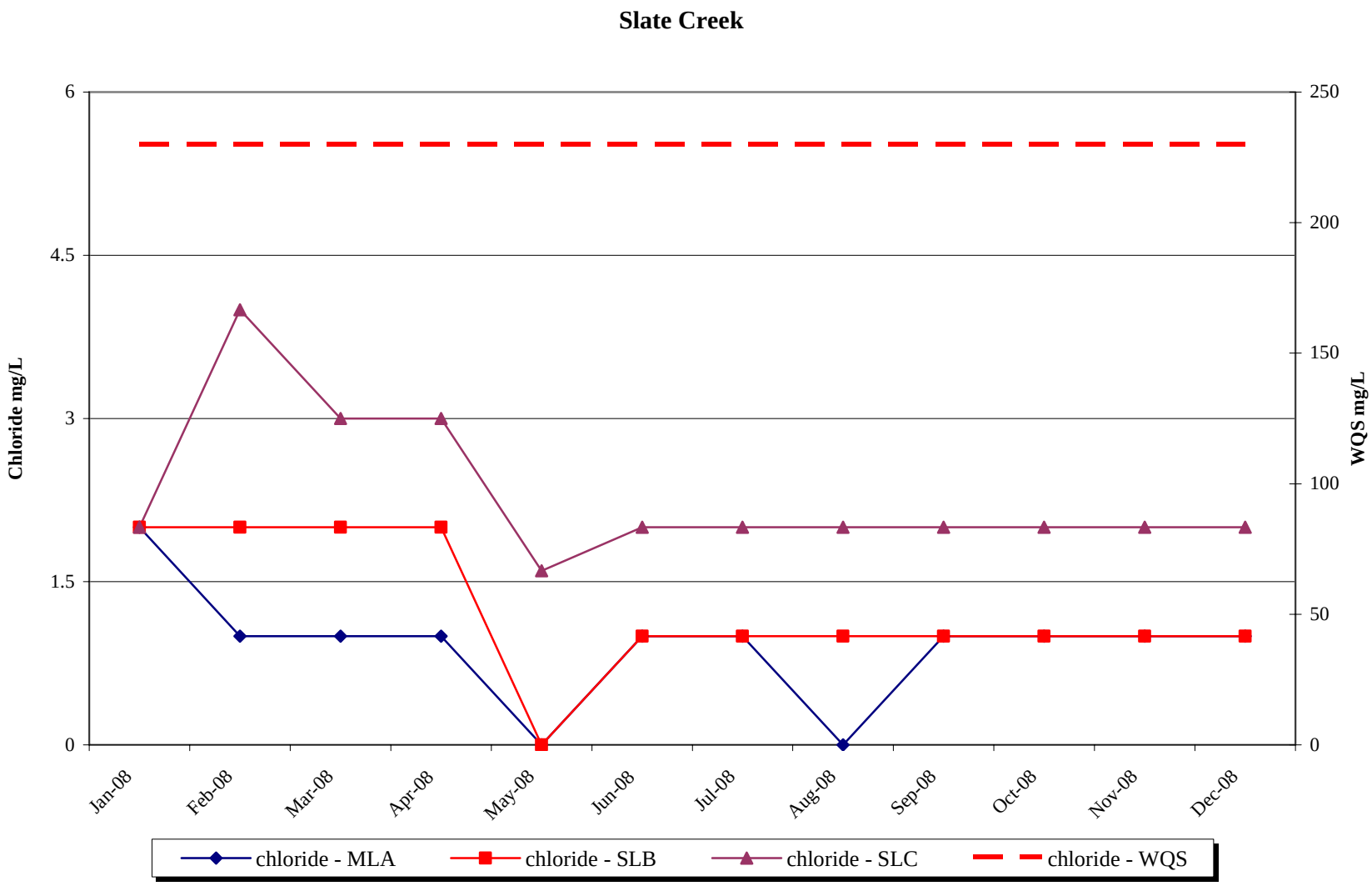

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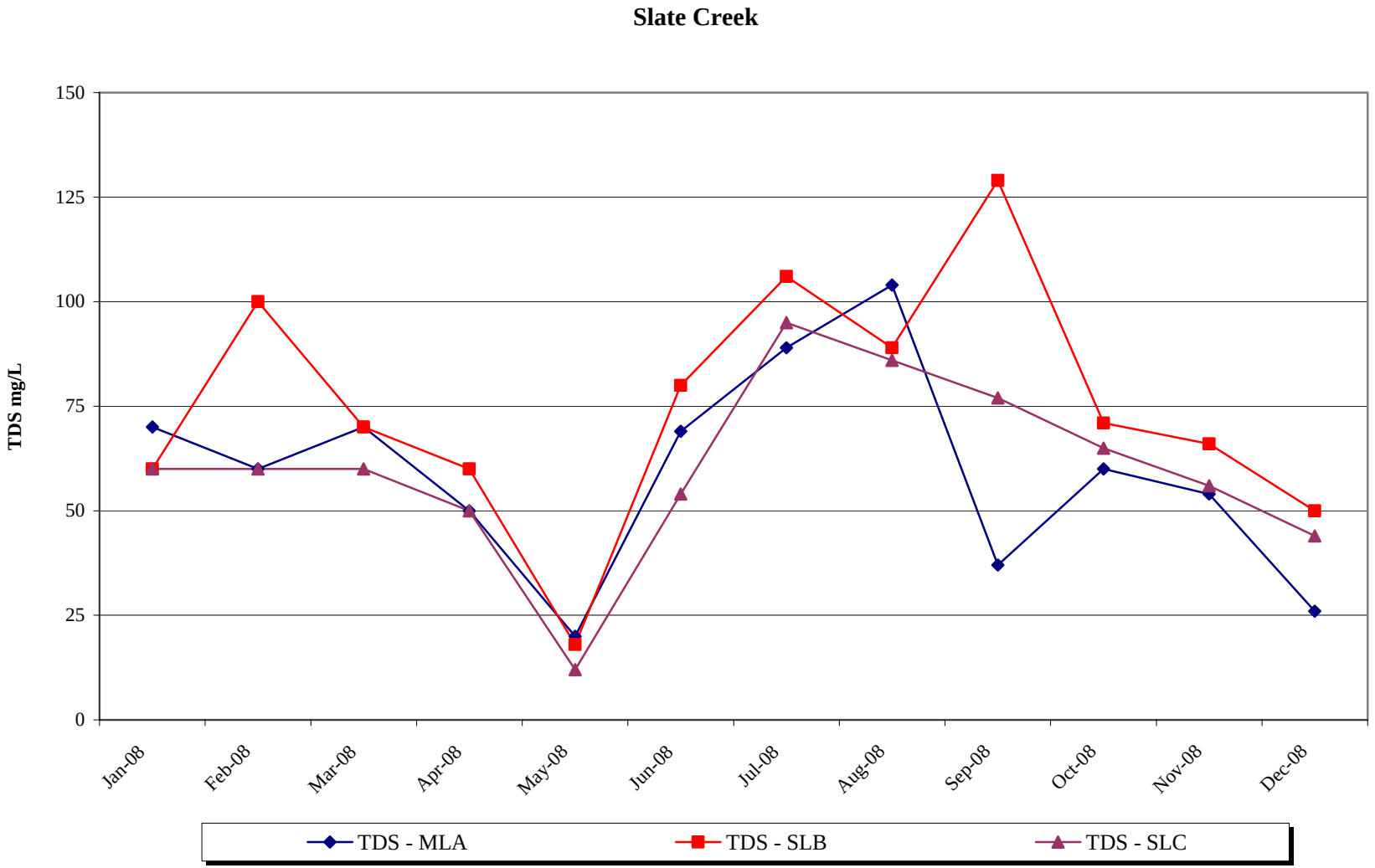

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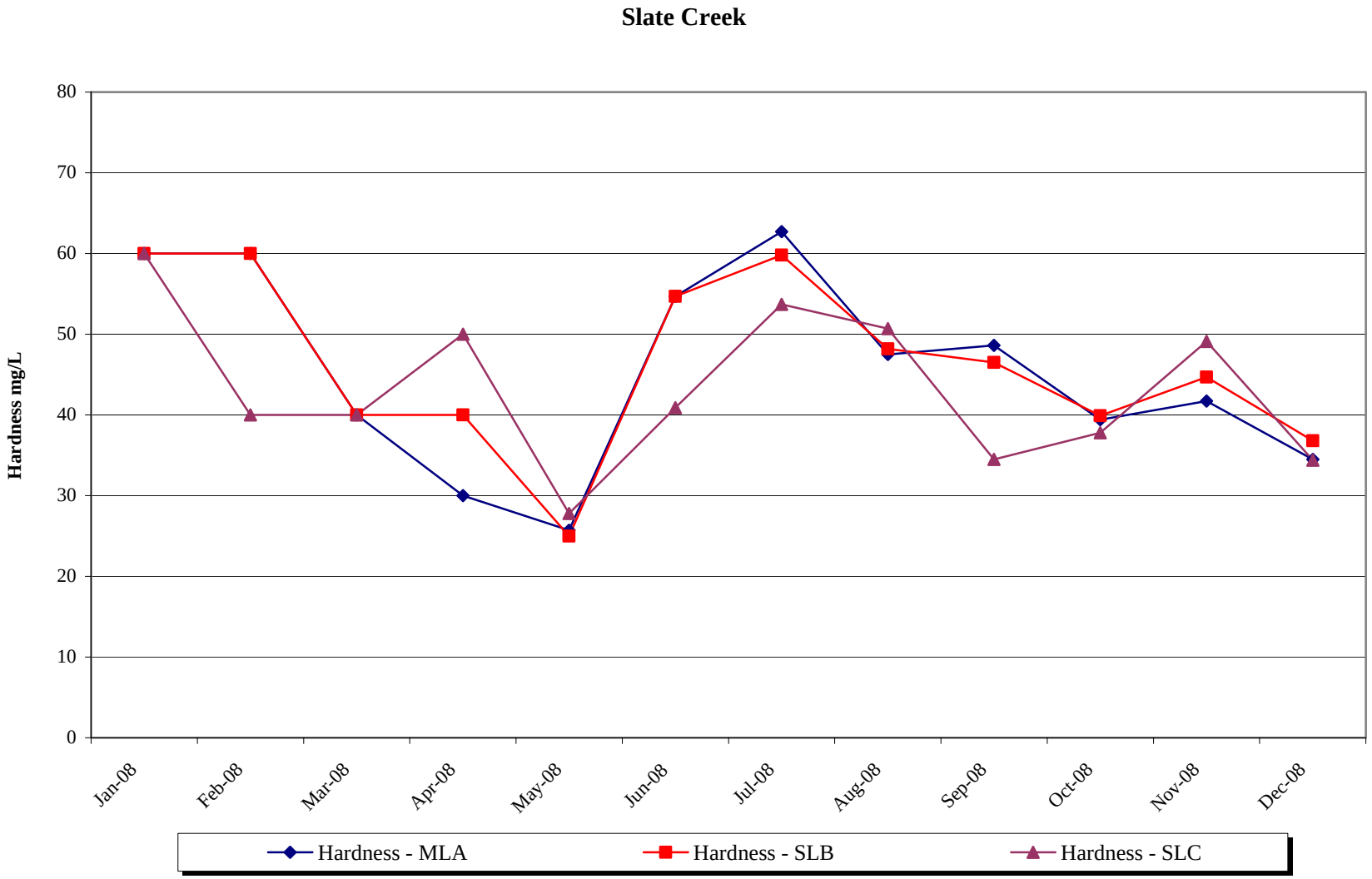

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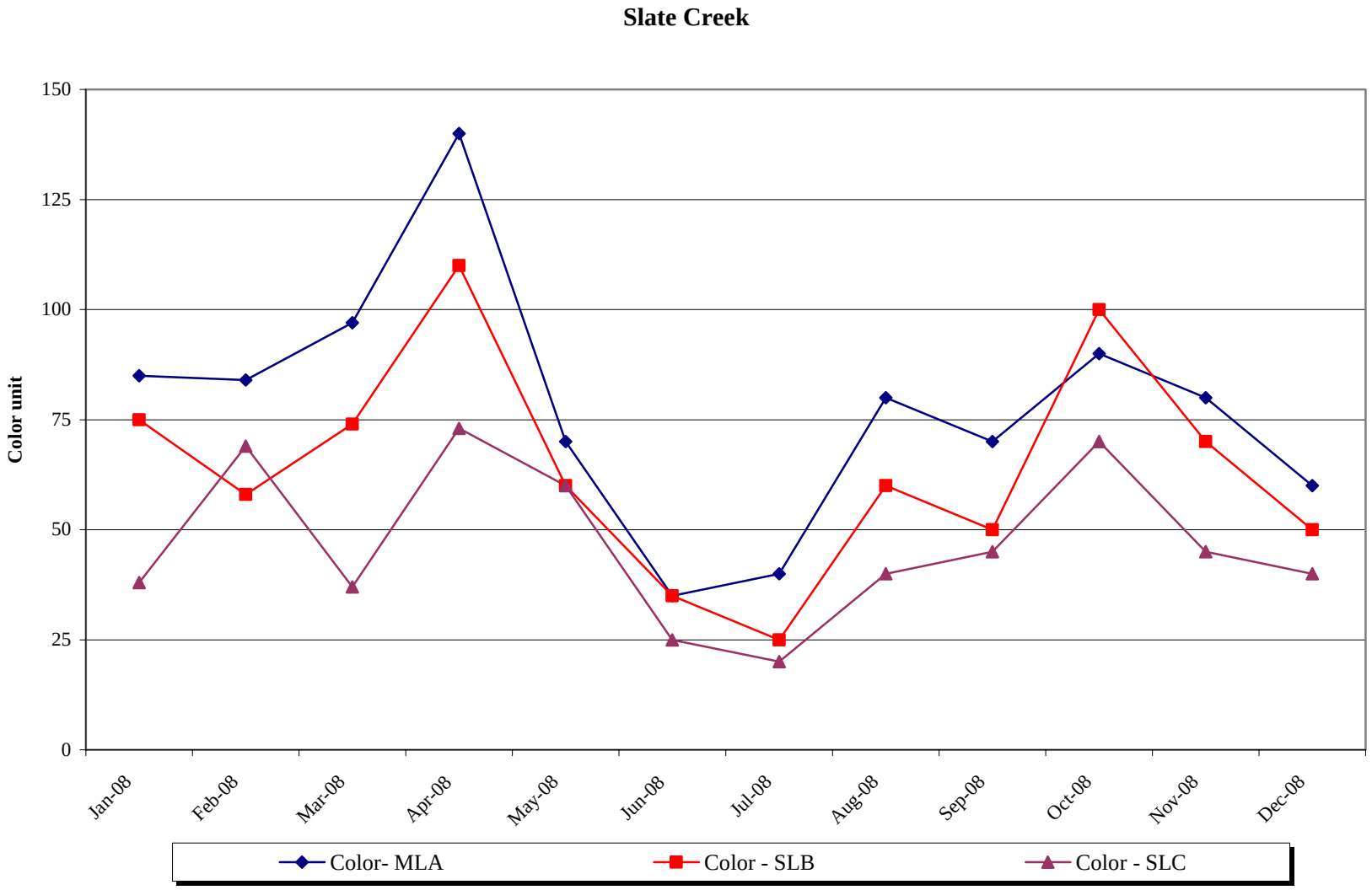

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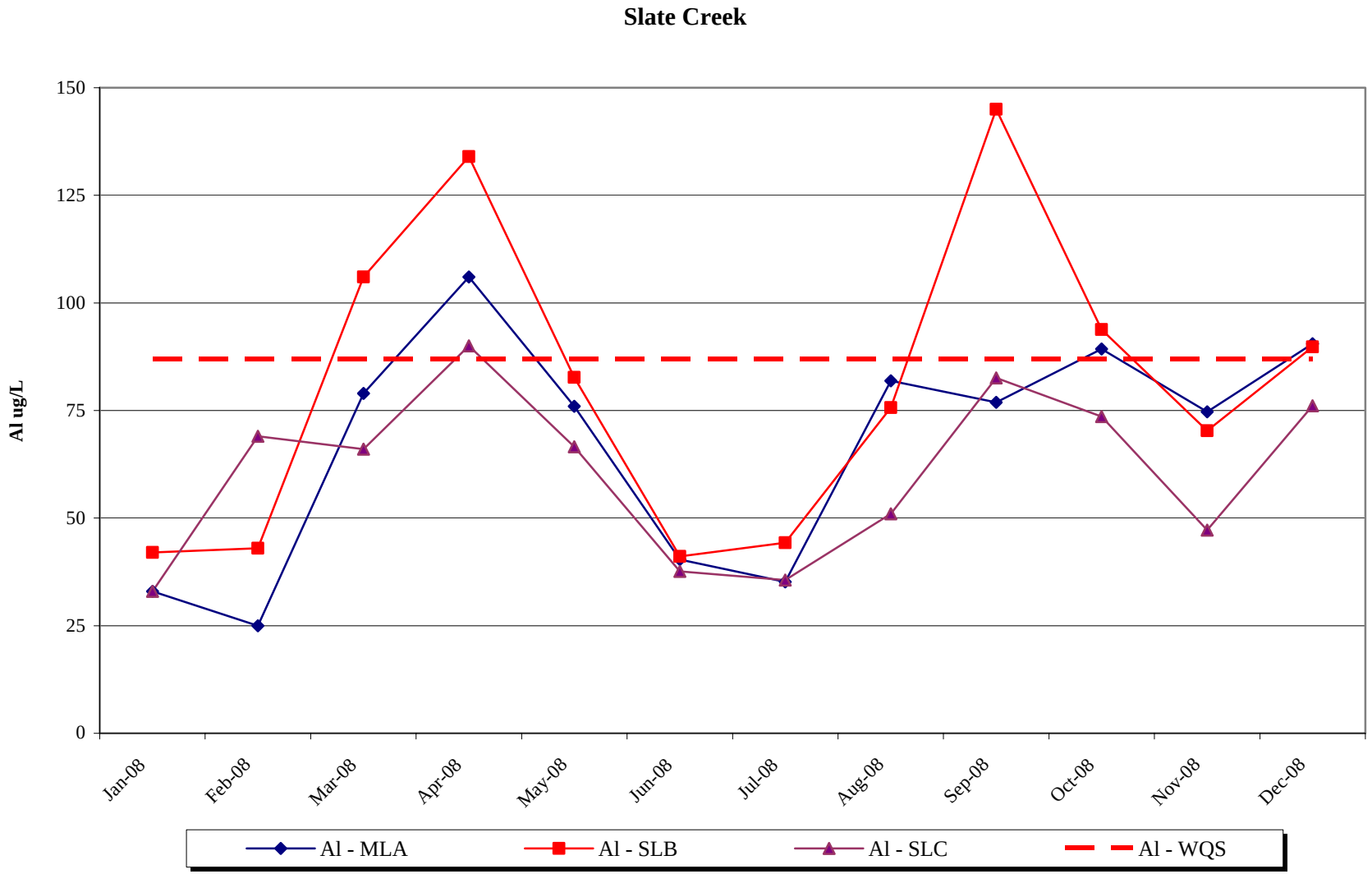

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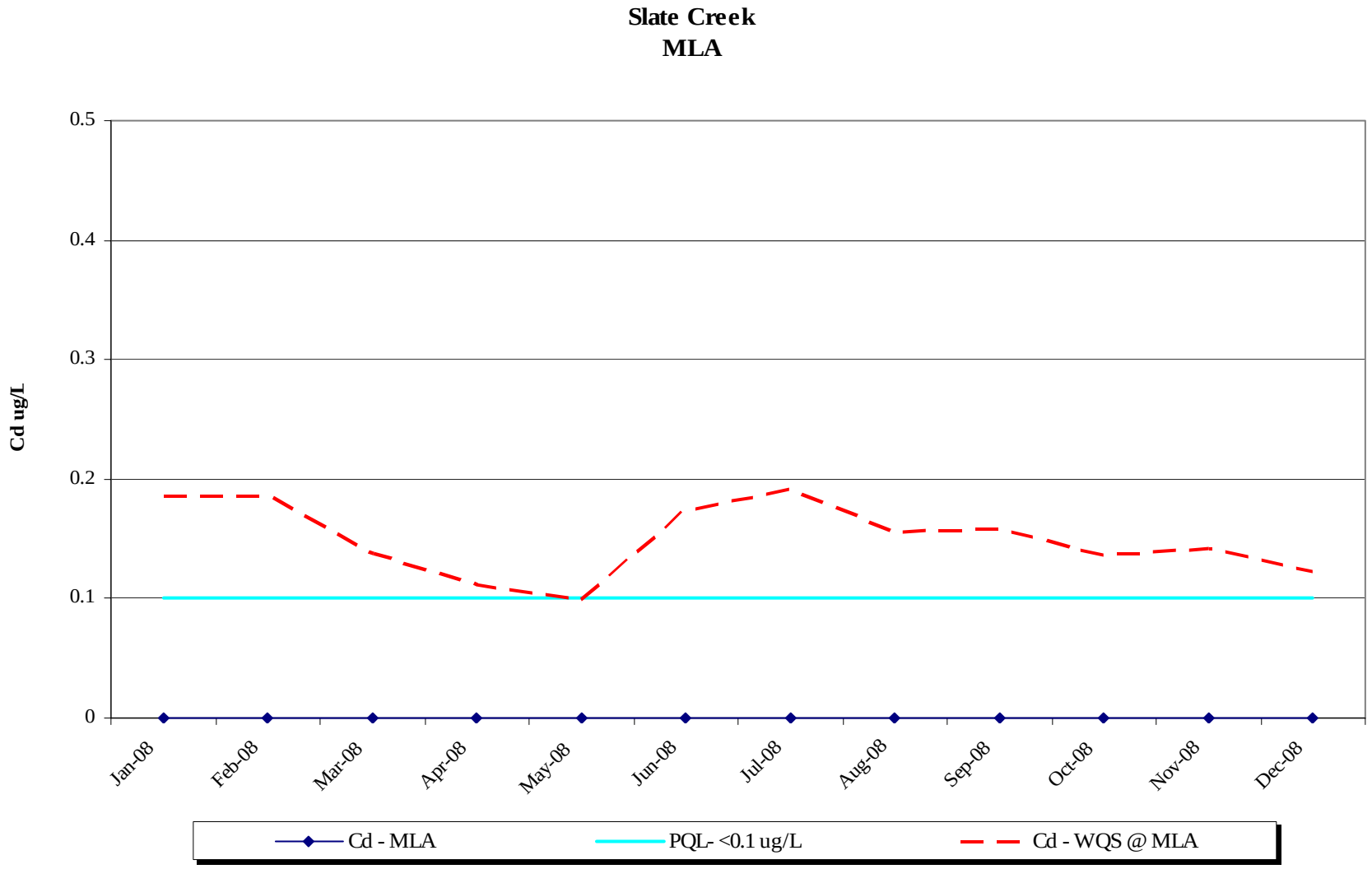

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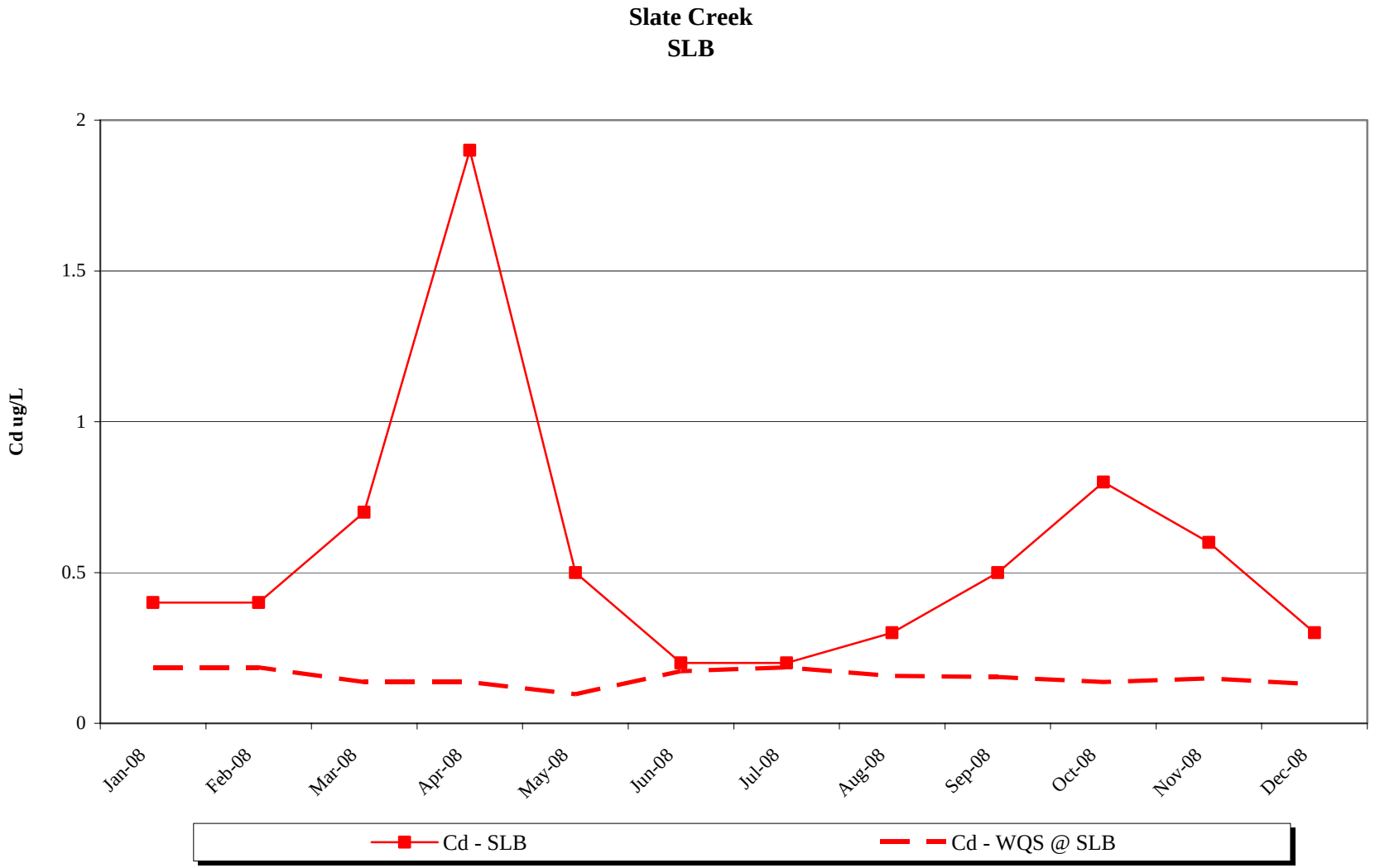

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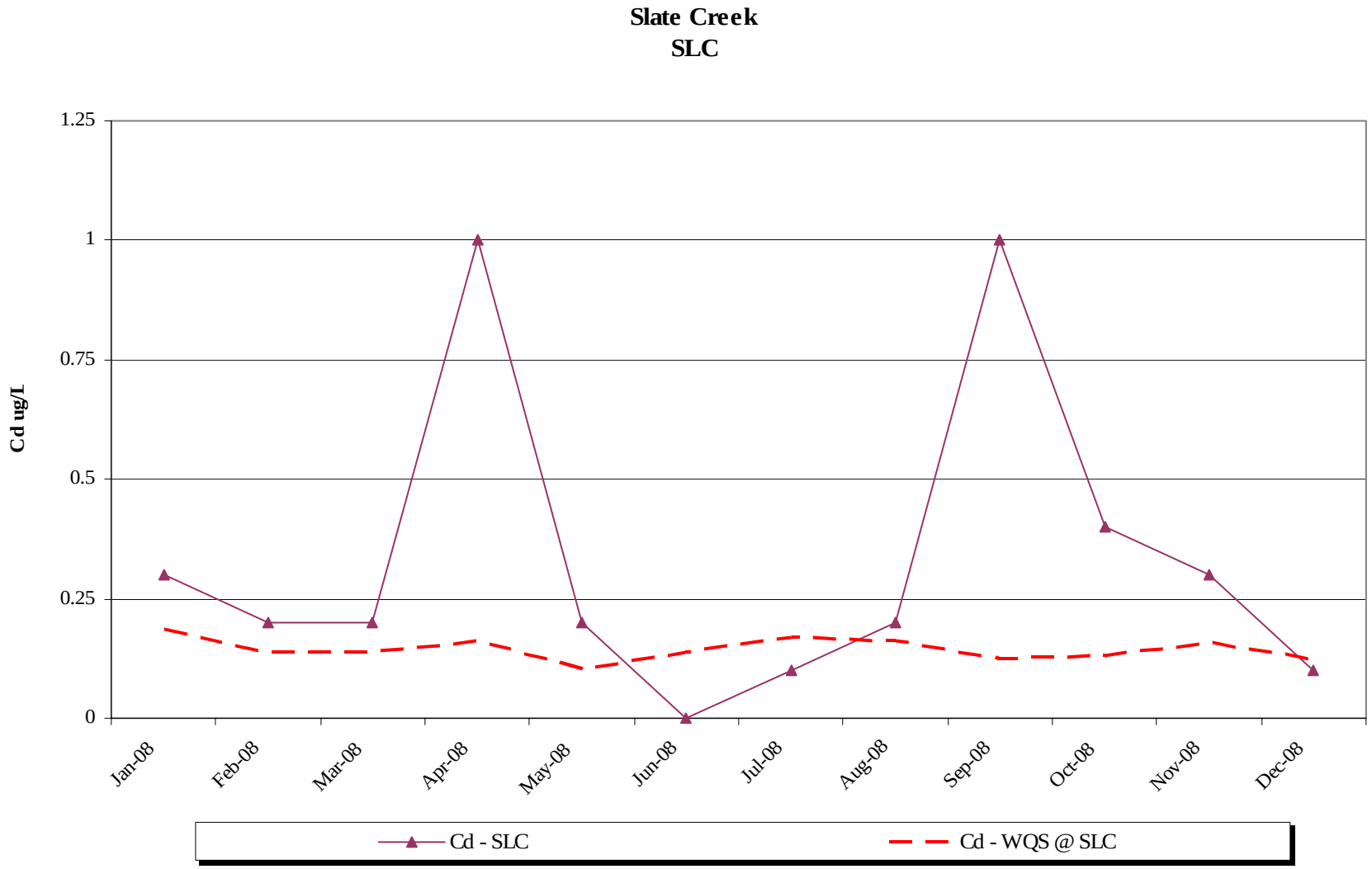

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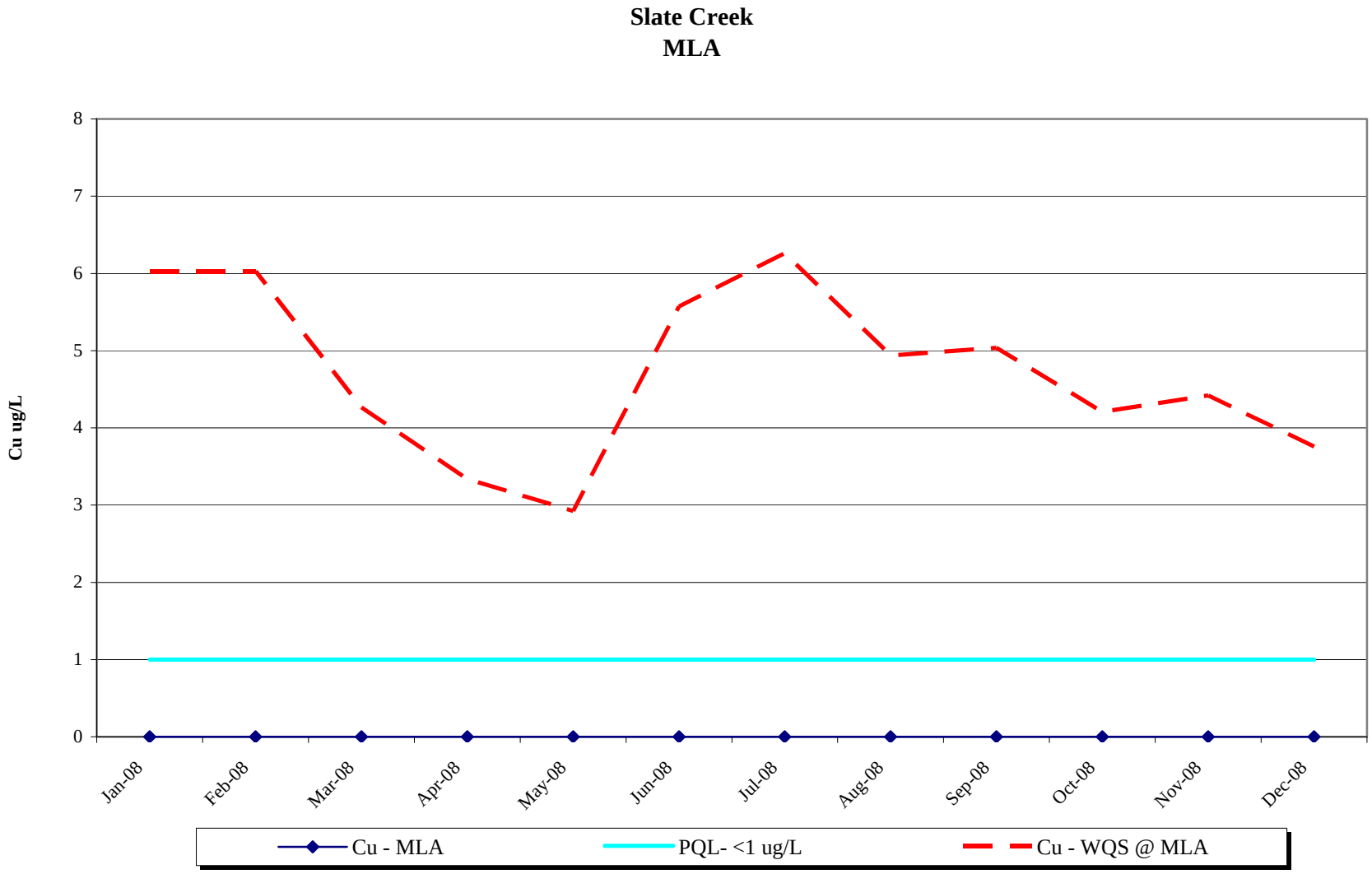

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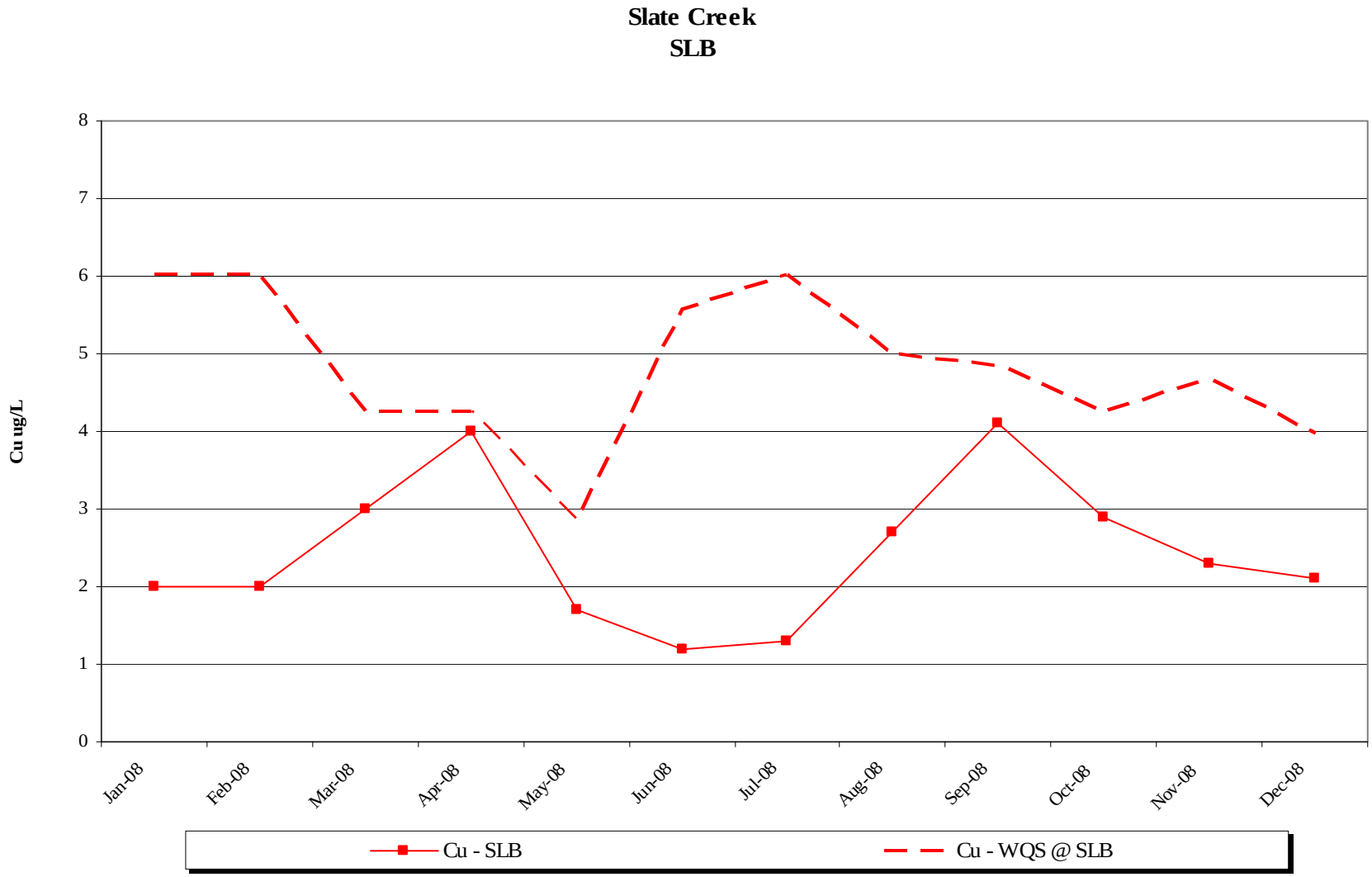

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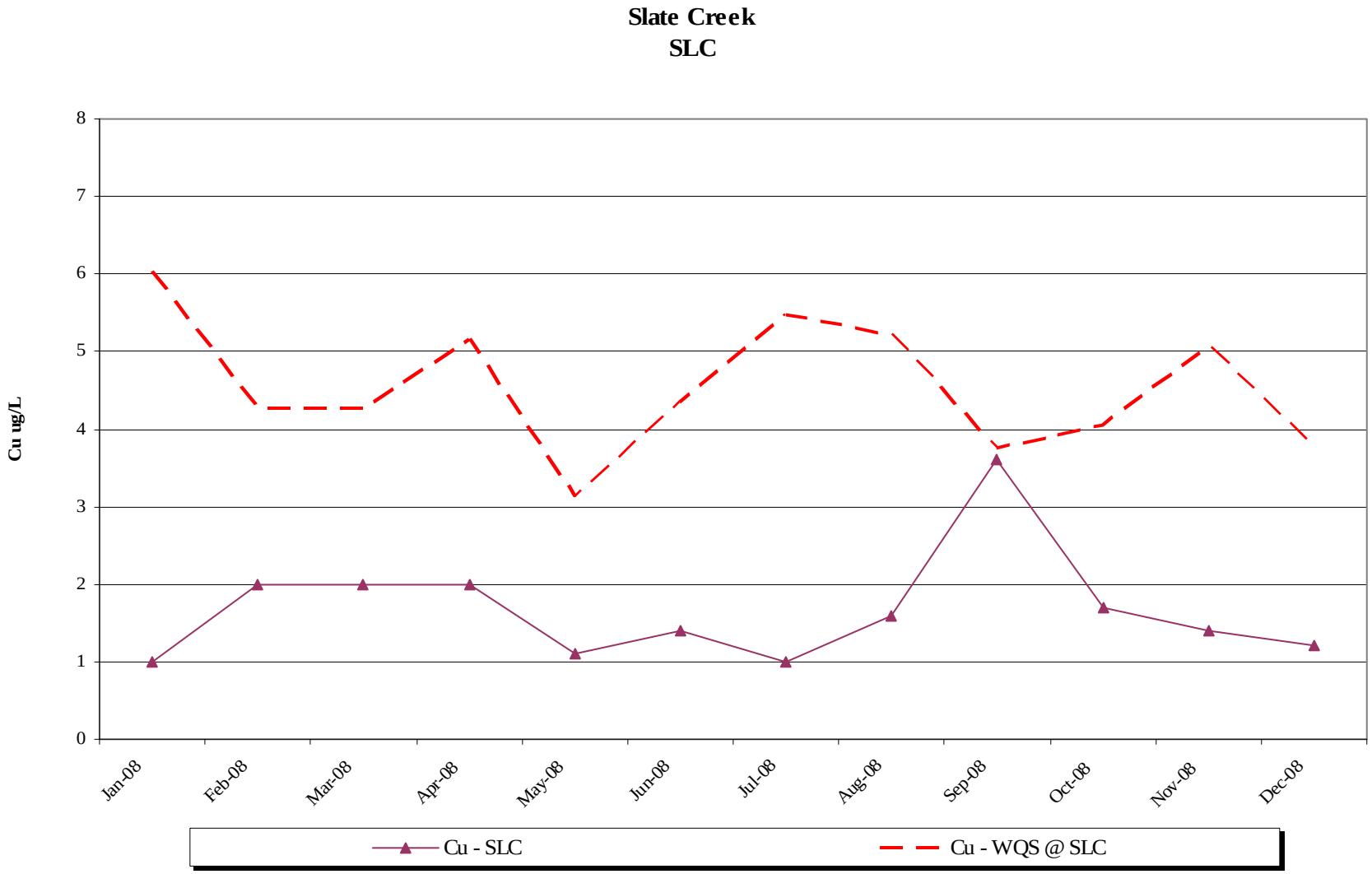

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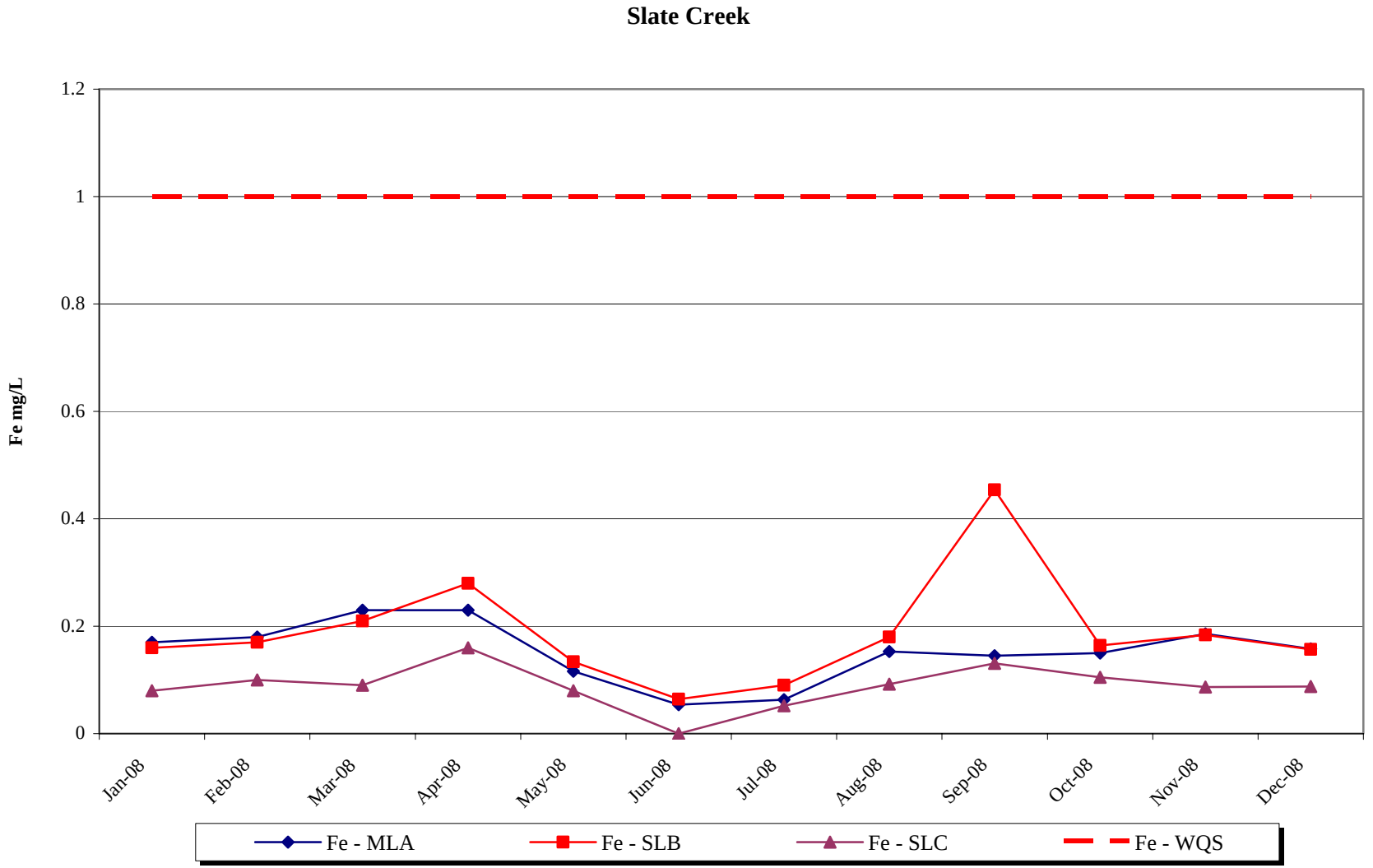


Figure 7c: Slate Creek Monitoring Results 2008, Trace Chemistry

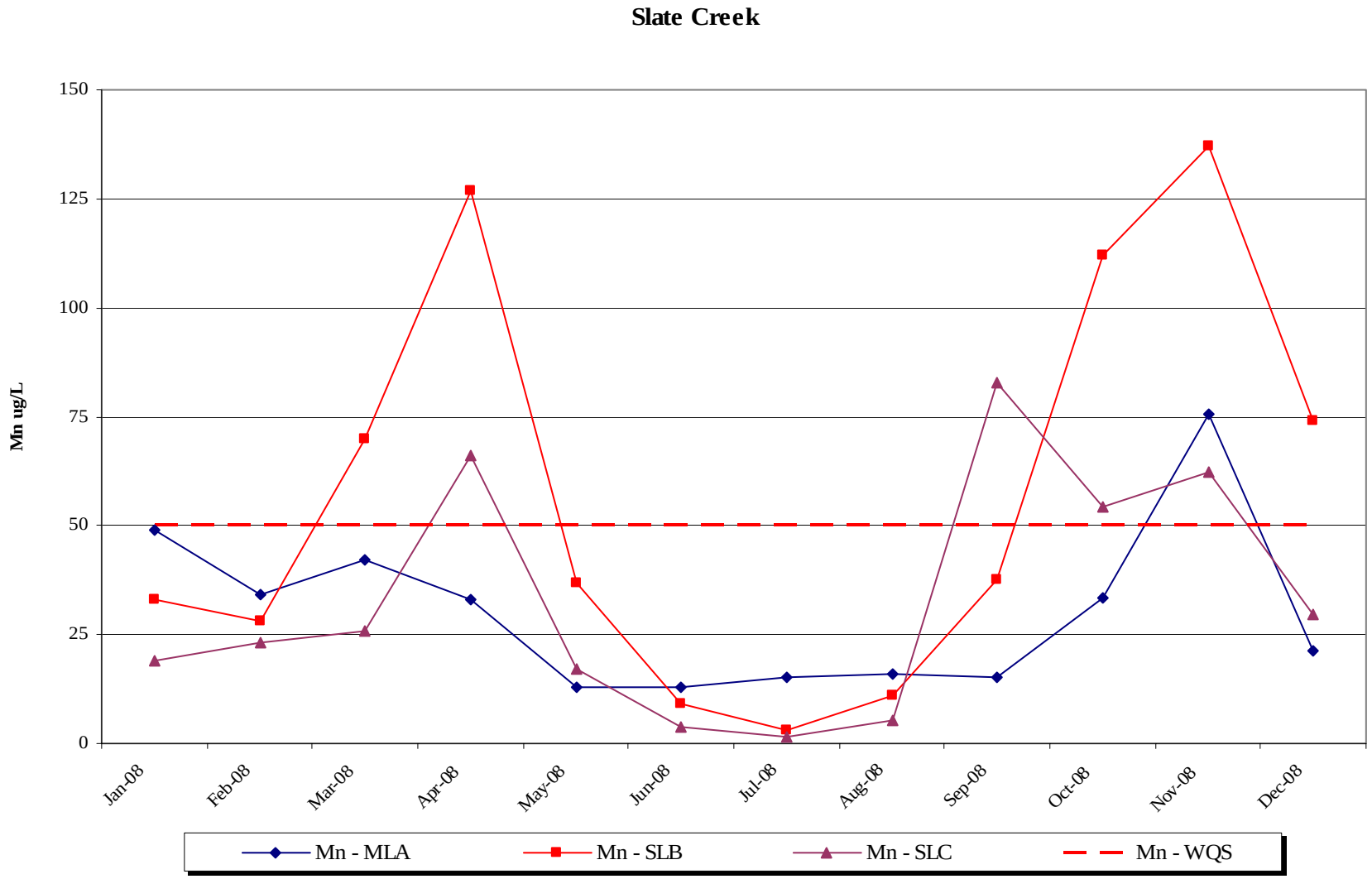


Figure 7c: Slate Creek Monitoring Results 2008, Trace Chemistry

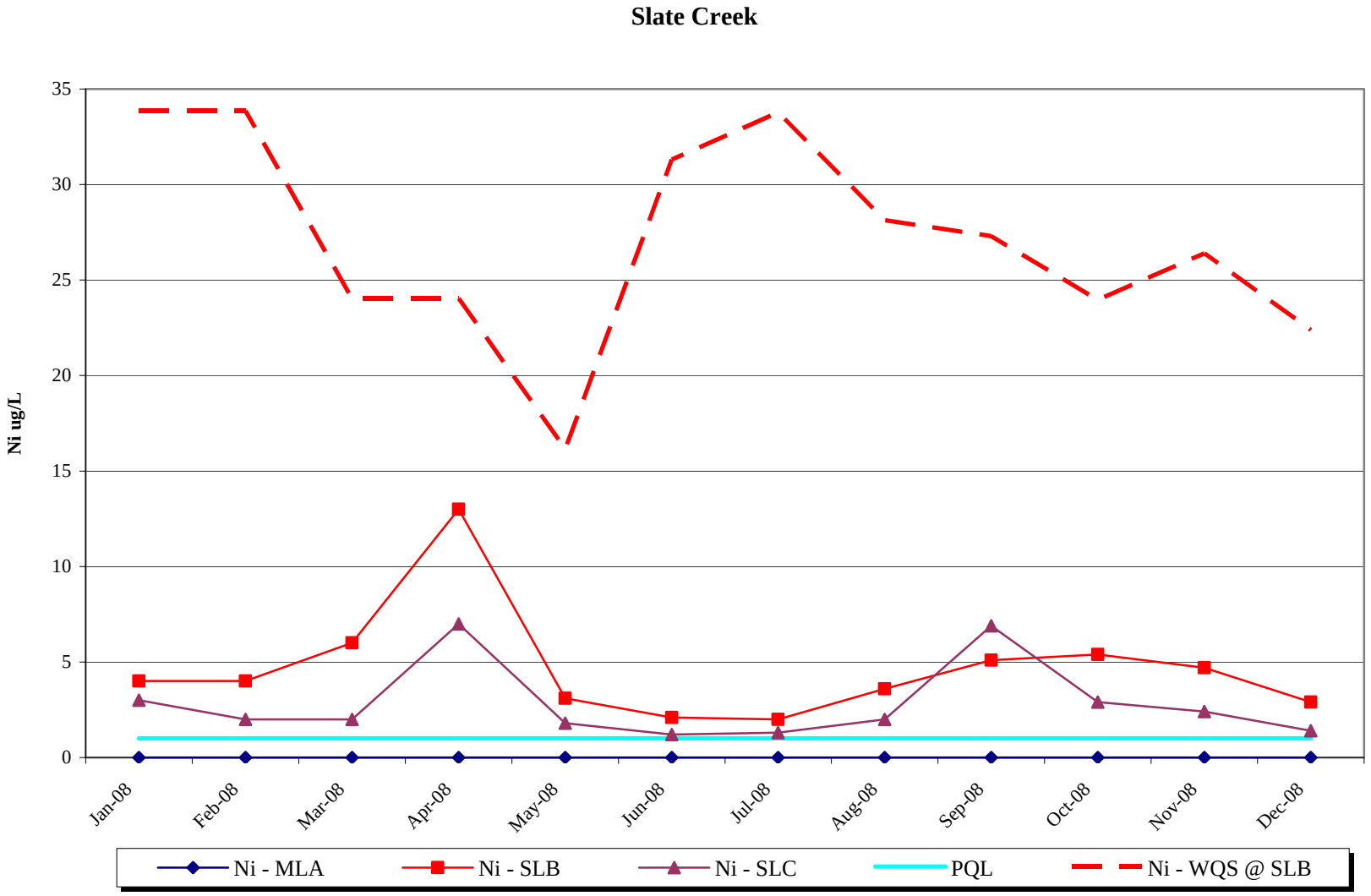


Figure 7c: Slate Creek Monitoring Results 2008, Trace Chemistry

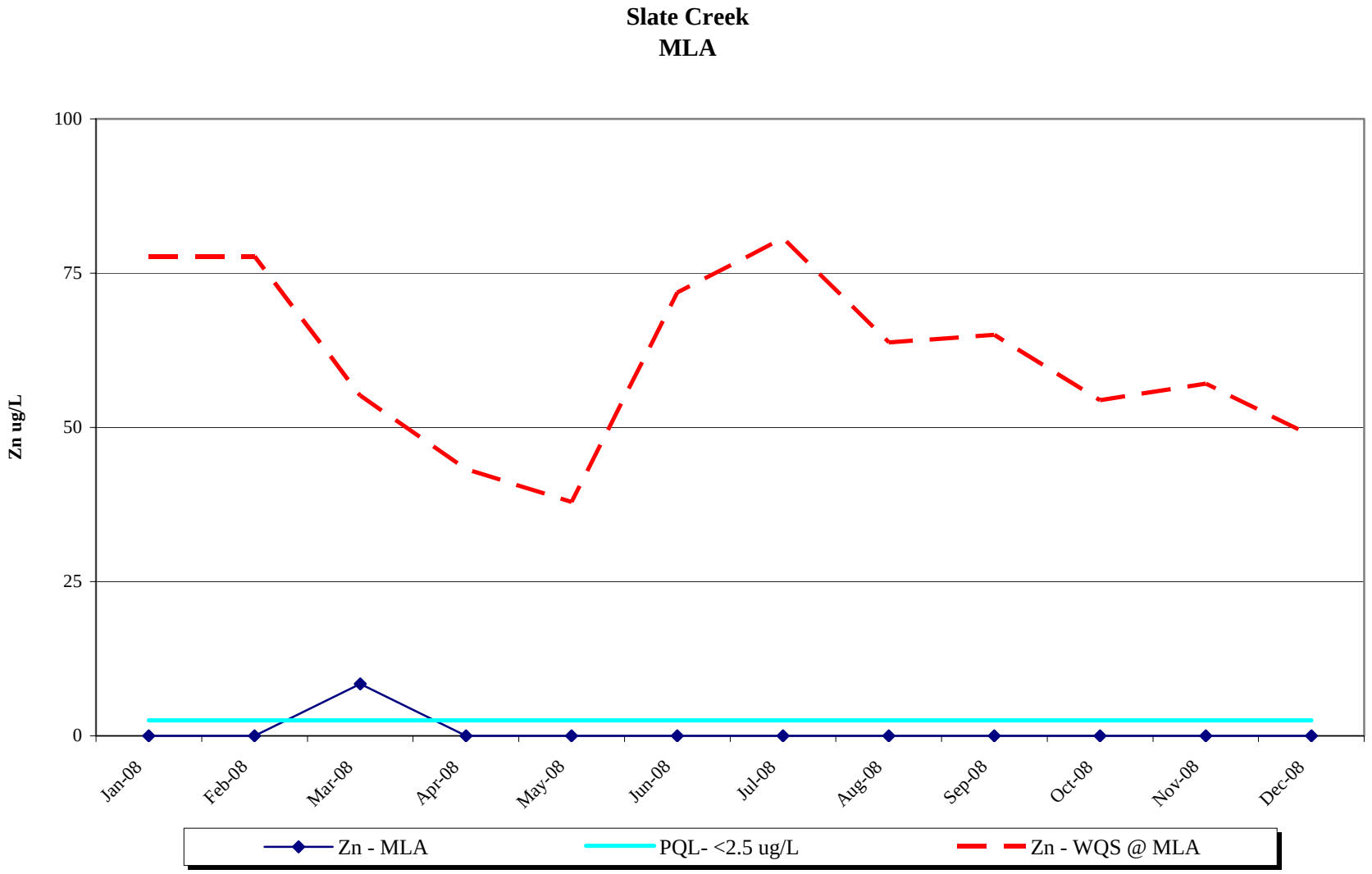


Figure 7c: Slate Creek Monitoring Results 2008, Trace Chemistry

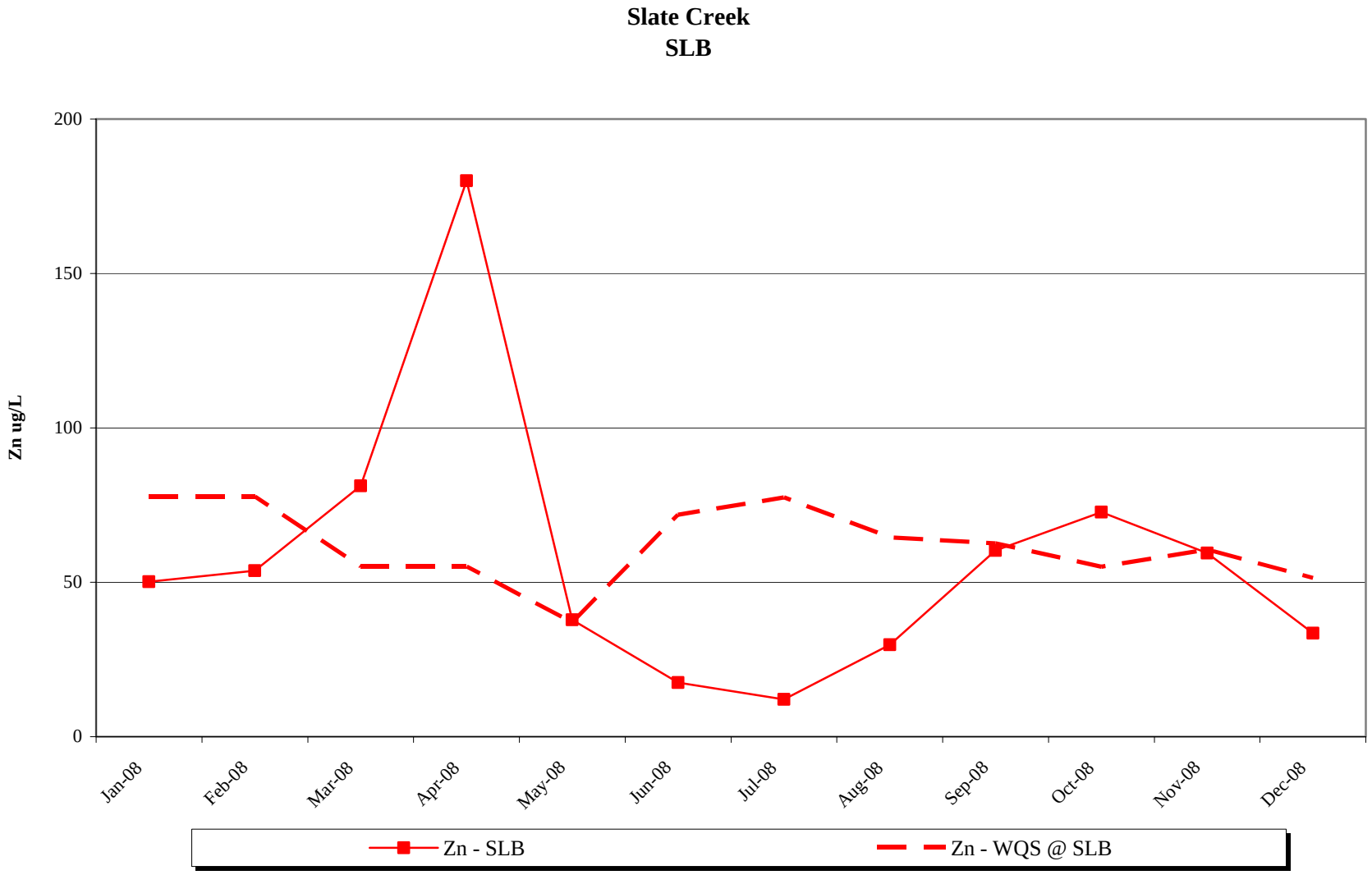


Figure 7c: Slate Creek Monitoring Results 2008, Trace Chemistry

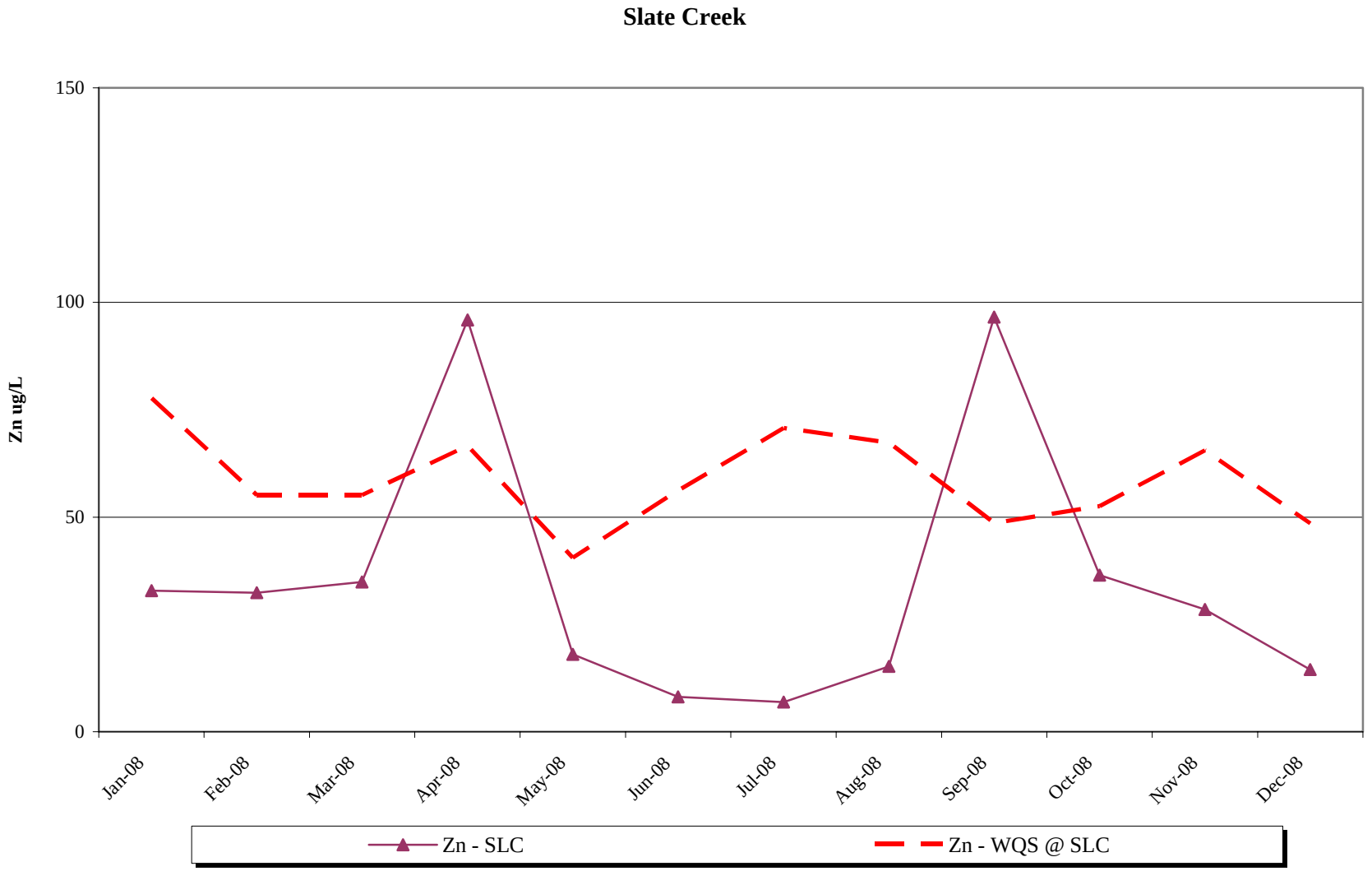


Figure 7c: Slate Creek Monitoring Results 2008, Trace Chemistry

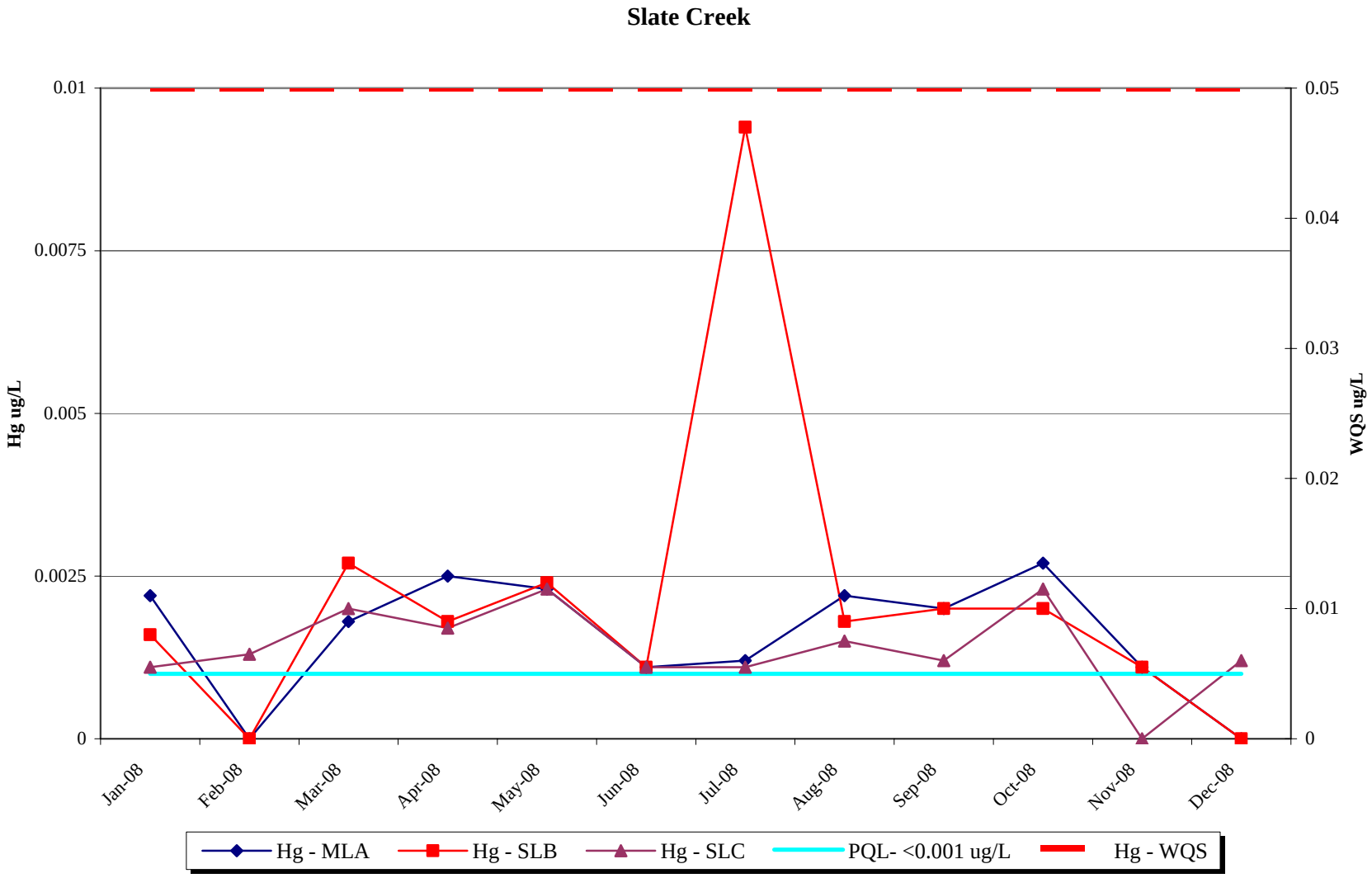


Figure 8a: Sherman Creek Monitoring Results 2008, Field Parameters

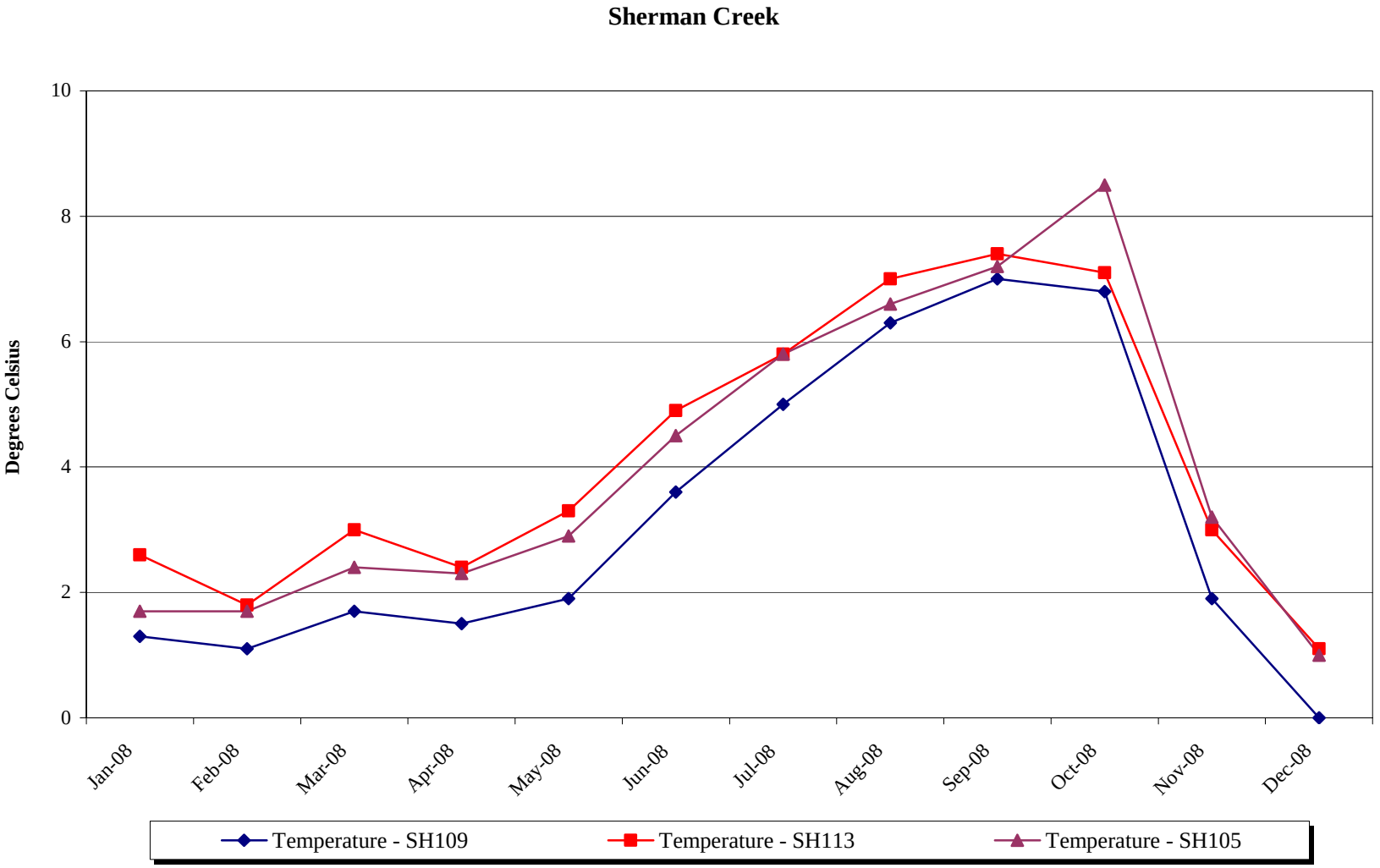
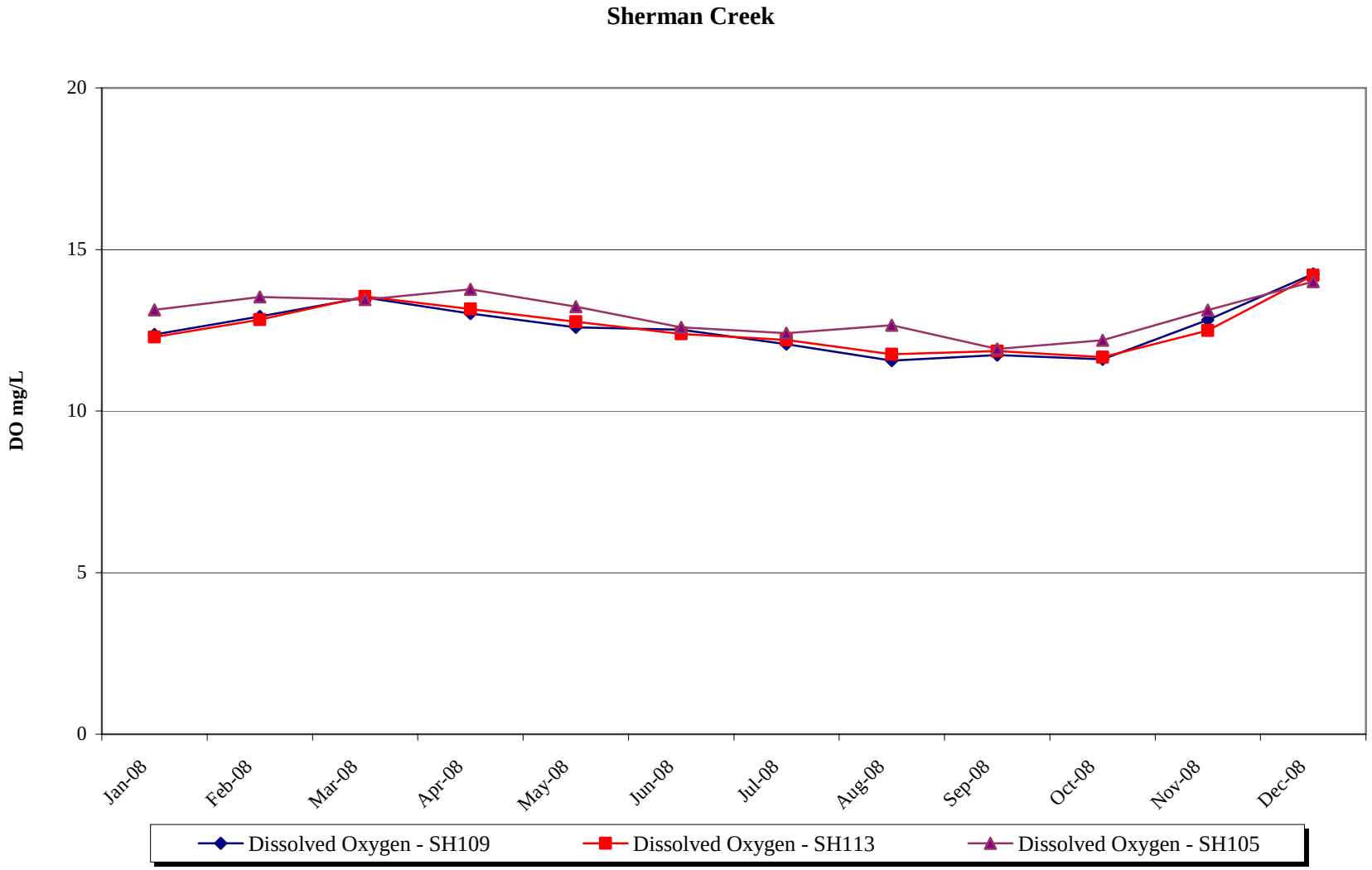


Figure 8a: Sherman Creek Monitoring Results 2008, Field Parameters



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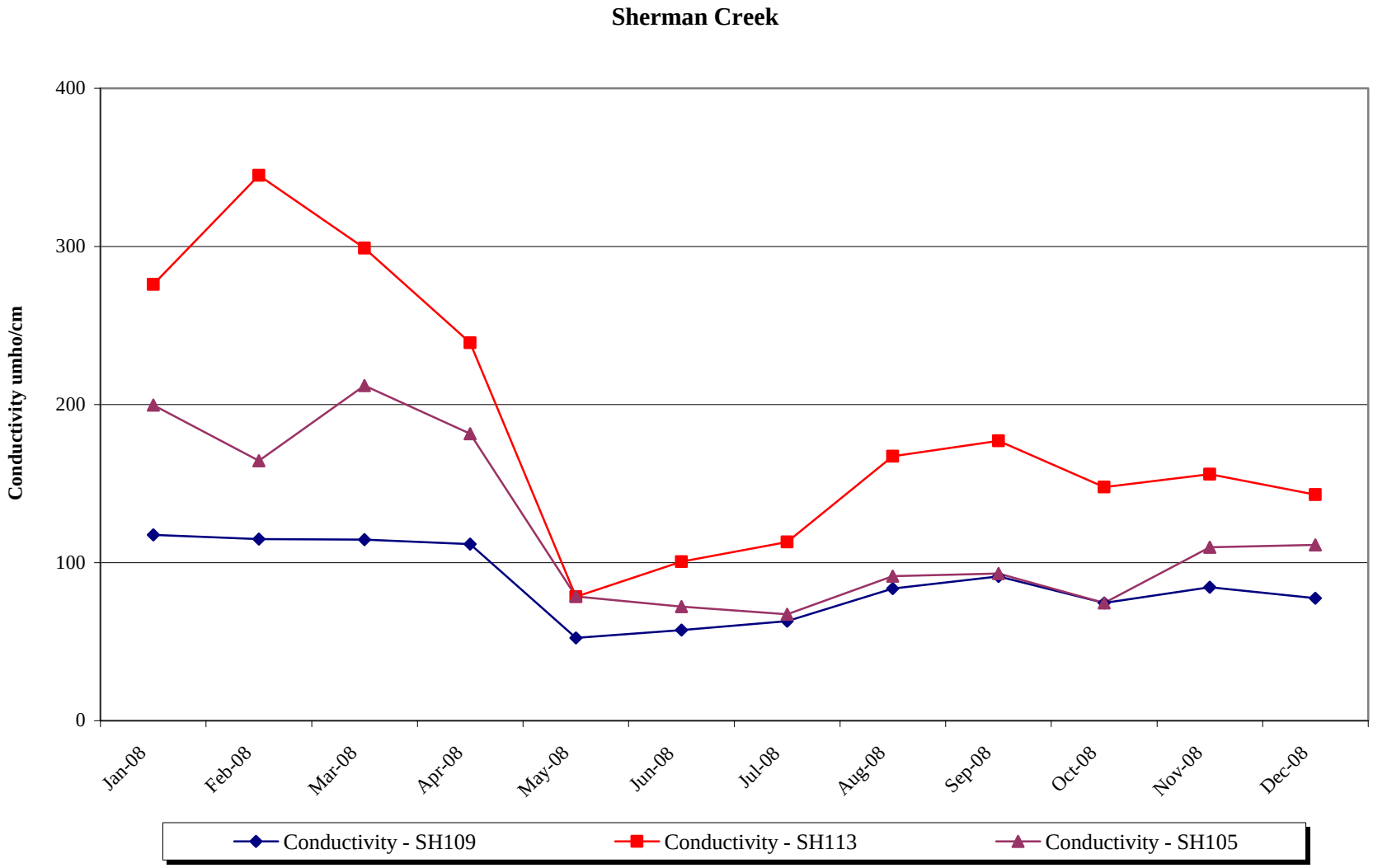


Figure 8a: Sherman Creek Monitoring Results 2008, Field Parameters

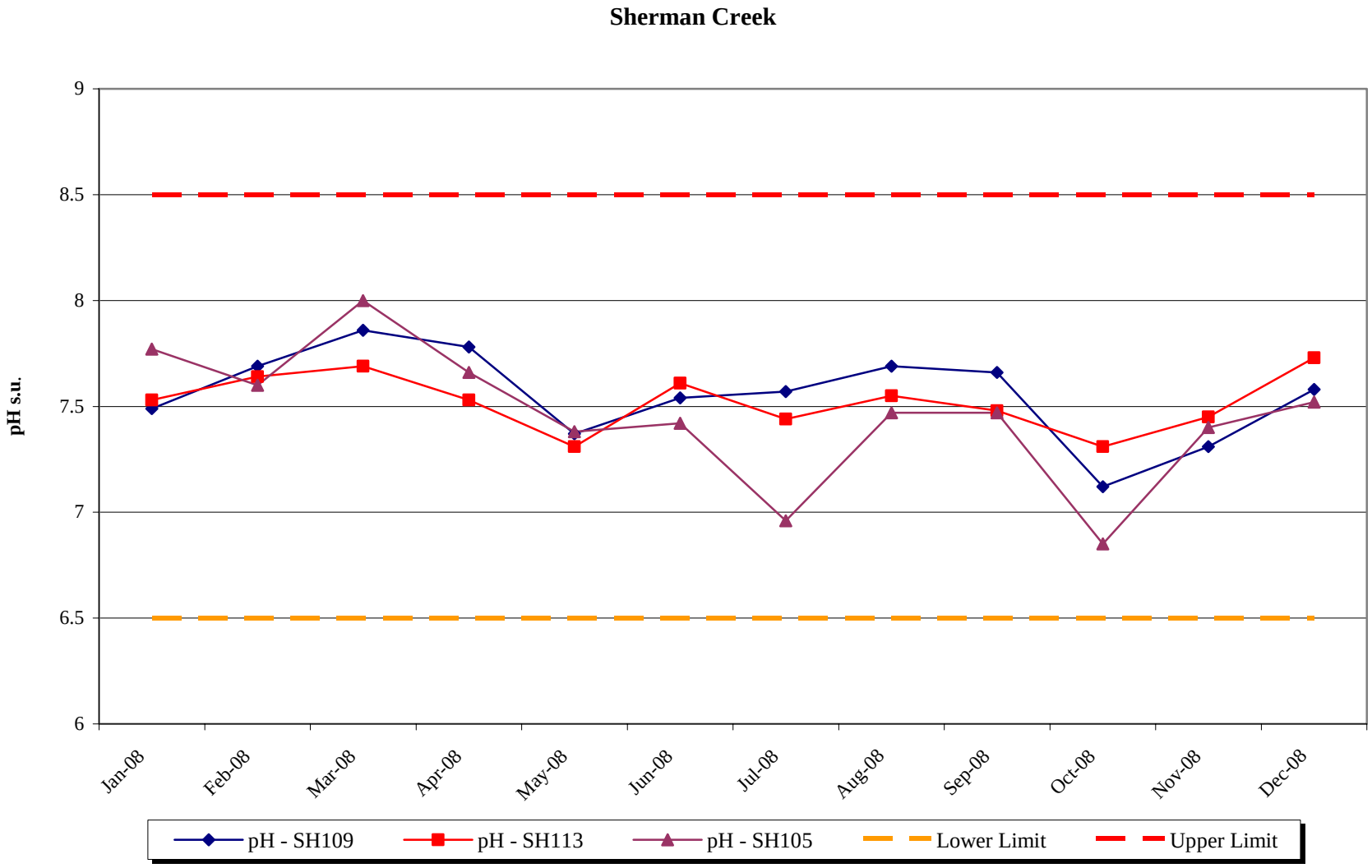


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry

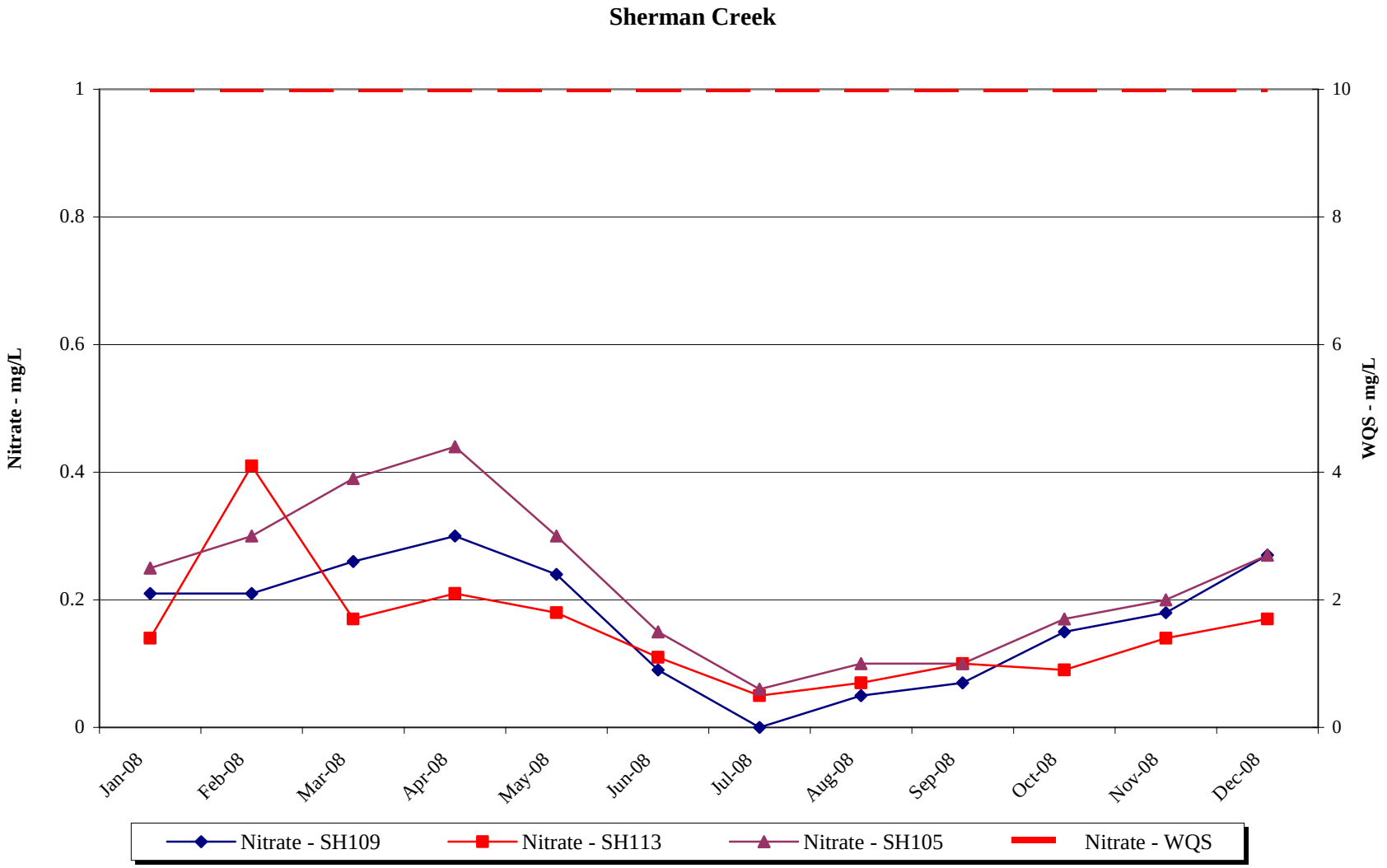


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry

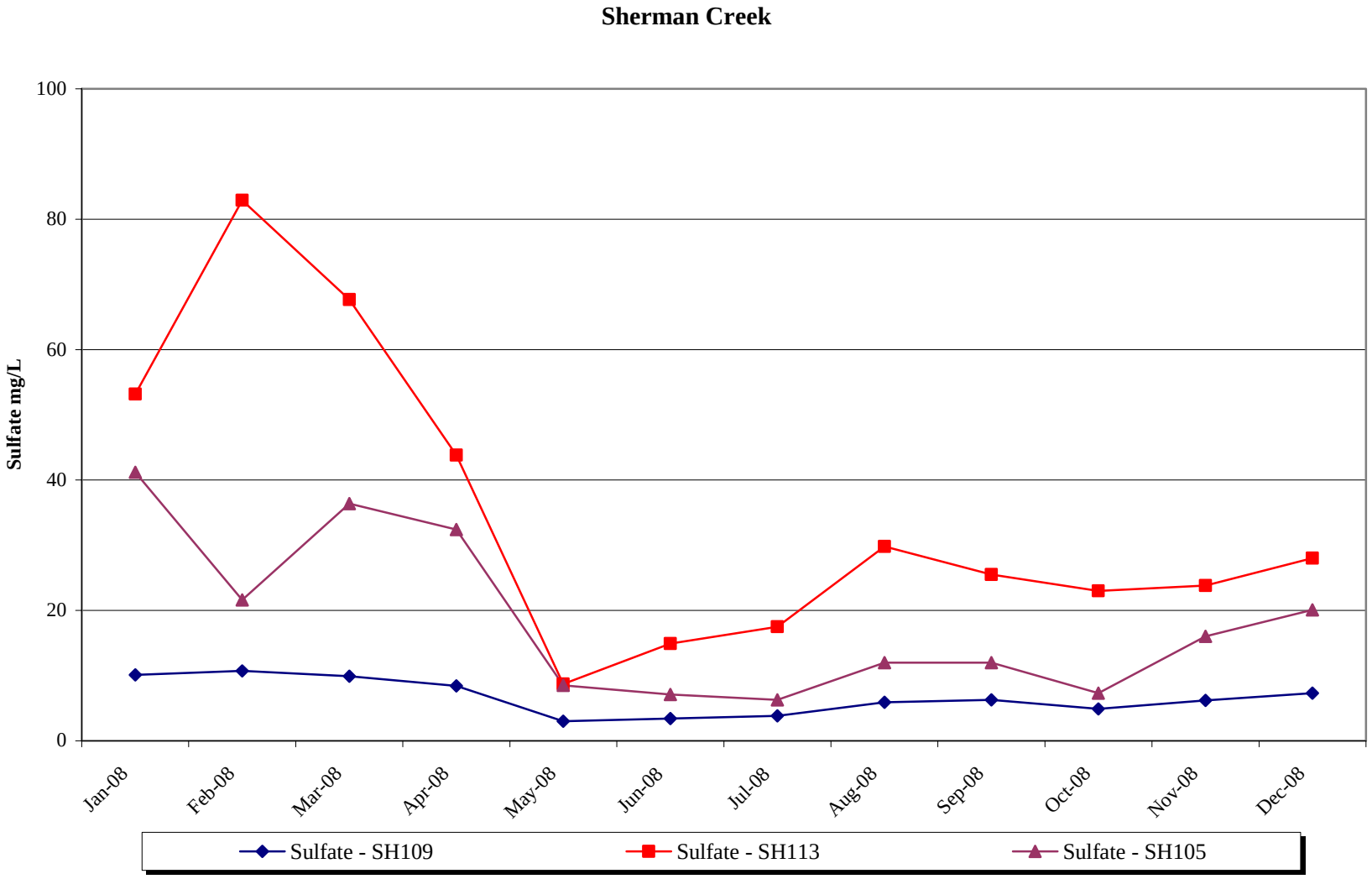


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry

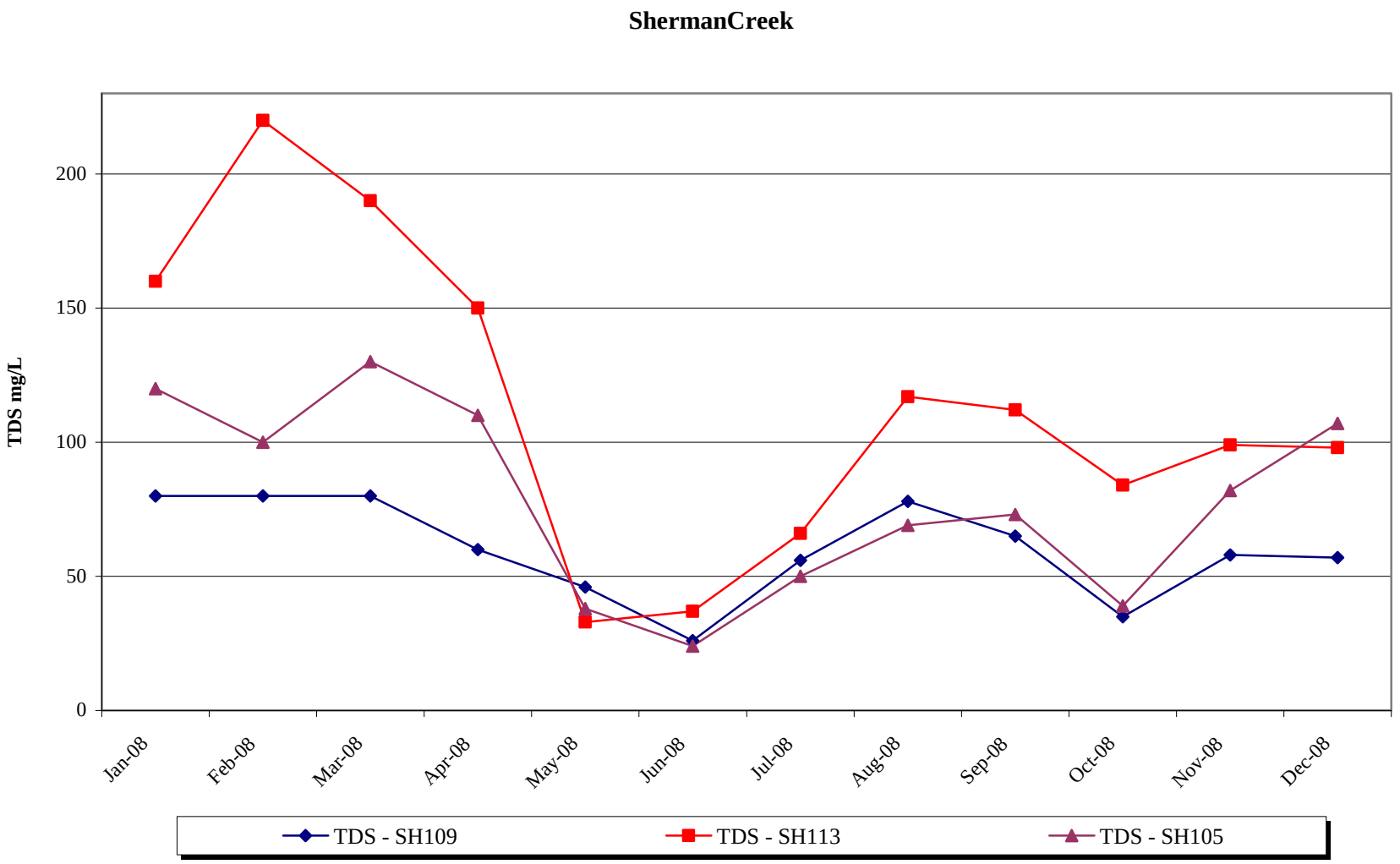
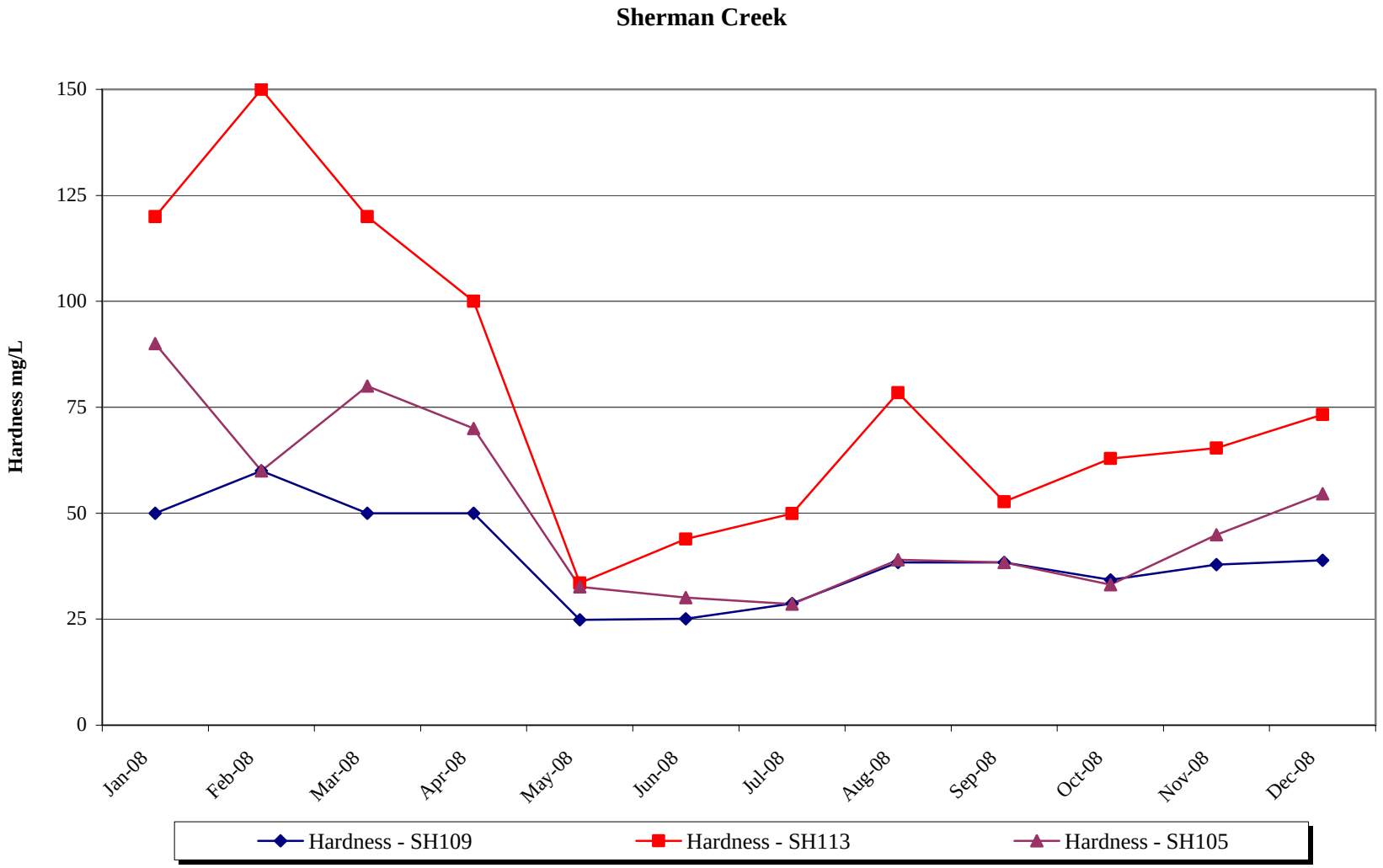


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry



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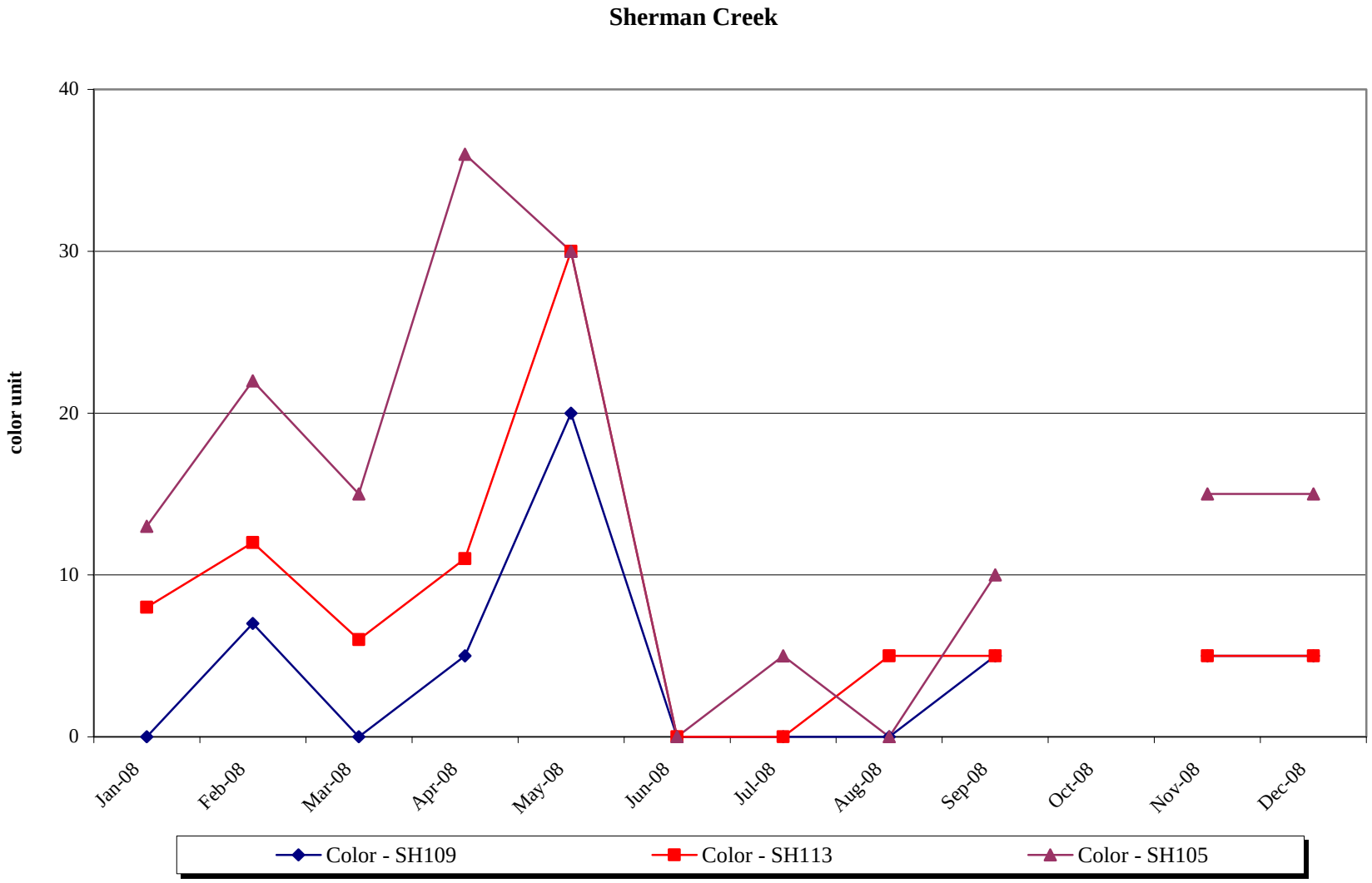

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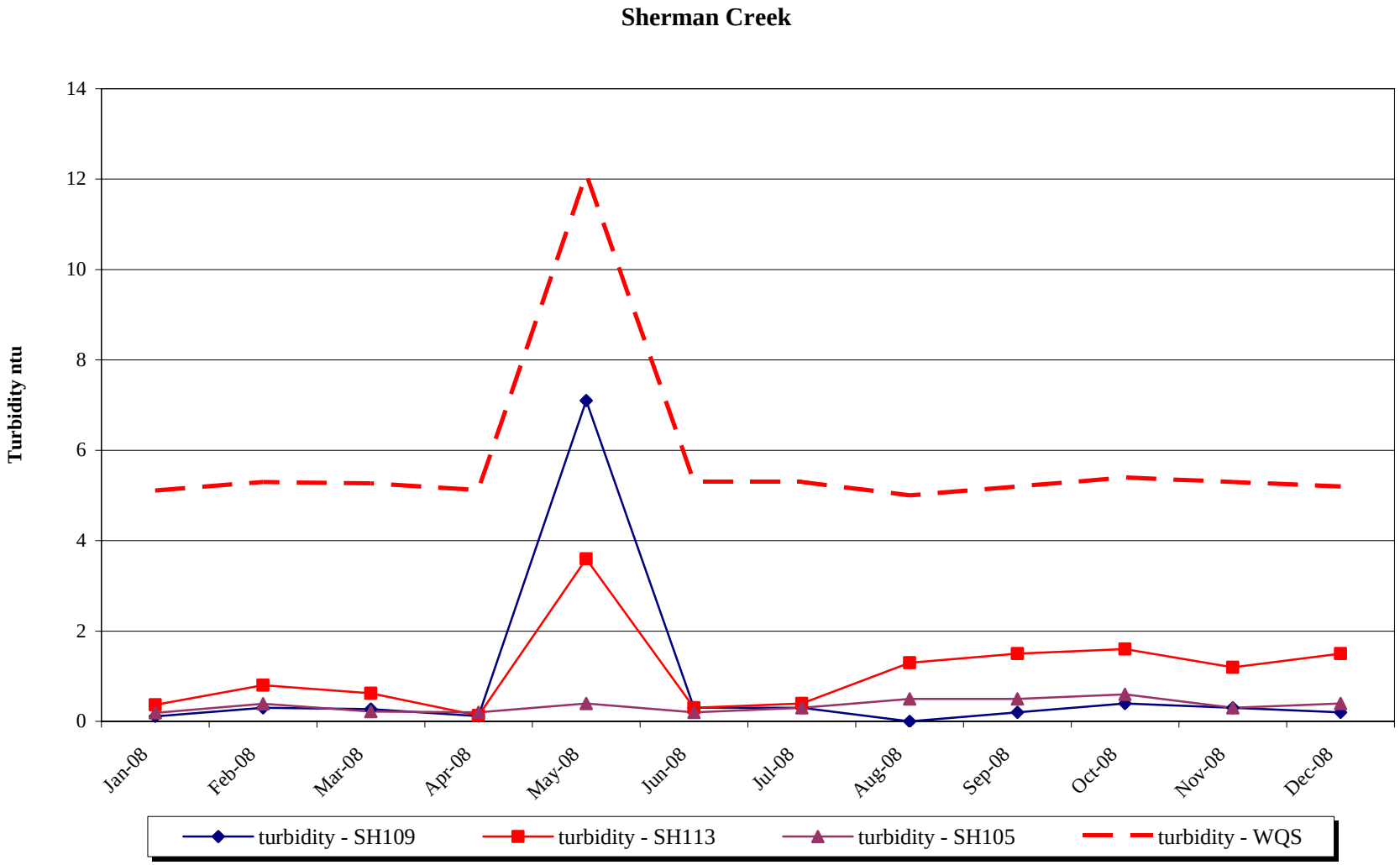


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry

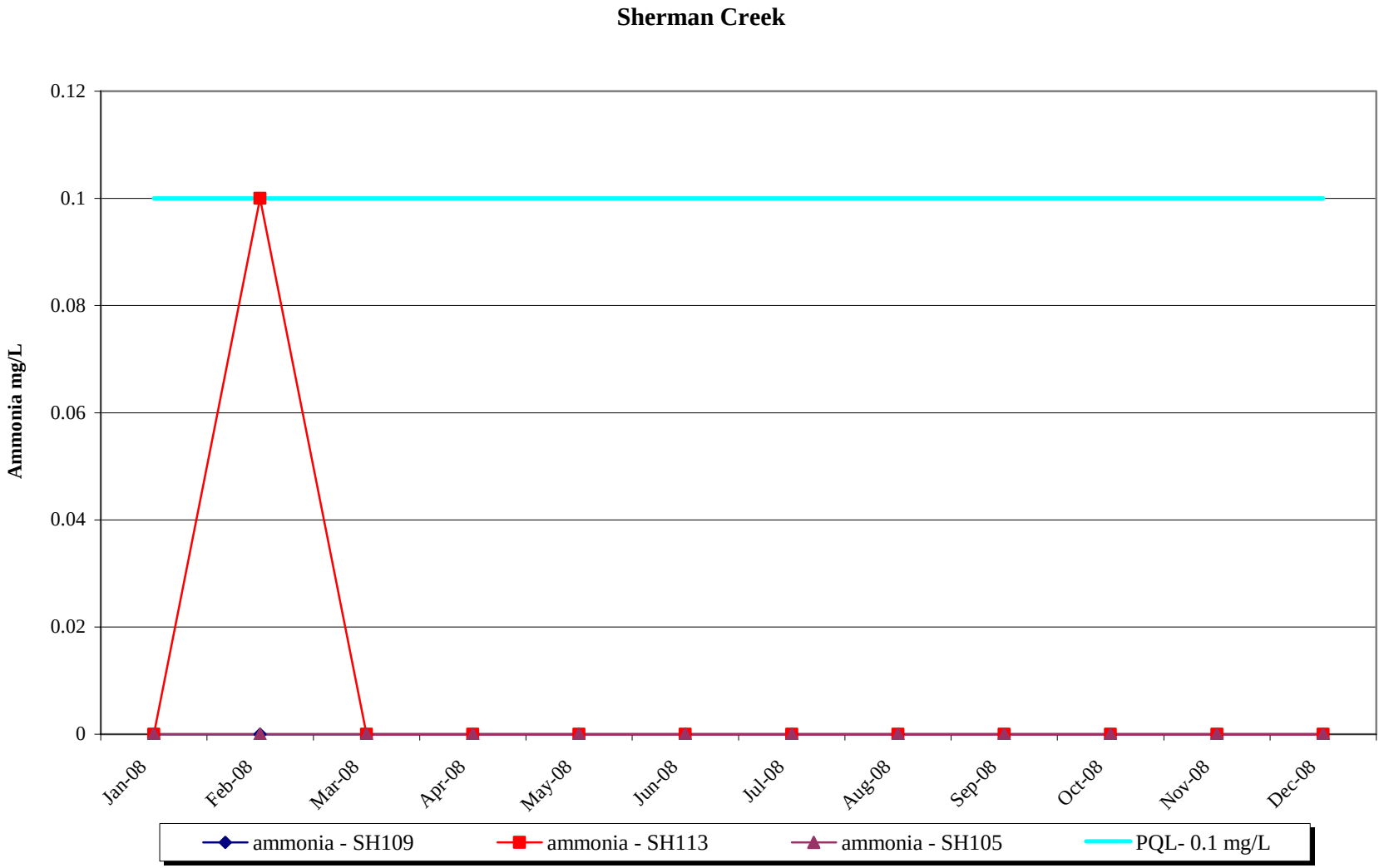


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry

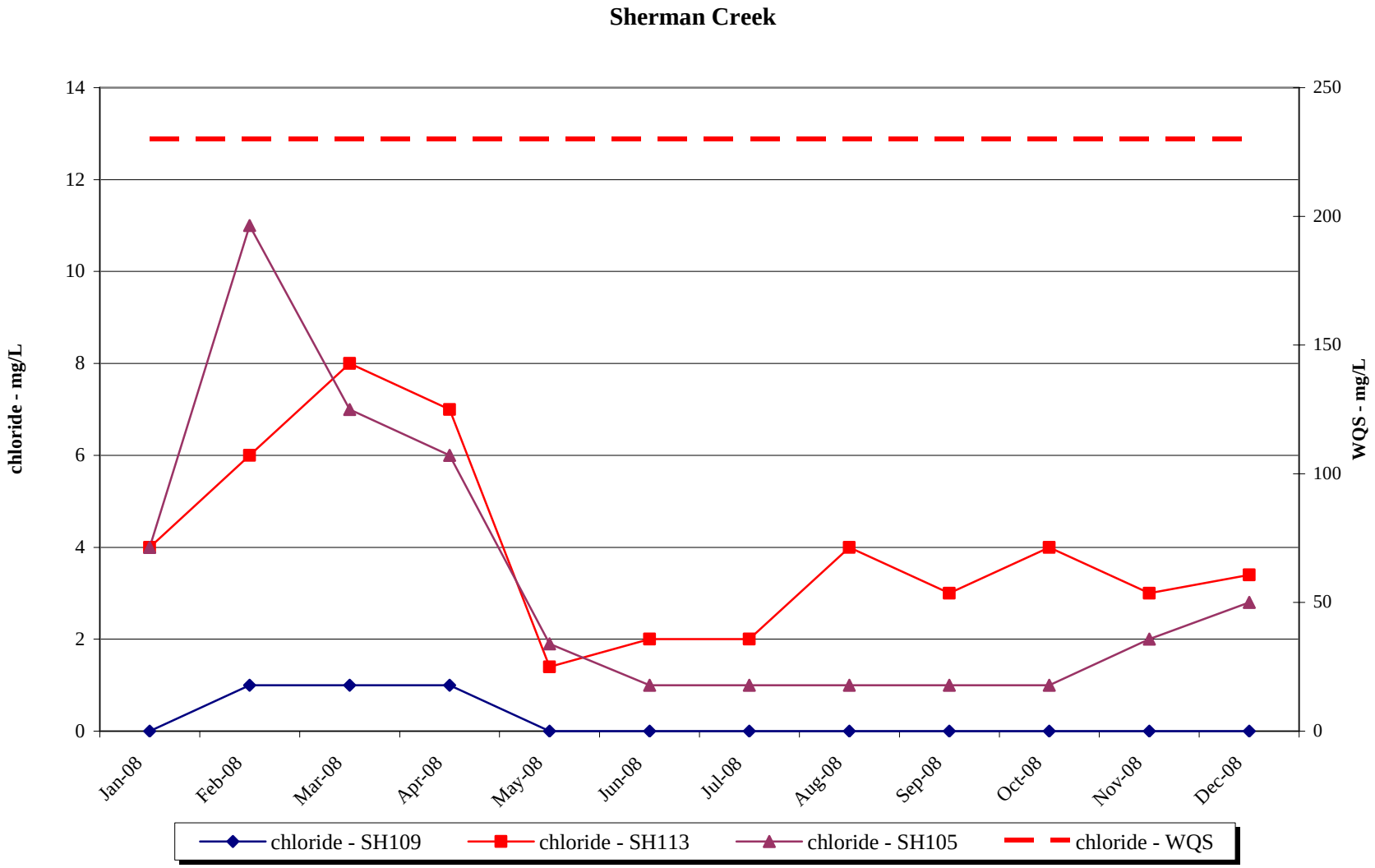


Figure 8b: Sherman Creek Monitoring Results 2008, Major Chemistry

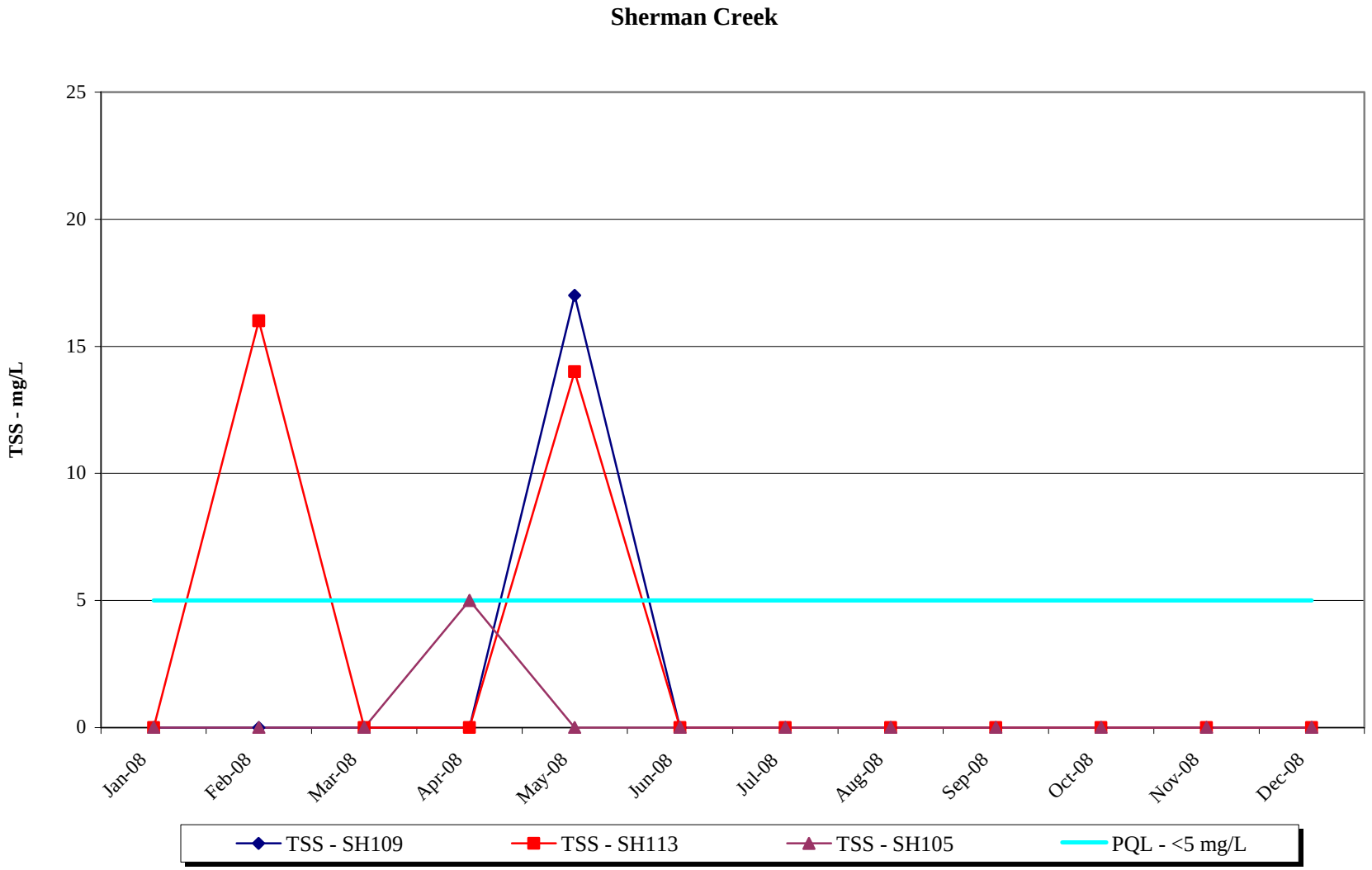


Figure 8c: Sherman Creek Monitoring Results 2008, Trace Chemistry

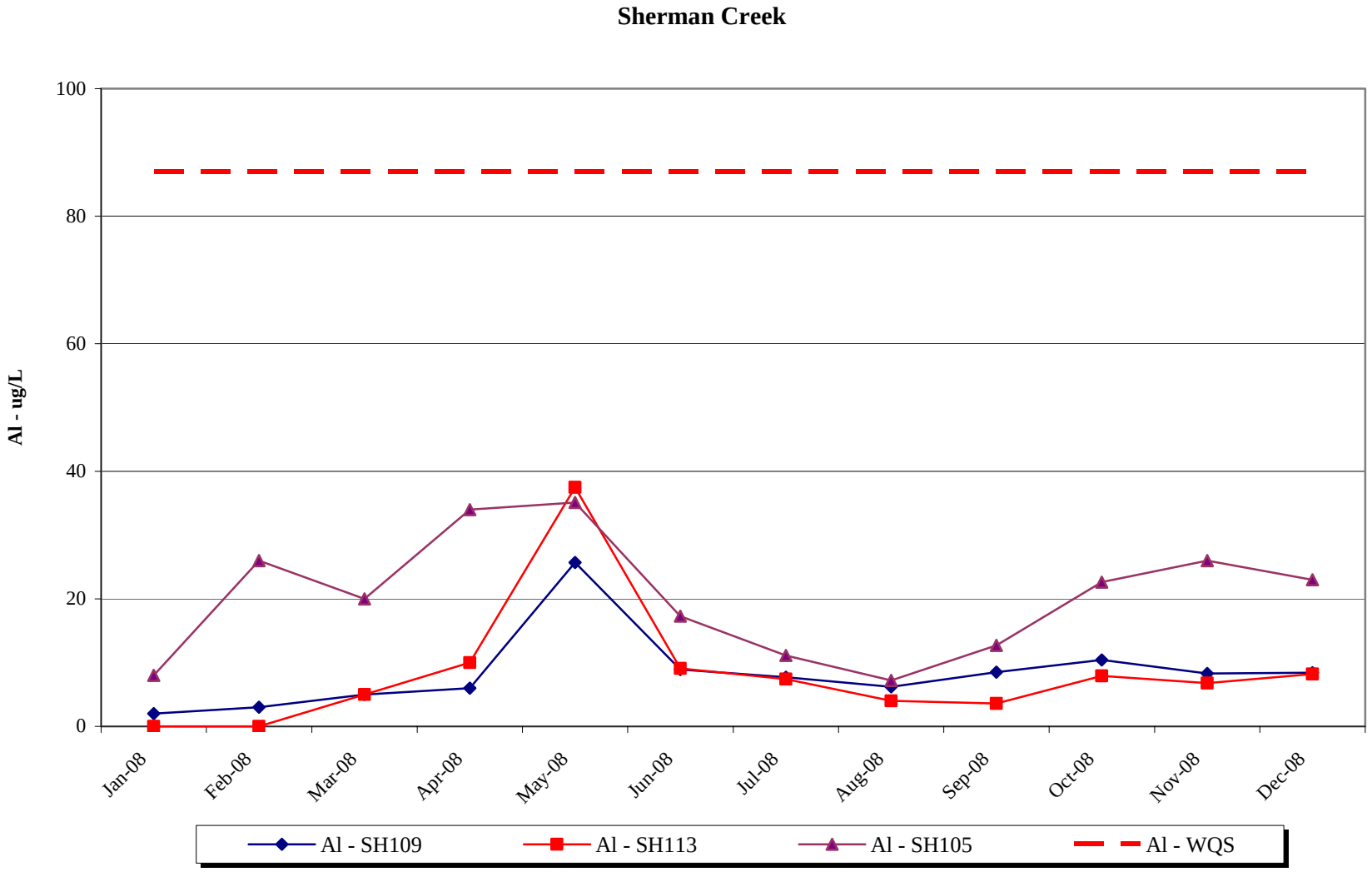
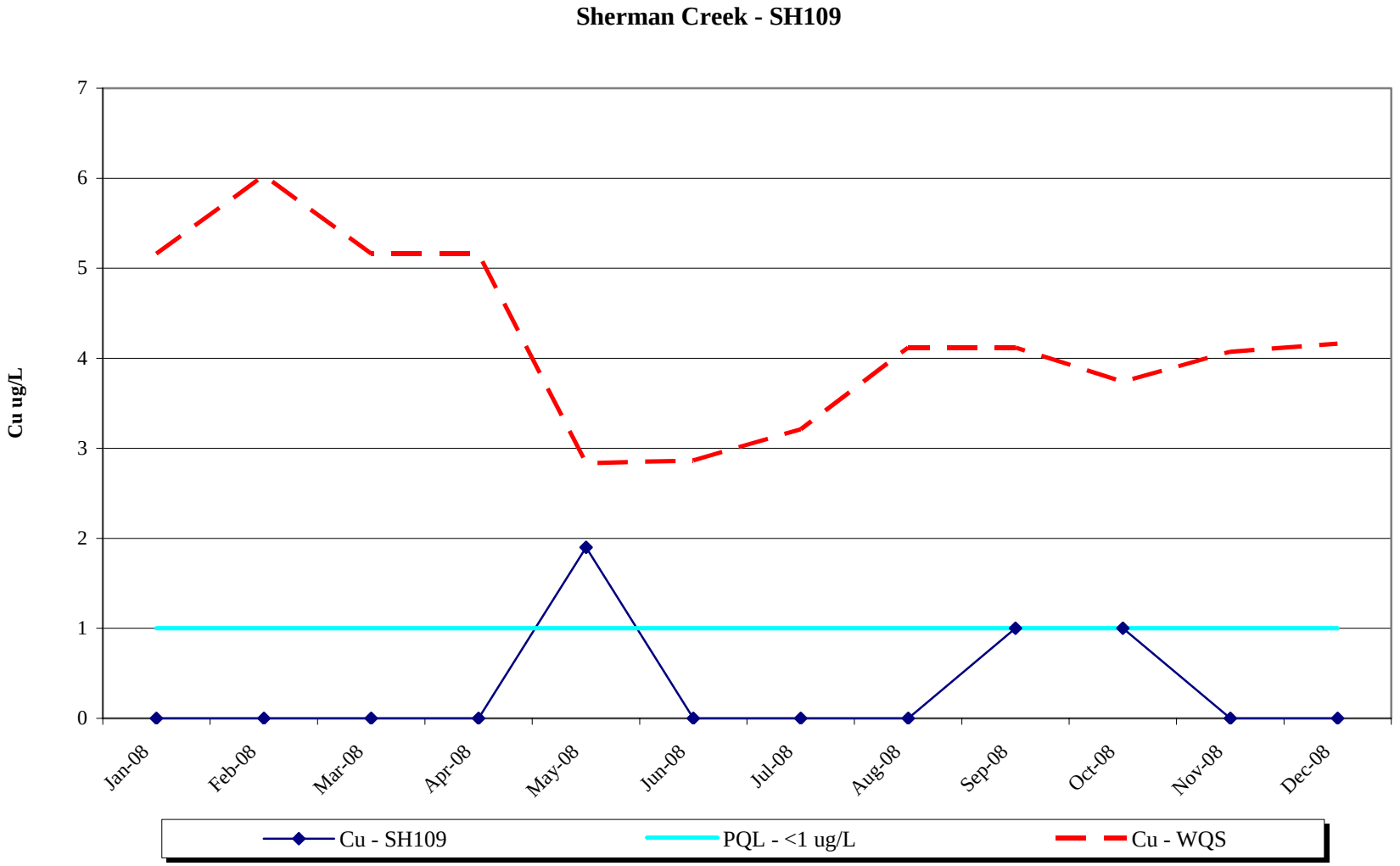


Figure 8c: Sherman Creek Monitoring Results 2008, Trace Chemistry



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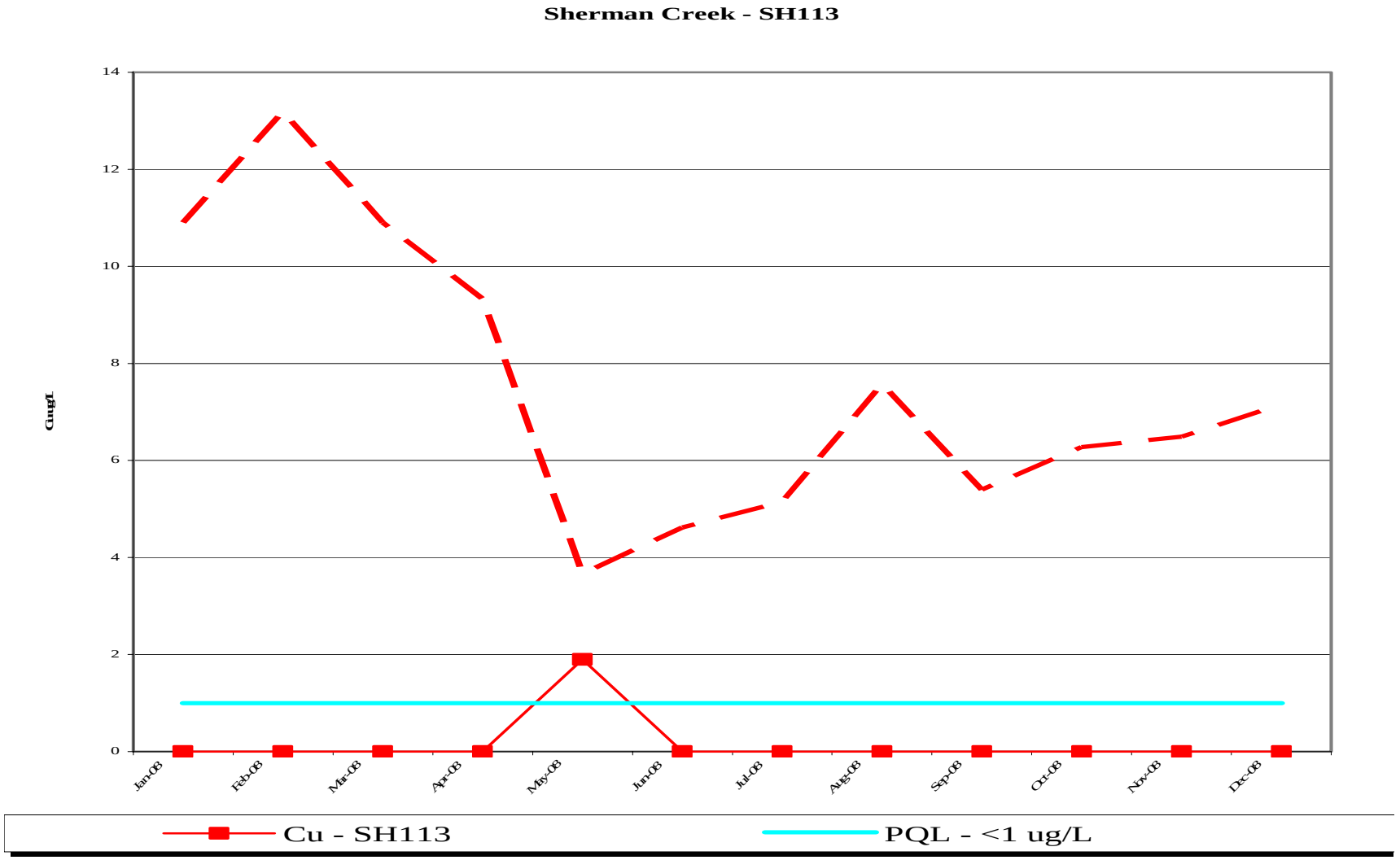

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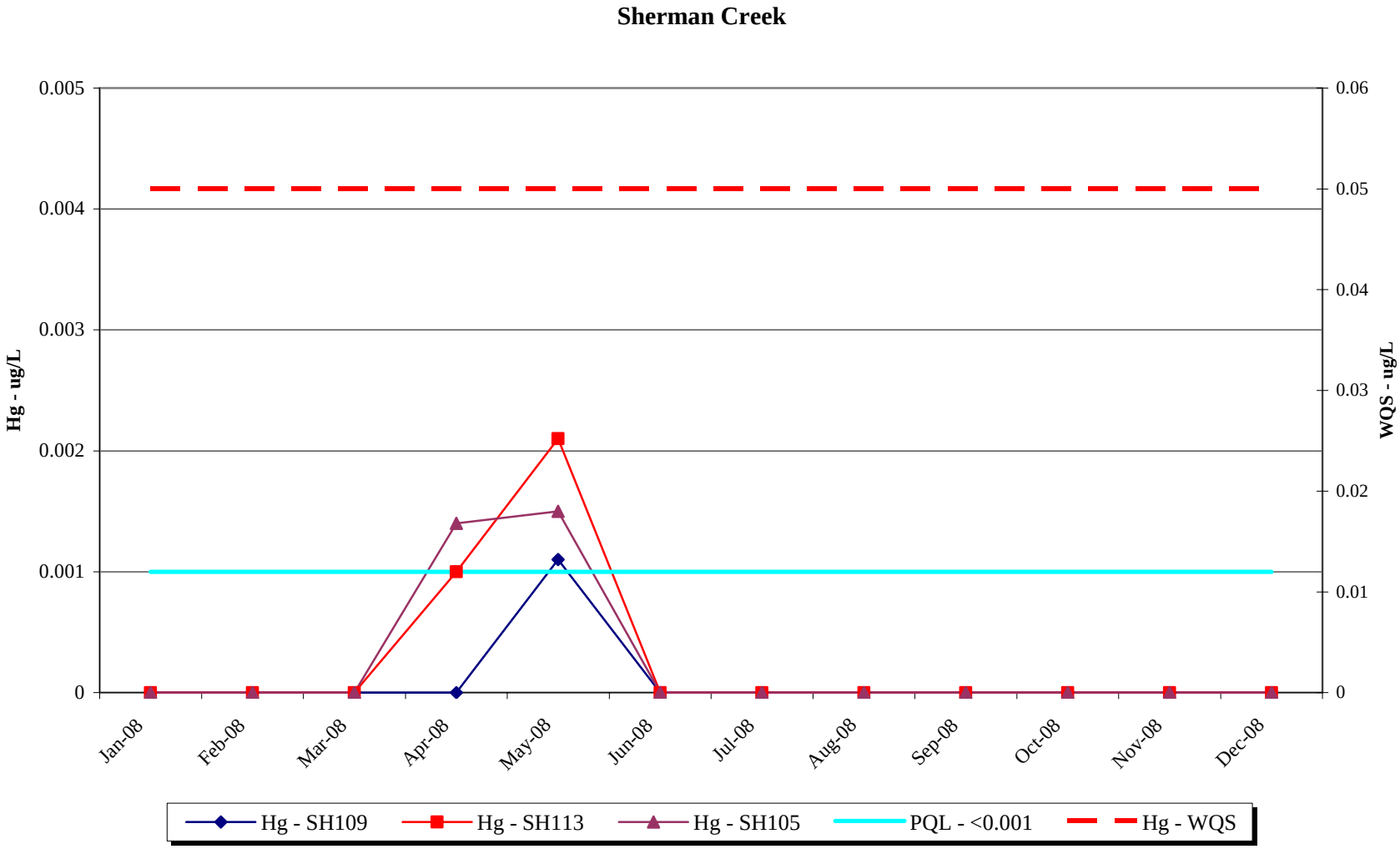

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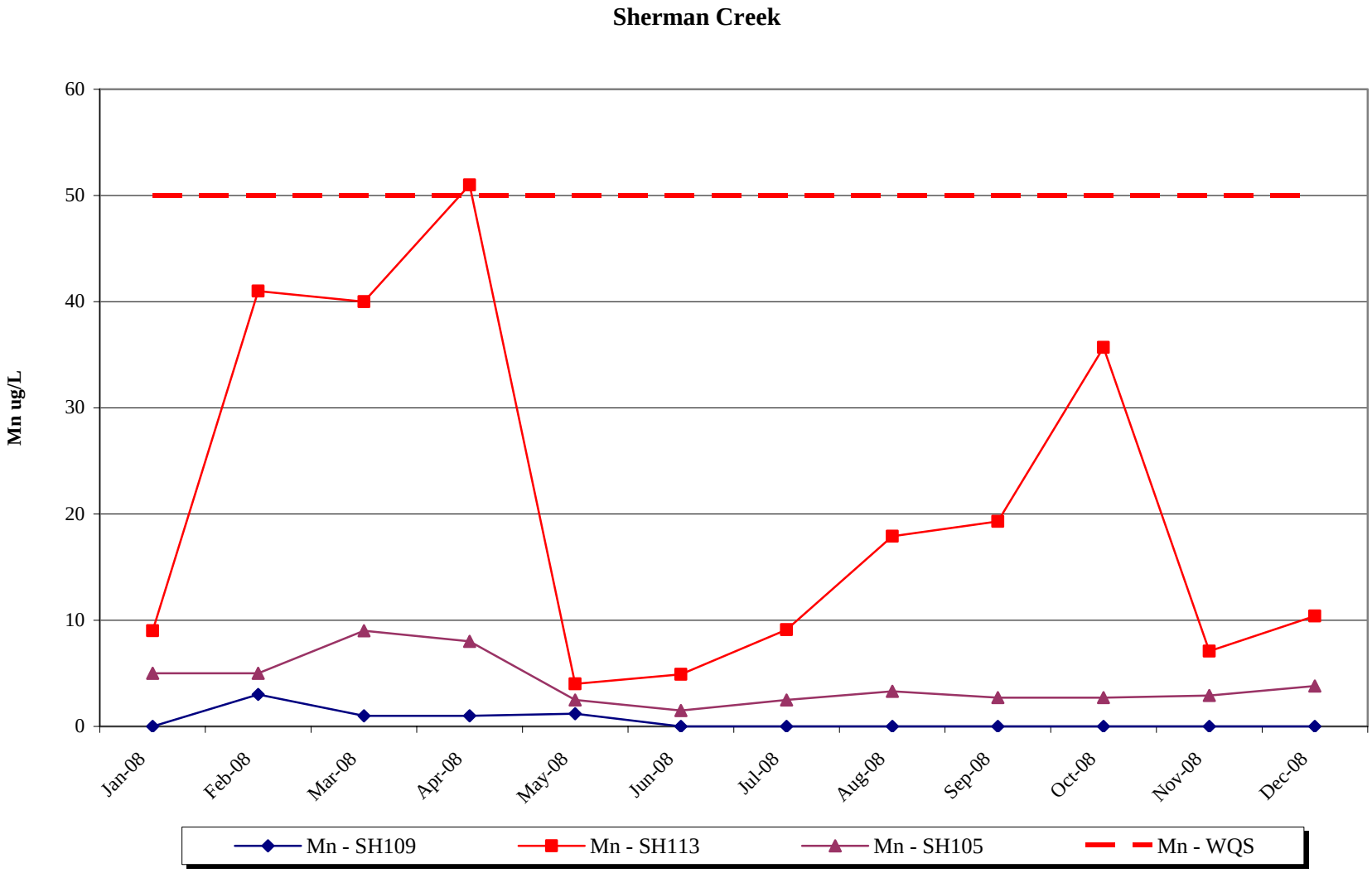

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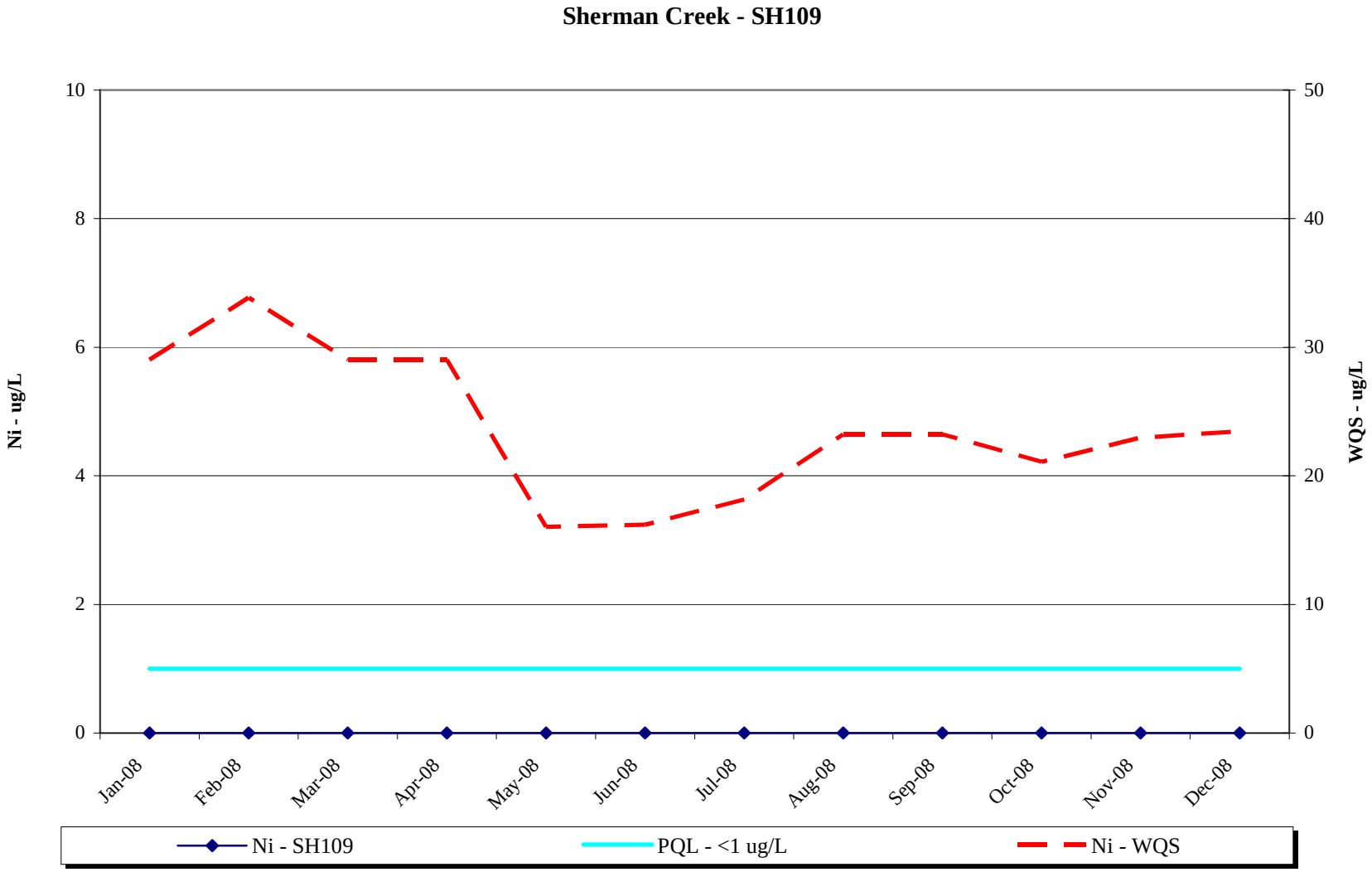

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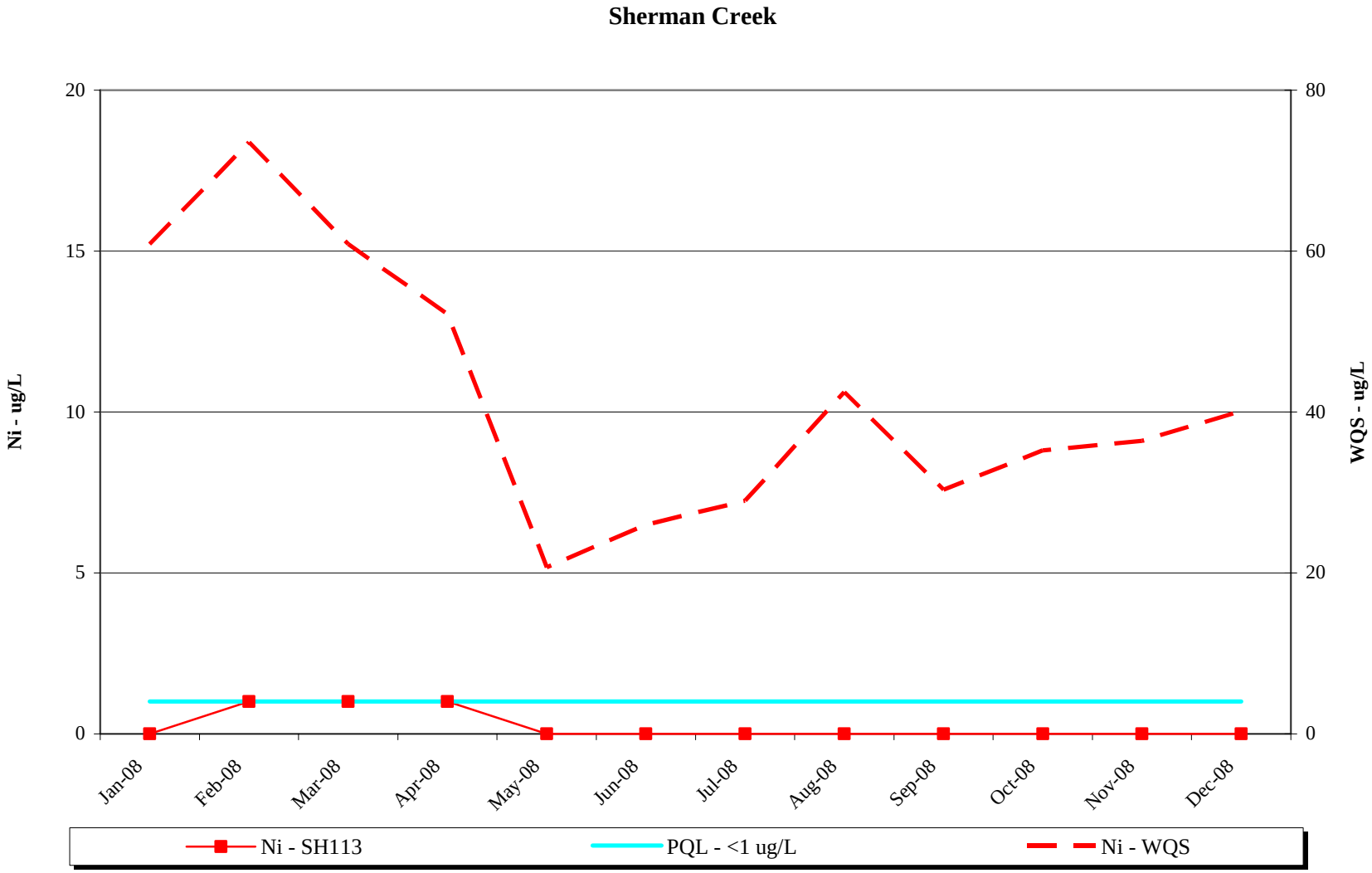

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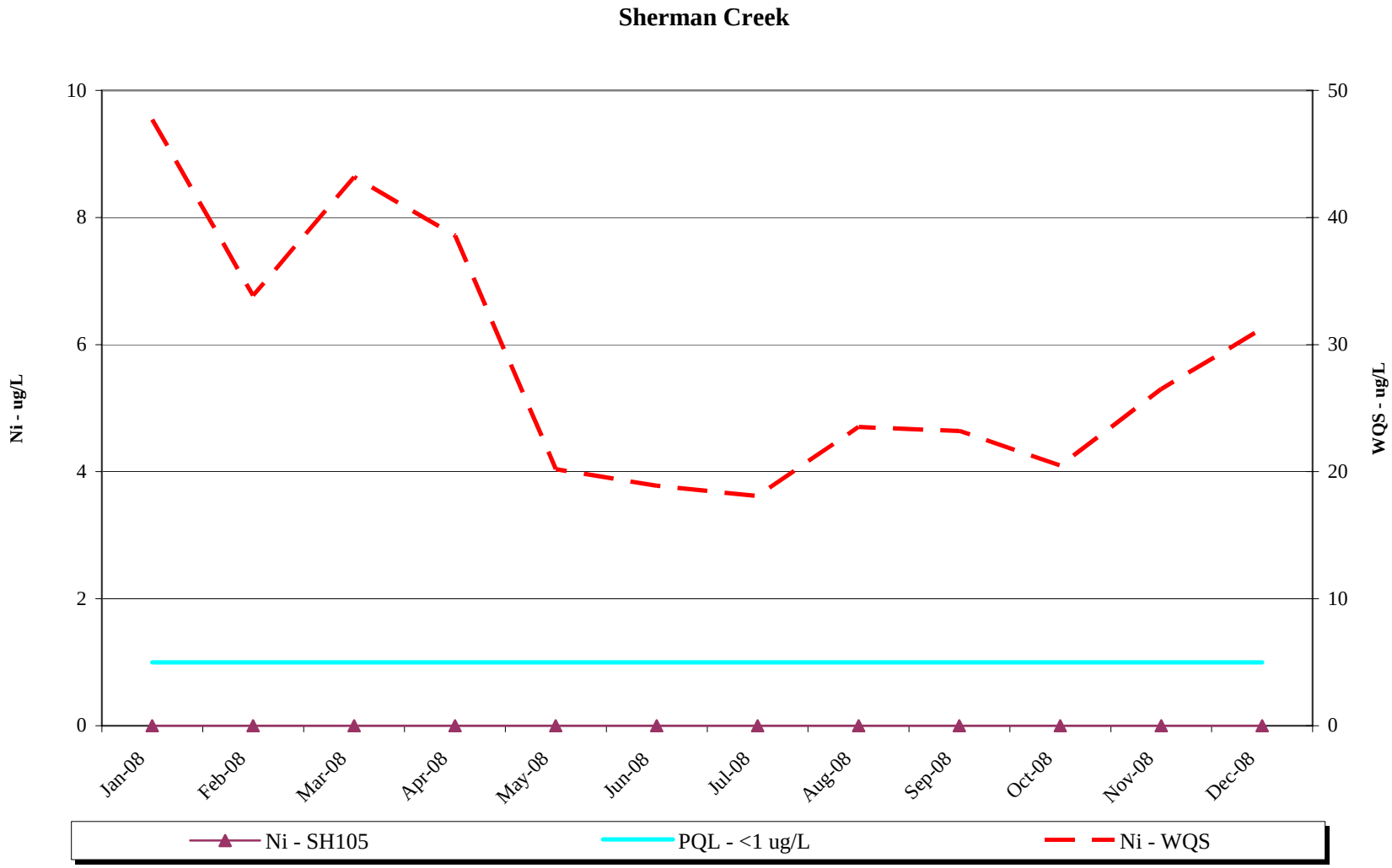

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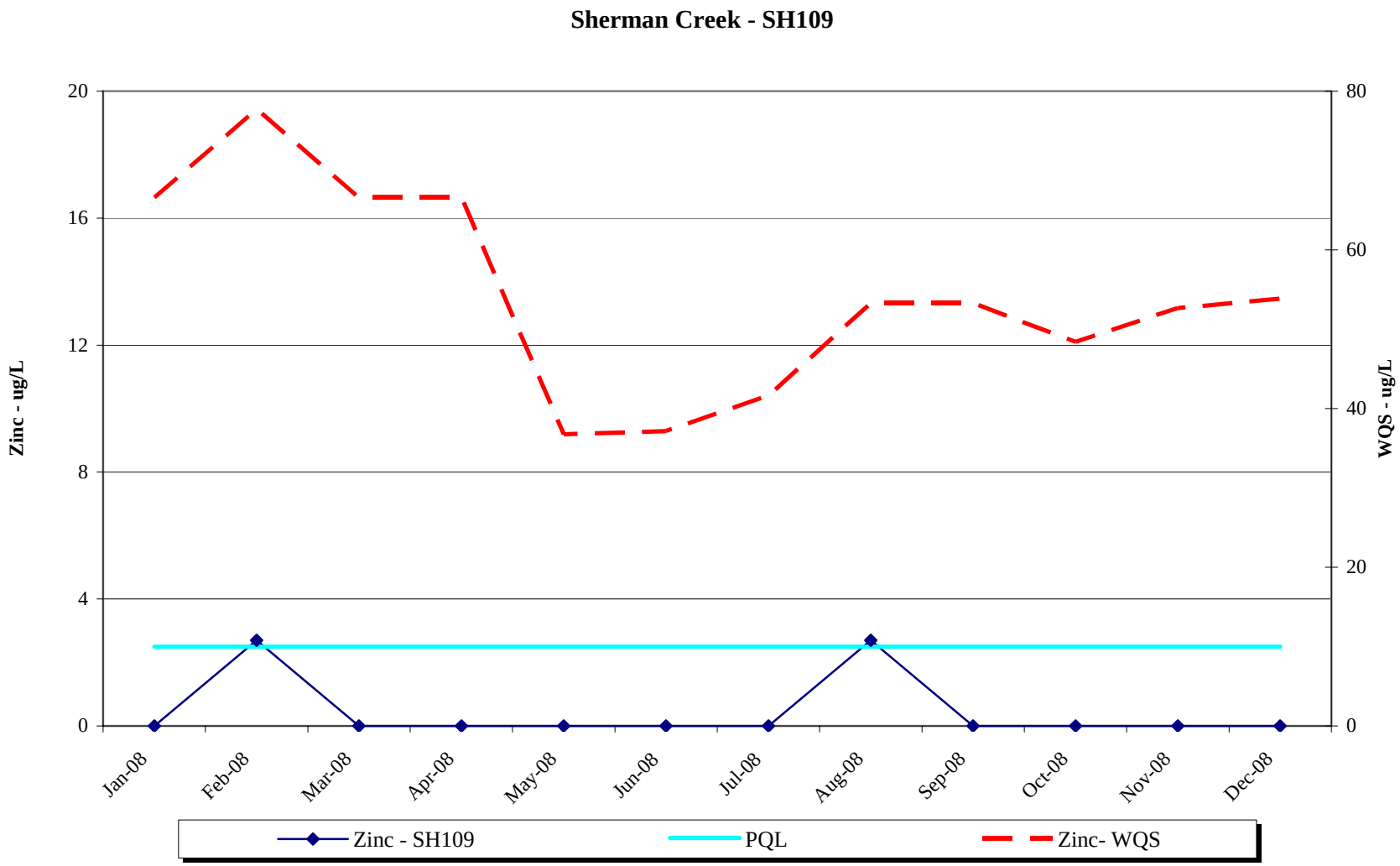

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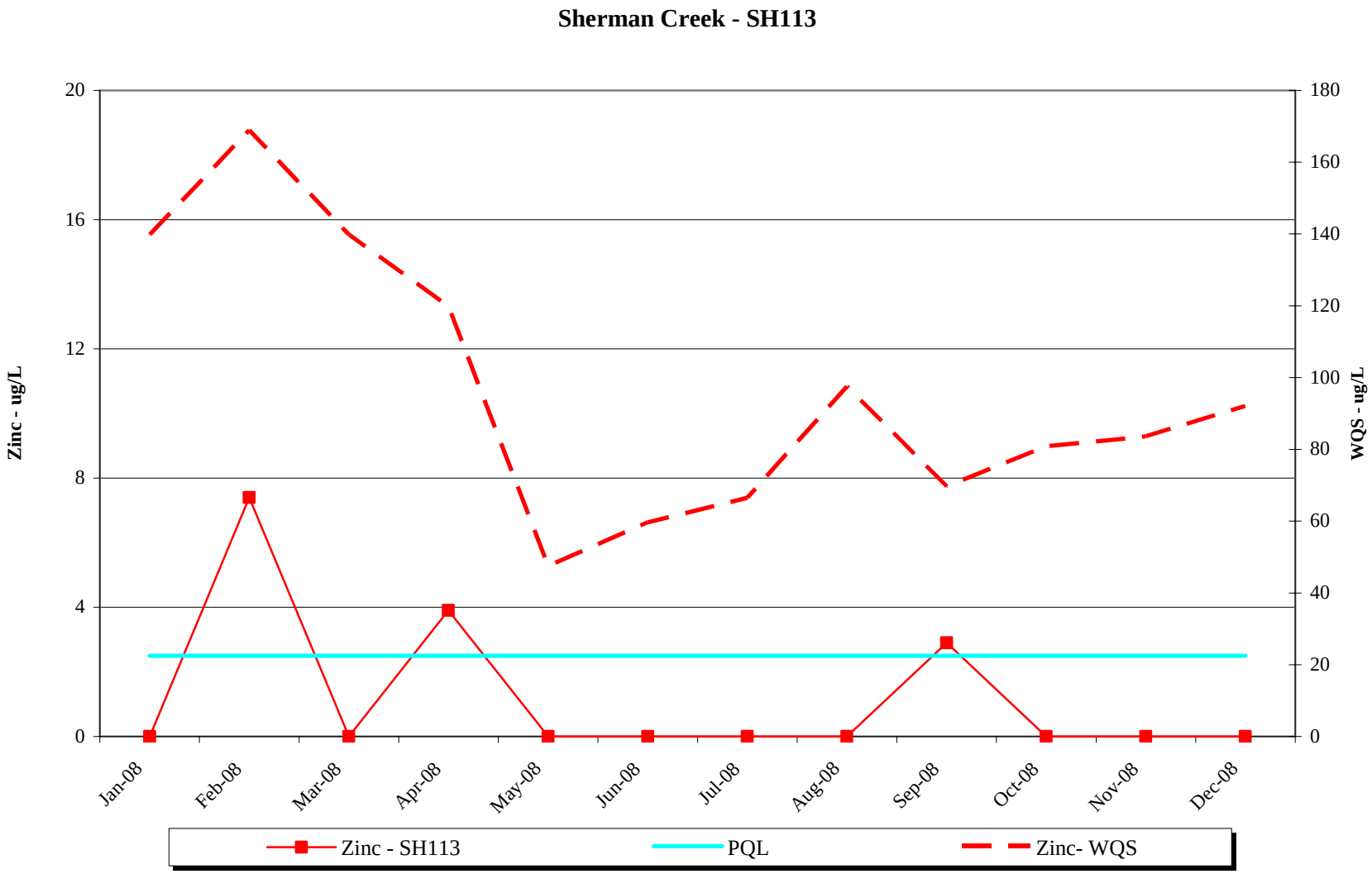

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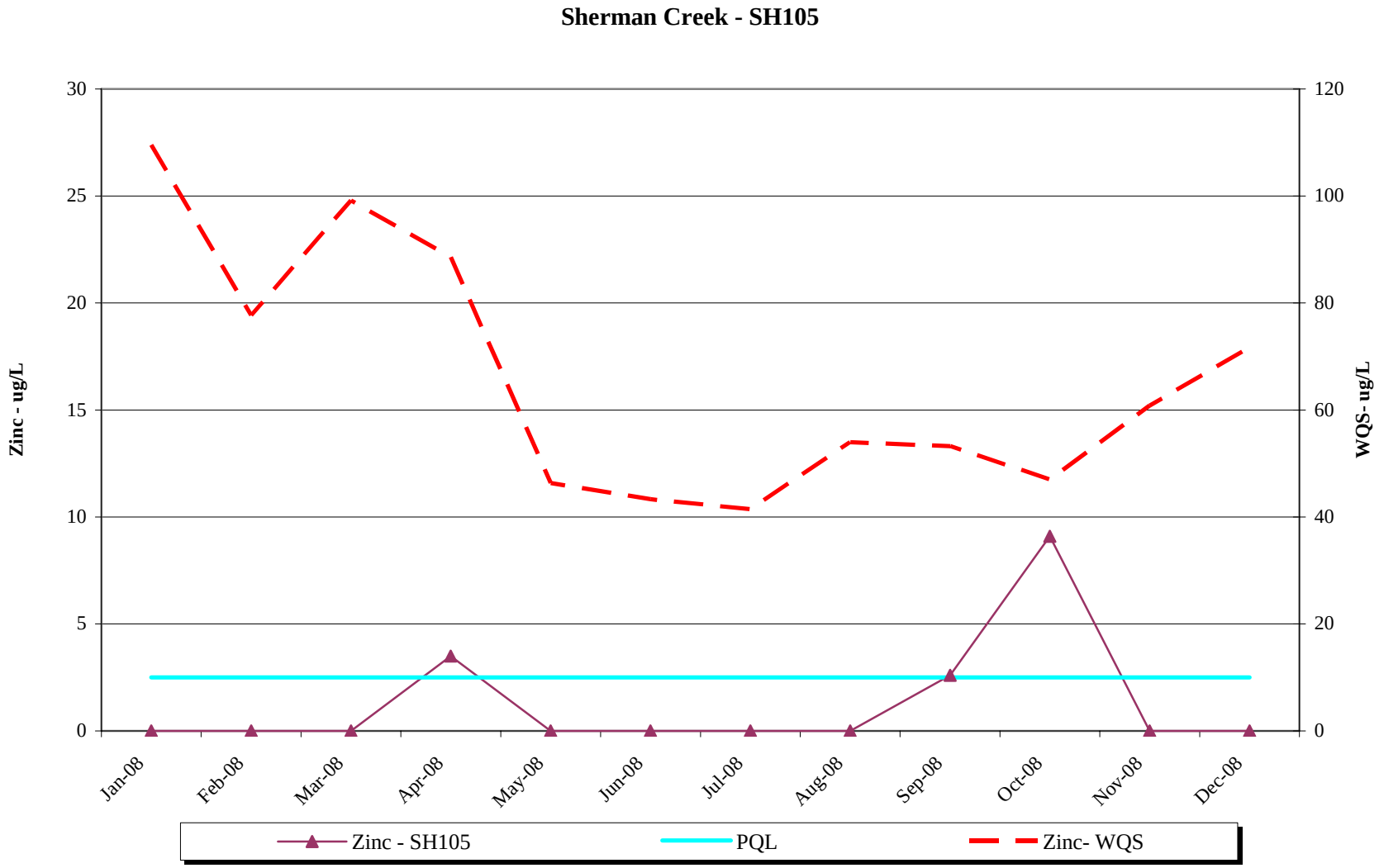
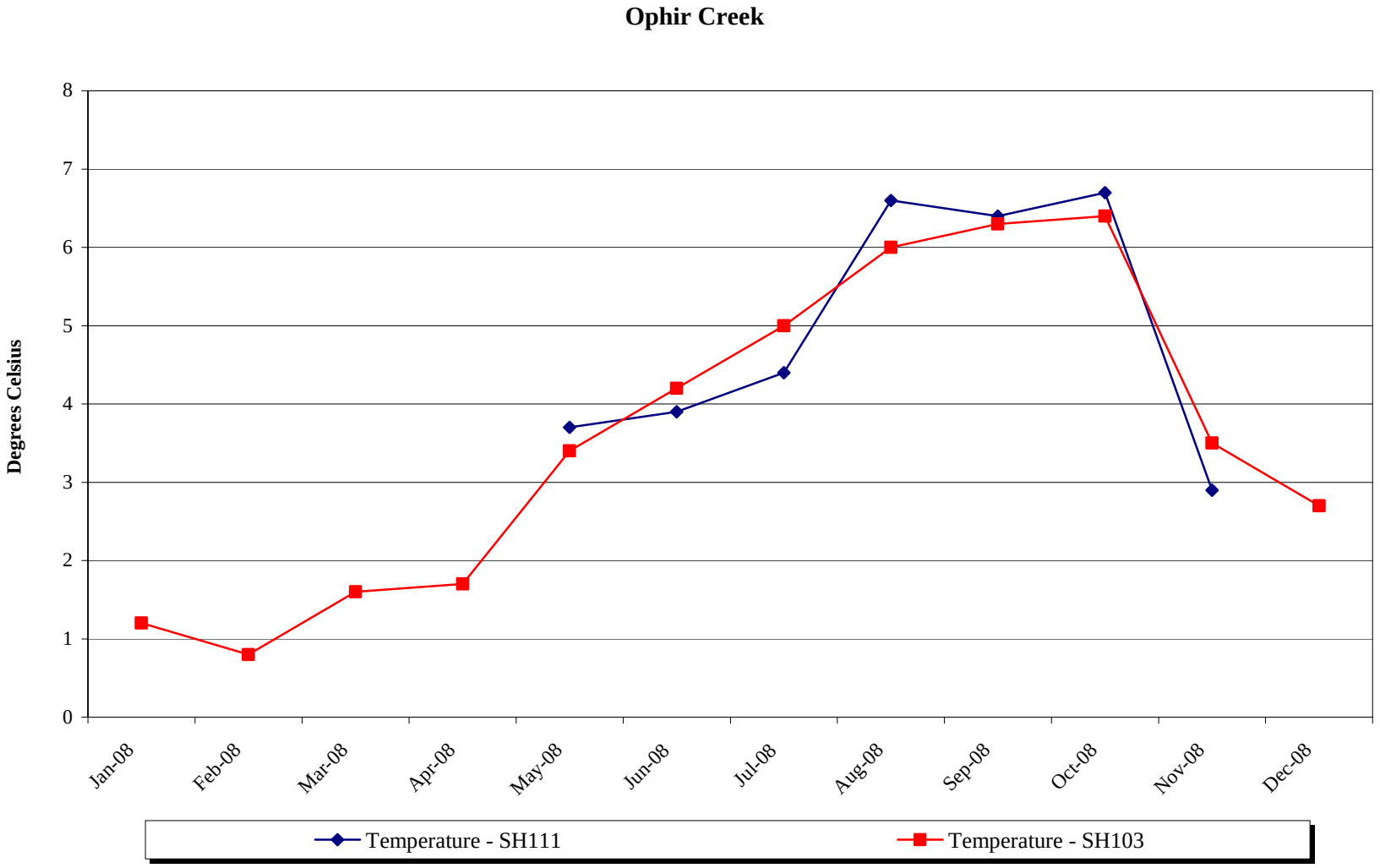


Figure 9a: Ophir Creek Monitoring Results 2008, Field Parameters



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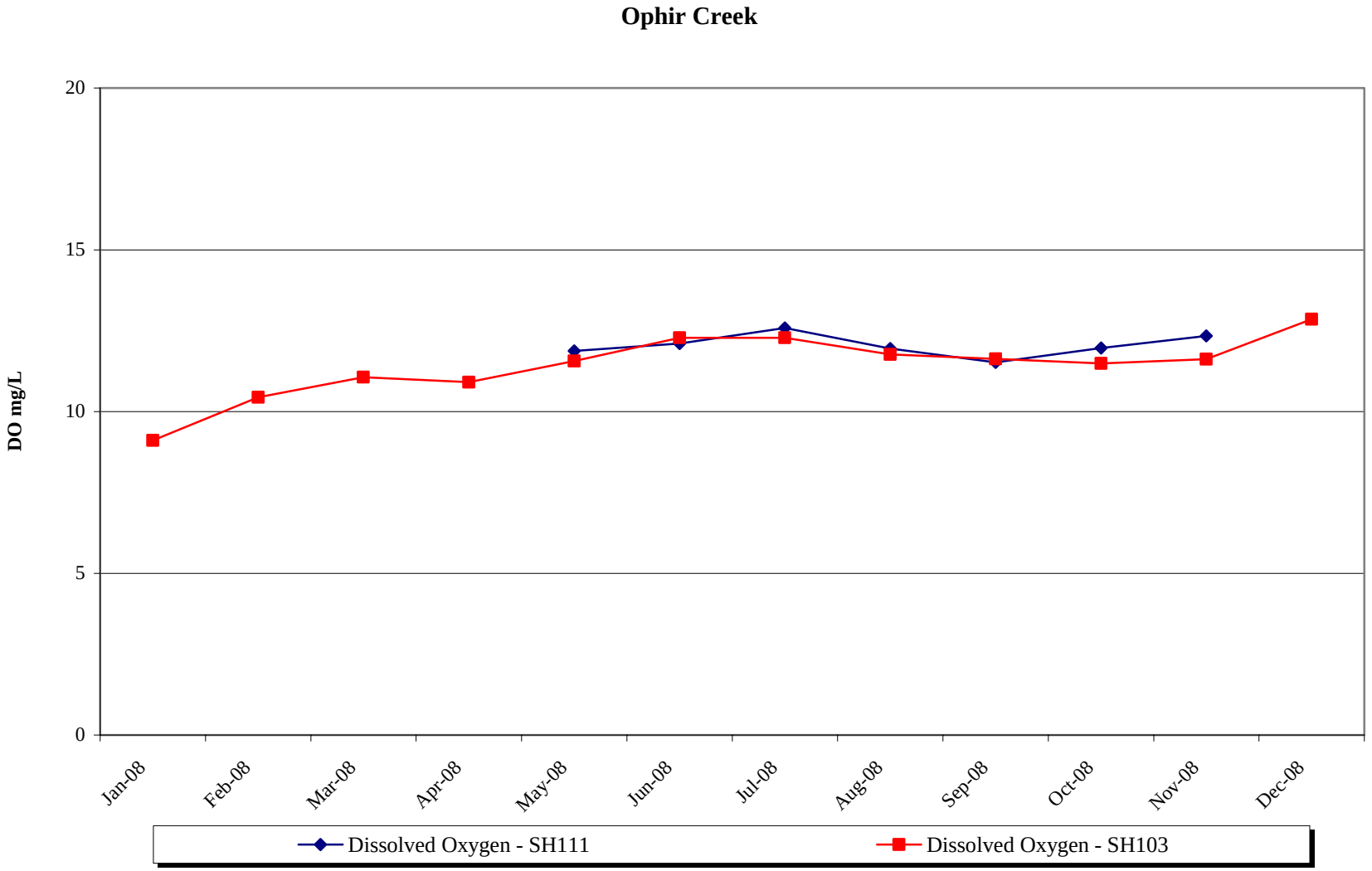

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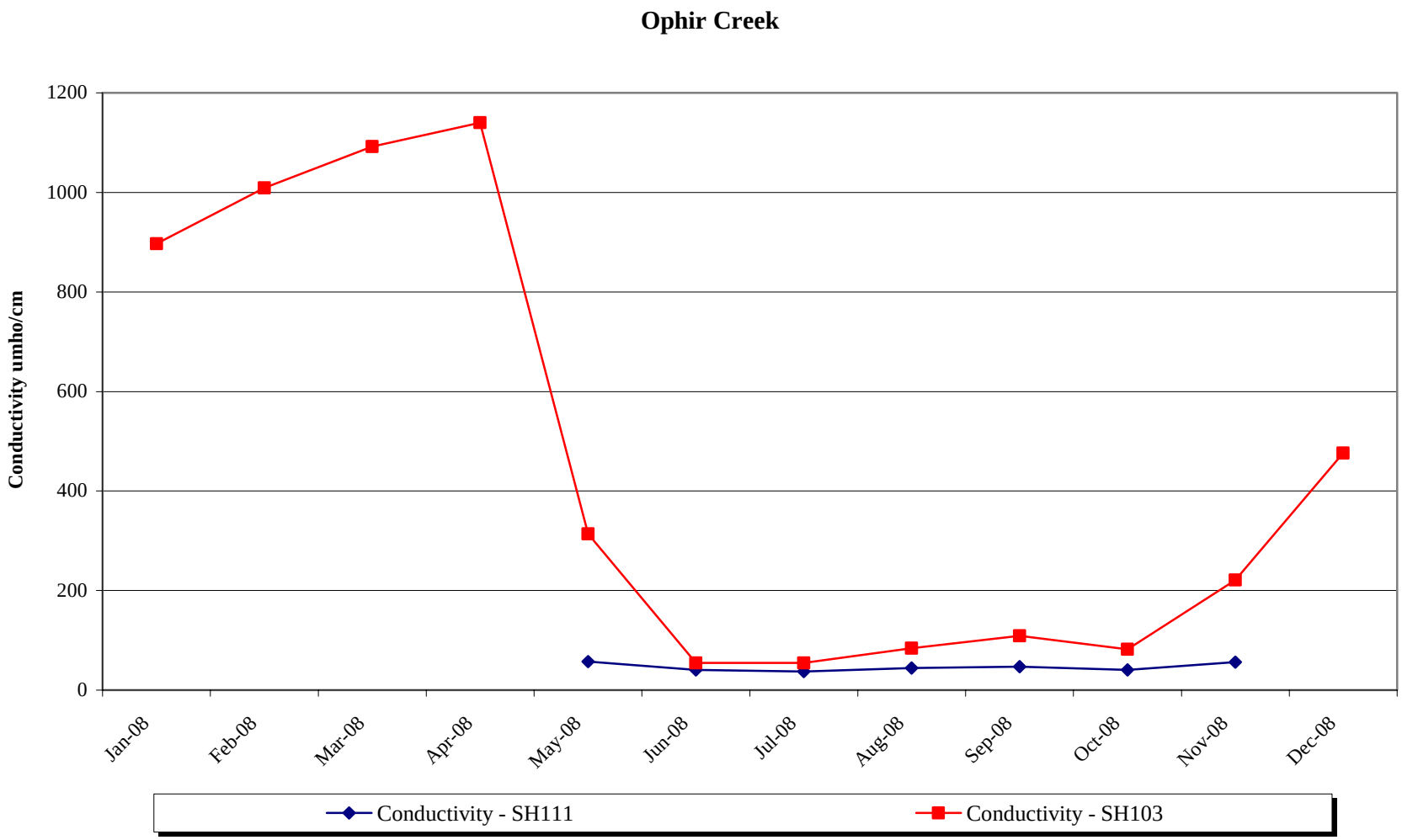

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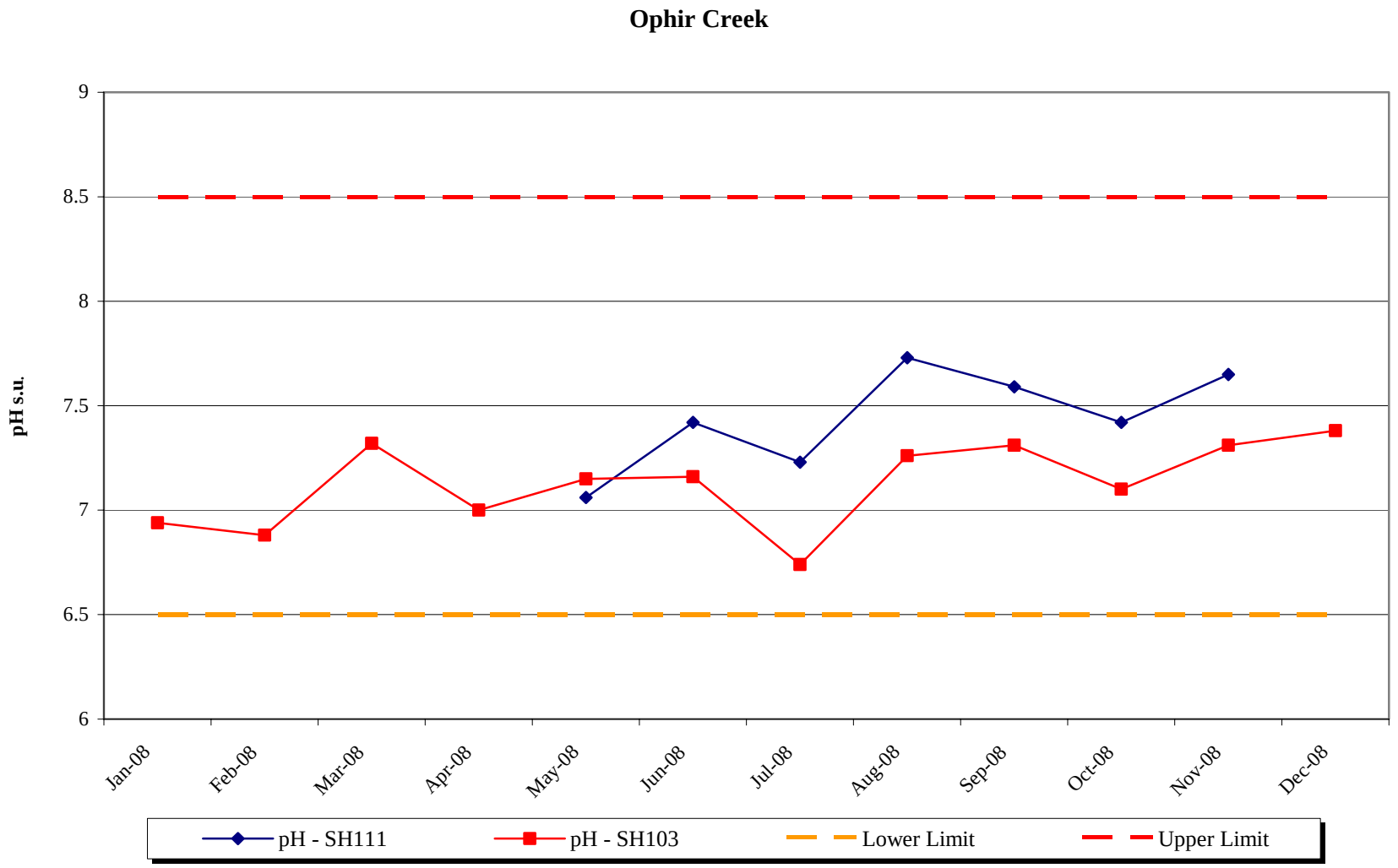


Figure 9b: Ophir Creek Monitoring Results 2008, Major Chemistry

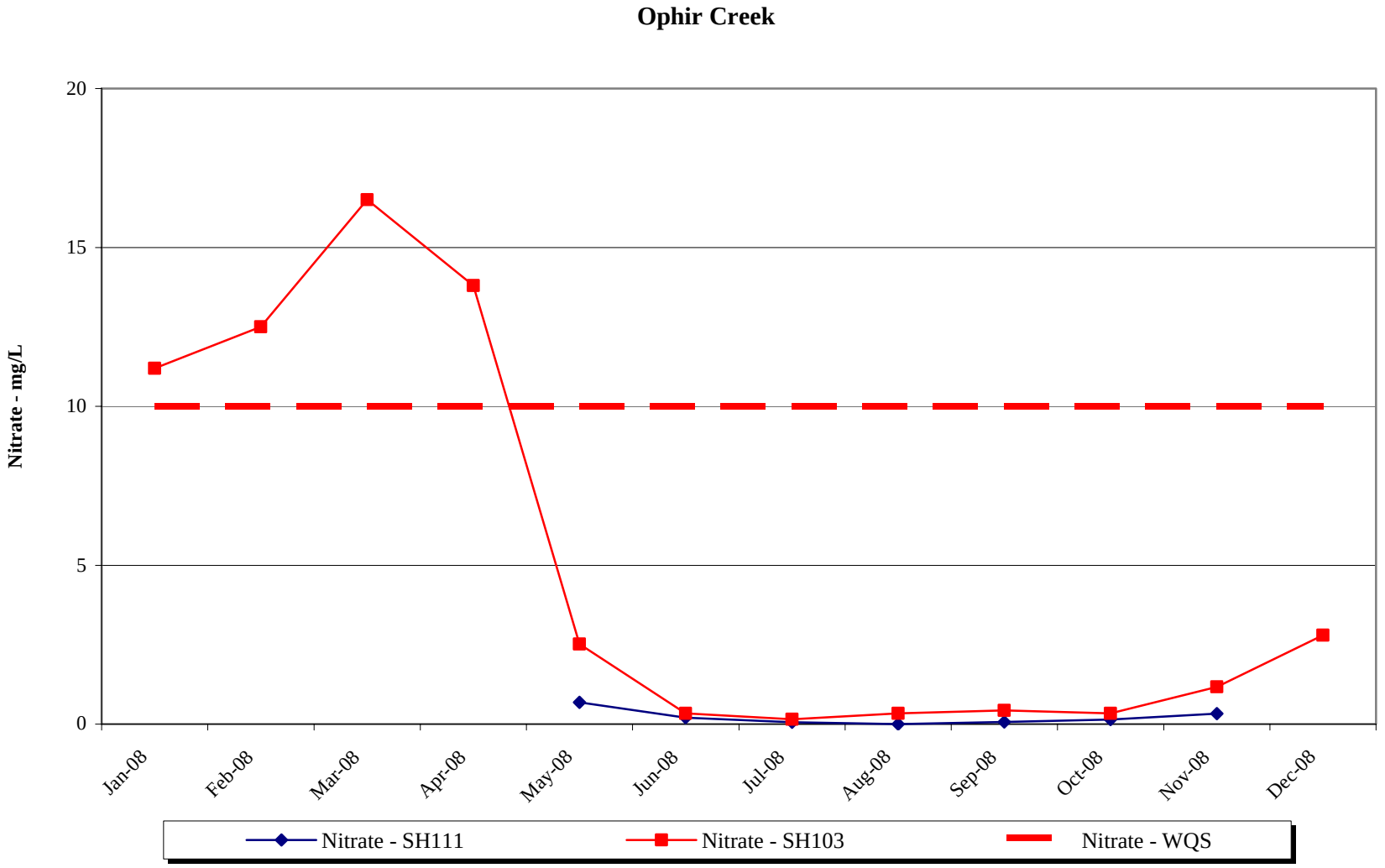
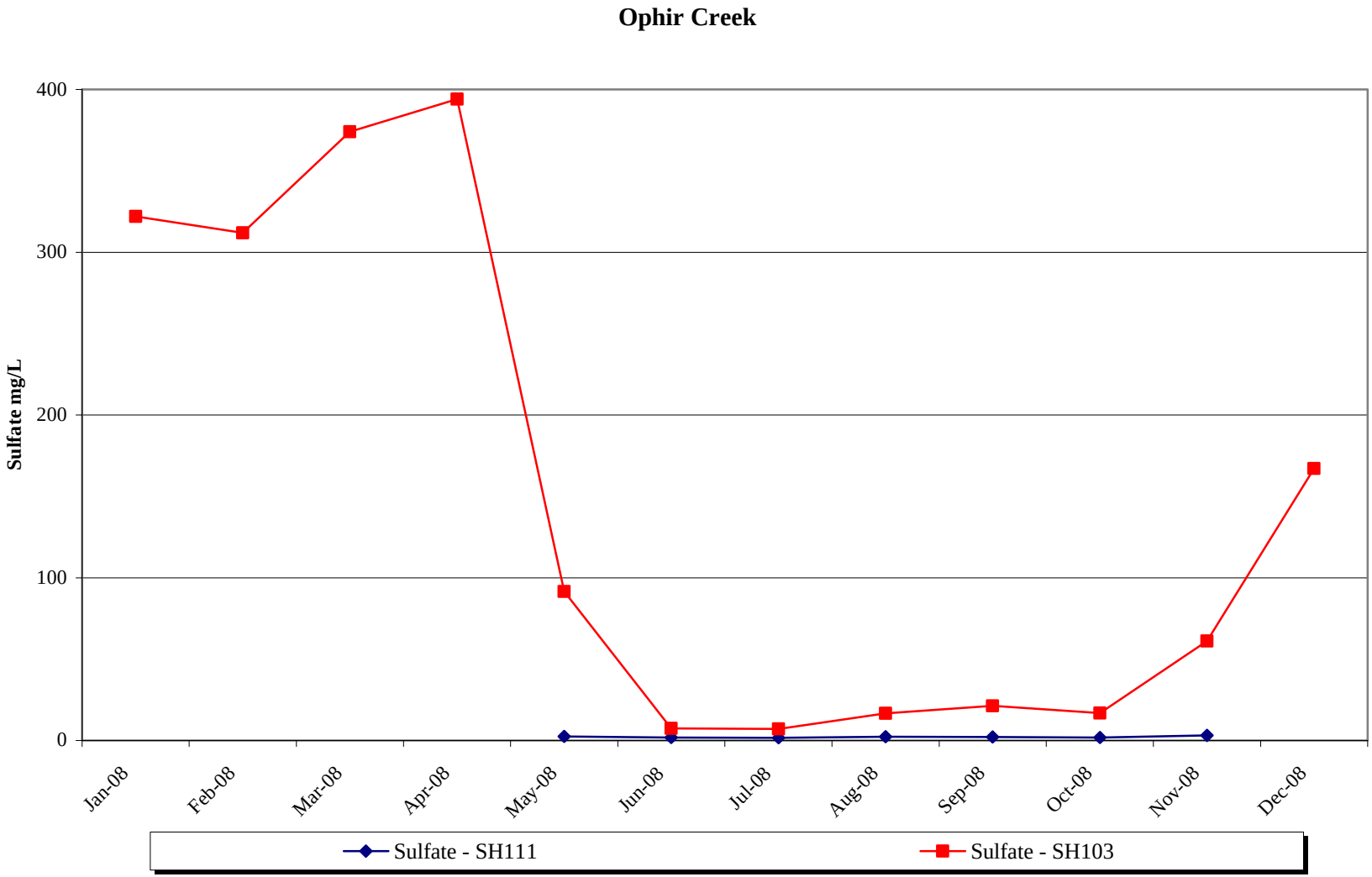


Figure 9b: Ophir Creek Monitoring Results 2008, Major Chemistry



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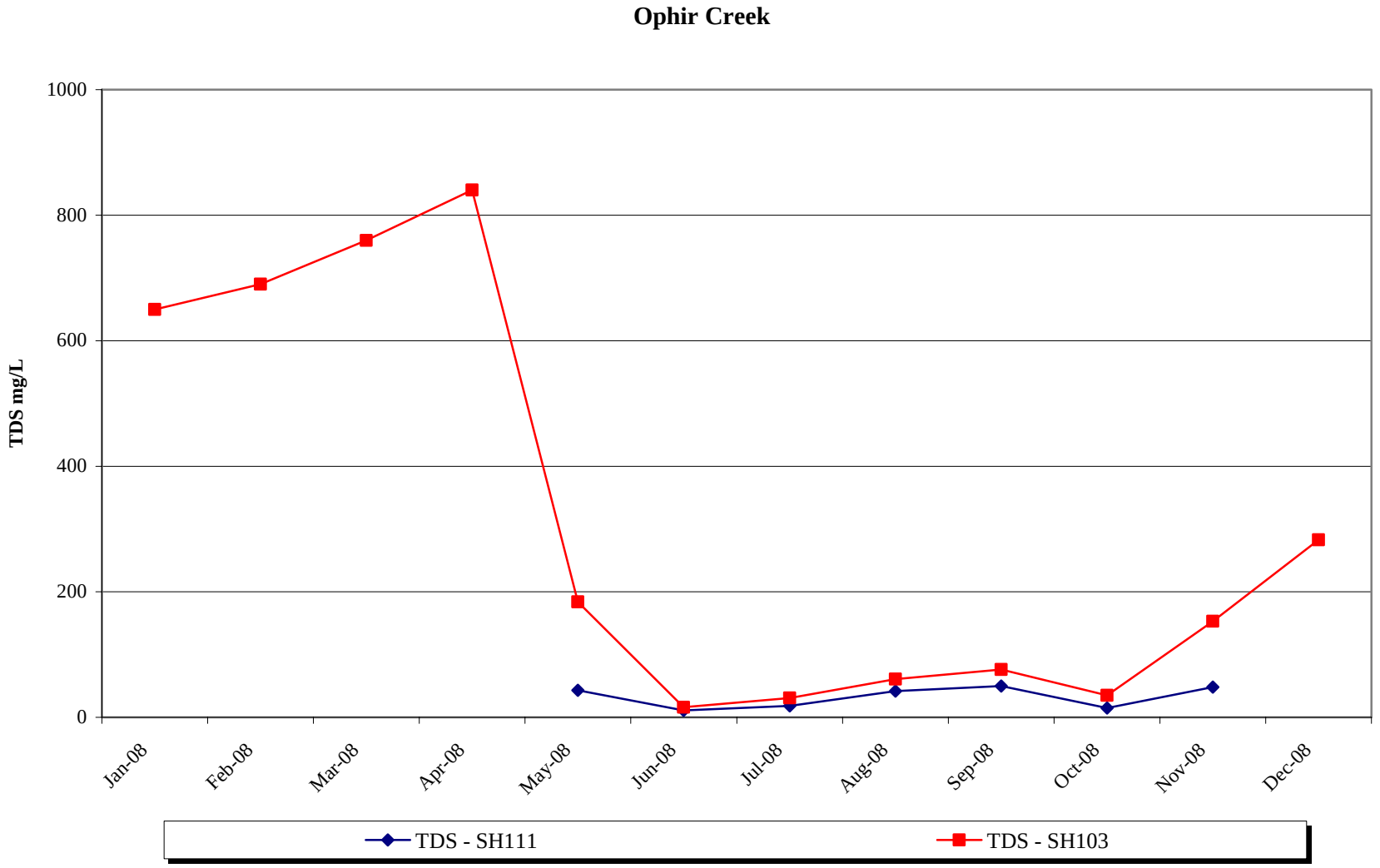

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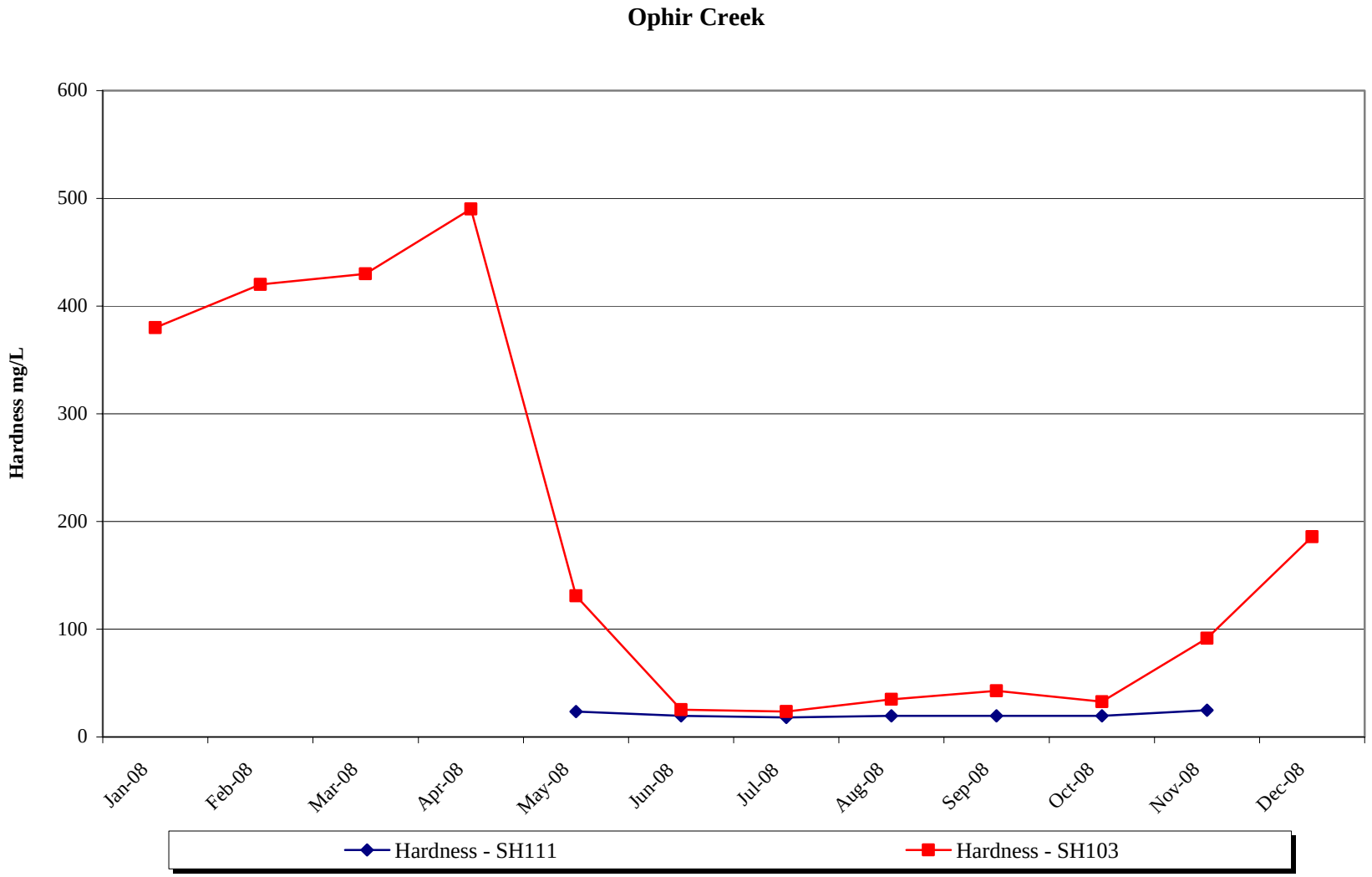

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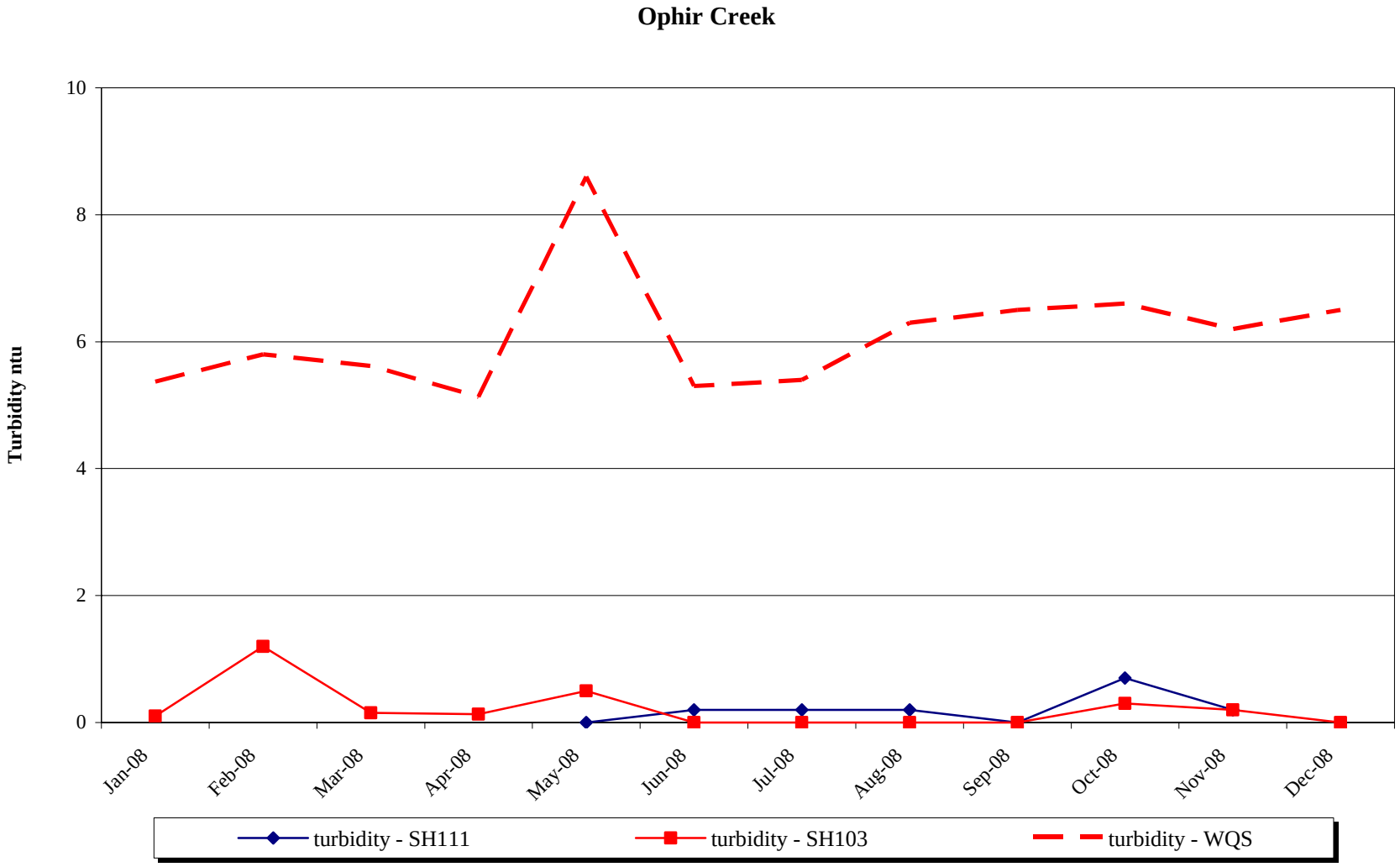

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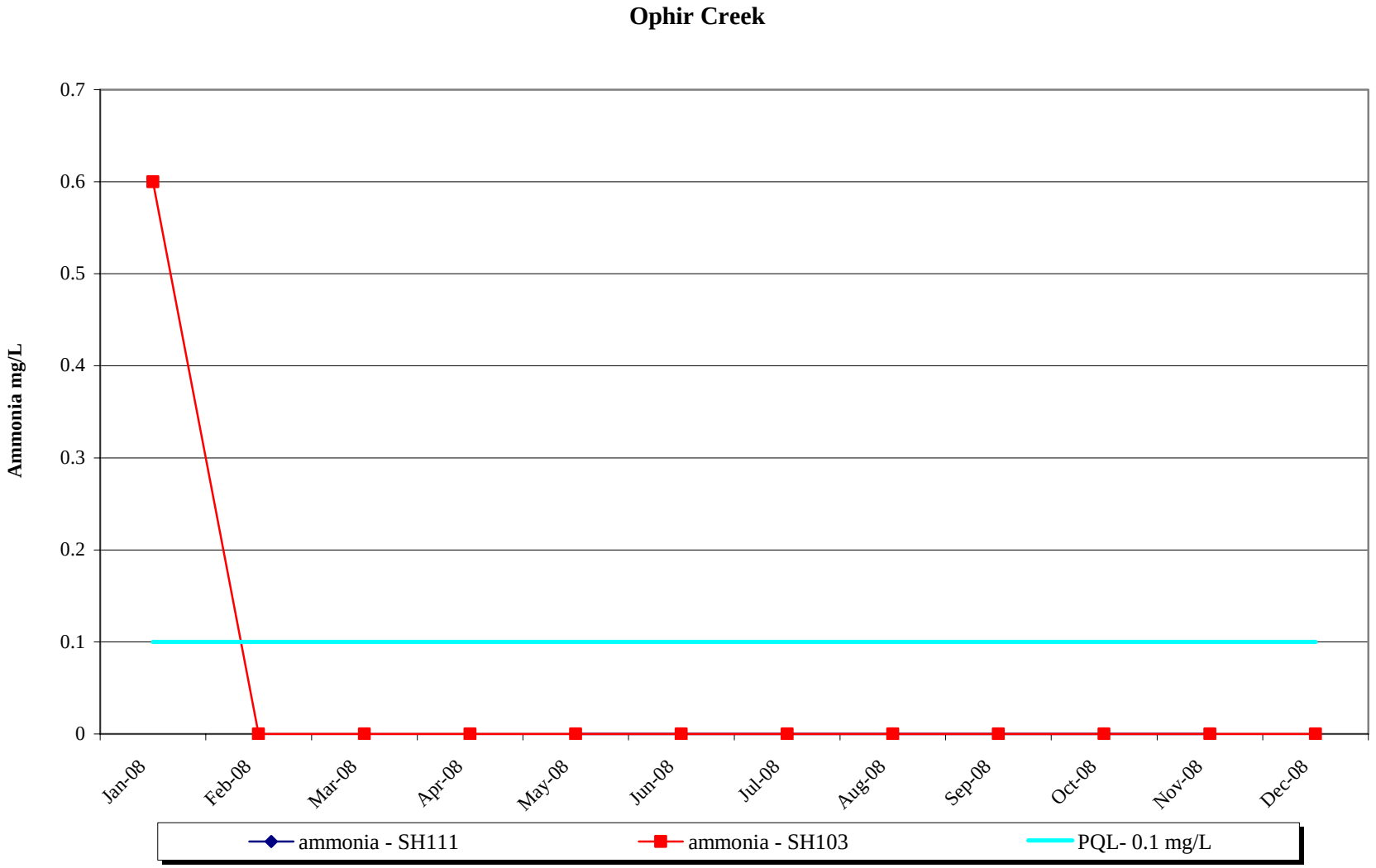

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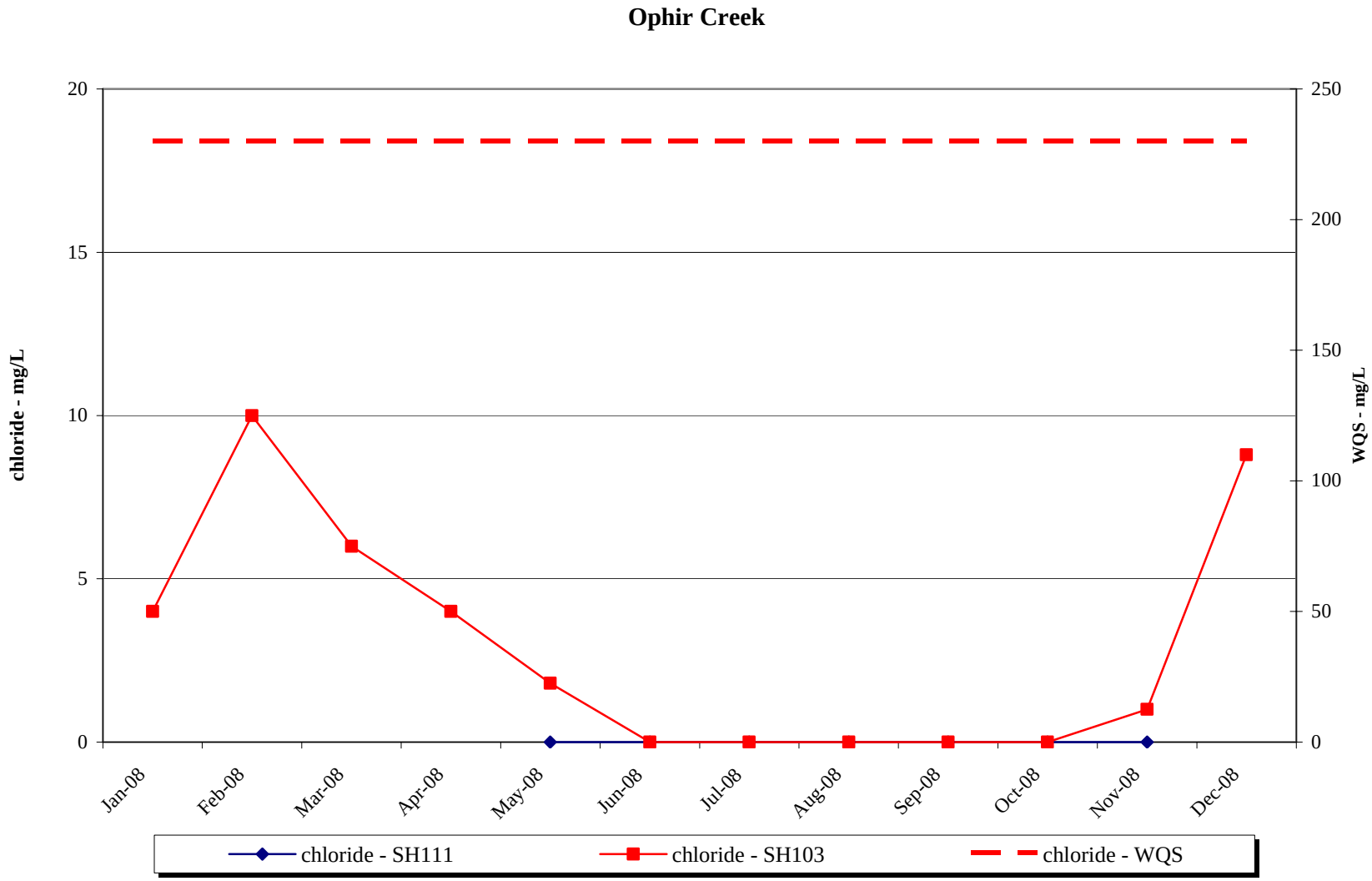

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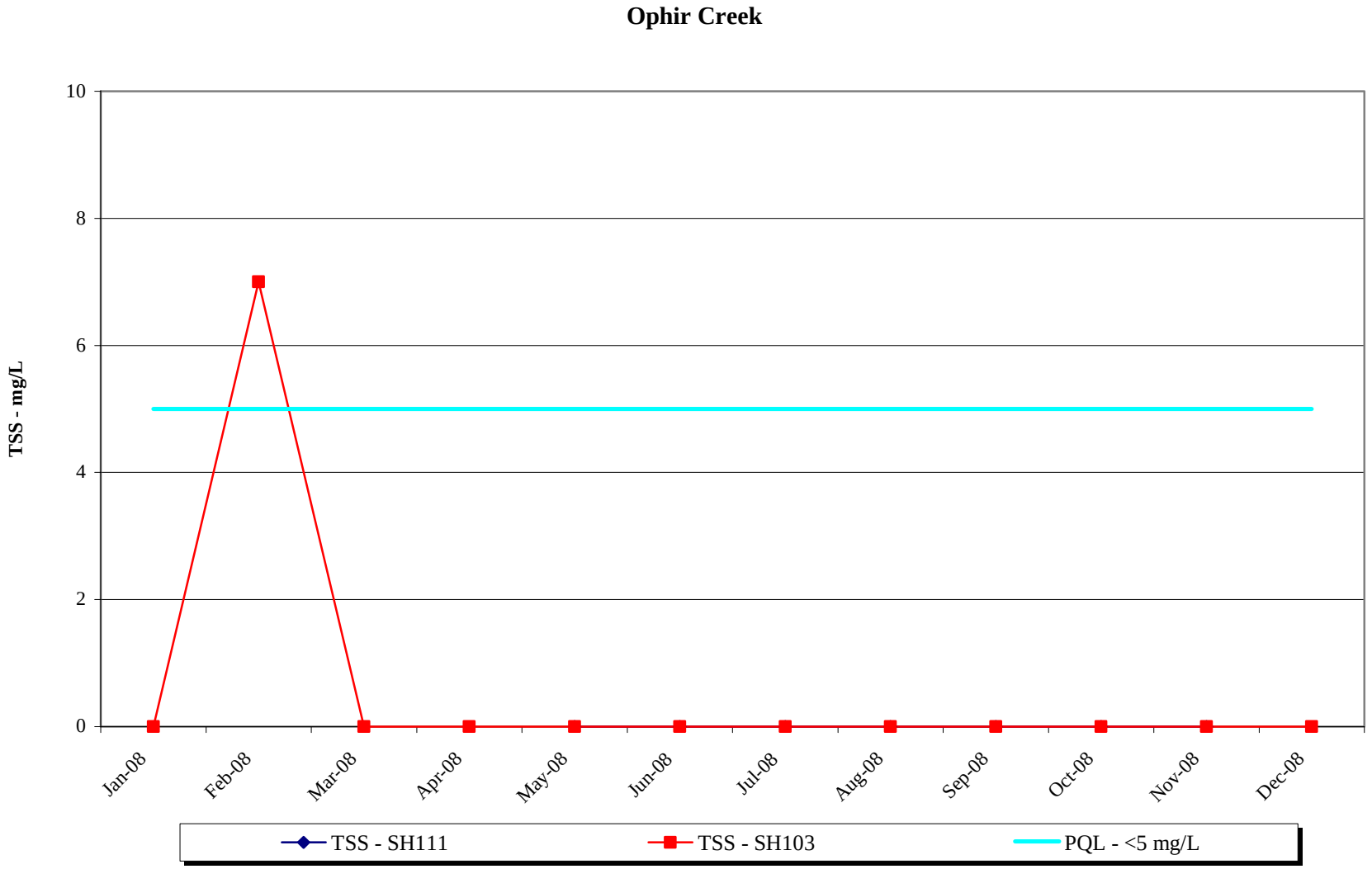

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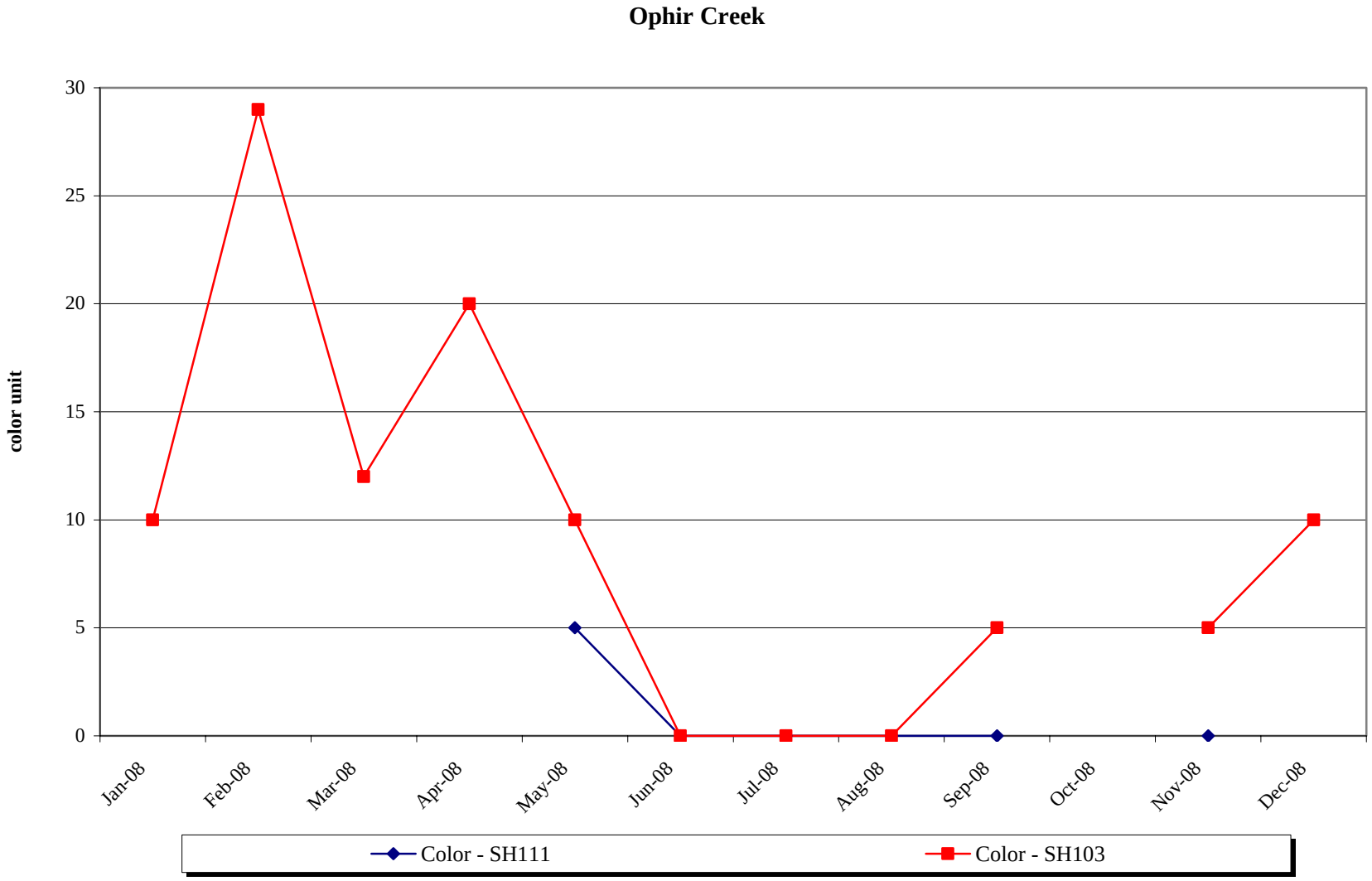
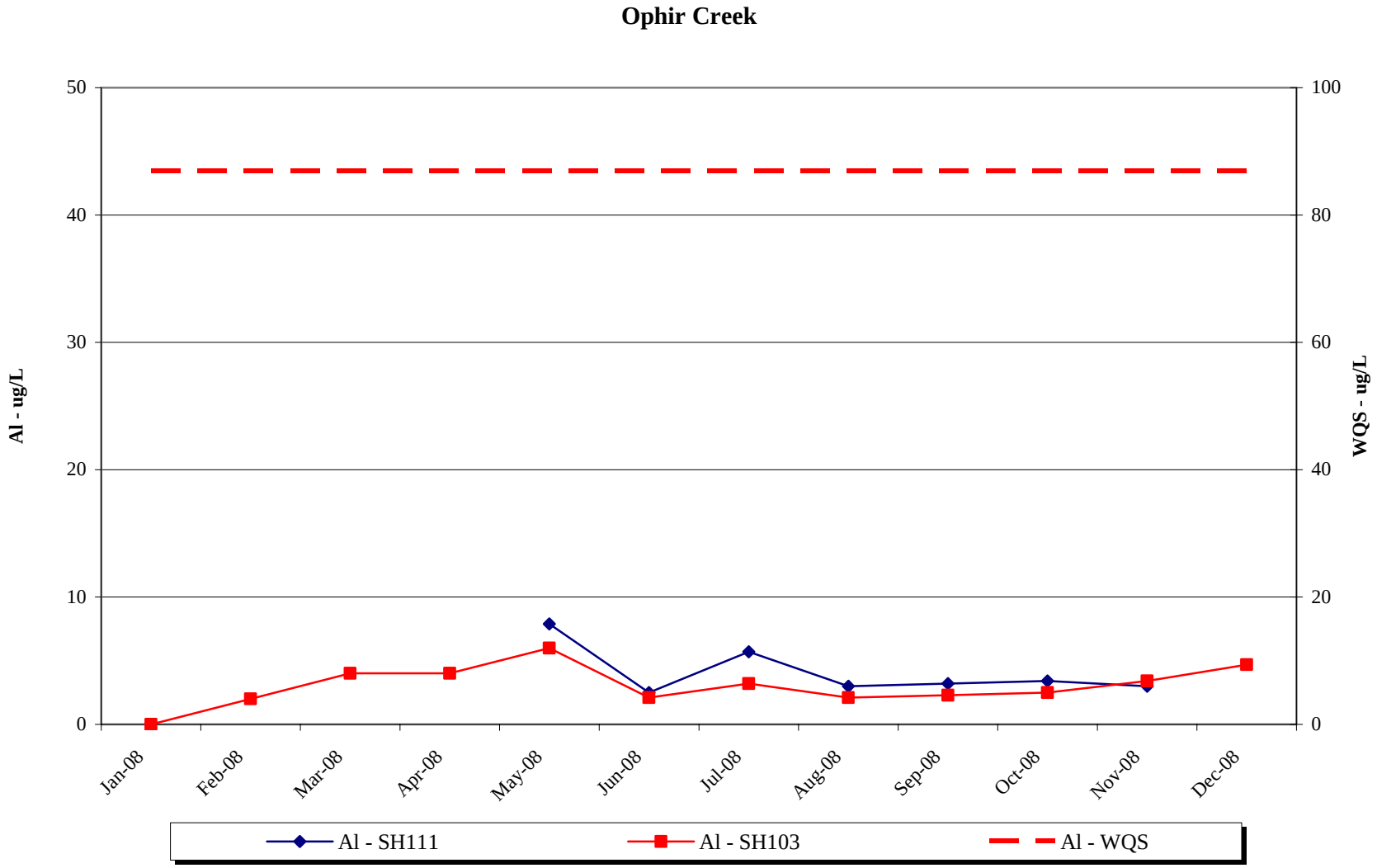


Figure 9c: Ophir Creek Monitoring Results 2008, Trace Chemistry



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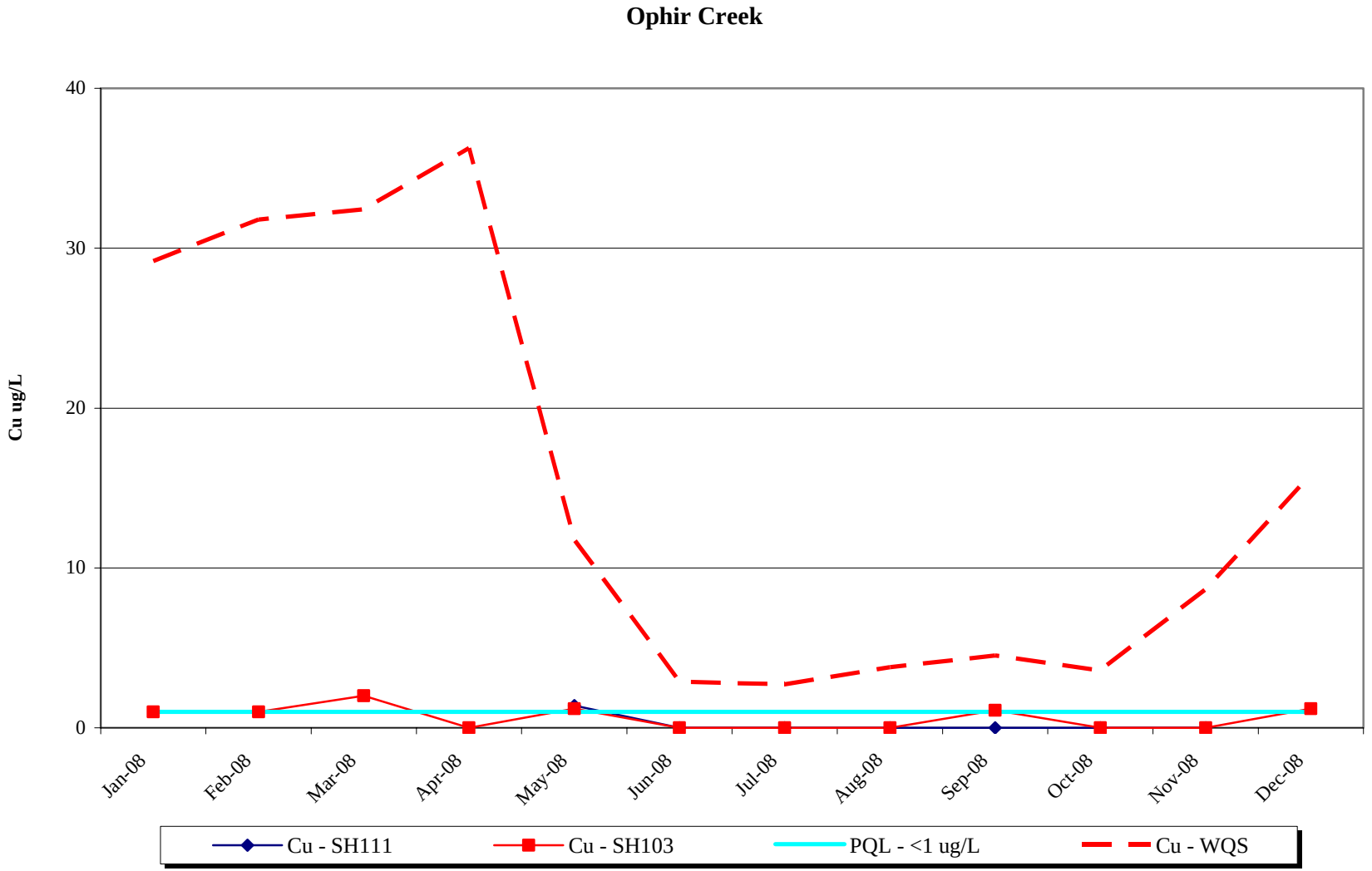

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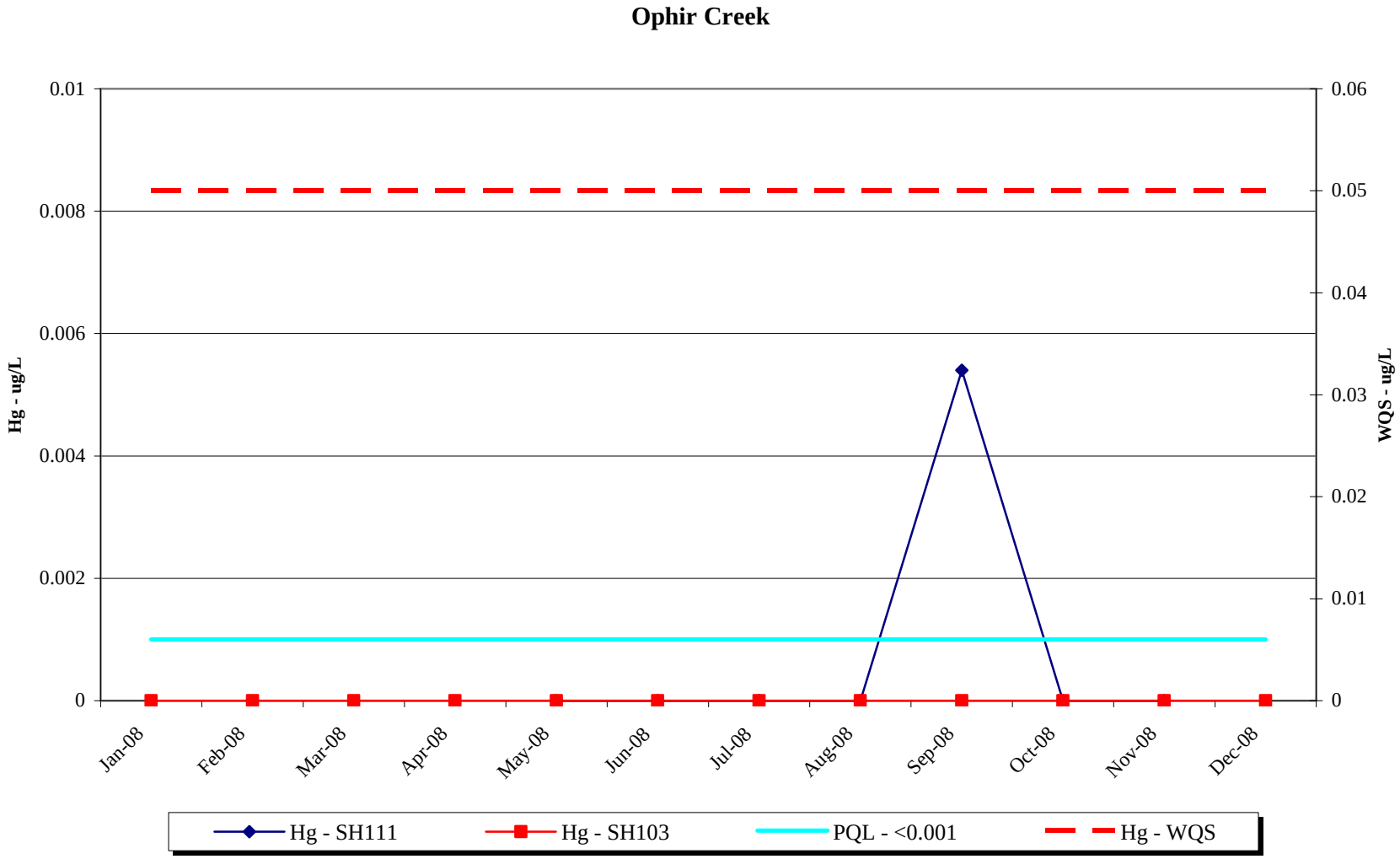

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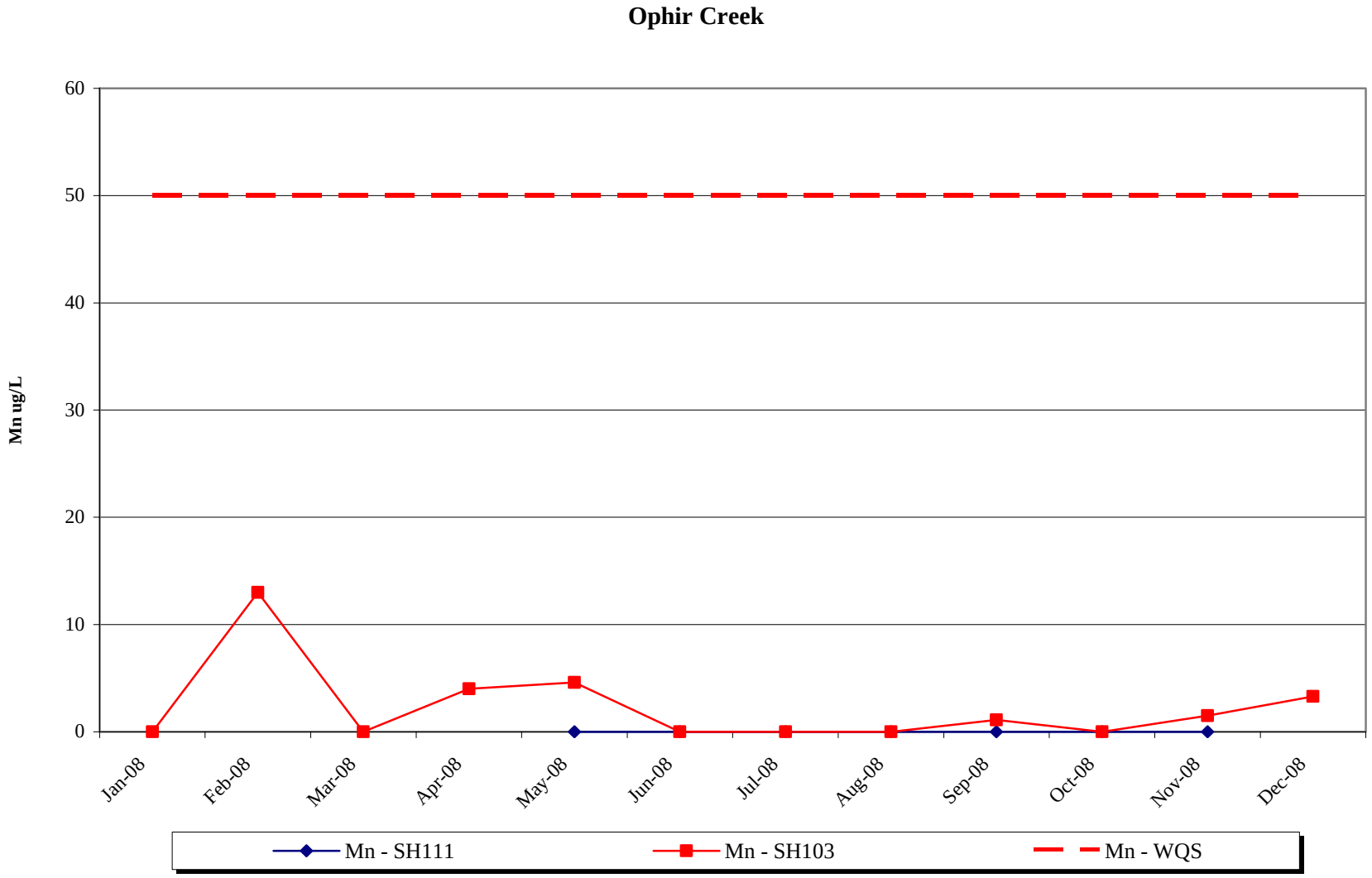

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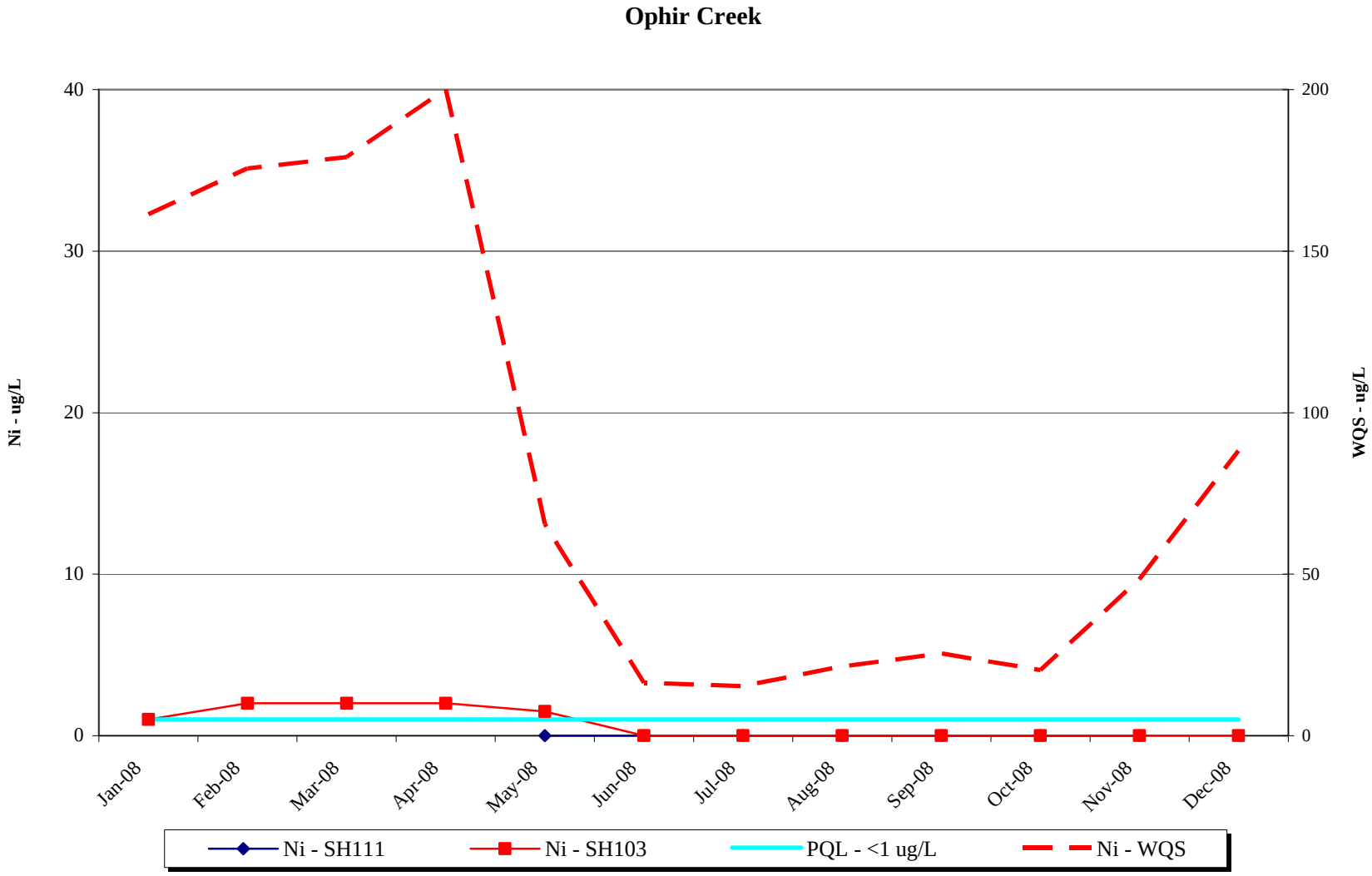

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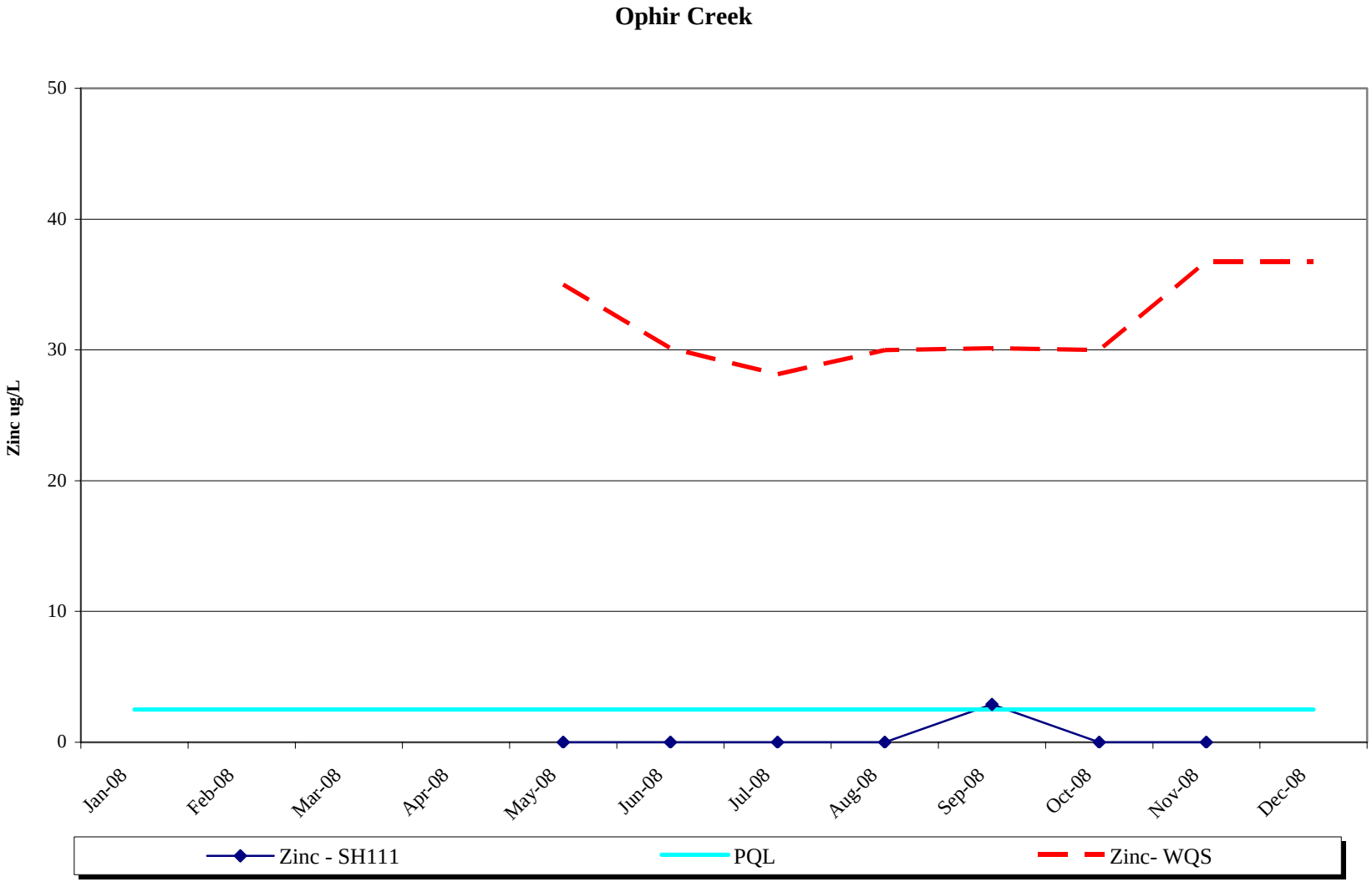

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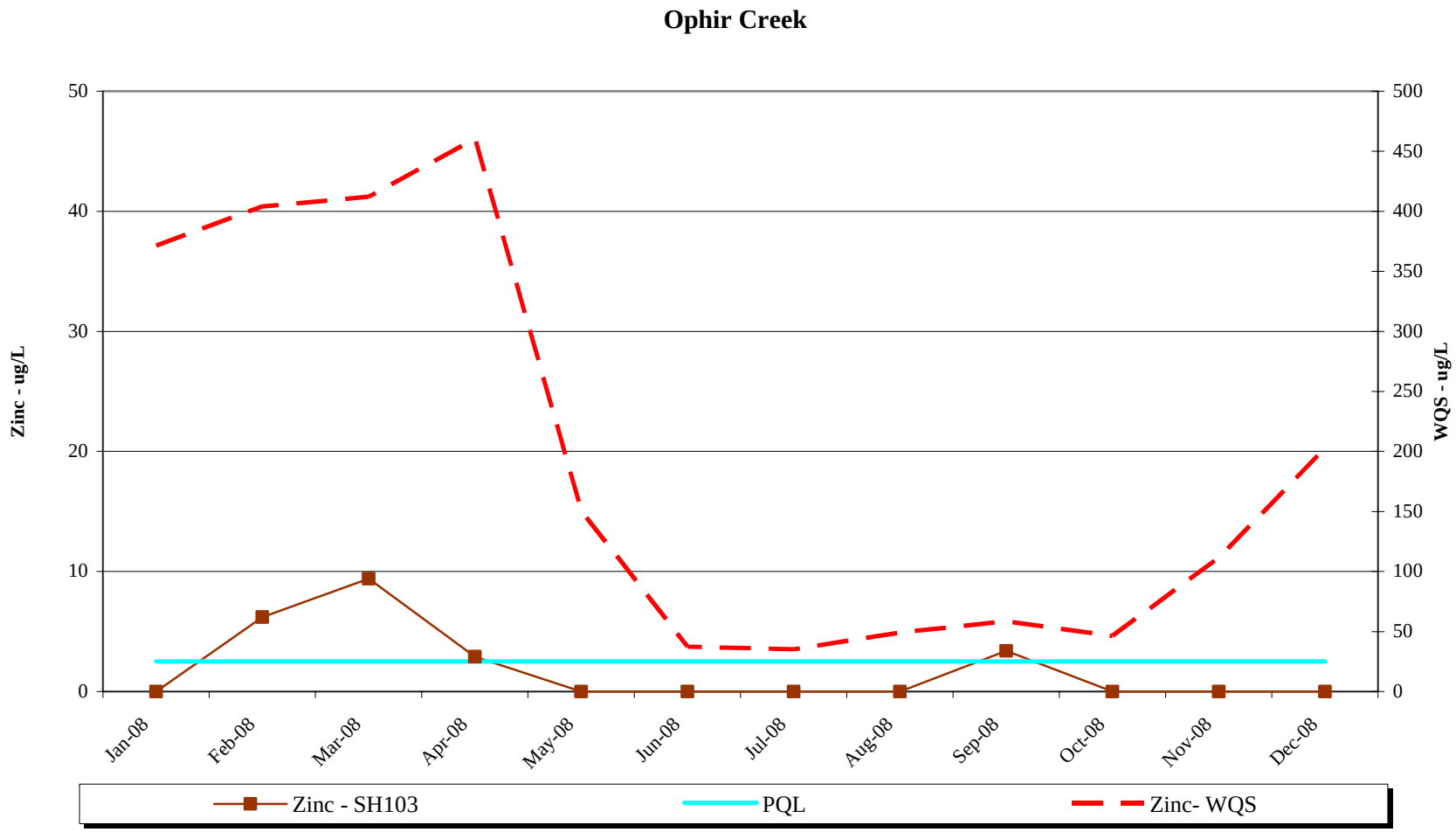


Figure 10a: Outfall 001 Effluent Monitoring Results 2008, Field Parameters

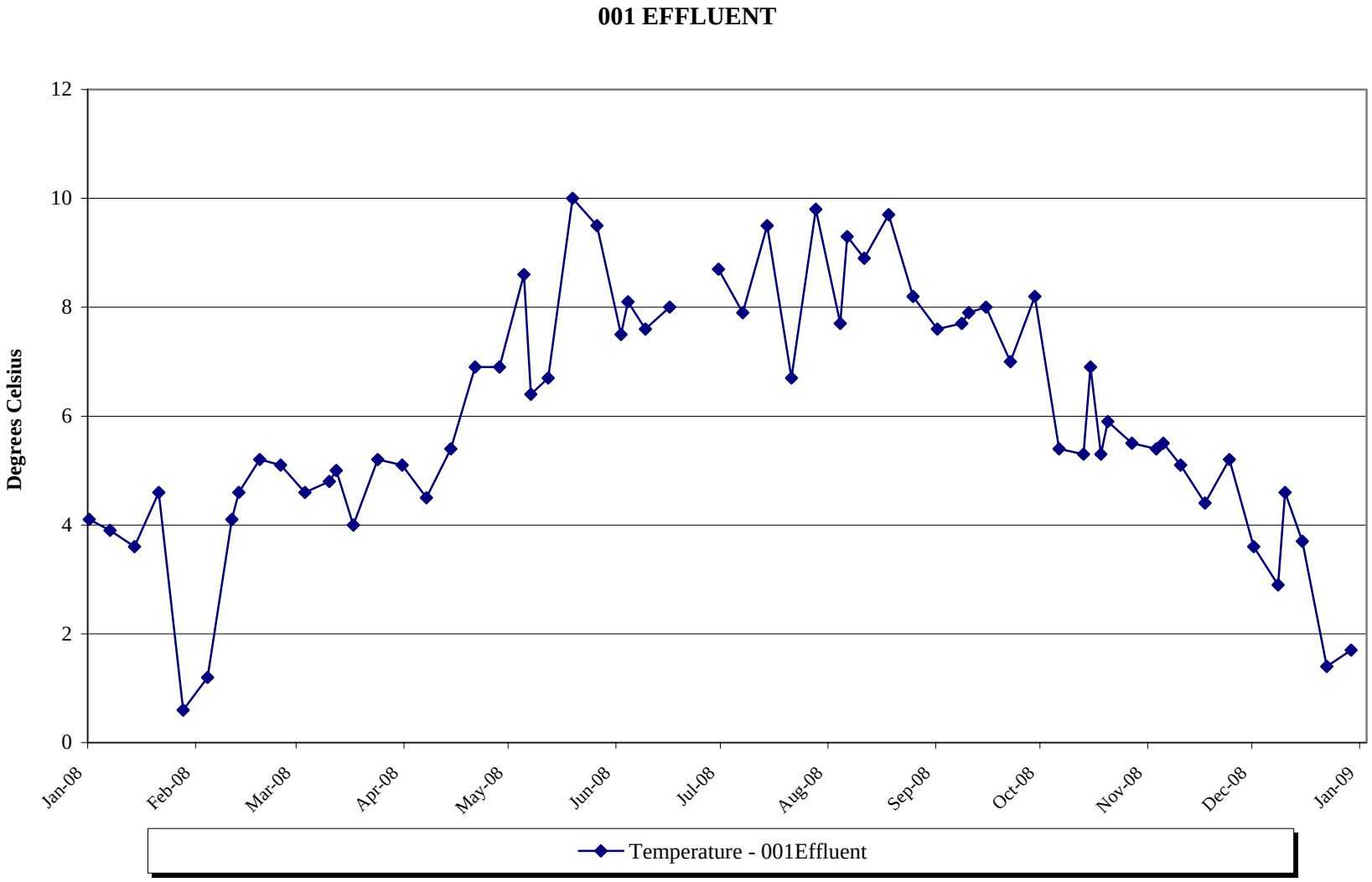


Figure 10a: Outfall 001 Effluent Monitoring Results 2008, Field Parameters

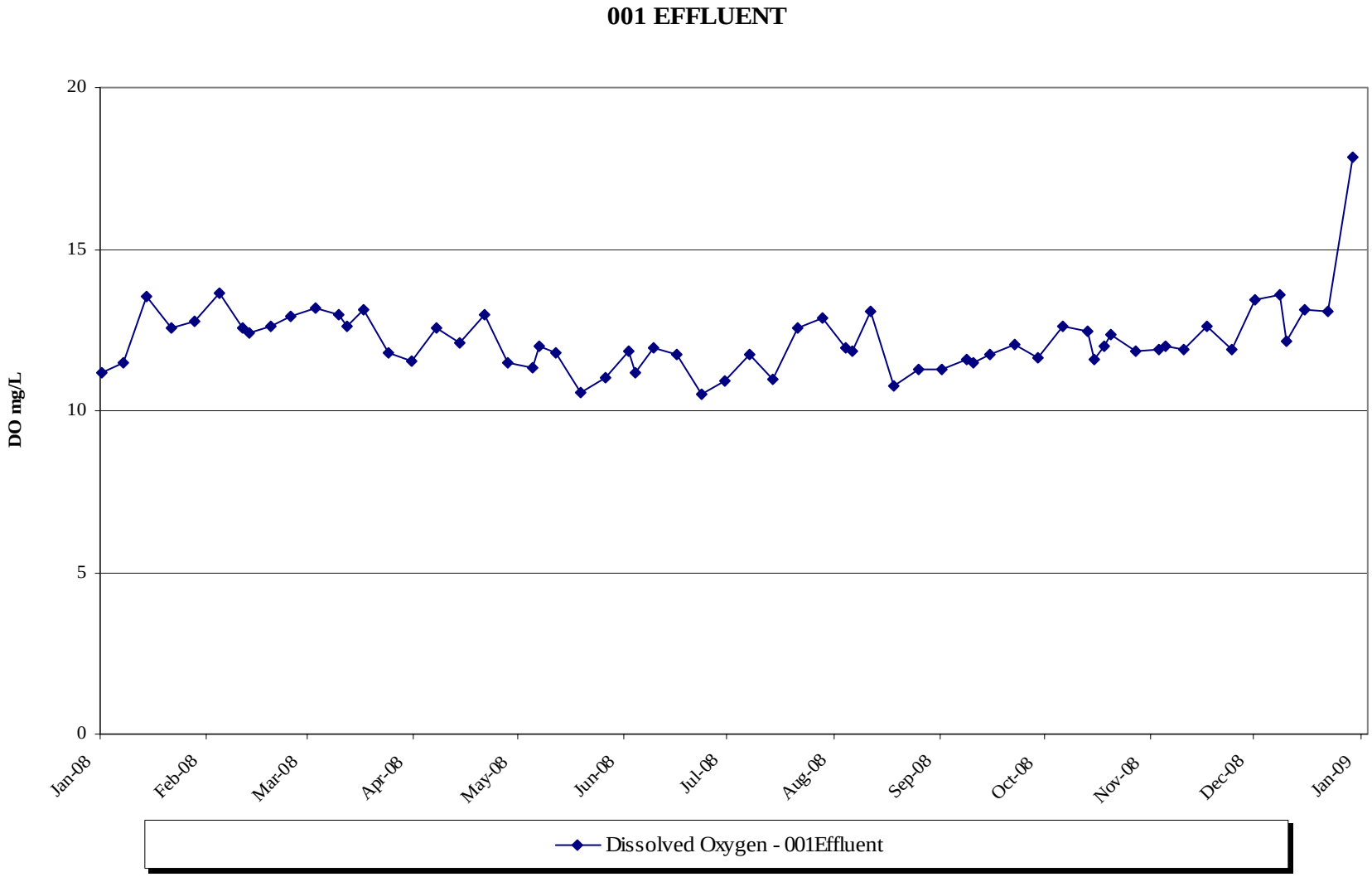


Figure 10b: Outfall 001 Effluent Monitoring Results 2008, Major Chemistry

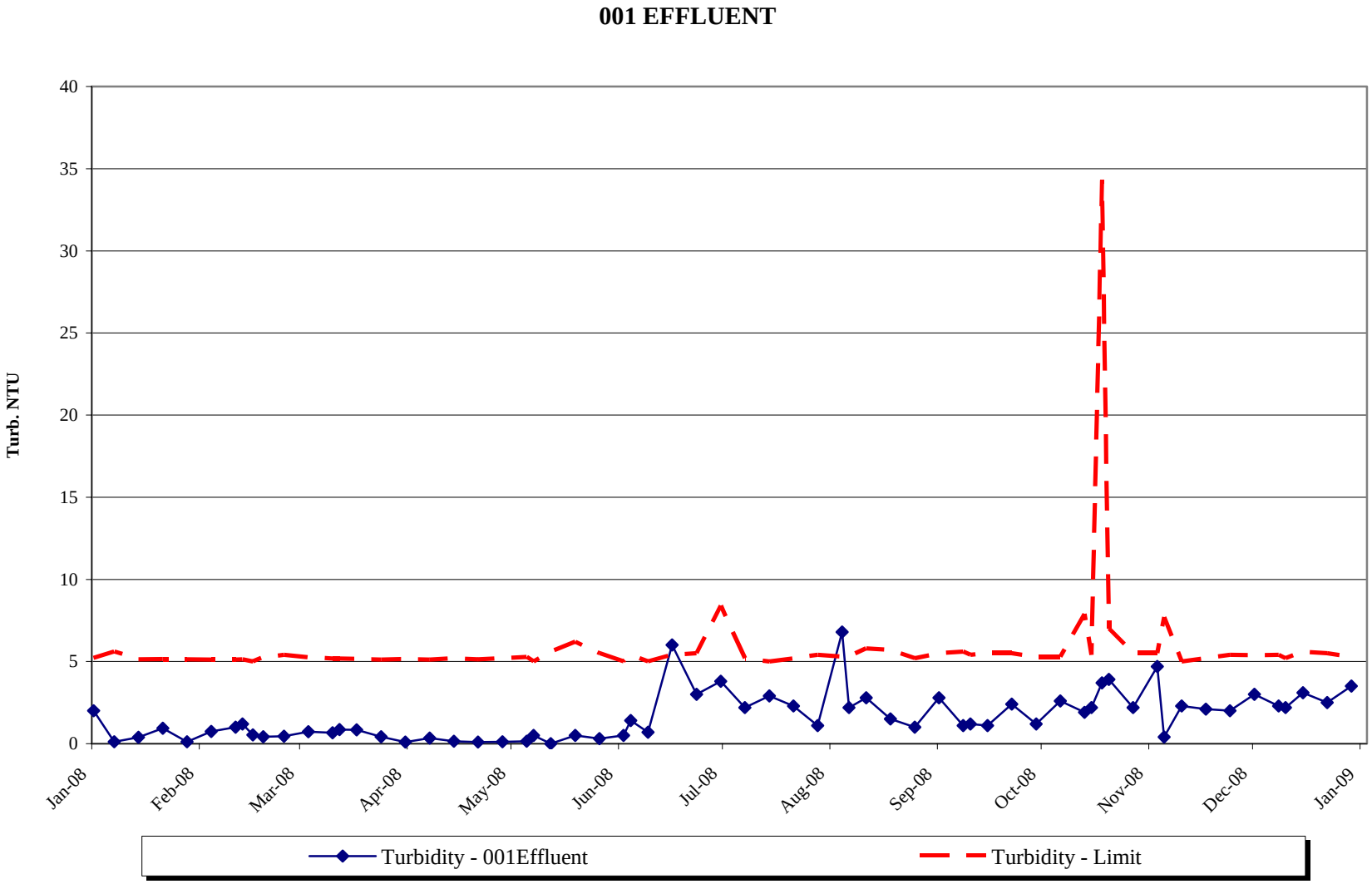


Figure 10b: Outfall 001 Effluent Monitoring Results 2008, Major Chemistry

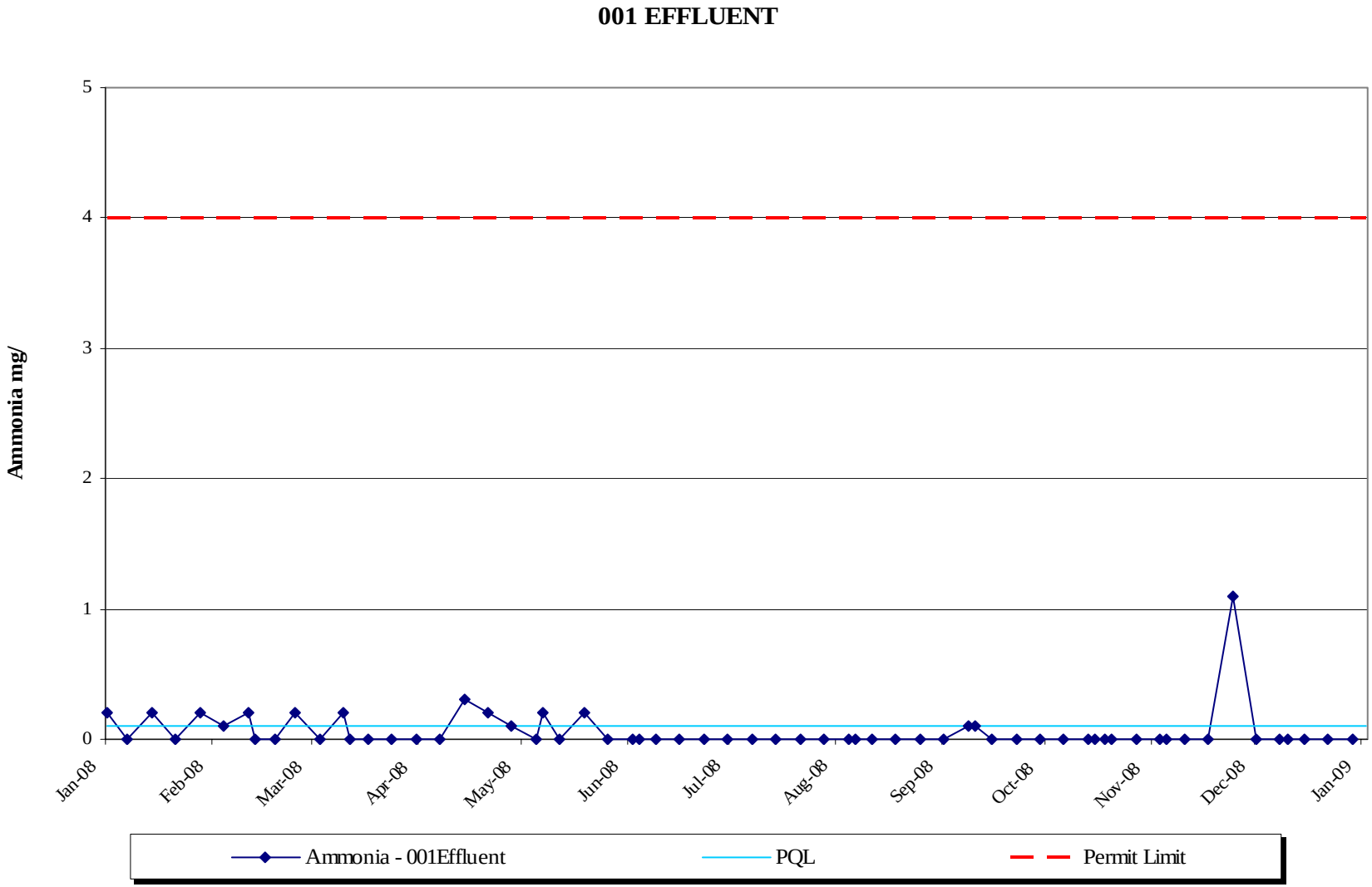


Figure 10b: Outfall 001 Effluent Monitoring Results 2008, Major Chemistry

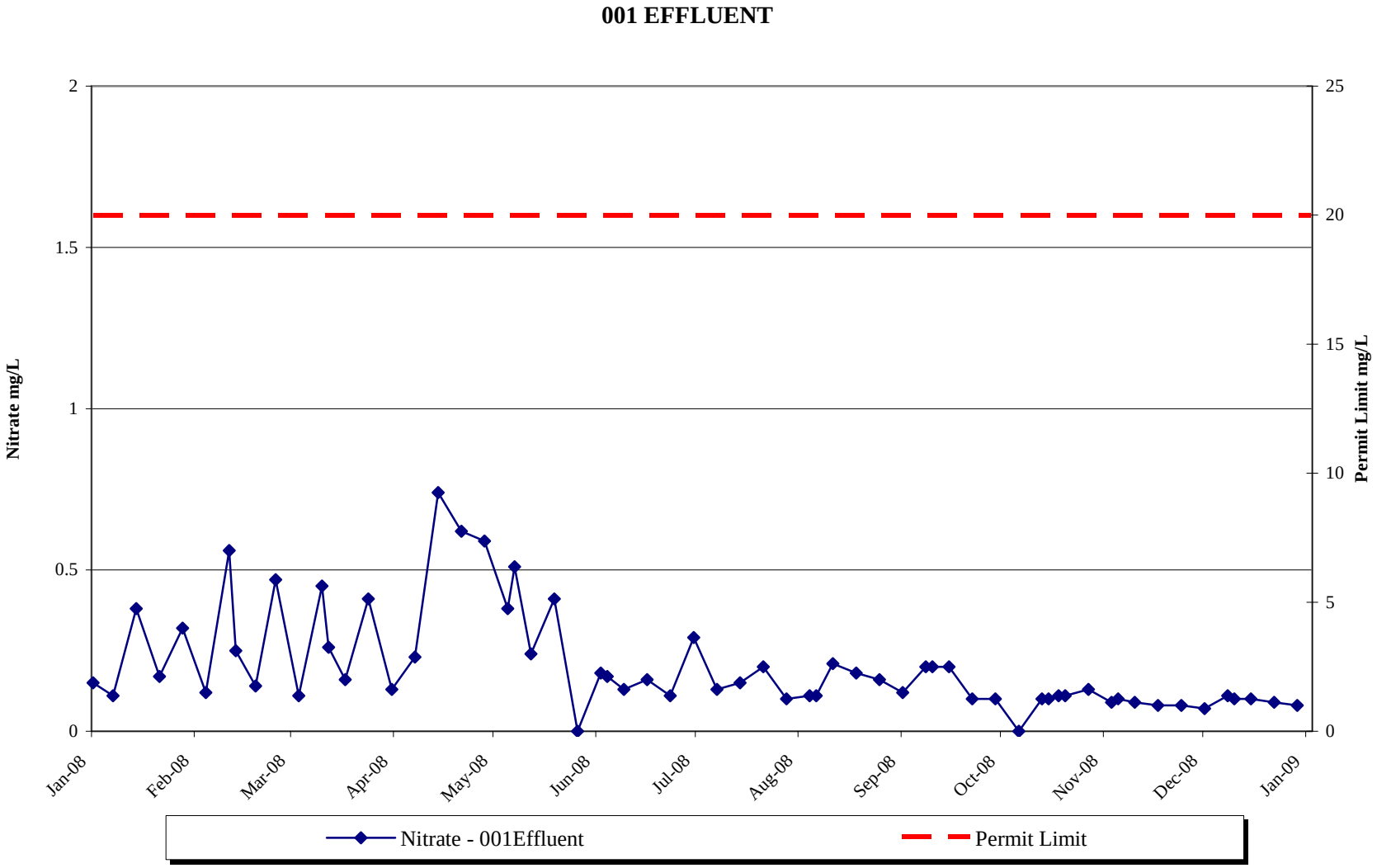


Figure 10b: Outfall 001 Effluent Monitoring Results 2008, Major Chemistry

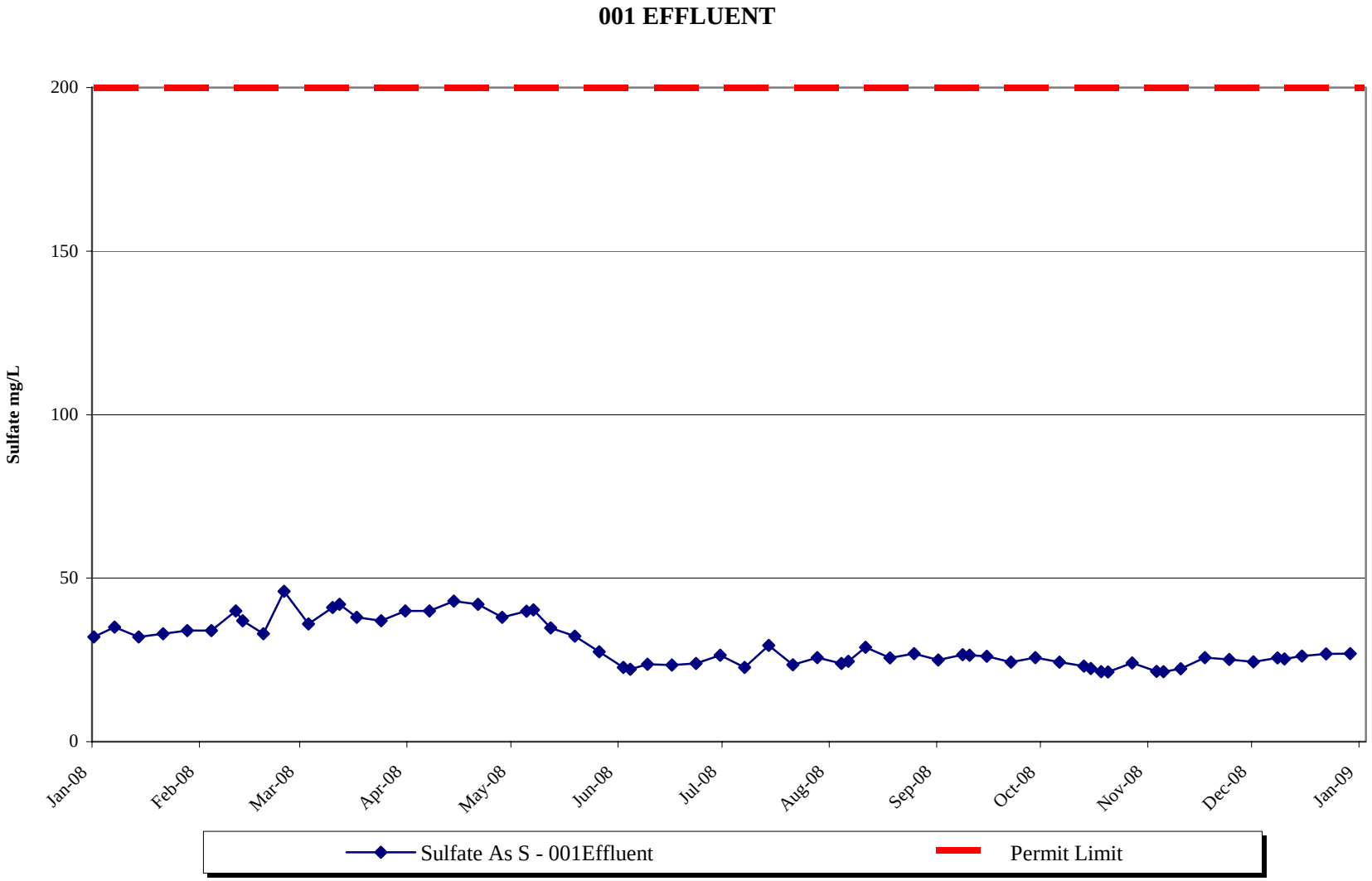


Figure 10b: Outfall 001 Effluent Monitoring Results 2008, Major Chemistry

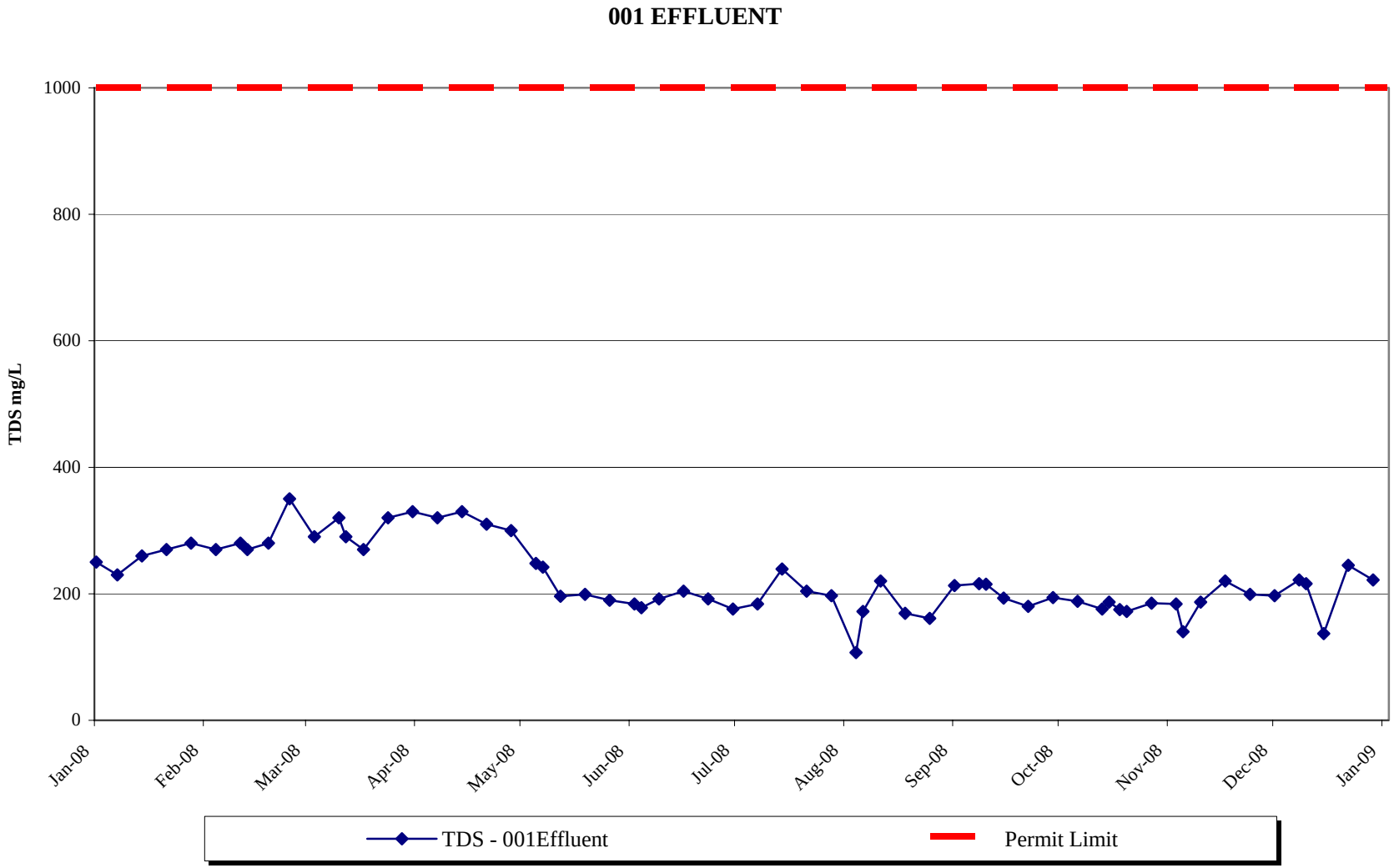


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

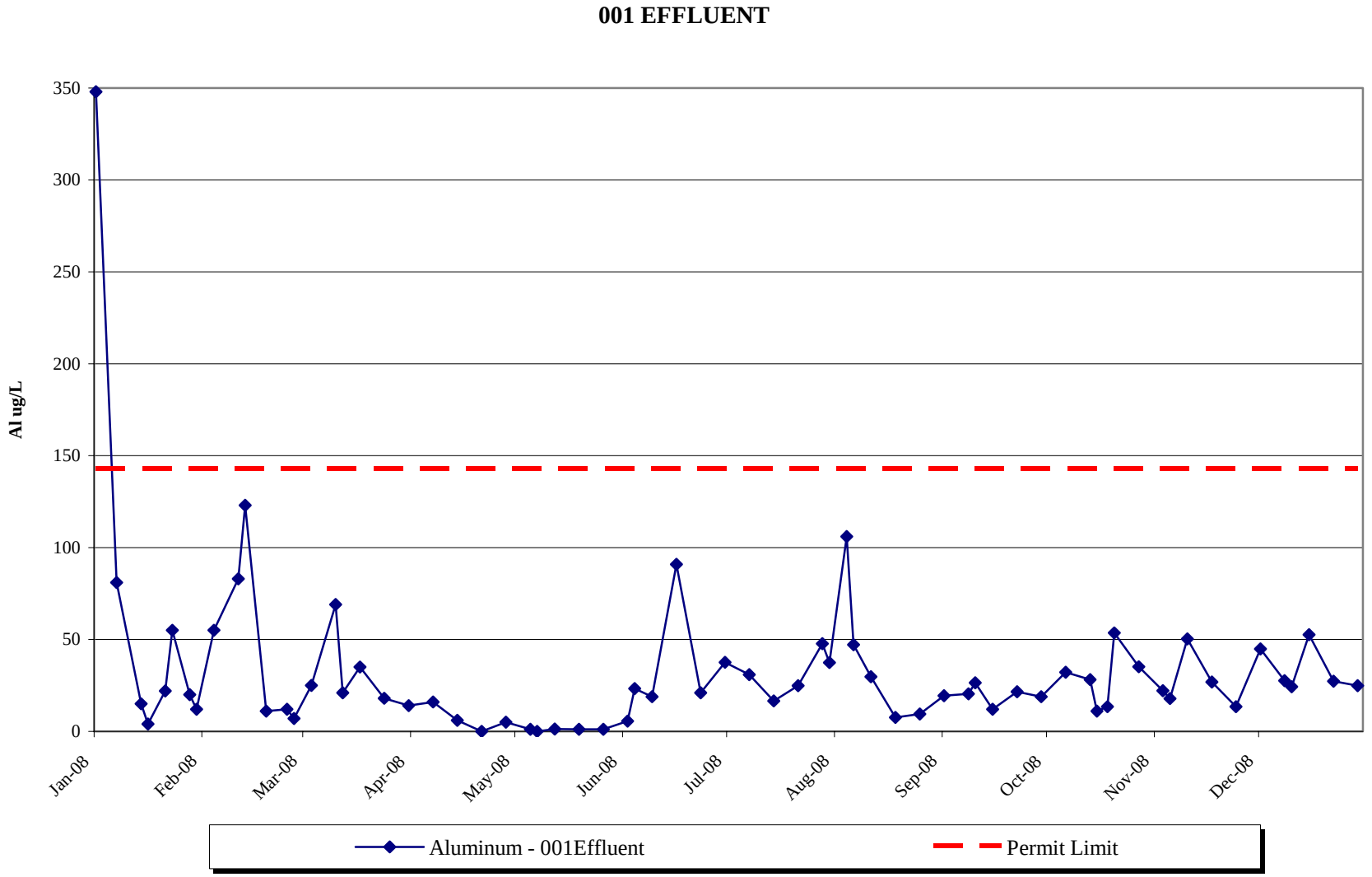


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

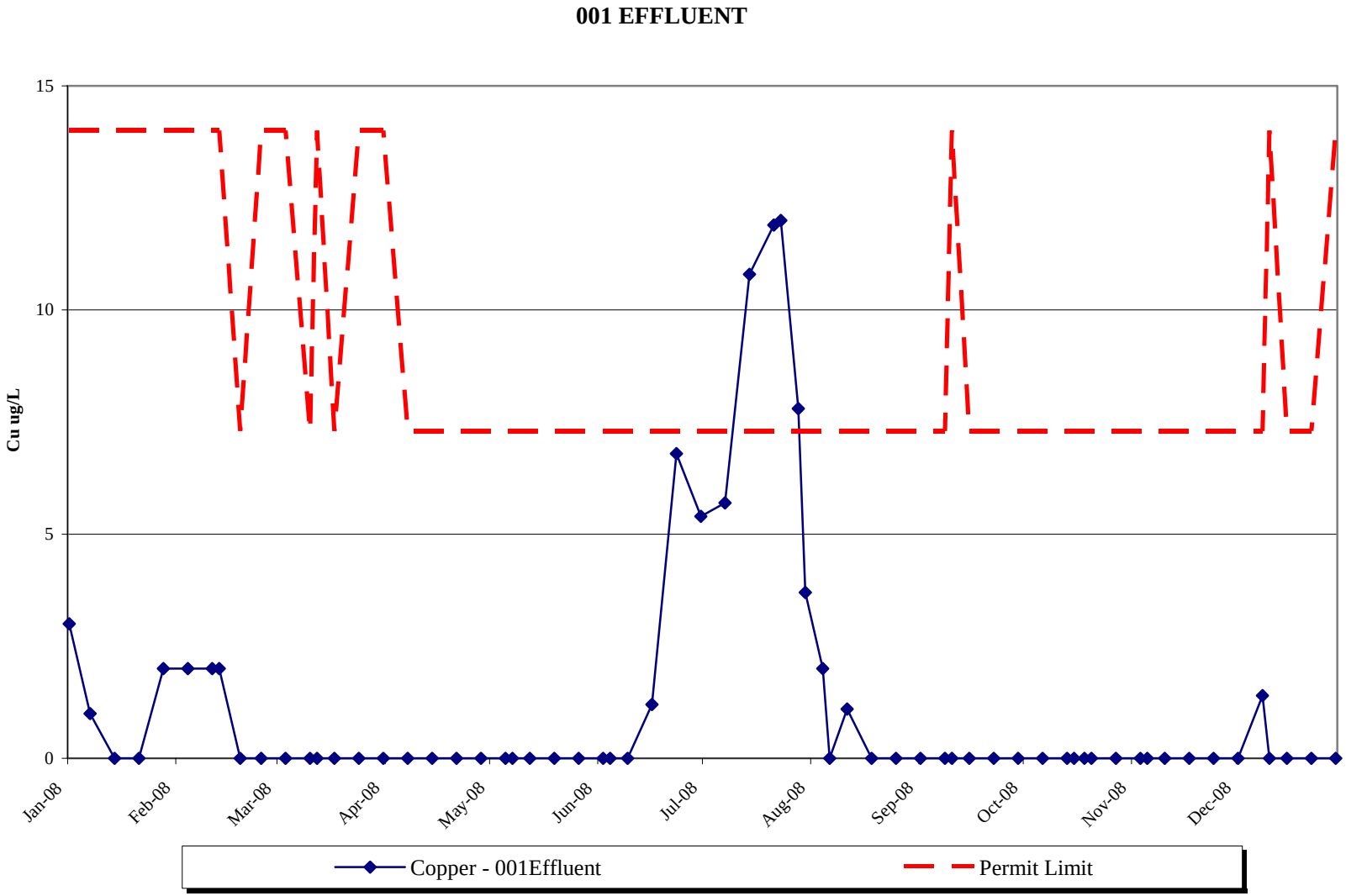


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

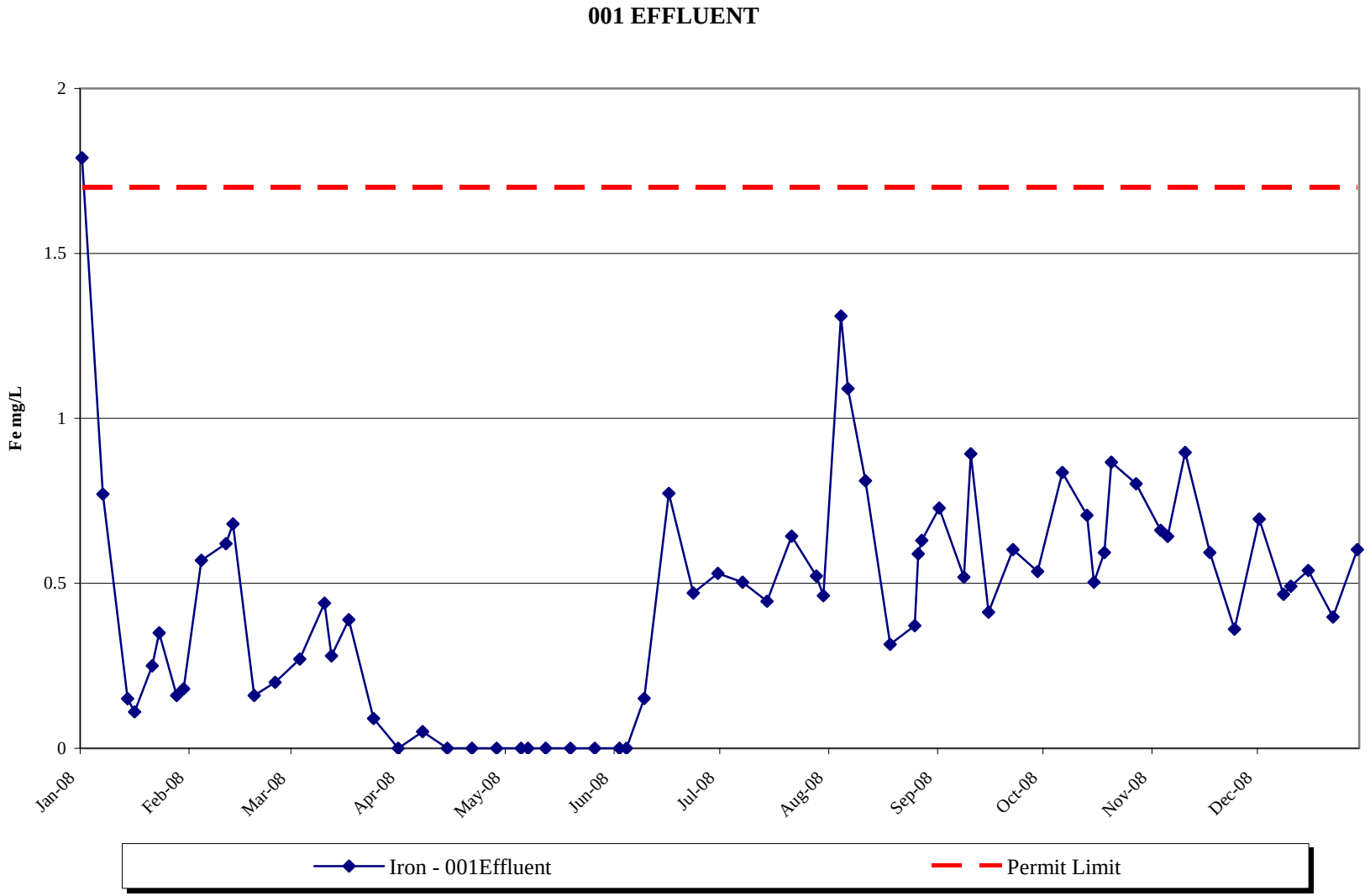


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

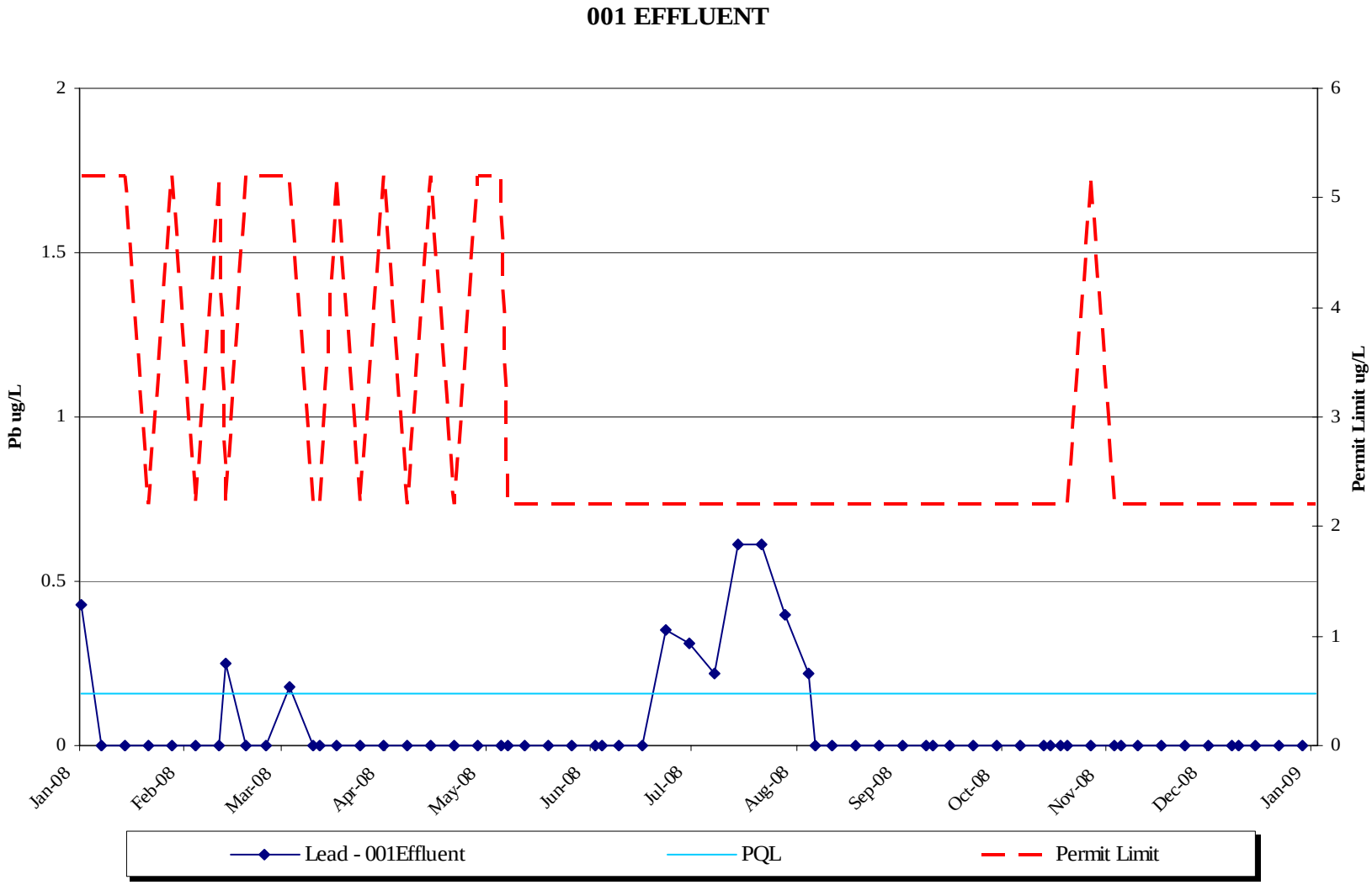


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

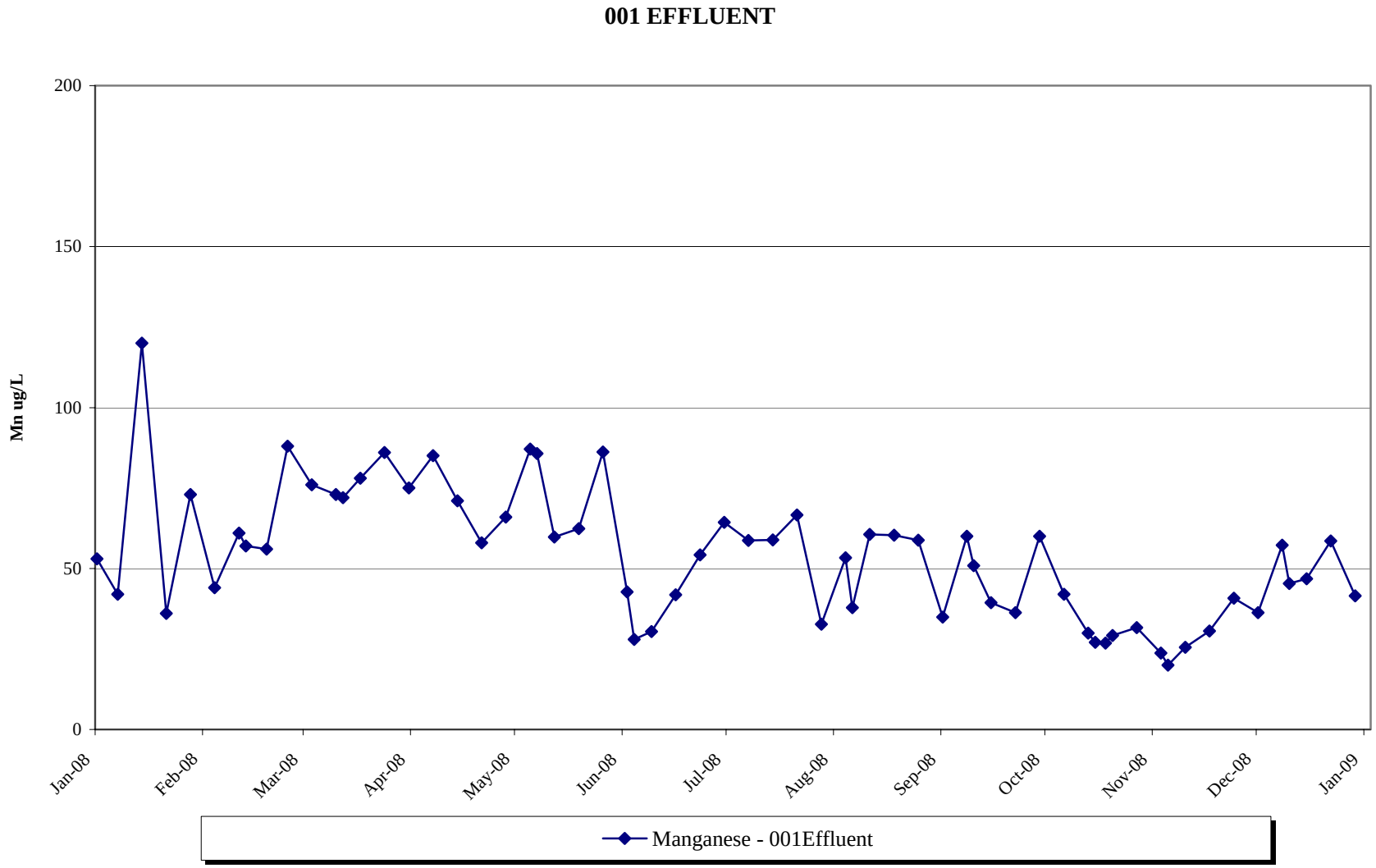


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

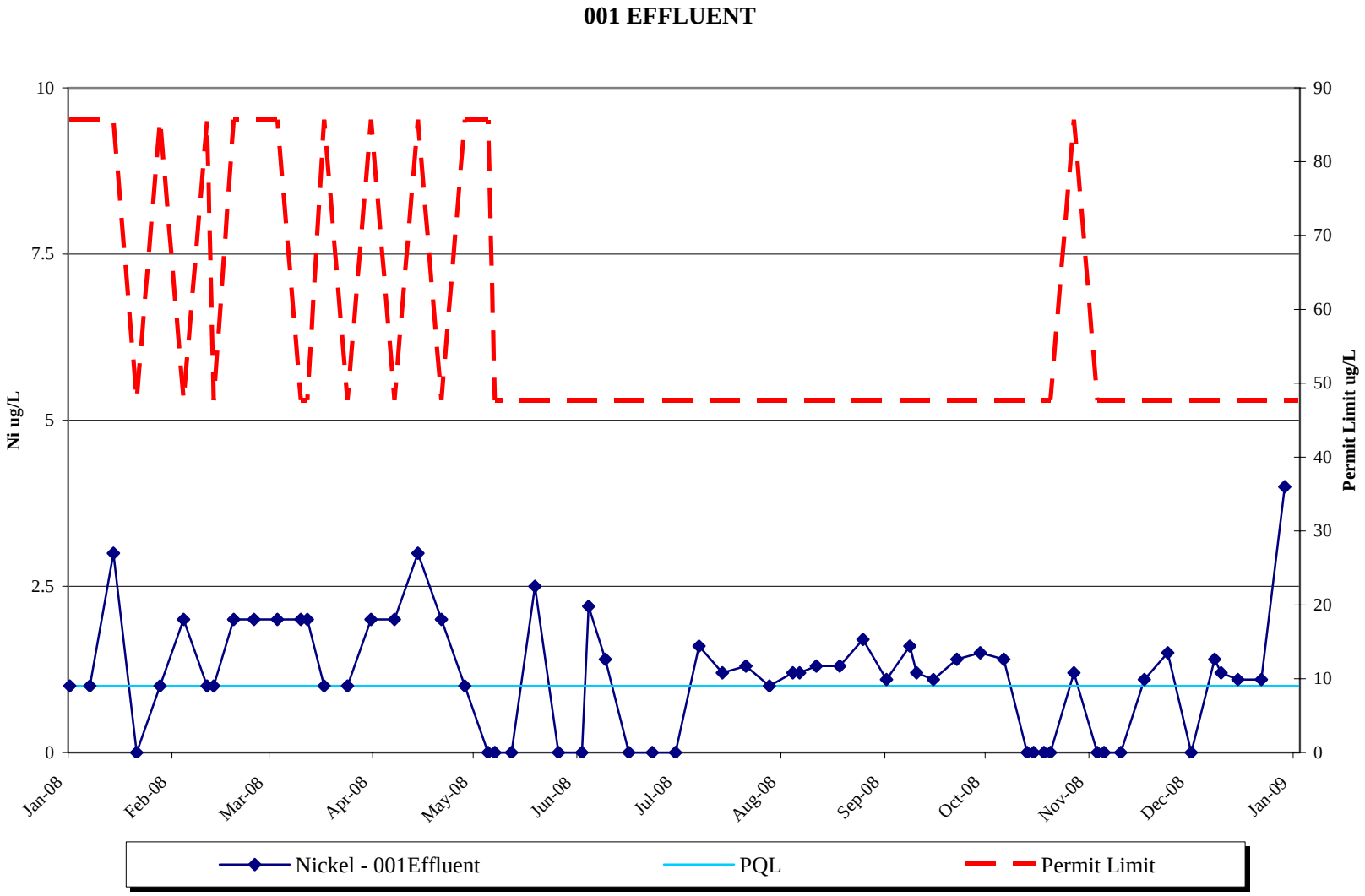


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

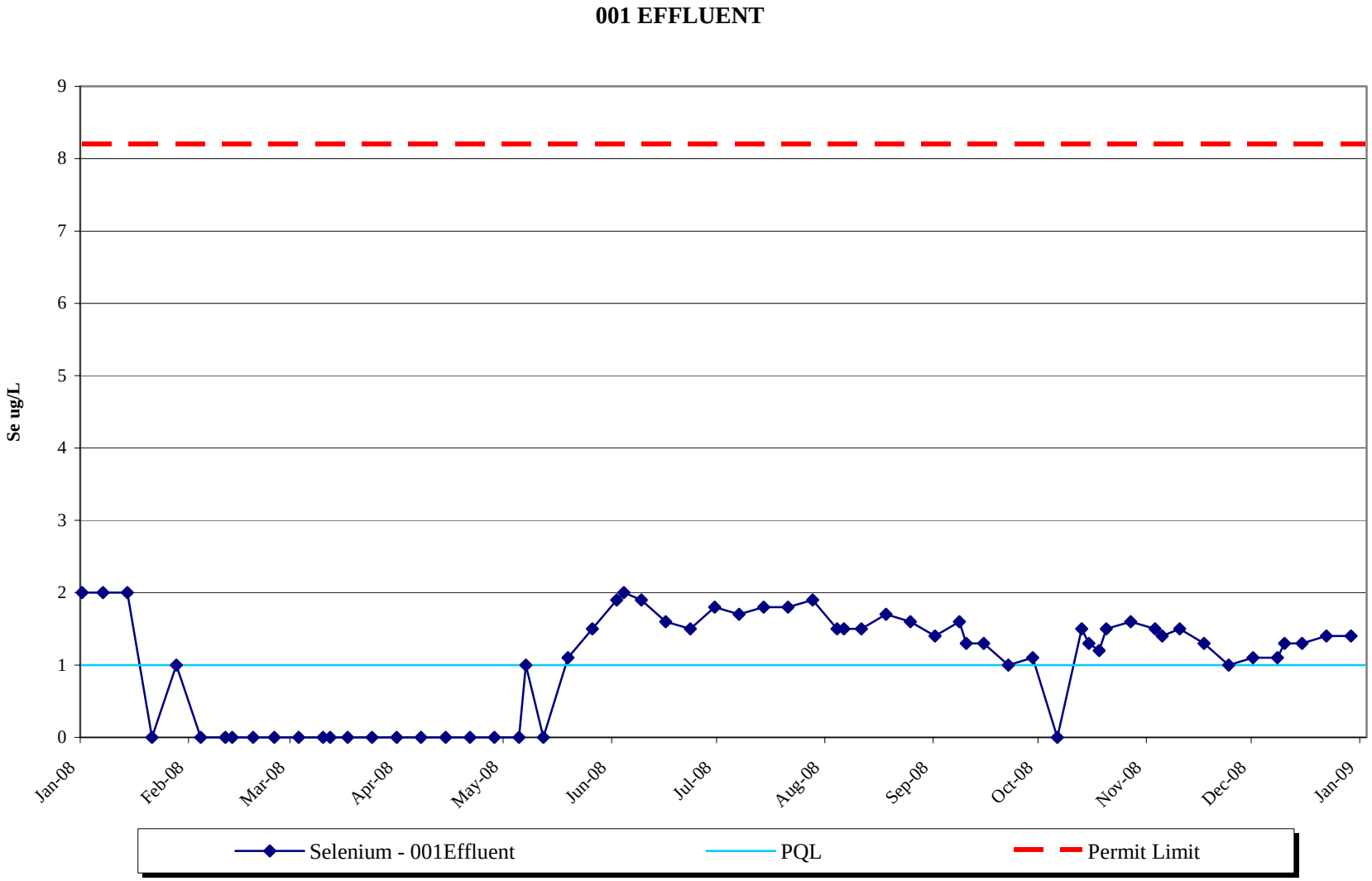


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

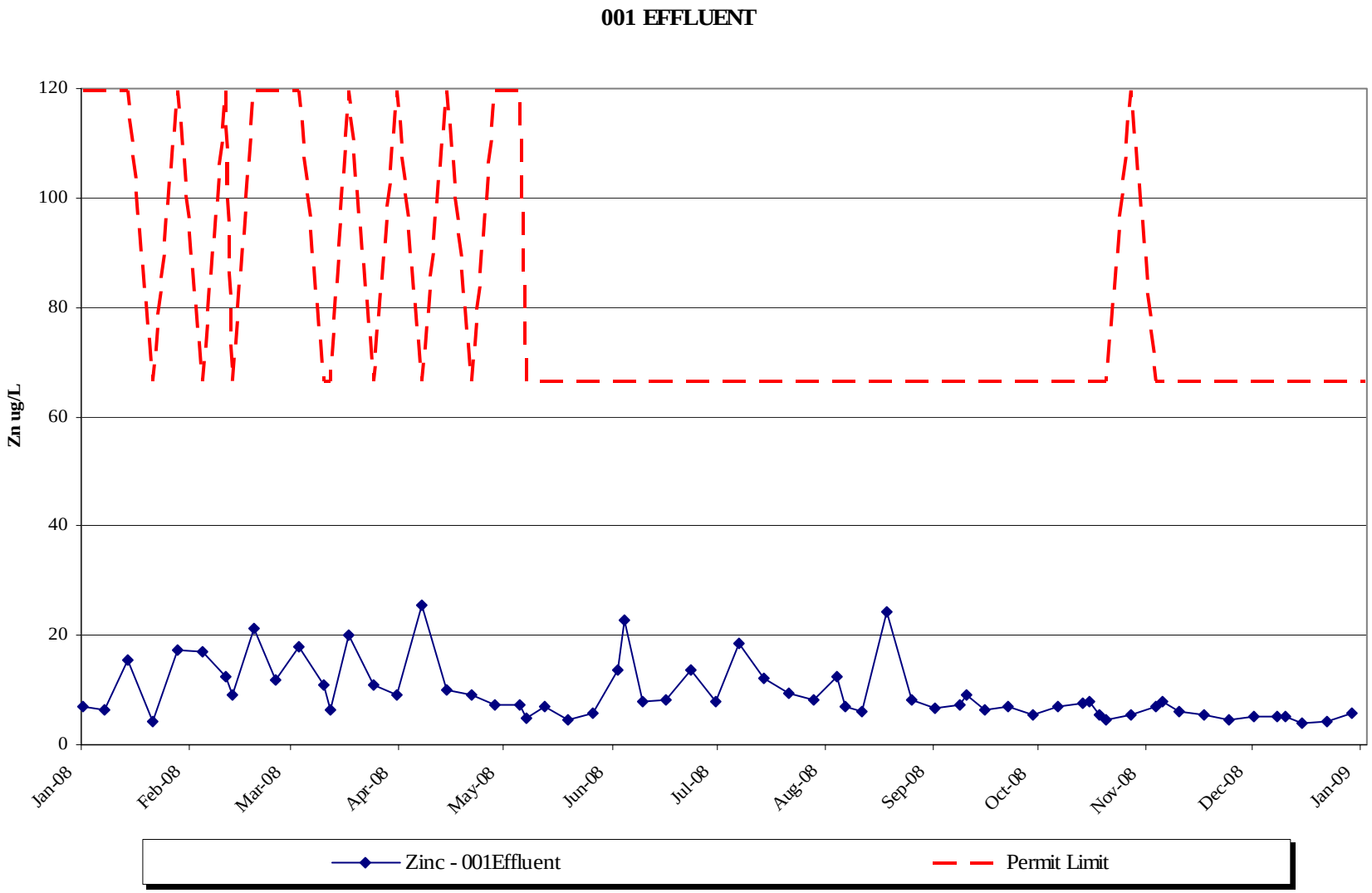


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

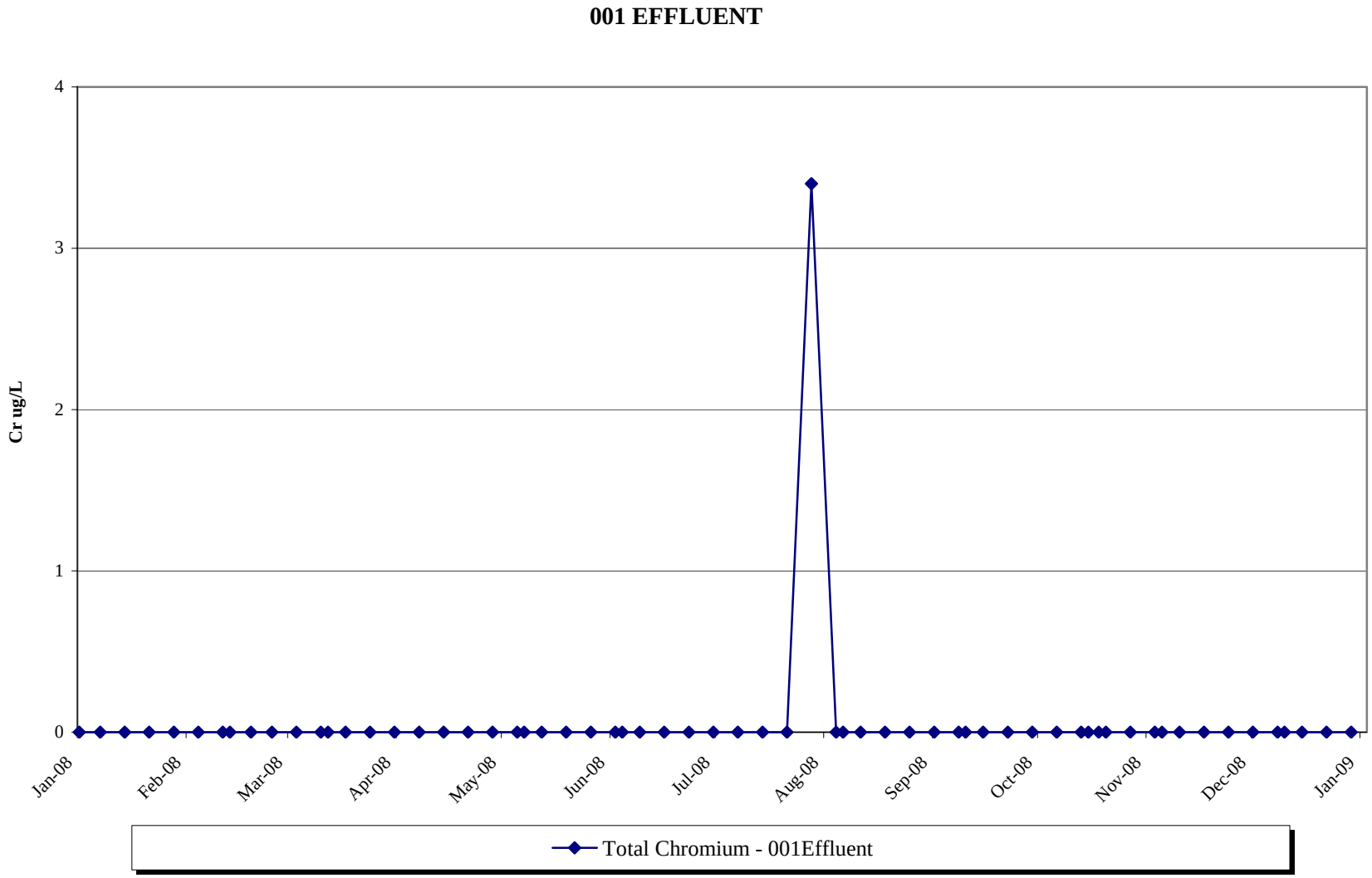


Figure 10c: Outfall 001 Effluent Monitoring Results 2008, Trace Chemistry

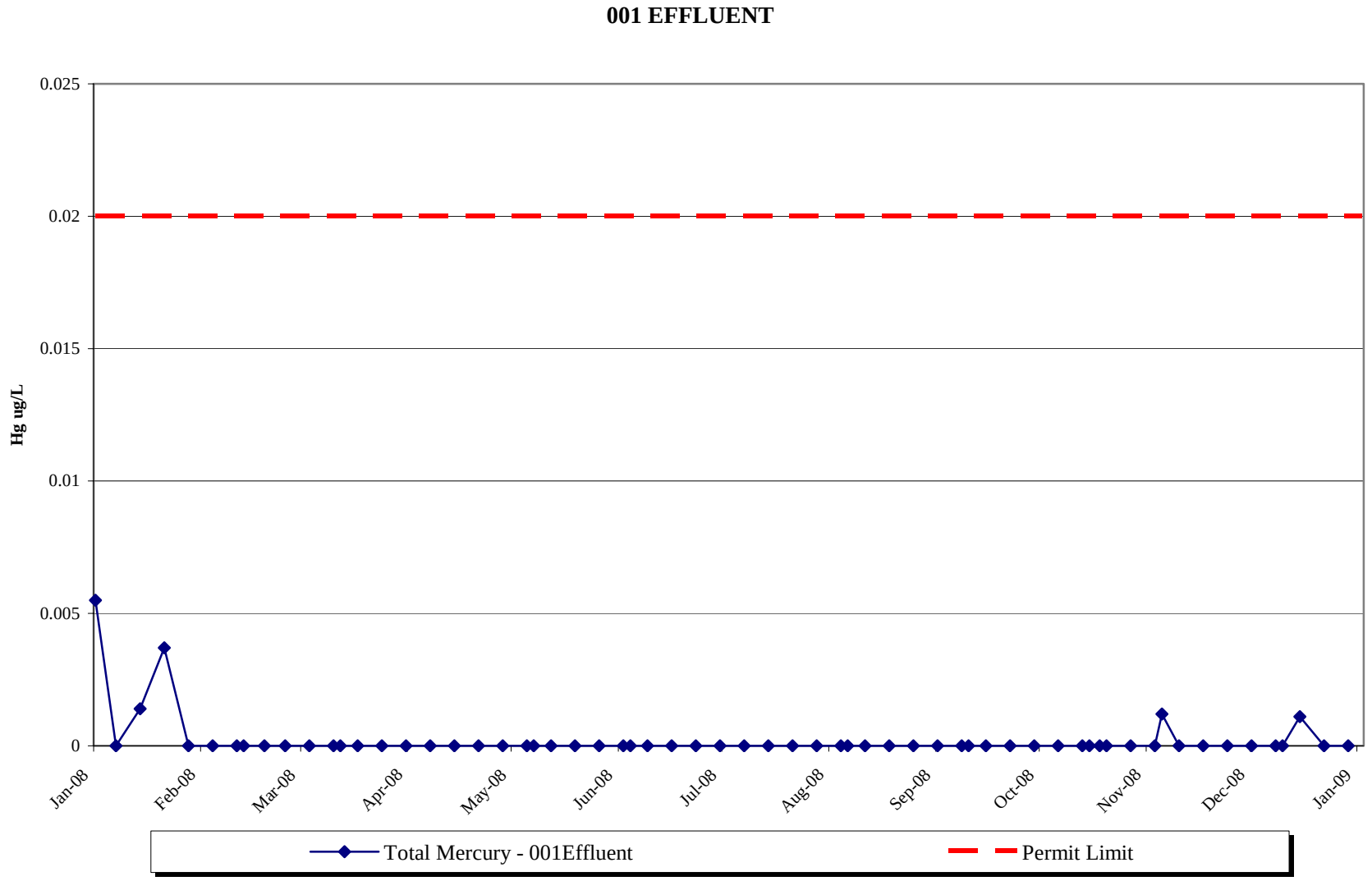


Figure 10d: Outfall 001 Effluent Monitoring Results 2008, Other Parameters

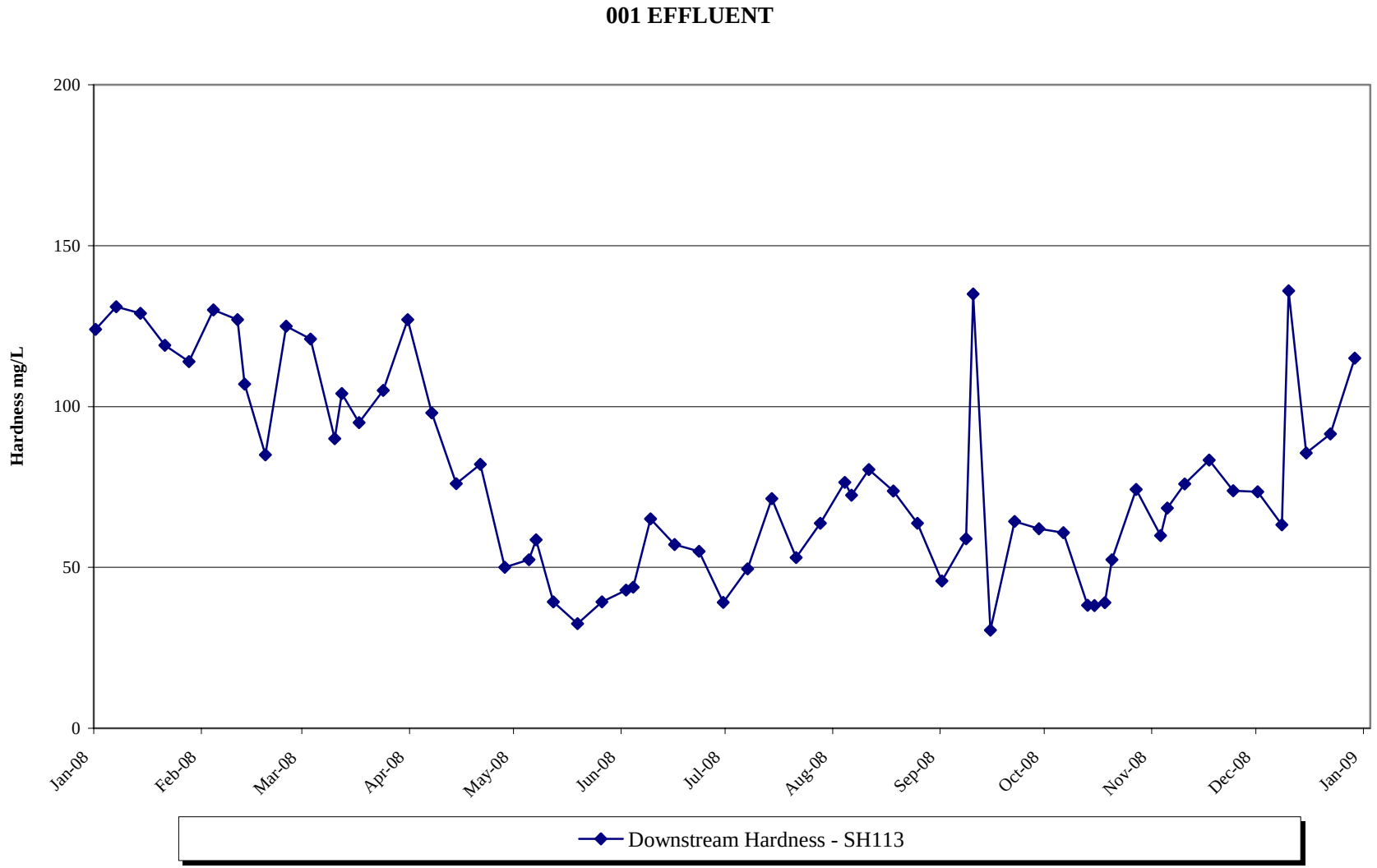


Figure 10d: Outfall 001 Effluent Monitoring Results 2008, Other Parameters

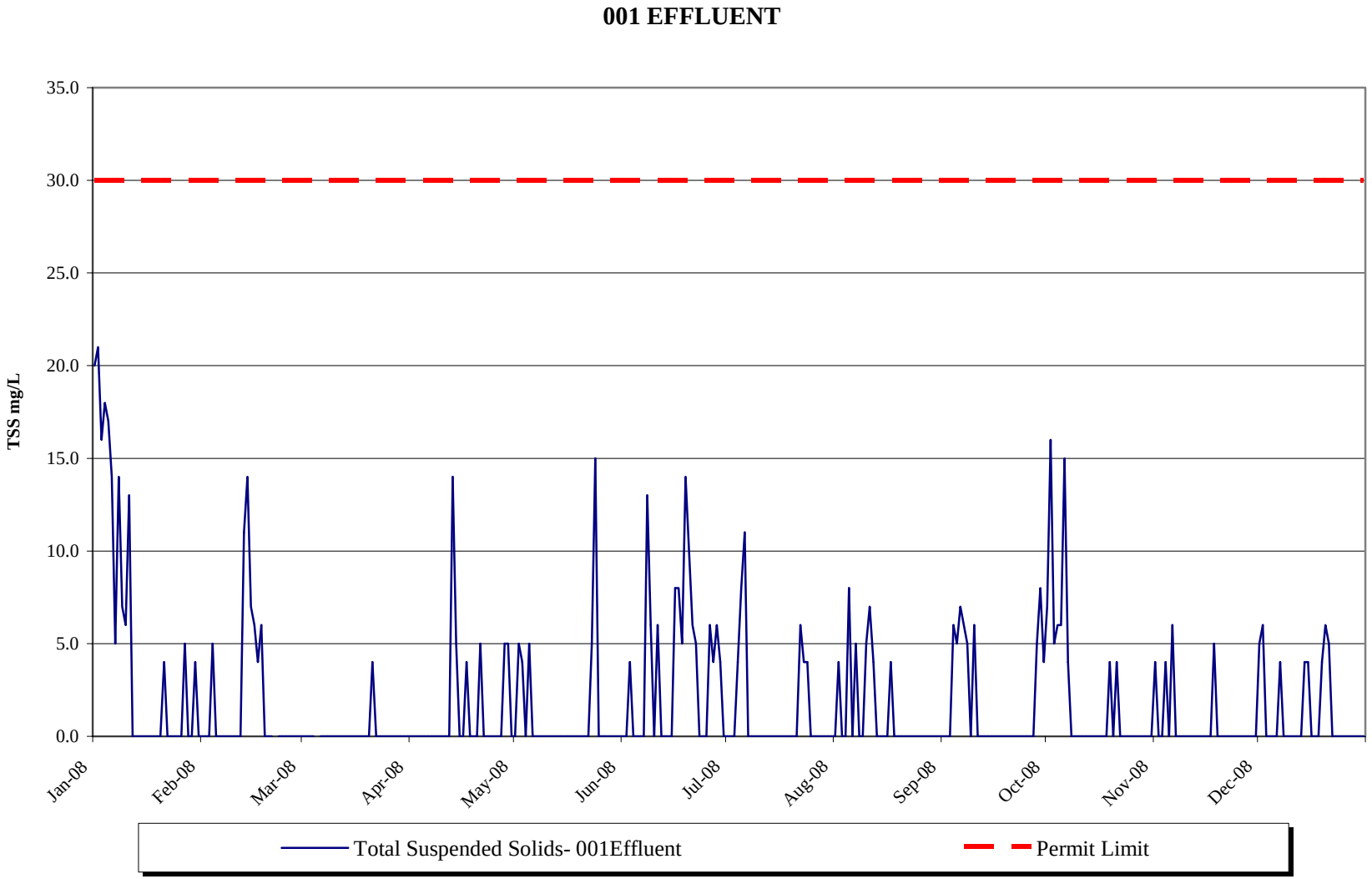


Figure 10d: Outfall 001 Effluent Monitoring Results 2008, Other Parameters

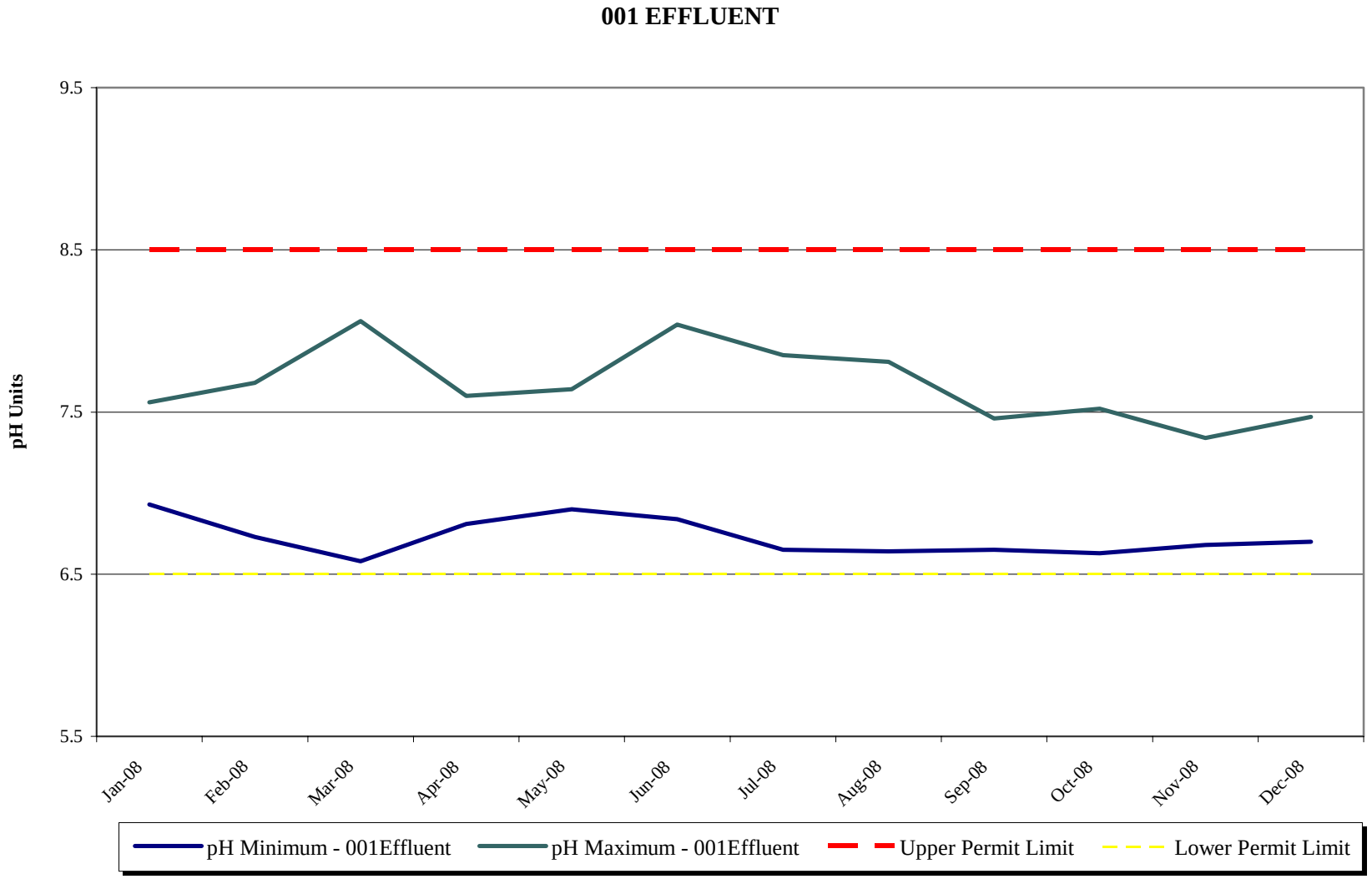
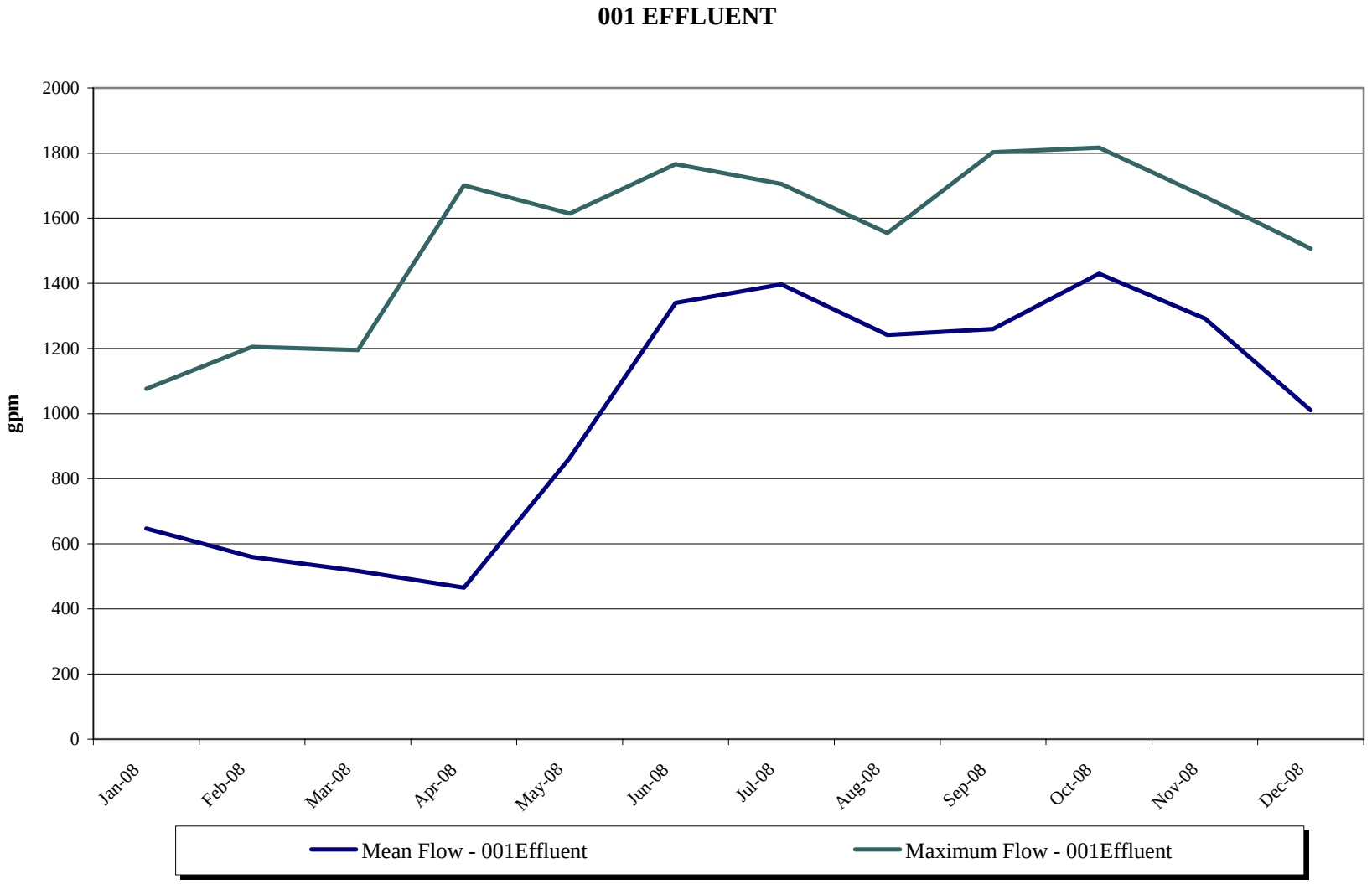


Figure 10d: Outfall 001 Effluent Monitoring Results 2008, Other Parameters



Appendix A – Duplicate Comparison

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	001 Effluent				
	Sample No.	1/8/2008	1/8/2008				
	Collect Date/Time	CAK-001EFF-20080108d	CAK-001EFF-20080108	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.11	0.11	0.11	0	0.0	
Hardness, Total	mg/L	174	174	174	0	0.0	
Sulfate	mg/L	106	106	106	0	0.0	
Total Dissolved Solids	mg/L	230	230	230	0	0.0	
Total Recoverable Aluminum	ug/L	84	81	82.5	3	3.6	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	42	42	42	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	2	1.5	1	66.7	Yes
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	6.0	6.3	6.15	0.3	4.9	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.0010	0.0010	0.001	0	0.0	

		Duplicate	Sample				
	Stn.Code	CAK-099	001 Influent				
	Sample No.	1/15/2008	1/15/2008				
	Collect Date/Time	CAK-001IN-20080115d	CAK-001IN-20080115	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.34	0.36	0.35	0.02	5.7	
Sulfate	mg/L	109	121	115	12	10.4	
Total Dissolved Solids	mg/L	270	280	275	10	3.6	
Total Recoverable Aluminum	ug/L	2730	2900	2815	170	6.0	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	9	9	9	0	0.0	
Total Recoverable Lead	ug/L	0.92	0.89	0.905	0.03	3.3	
Total Recoverable Manganese	ug/L	114	109	111.5	5	4.5	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	14.2	13.7	13.95	0.5	3.6	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.0156	0.0046	0.0101	0.011	108.9	Yes

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	001 Effluent				
	Sample No.	1/22/2008	1/22/2008				
	Collect Date/Time	CAK-001EFF-20080122d	CAK-001EFF-20080122	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.18	0.17	0.175	0.01	5.7	
Hardness, Total	mg/L	167	171	169	4	2.4	
Sulfate	mg/L	107	106	106.5	1	0.9	
Total Dissolved Solids	mg/L	260	270	265	10	3.8	
Total Recoverable Aluminum	ug/L	21	22	21.5	1	4.7	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	39	36	37.5	3	8.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	4.7	4.3	4.5	0.4	8.9	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.001	0.0037	0.00235	0.0027	114.9	Yes

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-001IN				
	Sample No.	2/5/2008	2/5/2008				
	Collect Date/Time	CAK-001IN-20080205d	CAK-001IN-20080205	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.13	0.13	0.13	0	0.0	
Sulfate	mg/L	113	112	112.5	1	0.9	
Total Dissolved Solids	mg/L	270	260	265	10	3.8	
Total Recoverable Aluminum	ug/L	1090	1000	1045	90	8.6	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	12	9	10.5	3	28.6	Yes
Total Recoverable Lead	ug/L	0.76	0.65	0.705	0.11	15.6	
Total Recoverable Manganese	ug/L	85	88	86.5	3	3.5	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	23.3	21.4	22.35	1.9	8.5	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.0021	0.0022	0.00215	0.0001	4.7	

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	SLB				
	Sample No.	2/7/2008	2/7/2008				
	Collect Date/Time	CAK-SLB-20080207d	CAK-SLB-20080207	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.96	0.98	0.97	0.02	2.1	
Color	Color Unit	59	58	58.5	1	1.7	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.06	0.06	0.06	0	0.0	
Hardness, Total	mg/L	60	60	60	0	0.0	
Chloride	mg/L	2	2	2	0	0.0	
Sulfate	mg/L	13.1	13.1	13.1	0	0.0	
Total Dissolved Solids	mg/L	70	100	85	30	35.3	Yes
Total Recoverable Aluminum	ug/L	68	75	71.5	7	9.8	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.5	0.5	0.5	0	0.0	
Total Recoverable Copper	ug/L	4	4	4	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	38	38	38	0	0.0	
Total Recoverable Nickel	ug/L	5	5	5	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	70.4	72.4	71.4	2	2.8	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	52	43	47.5	9	18.9	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.5	0.4	0.45	0.1	22.2	Yes
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	3	2	2.5	1	40.0	Yes
Dissolved Iron	mg/L	0.17	0.17	0.17	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	35	28	31.5	7	22.2	Yes
Dissolved Nickel	ug/L	5	4	4.5	1	22.2	Yes
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	67.8	53.7	60.75	14.1	23.2	Yes
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	001 Effluent				
	Sample No.	3/11/2008	3/11/2008				
	Collect Date/Time	CAK-001EFF-20080311d	CAK-001EFF-20080311	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.62	0.66	0.64	0.04	6.3	
Ammonia as N	mg/L	0.1	0.2	0.15	0.1	66.7	Yes
Nitrate as N	mg/L	0.44	0.45	0.445	0.01	2.2	
Hardness, Total	mg/L	203	203	203	0	0.0	
Chloride	mg/L	9	9	9	0	0.0	
Sulfate	mg/L	135	136	135.5	1	0.7	
Total Dissolved Solids	mg/L	310	320	315	10	3.2	
Total Recoverable Aluminum	ug/L	58	69	63.5	11	17.3	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	74	73	73.5	1	1.4	
Total Recoverable Nickel	ug/L	2	2	2	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	10.9	11.0	10.95	0.1	0.9	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.0010	0.0010	0.001	0	0.0	

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-001EFF				
	Sample No.	CAK-001EFF-20080401d	CAK-001EFF-20080401				
	Collect Date/Time	4/1/2008	4/1/2008	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.13	0.13	0.13	0	0.0	
Hardness, Total	mg/L	215	223	219	8	3.7	
Sulfate	mg/L	142	141	141.5	1	0.7	
Total Dissolved Solids	mg/L	350	330	340	20	5.9	
Total Recoverable Aluminum	ug/L	3	14	8.5	11	129.4	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	74	75	74.5	1	1.3	
Total Recoverable Nickel	ug/L	2	2	2	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	9.1	9.1	9.1	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.0010	0.0010	0.001	0	0.0	

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate 001 Station	CAK-001IN				
	Sample No.	CAK-001IN-20080603d	CAK-001IN-20080603				
	Collect Date/Time	6/3/2008	6/3/2008	Mean	Difference	% Difference	>20% ?
Sulfate	mg/L	25.6	71.3	48.45	45.7	94.3	Yes
Total Dissolved Solids	mg/L	166	161	163.5	5	3.1	
Total Recoverable Aluminum	ug/L	677	602	639.5	75	11.7	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	5.9	4	4.95	1.9	38.4	Yes
Total Recoverable Lead	ug/L	1	0.57	0.785	0.43	54.8	Yes
Total Recoverable Manganese	ug/L	82.9	62	72.45	20.9	28.8	Yes
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	2	2.2	2.1	0.2	9.5	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	6.5	7.7	7.1	1.2	16.9	
Total Chromium	ug/L	2.9	2.6	2.75	0.3	10.9	
Mercury Total	ug/L	0.0013	0.0021	0.0017	0.0008	47.1	Yes

		Duplicate	Sample				
	Stn.Code	Blind Duplicate 001 Station	CAK-001EFF				
	Sample No.	CAK-001EFF-20080807d	CAK-001EFF-20080807				
	Collect Date/Time	8/7/2008	8/7/2008	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.11	0.11	0.11	0	0.0	
Total Dissolved Solids	mg/L	166	172	169	6	3.6	
Total Recoverable Aluminum	ug/L	41.9	47.1	44.5	5.2	11.7	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	39.1	37.8	38.45	1.3	3.4	
Total Recoverable Nickel	ug/L	1.2	1.2	1.2	0	0.0	
Total Recoverable Selenium	ug/L	1.5	1.5	1.5	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	7.4	6.9	7.15	0.5	7.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.001	0.001	0.001	0	0.0	

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate 001 Station	CAK-001EFF				
	Sample No.	CAK-001EFF-20080902d	CAK-001EFF-20080902				
	Collect Date/Time	9/2/2008	9/2/2008	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.12	0.12	0.12	0	0.0	
Total Dissolved Solids	mg/L	193	213	203	20	9.9	
Total Recoverable Aluminum	ug/L	26.5	19.5	23	7	30.4	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	35.5	34.9	35.2	0.6	1.7	
Total Recoverable Nickel	ug/L	1.1	1.1	1.1	0	0.0	
Total Recoverable Selenium	ug/L	1.3	1.4	1.35	0.1	7.4	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	8.5	6.8	7.65	1.7	22.2	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.0010	0.0010	0.001	0	0.0	

		Duplicate	Sample				
	Stn.Code	Blind Duplicate 001 Station	CAK-001EFF				
	Sample No.	CAK-001EFF-20081007d	CAK-001EFF-20081007				
	Collect Date/Time	10/7/2008	10/7/2008	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.1	0.1	0.1	0	0.0	
Total Dissolved Solids	mg/L	185	188	186.5	3	1.6	
Total Recoverable Aluminum	ug/L	42.1	32.1	37.1	10	27.0	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	41.1	42	41.55	0.9	2.2	
Total Recoverable Nickel	ug/L	1.4	1.4	1.4	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	7	6.9	6.95	0.1	1.4	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.001	0.001	0.001	0	0.0	

Outfall 001- Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate 001 Station	CAK-001EFF				
	Sample No.	CAK-001EFF-20081111d	CAK-001EFF-20081111				
	Collect Date/Time	11/11/2008	11/11/2008	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.09	0.09	0.09	0	0.0	
Total Dissolved Solids	mg/L	214	187	200.5	27	13.5	
Total Recoverable Aluminum	ug/L	49.8	50.3	50.05	0.5	1.0	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	25.3	25.5	25.4	0.2	0.8	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1.3	1.5	1.4	0.2	14.3	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	6.1	6.1	6.1	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.001	0.001	0.001	0	0.0	

		Duplicate	Sample				
	Stn.Code	Blind Duplicate 001 Station	CAK-001EFF				
	Sample No.	CAK-001EFF-20081202d	CAK-001EFF-20081202				
	Collect Date/Time	12/2/2008	12/2/2008	Mean	Difference	% Difference	>20% ?
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.07	0.07	0.07	0	0.0	
Hardness, Total	mg/L	136	134	135	2	1.5	
Chloride	mg/L	8.5	8.5	8.5	0	0.0	
Sulfate	mg/L	72.3	72.5	72.4	0.2	0.3	
Total Dissolved Solids	mg/L	184	197	190.5	13	6.8	
Total Recoverable Aluminum	ug/L	34.7	44.9	39.8	10.2	25.6	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	37.1	36.3	36.7	0.8	2.2	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1.3	1.1	1.2	0.2	16.7	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	5.7	5.2	5.45	0.5	9.2	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Total	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	JS5				
	Sample No.	1/2/2008	1/2/2008				
	Collect Date/Time	CAK-JS5-20080102d	CAK-JS5-20080102	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.18	0.15	0.165	0.03	18.2	
Color	Color Unit	5.0	5.0	5	0	0.0	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.3	0.8	0.55	0.5	90.9	Yes
Nitrate as N	mg/L	0.22	0.22	0.22	0	0.0	
Hardness, Total	mg/L	40	40	40	0	0.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	5.6	5.6	5.6	0	0.0	
Total Dissolved Solids	mg/L	60	50	55	10	18.2	
Total Recoverable Aluminum	ug/L	12	10	11	2	18.2	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	3	3	3	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	4.9	2.6	3.75	2.3	61.3	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	1	1	1	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	1	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	2.5	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	0.1	0	0.0	
Dissolved Copper	ug/L	1	1	2.5	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	1	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.05	0	0.0	
Dissolved Manganese	ug/L	2	2	0.16	0	0.0	
Dissolved Nickel	ug/L	1	1	2	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	0.1	0	0.0	
Mercury Dissolved	ug/L	0.0010	0.0010	2.5	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	SH103				
	Sample No.	1/7/2008	1/7/2008				
	Collect Date/Time	CAK-SH103-20080107d	CAK-SH103-20080107	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.10	0.10	0.1	0	0.0	
Color	Color Unit	9.0	10	9.5	1	10.5	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.6	0.35	0.5	142.9	Yes
Nitrate as N	mg/L	11.3	11.2	11.25	0.1	0.9	
Hardness, Total	mg/L	380	380	380	0	0.0	
Chloride	mg/L	4	4	4	0	0.0	
Sulfate	mg/L	324	322	323	2	0.6	
Total Dissolved Solids	mg/L	650	650	650	0	0.0	
Total Recoverable Aluminum	ug/L	13	16	14.5	3	20.7	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	2	1	1.5	1	66.7	Yes
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	1	1	1	0	0.0	
Total Recoverable Nickel	ug/L	2	2	2	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	1	1	1	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	1	1	1	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code Sample No. Collect Date/Time	CAK-099 1/9/2008 CAK-SLC-20080109d	SLC 1/9/2008 CAK-SLC-20080109	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.51	0.52	0.515	0.01	1.9	
Color	Color Unit	40	38	39	2	5.1	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.8	0.6	0.7	0.2	28.6	Yes
Nitrate as N	mg/L	0.05	0.06	0.055	0.01	18.2	
Hardness, Total	mg/L	70	60	65	10	15.4	
Chloride	mg/L	2	2	2	0	0.0	
Sulfate	mg/L	9.3	9.3	9.3	0	0.0	
Total Dissolved Solids	mg/L	60	60	60	0	0.0	
Total Recoverable Aluminum	ug/L	45	43	44	2	4.5	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.3	0.3	0.3	0	0.0	
Total Recoverable Copper	ug/L	2	2	2	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	20	21	20.5	1	4.9	
Total Recoverable Nickel	ug/L	3	3	3	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	32.8	35.0	33.9	2.2	6.5	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	34	33	33.5	1	3.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.3	0.3	0.3	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.09	0.08	0.085	0.01	11.8	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	18	19	18.5	1	5.4	
Dissolved Nickel	ug/L	3	3	3	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	31.8	32.9	32.35	1.1	3.4	
Mercury Dissolved	ug/L	0.0012	0.0011	0.00115	0.0001	8.7	

Receiving Waters Field Duplicate Comparison

	Stn.Code Sample No. Collect Date/Time	Duplicate CAK-099 2/10/2008 CAK-JS4-20080210d	Sample JS4 2/10/2008 CAK-JS4-20080210	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.11	0.11	0.11	0	0.0	
Color	Color Unit	5.0	5.0	5	0	0.0	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.22	0.22	0.22	0	0.0	
Hardness, Total	mg/L	60	60	60	0	0.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	7.4	7.4	7.4	0	0.0	
Total Dissolved Solids	mg/L	70	70	70	0	0.0	
Total Recoverable Aluminum	ug/L	6	7	6.5	1	15.4	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	3	3	3	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	4.5	4.3	4.4	0.2	4.5	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	3	3	3	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	1	1	1	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	3.0	3.3	3.15	0.3	9.5	
Mercury Dissolved	ug/L	0.0010	0.0010	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	SH109				
	Sample No.	2/11/2008	2/11/2008				
	Collect Date/Time	CAK-SH109-20080211d	CAK-SH109-20080211	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.16	0.30	0.23	0.14	60.9	Yes
Color	Color Unit	7.0	7.0	7	0	0.0	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.20	0.21	0.205	0.01	4.9	
Hardness, Total	mg/L	60	60	60	0	0.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	10.7	10.7	10.7	0	0.0	
Total Dissolved Solids	mg/L	70	80	75	10	13.3	
Total Recoverable Aluminum	ug/L	5	6	5.5	1	18.2	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	3	4	3.5	1	28.6	Yes
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	4.3	2.5	3.4	1.8	52.9	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	2	3	2.5	1	40.0	Yes
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	2	3	2.5	1	40.0	Yes
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	3.2	2.7	2.95	0.5	16.9	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	JS4				
	Sample No.	3/3/2008	3/3/2008				
	Collect Date/Time	CAK-JS4-20080303d	CAK-JS4-20080303	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.19	0.19	0.19	0	0.0	
Color	Color Unit	22	23	22.5	1	4.4	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.24	0.24	0.24	0	0.0	
Hardness, Total	mg/L	50	50	50	0	0.0	
Chloride	mg/L	2	1	1.5	1	66.7	Yes
Sulfate	mg/L	8.5	8.4	8.45	0.1	1.2	
Total Dissolved Solids	mg/L	80	80	80	0	0.0	
Total Recoverable Aluminum	ug/L	22	25	23.5	3	12.8	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	6	6	6	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	6.1	4.6	5.35	1.5	28.0	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	15	11	13	4	30.8	Yes
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	5	4	4.5	1	22.2	Yes
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	5.8	4.4	5.1	1.4	27.5	Yes
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	SH105				
	Sample No.	3/4/2008	3/4/2008				
	Collect Date/Time	CAK-SH105-20080304d	CAK-SH105-20080304	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.32	0.22	0.27	0.1	37.0	Yes
Color	Color Unit	13	15	14	2	14.3	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.40	0.39	0.395	0.01	2.5	
Hardness, Total	mg/L	80	80	80	0	0.0	
Chloride	mg/L	7	7	7	0	0.0	
Sulfate	mg/L	36.8	36.4	36.6	0.4	1.1	
Total Dissolved Solids	mg/L	130	130	130	0	0.0	
Total Recoverable Aluminum	ug/L	32	31	31.5	1	3.2	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	9	9	9	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	6.0	7.2	6.6	1.2	18.2	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	19	20	19.5	1	5.1	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	9	9	9	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	MLA				
	Sample No.	3/6/2008	3/6/2008				
	Collect Date/Time	CAK-MLA-20080306d	CAK-MLA-20080306	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.62	0.86	0.74	0.24	32.4	Yes
Color	Color Unit	91	97	94	6	6.4	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	40	40	40	0	0.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	1.9	1.9	1.9	0	0.0	
Total Dissolved Solids	mg/L	80	70	75	10	13.3	
Total Recoverable Aluminum	ug/L	106	102	104	4	3.8	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	48	48	48	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	6.0	8.4	7.2	2.4	33.3	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	79	79	79	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.22	0.23	0.225	0.01	4.4	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	41	42	41.5	1	2.4	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	4.8	8.4	6.6	3.6	54.5	Yes
Mercury Dissolved	ug/L	0.0018	0.0018	0.0018	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-JS2				
	Sample No.	CAK-JS2-20080409d	CAK-JS2-20080409				
	Collect Date/Time	4/9/2008	4/9/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.25	0.27	0.26	0.02	7.7	
Color	Color Unit	5.0	5.0	5	0	0.0	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.26	0.27	0.265	0.01	3.8	
Hardness, Total	mg/L	20	20	20	0	0.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	2.0	2.0	2	0	0.0	
Total Dissolved Solids	mg/L	30	30	30	0	0.0	
Total Recoverable Aluminum	ug/L	2	1	1.5	1	66.7	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	2	2	2	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	1	1	1	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	2	2	2	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.0010	0.0010	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-SH105				
	Sample No.	CAK-SH105-20080408d	CAK-SH105-20080408				
	Collect Date/Time	4/8/2008	4/8/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.18	0.20	0.19	0.02	10.5	
Color	Color Unit	37	36	36.5	1	2.7	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.44	0.44	0.44	0	0.0	
Hardness, Total	mg/L	70	70	70	0	0.0	
Chloride	mg/L	6	6	6	0	0.0	
Sulfate	mg/L	32.8	32.4	32.6	0.4	1.2	
Total Dissolved Solids	mg/L	100	110	105	10	9.5	
Total Recoverable Aluminum	ug/L	37	36	36.5	1	2.7	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	8	8	8	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	4.3	4.4	4.35	0.1	2.3	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	33	34	33.5	1	3.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	7	8	7.5	1	13.3	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	3.4	3.5	3.45	0.1	2.9	
Mercury Dissolved	ug/L	0.0015	0.0014	0.00145	0.0001	6.9	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-SLC				
	Sample No.	CAK-SLC-20080407d	CAK-SLC-20080407				
	Collect Date/Time	4/7/2008	4/7/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	1.1	1.1	1.1	0	0.0	
Color	Color Unit	73	73	73	0	0.0	
Total Suspended Solids	mg/L	5	5	5	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	50	50	50	0	0.0	
Chloride	mg/L	3	3	3	0	0.0	
Sulfate	mg/L	10.9	9.5	10.2	1.4	13.7	
Total Dissolved Solids	mg/L	70	50	60	20	33.3	Yes
Total Recoverable Aluminum	ug/L	118	119	118.5	1	0.8	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	1.0	1.0	1	0	0.0	
Total Recoverable Copper	ug/L	2	2	2	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	67	67	67	0	0.0	
Total Recoverable Nickel	ug/L	7	7	7	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	100	101	100.5	1	1.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	91	90	90.5	1	1.1	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	1.0	1.0	1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	2	2	2	0	0.0	
Dissolved Iron	mg/L	0.16	0.16	0.16	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	65	66	65.5	1	1.5	
Dissolved Nickel	ug/L	7	7	7	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	95.3	95.9	95.6	0.6	0.6	
Mercury Dissolved	ug/L	0.0018	0.0017	0.00175	0.0001	5.7	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-SH103				
	Sample No.	CAK-SH103-20080512d	CAK-SH103-20080512				
	Collect Date/Time	5/12/2008	5/12/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.2	0.5	0.35	0.3	85.7	Yes
Color	Color Unit	10	10	10	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	2.52	2.52	2.52	0	0.0	
Hardness, Total	mg/L	133	131	132	2	1.5	
Chloride	mg/L	1.9	1.8	1.85	0.1	5.4	
Sulfate	mg/L	91.4	91.6	91.5	0.2	0.2	
Total Dissolved Solids	mg/L	153	184	168.5	31	18.4	
Total Recoverable Aluminum	ug/L	15.1	15.9	15.5	0.8	5.2	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1.3	1.3	1.3	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	6.1	6.1	6.1	0	0.0	
Total Recoverable Nickel	ug/L	1.5	1.6	1.55	0.1	6.5	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	7.2	6	6.6	1.2	18.2	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1.6	1.2	1.4	0.4	28.6	Yes
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	4.8	4.6	4.7	0.2	4.3	
Dissolved Nickel	ug/L	1.5	1.5	1.5	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-JS4				
	Sample No.	CAK-JS4-20080513d	CAK-JS4-20080513				
	Collect Date/Time	5/13/2008	5/13/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.4	0.3	0.35	0.1	28.6	Yes
Color	Color Unit	10	10	10	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.31	0.3	0.305	0.01	3.3	
Hardness, Total	mg/L	25.2	25.6	25.4	0.4	1.6	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	4.6	4.6	4.6	0	0.0	
Total Dissolved Solids	mg/L	12	27	19.5	15	76.9	Yes
Total Recoverable Aluminum	ug/L	41.8	40	40.9	1.8	4.4	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1.1	1.1	1.1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	8.2	8.1	8.15	0.1	1.2	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	20.9	20.9	20.9	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	4.6	4.6	4.6	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	CAK-099	CAK-MLA				
	Sample No.	CAK-MLA-20080514d	CAK-MLA-20080514				
	Collect Date/Time	5/14/2008	5/14/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.5	0.5	0.5	0	0.0	
Color	Color Unit	70	70	70	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	25.3	25.7	25.5	0.4	1.6	
Chloride	mg/L	1.0	1.0	1	0	0.0	
Sulfate	mg/L	1.4	1.4	1.4	0	0.0	
Total Dissolved Solids	mg/L	33	20	26.5	13	49.1	Yes
Total Recoverable Aluminum	ug/L	84.5	87.7	86.1	3.2	3.7	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	13.9	14.6	14.25	0.7	4.9	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	76	76	76	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.119	0.116	0.1175	0.003	2.6	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	12.9	12.9	12.9	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.0025	0.0023	0.0024	0.0002	8.3	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-JS5				
	Sample No.	CAK-JS5-20080602d	CAK-JS5-20080602				
	Collect Date/Time	6/2/2008	6/2/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.1	0.1	0.1	0	0.0	
Color	Color Unit	5	5	5	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.16	0.16	0.16	0	0.0	
Hardness, Total	mg/L	19.1	18.7	18.9	0.4	2.1	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	2.1	2.1	2.1	0	0.0	
Total Dissolved Solids	mg/L	27	21	24	6	25.0	Yes
Total Recoverable Aluminum	ug/L	12.7	12.9	12.8	0.2	1.6	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	1.2	1.5	1.35	0.3	22.2	Yes
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	5.5	4	3	75.0	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	10.3	6	8.15	4.3	52.8	Yes
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	1.1	1	1.05	0.1	9.5	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	5.3	2.5	3.9	2.8	71.8	Yes
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-SH105				
	Sample No.	CAK-SH105-20080603d	CAK-SH105-20080603				
	Collect Date/Time	6/3/2008	6/3/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.2	0.2	0.2	0	0.0	
Color	Color Unit	5	5	5	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.15	0.15	0.15	0	0.0	
Hardness, Total	mg/L	29.9	30.1	30	0.2	0.7	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	7	7.1	7.05	0.1	1.4	
Total Dissolved Solids	mg/L	22	24	23	2	8.7	
Total Recoverable Aluminum	ug/L	15.4	19.1	17.25	3.7	21.4	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	2	2.2	2.1	0.2	9.5	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	11.1	17.3	14.2	6.2	43.7	Yes
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	1.7	1.5	1.6	0.2	12.5	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-SLC				
	Sample No.	CAK-SLC-20080612d	CAK-SLC-20080612				
	Collect Date/Time	6/12/2008	6/12/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.3	0.2	0.25	0.1	40.0	Yes
Color	Color Unit	35	25	30	10	33.3	Yes
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	41.2	40.9	41.05	0.3	0.7	
Chloride	mg/L	2	2	2	0	0.0	
Sulfate	mg/L	4.4	4.4	4.4	0	0.0	
Total Dissolved Solids	mg/L	68	54	61	14	23.0	Yes
Total Recoverable Aluminum	ug/L	61.7	39.9	50.8	21.8	42.9	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	4.8	4.7	4.75	0.1	2.1	
Total Recoverable Nickel	ug/L	1.1	1.1	1.1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	13.3	10.2	11.75	3.1	26.4	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	36.1	37.6	36.85	1.5	4.1	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1.7	1.4	1.55	0.3	19.4	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	3.7	3.8	3.75	0.1	2.7	
Dissolved Nickel	ug/L	1.1	1.2	1.15	0.1	8.7	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	7.7	8.1	7.9	0.4	5.1	
Mercury Dissolved	ug/L	0.0013	0.0011	0.0012	0.0002	16.7	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-JS4				
	Sample No.	CAK-JS4-20080708d	CAK-JS4-20080708				
	Collect Date/Time	7/8/2008	7/8/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.3	0.4	0.35	0.1	28.6	Yes
Color	Color Unit	5	5	5	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.06	0.06	0.06	0	0.0	
Hardness, Total	mg/L	22	22.1	22.05	0.1	0.5	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	3	3	3	0	0.0	
Total Dissolved Solids	mg/L	22	27	24.5	5	20.4	Yes
Total Recoverable Aluminum	ug/L	16.6	16	16.3	0.6	3.7	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	2.8	2.8	2.8	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	3.6	2.5	3.05	1.1	36.1	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	8.1	8	8.05	0.1	1.2	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	1.6	1.5	1.55	0.1	6.5	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.0010	0.0010	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-SH111				
	Sample No.	CAK-SH111-20080708d	CAK-SH111-20080708				
	Collect Date/Time	7/8/2008	7/8/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.2	0.2	0.2	0	0.0	
Color	Color Unit	5	5	5	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.06	0.06	0.06	0	0.0	
Hardness, Total	mg/L	17.7	18.1	17.9	0.4	2.2	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	1.5	1.6	1.55	0.1	6.5	
Total Dissolved Solids	mg/L	40	18	29	22	75.9	Yes
Total Recoverable Aluminum	ug/L	6.4	8.4	7.4	2	27.0	Yes
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	1	1	1	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.8	2.5	2.65	0.3	11.3	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	3.5	5.7	4.6	2.2	47.8	Yes
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	1	1	1	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.0010	0.0010	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code Sample No. Collect Date/Time	Blind Duplicate RW Station CAK-MLA-20080715d 7/15/2008	CAK-MLA CAK-MLA-20080715 7/15/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.3	0.3	0.3	0	0.0	
Color	Color Unit	40	40	40	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	63.3	62.7	63	0.6	1.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	2.2	2.2	2.2	0	0.0	
Total Dissolved Solids	mg/L	119	89	104	30	28.8	Yes
Total Recoverable Aluminum	ug/L	42.8	40.5	41.65	2.3	5.5	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	20.1	21.1	20.6	1	4.9	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.7	2.5	2.6	0.2	7.7	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	36.1	35.2	35.65	0.9	2.5	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.064	0.063	0.0635	0.001	1.6	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	15.6	15.2	15.4	0.4	2.6	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.0037	0.0012	0.00245	0.0025	102.0	Yes

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-SH105				
	Sample No.	CAK-SH105-20080908d	CAK-SH105-20080908				
	Collect Date/Time	9/8/2008	9/8/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.4	0.5	0.45	0.1	22.2	Yes
Color	Color Unit	10	10	10	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.1	0.1	0.1	0	0.0	
Hardness, Total	mg/L	37.5	38.4	37.95	0.9	2.4	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	12	12	12	0	0.0	
Total Dissolved Solids	mg/L	58	73	65.5	15	22.9	Yes
Total Recoverable Aluminum	ug/L	16.7	16.5	16.6	0.2	1.2	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	3.2	3.3	3.25	0.1	3.1	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	3.7	2.5	3.1	1.2	38.7	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	12	12.7	12.35	0.7	5.7	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	2.6	2.7	2.65	0.1	3.8	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.6	2.55	0.1	3.9	
Mercury Dissolved	ug/L	0.0010	0.0010	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-MLA				
	Sample No.	CAK-MLA-20080910d	CAK-MLA-20080910				
	Collect Date/Time	9/10/2008	9/10/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.3	0.6	0.45	0.3	66.7	Yes
Color	Color Unit	70	70	70	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	49.6	48.6	49.1	1	2.0	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	2	2.1	2.05	0.1	4.9	
Total Dissolved Solids	mg/L	87	37	62	50	80.6	Yes
Total Recoverable Aluminum	ug/L	84.8	86.1	85.45	1.3	1.5	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	20.6	20.7	20.65	0.1	0.5	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	76.6	76.9	76.75	0.3	0.4	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.15	0.145	0.1475	0.005	3.4	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	15.1	15.1	15.1	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.6	2.5	2.55	0.1	3.9	
Mercury Dissolved	ug/L	0.0024	0.002	0.0022	0.0004	18.2	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-JS4				
	Sample No.	CAK-JS4-20081028d	CAK-JS4-20081028				
	Collect Date/Time	10/28/2008	10/28/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.7	0.8	0.75	0.1	13.3	
Color	Color Unit	20	20	20	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.21	0.21	0.21	0	0.0	
Hardness, Total	mg/L	40.7	41.5	41.1	0.8	1.9	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	6.4	6.4	6.4	0	0.0	
Total Dissolved Solids	mg/L	60	59	59.5	1	1.7	
Total Recoverable Aluminum	ug/L	42.5	45.8	44.15	3.3	7.5	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1.1	1.05	0.1	9.5	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	9	9.1	9.05	0.1	1.1	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	5	3.5	4.25	1.5	35.3	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	26.5	26.1	26.3	0.4	1.5	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	6	6	6	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.0012	0.0011	0.0002	18.2	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-SH113				
	Sample No.	CAK-SH113-20081001d	CAK-SH113-20081001				
	Collect Date/Time	10/1/2008	10/1/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	1.7	1.6	1.65	0.1	6.1	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.1	0.09	0.095	0.01	10.5	
Chloride	mg/L	4	4	4	0	0.0	
Sulfate	mg/L	23.5	23	23.25	0.5	2.2	
Total Dissolved Solids	mg/L	98	84	91	14	15.4	
Total Recoverable Aluminum	ug/L	24.8	24.2	24.5	0.6	2.4	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	37.2	38.3	37.75	1.1	2.9	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	7.9	7.9	7.9	0	0.0	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	34.4	35.7	35.05	1.3	3.7	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-MLA				
	Sample No.	CAK-MLA-20081022d	CAK-MLA-20081022				
	Collect Date/Time	10/22/2008	10/22/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.7	0.6	0.65	0.1	15.4	
Color	Color Unit	100	90	95	10	10.5	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	40.1	39.4	39.75	0.7	1.8	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	1.6	1.6	1.6	0	0.0	
Total Dissolved Solids	mg/L	71	60	65.5	11	16.8	
Total Recoverable Aluminum	ug/L	101	99.1	100.05	1.9	1.9	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	41.3	41	41.15	0.3	0.7	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	4.2	2.6	3.4	1.6	47.1	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	93.5	89.3	91.4	4.2	4.6	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.169	0.15	0.1595	0.019	11.9	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	33.8	33.6	33.7	0.2	0.6	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.0024	0.0027	0.00255	0.0003	11.8	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	Blind Duplicate RW Station	CAK-SLC				
	Sample No.	CAK-SLC-20081112d	CAK-SLC-20081112				
	Collect Date/Time	11/12/2008	11/12/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.9	0.7	0.8	0.2	25.0	Yes
Color	Color Unit	40	45	42.5	5	11.8	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.05	0.05	0.05	0	0.0	
Hardness, Total	mg/L	49.6	49.1	49.35	0.5	1.0	
Chloride	mg/L	2	2	2	0	0.0	
Sulfate	mg/L	8	7.9	7.95	0.1	1.3	
Total Dissolved Solids	mg/L	61	56	58.5	5	8.5	
Total Recoverable Aluminum	ug/L	61.2	61.4	61.3	0.2	0.3	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.3	0.4	0.35	0.1	28.6	Yes
Total Recoverable Copper	ug/L	1.4	1.5	1.45	0.1	6.9	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	70.8	72.2	71.5	1.4	2.0	
Total Recoverable Nickel	ug/L	2.6	2.6	2.6	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	31.4	31.9	31.65	0.5	1.6	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	46.1	47.2	46.65	1.1	2.4	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.3	0.3	0.3	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1.4	1.4	1.4	0	0.0	
Dissolved Iron	mg/L	0.091	0.087	0.089	0.004	4.5	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	60.8	62.4	61.6	1.6	2.6	
Dissolved Nickel	ug/L	2.4	2.4	2.4	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	30.4	28.5	29.45	1.9	6.5	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code	**Blind Duplicate RW Station**	**CAK-SH113**				
	Sample No.	**CAK-SH113-20081105d**	**CAK-SH113-20081105**				
	Collect Date/Time	**11/5/2008**	**11/5/2008**	**Mean**	**Difference**	**% Difference**	**>20% ?**
Turbidity Lab	NTU	1.3	1.2	1.25	0.1	8.0	
Color	Color Unit	5	5	5	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.14	0.14	0.14	0	0.0	
Hardness, Total	mg/L	68.6	65.4	67	3.2	4.8	
Chloride	mg/L	3	3	3	0	0.0	
Sulfate	mg/L	23.7	23.8	23.75	0.1	0.4	
Total Dissolved Solids	mg/L	108	99	103.5	9	8.7	
Total Recoverable Aluminum	ug/L	18	18.1	18.05	0.1	0.6	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	7.9	7.6	7.75	0.3	3.9	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	2.5	2.9	2.7	0.4	14.8	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	7.1	6.8	6.95	0.3	4.3	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	7.4	7.1	7.25	0.3	4.1	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code Sample No. Collect Date/Time	Blind Duplicate RW Station CAK-JS5-20081209d 12/9/2008	CAK-JS5 CAK-JS5-20081209 12/9/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.7	0.4	0.55	0.3	54.5	Yes
Color	Color Unit	5	5	5	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.31	0.31	0.31	0	0.0	
Hardness, Total	mg/L	32.1	32.7	32.4	0.6	1.9	
Chloride	mg/L	1	1	1	0	0.0	
Sulfate	mg/L	5	5	5	0	0.0	
Total Dissolved Solids	mg/L	42	49	45.5	7	15.4	
Total Recoverable Aluminum	ug/L	23.3	19.4	21.35	3.9	18.3	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	3.9	3.8	3.85	0.1	2.6	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	8.1	2.5	5.3	5.6	105.7	Yes
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	9.6	9.8	9.7	0.2	2.1	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	2.4	2.4	2.4	0	0.0	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	2.5	2.5	2.5	0	0.0	
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Receiving Waters Field Duplicate Comparison

		Duplicate	Sample				
	Stn.Code Sample No. Collect Date/Time	Blind Duplicate RW Station CAK-SH105-20081202d 12/2/2008	CAK-SH105 CAK-SH105-20081202 12/2/2008	Mean	Difference	% Difference	>20% ?
Turbidity Lab	NTU	0.3	0.4	0.35	0.1	28.6	Yes
Color	Color Unit	15	15	15	0	0.0	
Total Suspended Solids	mg/L	4	4	4	0	0.0	
Ammonia as N	mg/L	0.1	0.1	0.1	0	0.0	
Nitrate as N	mg/L	0.26	0.27	0.265	0.01	3.8	
Hardness, Total	mg/L	54.4	54.6	54.5	0.2	0.4	
Chloride	mg/L	2.3	2.8	2.55	0.5	19.6	
Sulfate	mg/L	20	20.1	20.05	0.1	0.5	
Total Dissolved Solids	mg/L	106	107	106.5	1	0.9	
Total Recoverable Aluminum	ug/L	32.1	31.7	31.9	0.4	1.3	
Total Recoverable Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Total Recoverable Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Copper	ug/L	1	1	1	0	0.0	
Total Recoverable Lead	ug/L	0.16	0.16	0.16	0	0.0	
Total Recoverable Manganese	ug/L	4.2	4.2	4.2	0	0.0	
Total Recoverable Nickel	ug/L	1	1	1	0	0.0	
Total Recoverable Selenium	ug/L	1	1	1	0	0.0	
Total Recoverable Silver	ug/L	0.1	0.1	0.1	0	0.0	
Total Recoverable Zinc	ug/L	3.1	2.7	2.9	0.4	13.8	
Total Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Aluminum	ug/L	22.5	23	22.75	0.5	2.2	
Dissolved Arsenic	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Cadmium	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Chromium	ug/L	2.5	2.5	2.5	0	0.0	
Dissolved Copper	ug/L	1	1	1	0	0.0	
Dissolved Iron	mg/L	0.05	0.05	0.05	0	0.0	
Dissolved Lead	ug/L	0.16	0.16	0.16	0	0.0	
Dissolved Manganese	ug/L	3.7	3.8	3.75	0.1	2.7	
Dissolved Nickel	ug/L	1	1	1	0	0.0	
Dissolved Selenium	ug/L	1	1	1	0	0.0	
Dissolved Silver	ug/L	0.1	0.1	0.1	0	0.0	
Dissolved Zinc	ug/L	4	2.5	3.25	1.5	46.2	Yes
Mercury Dissolved	ug/L	0.001	0.001	0.001	0	0.0	

Appendix B – Variance Reports

Variance Report: Outfall 001 January 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20080101	**001 Effluent**	**1/1/2008**											
	Total Suspended Solids	20.0	mg/L	1087	4.37	1.86	**8.4**	+---+---**0**---+---+ **X**	13.0	9.00	6.00	18.0	<4.00
CAK-001EFF-20080102	**001 Effluent**	**1/2/2008**											
	Total Recoverable Iron	1.79	mg/L	161	0.179	0.249	**6.5**	+---+---**0**---+---+ **X**	1.5	0.79	0.67	0.44	1.31
	Total Recoverable Nickel	1	ug/L	585	8.79	2.81	**-2.8**	**X** +---+---**0**---+---+	1	2	2	2	1
	Total Suspended Solids	21.0	mg/L	1088	4.39	1.92	**8.6**	+---+---**0**---+---+ **X**	20.0	13.0	9.00	6.00	18.0
	TurbidityDifference	11.18	NTU	94	0.681	1.4	**7.5**	+---+---**0**---+---+ **X**	4.4	2.65	3.73	3.93	3.44
CAK-001EFF-20080103	**001 Effluent**	**1/3/2008**											
	Total Suspended Solids	16.0	mg/L	1089	4.4	1.99	**5.8**	+---+---**0**---+---+ **X**	21.0	20.0	13.0	9.00	6.00
CAK-001EFF-20080104	**001 Effluent**	**1/4/2008**											
	Total Suspended Solids	18.0	mg/L	1090	4.41	2.02	**6.7**	+---+---**0**---+---+ **X**	16.0	21.0	20.0	13.0	9.00
CAK-001EFF-20080105	**001 Effluent**	**1/5/2008**											
	Total Suspended Solids	17.0	mg/L	1091	4.42	2.06	**6.1**	+---+---**0**---+---+ **X**	18.0	16.0	21.0	20.0	13.0
CAK-001EFF-20080106	**001 Effluent**	**1/6/2008**											
	Total Suspended Solids	14.0	mg/L	1092	4.44	2.09	**4.6**	+---+---**0**---+---+ **X**	17.0	18.0	16.0	21.0	20.0
CAK-001EFF-20080108	**001 Effluent**	**1/8/2008**											
	Total Recoverable Iron	0.77	mg/L	162	0.189	0.279	**2.1**	+---+---**0**---+---+ **X**	1.79	1.5	0.79	0.67	0.44
	Total Recoverable Nickel	1	ug/L	586	8.77	2.83	**-2.7**	**X** +---+---**0**---+---+	1	1	2	2	2
	Total Suspended Solids	14.0	mg/L	1094	4.44	2.11	**4.5**	+---+---**0**---+---+ **X**	5.00	14.0	17.0	18.0	16.0
	TurbidityDifference	13.7	NTU	95	0.792	1.76	**7.3**	+---+---**0**---+---+ **X**	11.18	4.4	2.65	3.73	3.93
CAK-001EFF-20080111	**001 Effluent**	**1/11/2008**											
	Total Suspended Solids	13.0	mg/L	1097	4.46	2.13	**4**	+---+---**0**---+---+ **X**	6.00	7.00	14.0	5.00	14.0
CAK-001EFF-20080115	**001 Effluent**	**1/15/2008**											
	Total Recoverable Nickel	3	ug/L	587	8.76	2.85	**-2**	**X** +---+---**0**---+---+	1	1	1	2	2
	Total Recoverable Zinc	15.4	ug/L	588	4.29	2.46	**4.5**	+---+---**0**---+---+ **X**	6.3	6.9	3.7	8.5	7.0
CAK-001EFF-20080129	**001 Effluent**	**1/29/2008**											
	Total Recoverable Nickel	1	ug/L	589	8.74	2.87	**-2.7**	**X** +---+---**0**---+---+	<1	3	1	1	1
	Total Recoverable Zinc	17.3	ug/L	590	4.31	2.5	**5.2**	+---+---**0**---+---+ **X**	4.3	15.4	6.3	6.9	3.7

Variance Report: Outfall 001 February 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001IN-20080226	**001 Influent**	**2/26/2008**											
	Total Recoverable Aluminum	16800	ug/L	238	3.42E+03	5.78E+03	**2.3**	+---+---**0**---+---+ **X**	2740	3550	1000	3660	3250
	Total Recoverable Copper	98	ug/L	348	17.3	33.7	**2.4**	+---+---**0**---+---+ **X**	14	25	9	31	17
	Total Recoverable Zinc	99.2	ug/L	348	19.3	30.3	**2.6**	+---+---**0**---+---+ **X**	30.0	38.9	21.4	44.8	27.5
CAK-001EFF-20080205	**001 Effluent**	**2/5/2008**											
	Total Recoverable Zinc	16.9	ug/L	591	4.34	2.55	**4.9**	+---+---**0**---+---+ **X**	17.3	4.3	15.4	6.3	6.9
CAK-001EFF-20080212	**001 Effluent**	**2/12/2008**											
	Total Recoverable Zinc	12.4	ug/L	592	4.36	2.6	**3.1**	+---+---**0**---+---+ **X**	16.9	17.3	4.3	15.4	6.3
CAK-001EFF-20080214	**001 Effluent**	**2/14/2008**											
	Total Suspended Solids	14.0	mg/L	1131	4.46	2.12	**4.5**	+---+---**0**---+---+ **X**	11.0	<4.00	<4.00	<4.00	<4.00
CAK-001EFF-20080213	**001 Effluent**	**2/13/2008**											
	Total Suspended Solids	11.0	mg/L	1130	4.45	2.11	**3.1**	+---+---**0**---+---+ **X**	<4.00	<4.00	<4.00	<4.00	<4.00
CAK-001EFF-20080220	**001 Effluent**	**2/20/2008**											
	Total Recoverable Zinc	21.4	ug/L	594	4.38	2.62	**6.5**	+---+---**0**---+---+ **X**	9.0	12.4	16.9	17.3	4.3
CAK-001EFF-20080226	**001 Effluent**	**2/26/2008**											
	Total Recoverable Zinc	12.0	ug/L	595	4.41	2.71	**2.8**	+---+---**0**---+---+ **X**	21.4	9.0	12.4	16.9	17.3

Variance Report: Outfall 001 March 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001IN-20080318	**001 Influent**	**3/18/2008**											
	Total Chromium	10.5	ug/L	77	3.31	2.55	**2.8**	+---+---**0**---+---+ **X**	<2.5	5.2	7.5	<2.5	<2.5
	Total Recoverable Zinc	91.1	ug/L	351	19.7	30.6	**2.3**	+---+---**0**---+---+ **X**	26.4	79.1	99.2	30.0	38.9
CAK-001IN-20080325	**001 Influent**	**3/25/2008**											
	Total Recoverable Copper	102	ug/L	352	17.8	34.1	**2.5**	+---+---**0**---+---+ **X**	85	13	73	98	14
	Total Recoverable Zinc	102	ug/L	352	19.9	30.8	**2.7**	+---+---**0**---+---+ **X**	91.1	26.4	79.1	99.2	30.0
CAK-001EFF-20080304	**001 Effluent**	**3/4/2008**											
	Total Recoverable Zinc	18.0	ug/L	596	4.42	2.73	**5**	+---+---**0**---+---+ **X**	12.0	21.4	9.0	12.4	16.9
CAK-001EFF-20080311	**001 Effluent**	**3/11/2008**											
	Total Recoverable Zinc	11.0	ug/L	597	4.44	2.78	**2.4**	+---+---**0**---+---+ **X**	18.0	12.0	21.4	9.0	12.4
CAK-001EFF-20080318	**001 Effluent**	**3/18/2008**											
	Total Recoverable Zinc	19.9	ug/L	599	4.46	2.79	**5.5**	+---+---**0**---+---+ **X**	6.5	11.0	18.0	12.0	21.4
CAK-001EFF-20080325	**001 Effluent**	**3/25/2008**											
	Total Recoverable Zinc	10.9	ug/L	600	4.48	2.86	**2.2**	+---+---**0**---+---+ **X**	19.9	6.5	11.0	18.0	12.0

Variance Report: Outfall 001 April 2008

Sample No.	Stn.Code	Date	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20080408	**001 Effluent**	**4/8/2008**											
	Total Recoverable Zinc	25.5	ug/L	602	4.5	2.87	**7.3**	+---+---**0**---+---+ **X**	9.1	10.9	19.9	6.5	11.0

Variance Report: Outfall 001 May 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20080524	**001 Effluent**	**5/24/2008**											
	Total Suspended Solids	15.0	mg/L	1229	4.45	2.08	**5.1**	+---+---**0**---+---+ **X**	5.00	<4.00	<4.00	<4.00	<4.00

Variance Report: Outfall 001 June 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20080603	**001 Effluent**	**6/3/2008**											
	Fluoride	<0.2	mg/L	39	0.116	0.0408	**2**	+---+---**0**---+---+ **X**	0.1	<0.1	0.1	0.1	0.2
	Total Recoverable Zinc	13.8	ug/L	611	4.57	3	**3.1**	+---+---**0**---+---+ **X**	5.7	4.6	7	4.8	7.2
CAK-001EFF-20080605	**001 Effluent**	**6/5/2008**											
	Total Recoverable Zinc	22.7	ug/L	612	4.58	3.02	**6**	+---+---**0**---+---+ **X**	13.8	5.7	4.6	7	4.8
CAK-001EFF-20080608	**001 Effluent**	**6/8/2008**											
	Total Suspended Solids	13	mg/L	1244	4.45	2.09	**4.1**	+---+---**0**---+---+ **X**	<4	<4	<4	<4	4
CAK-001EFF-20080617	**001 Effluent**	**6/17/2008**											
	Lab Turbidity	6	NTU	112	0.913	1.08	**4.7**	+---+---**0**---+---+ **X**	0.7	1.4	0.5	0.3	0.5
	Lab Turbidity Difference	5.6	NTU	91	0.527	1.16	**4.4**	+---+---**0**---+---+ **X**	0.7	1	0.5	-0.2	-0.7
	Total Recoverable Iron	0.773	mg/L	192	0.193	0.269	**2.2**	+---+---**0**---+---+ **X**	0.151	<0.05	<0.05	<0.05	<0.05
CAK-001EFF-20080619	**001 Effluent**	**6/19/2008**											
	Total Suspended Solids	14	mg/L	1255	4.47	2.1	**4.5**	+---+---**0**---+---+ **X**	5	8	8	<4	<4
CAK-001EFF-20080620	**001 Effluent**	**6/20/2008**											
	Total Suspended Solids	10	mg/L	1256	4.47	2.11	**2.6**	+---+---**0**---+---+ **X**	14	5	8	8	<4
CAK-001EFF-20080624	**001 Effluent**	**6/24/2008**											
	Total Recoverable Copper	6.8	ug/L	615	2.02	1.14	**4.2**	+---+---**0**---+---+ **X**	1.2	<1	<1	<1	<1
	Total Recoverable Zinc	13.8	ug/L	615	4.62	3.1	**3**	+---+---**0**---+---+ **X**	8.2	7.8	22.7	13.8	5.7

Variance Report: Outfall 001 July 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001IN-20080729	**001 Influent**	**7/29/2008**											
	Total Chromium	12.5	ug/L	95	3.32	2.46	**3.7**	+---+---**0**---+---+ **X**	<2.5	<2.5	<2.5	5	<2.5
	Total Recoverable Aluminum	16900	ug/L	259	3.45E+03	5.71E+03	**2.4**	+---+---**0**---+---+ **X**	783	185	1840	881	3540
	Total Recoverable Copper	88.8	ug/L	369	17.7	33.7	**2.1**	+---+---**0**---+---+ **X**	7.7	1.8	20.8	7	19.2
	Total Recoverable Iron	30.9	mg/L	254	5.82	9.92	**2.5**	+---+---**0**---+---+ **X**	2.36	0.312	7.01	2.2	6.29
CAK-001EFF-20080701	**001 Effluent**	**7/1/2008**											
	Lab Turbidity	3.8	NTU	114	0.975	1.18	**2.4**	+---+---**0**---+---+ **X**	3	6	0.7	1.4	0.5
	Lab Turbidity 001 Background	3.4	NTU	106	0.415	0.509	**5.9**	+---+---**0**---+---+ **X**	0.5	0.4	<0.1	0.4	<0.1
	Total Recoverable Copper	5.4	ug/L	616	2.03	1.16	**2.9**	+---+---**0**---+---+ **X**	6.8	1.2	<1	<1	<1
CAK-001EFF-20080706	**001 Effluent**	**7/6/2008**											
	Total Suspended Solids	11	mg/L	1272	4.48	2.11	**3.1**	+---+---**0**---+---+ **X**	8	4	<4	<4	<4
CAK-001EFF-20080708	**001 Effluent**	**7/8/2008**											
	Total Recoverable Copper	5.7	ug/L	617	2.03	1.16	**3.2**	+---+---**0**---+---+ **X**	5.4	6.8	1.2	<1	<1
	Total Recoverable Zinc	18.4	ug/L	617	4.64	3.12	**4.4**	+---+---**0**---+---+ **X**	7.9	13.8	8.2	7.8	22.7
CAK-001EFF-20080715	**001 Effluent**	**7/15/2008**											
	Total Recoverable Copper	10.8	ug/L	618	2.04	1.17	**7.5**	+---+---**0**---+---+ **X**	5.7	5.4	6.8	1.2	<1
	Total Recoverable Zinc	12.3	ug/L	618	4.66	3.17	**2.4**	+---+---**0**---+---+ **X**	18.4	7.9	13.8	8.2	7.8
CAK-001EFF-20080724	**001 Effluent**	**7/24/2008**											
	Total Recoverable Copper	12	ug/L	620	2.07	1.28	**7.7**	+---+---**0**---+---+ **X**	11.9	10.8	5.7	5.4	6.8
CAK-001EFF-20080722	**001 Effluent**	**7/22/2008**											
	Total Recoverable Copper	11.9	ug/L	619	2.05	1.22	**8.1**	+---+---**0**---+---+ **X**	10.8	5.7	5.4	6.8	1.2
CAK-001EFF-20080729	**001 Effluent**	**7/29/2008**											
	Total Chromium	3.4	ug/L	111	2.49	0.142	**6.4**	+---+---**0**---+---+ **X**	<2.5	<2.5	<2.5	<2.5	<2.5
	Total Recoverable Copper	7.8	ug/L	621	2.08	1.34	**4.3**	+---+---**0**---+---+ **X**	12	11.9	10.8	5.7	5.4

Variance Report: Outfall 001 August 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20080805	**001 Effluent**	**8/5/2008**											
	Lab Turbidity	6.8	NTU	119	1.04	1.21	**4.8**	+---+---**0**---+---+ **X**	1.1	2.3	2.9	2.2	3.8
	Lab Turbidity Difference	6.5	NTU	98	0.655	1.28	**4.6**	+---+---**0**---+---+ **X**	0.7	2.1	2.9	2.0	0.4
	Total Dissolved Solids	107	mg/L	618	314	78.6	**-2.6**	**X** +---+---**0**---+---+	197	204	239	184	176
	Total Recoverable Iron	1.31	mg/L	200	0.207	0.273	**4**	+---+---**0**---+---+ **X**	0.463	0.522	0.643	0.446	0.503
	Total Recoverable Zinc	12.5	ug/L	621	4.69	3.18	**2.5**	+---+---**0**---+---+ **X**	8.3	9.5	12.3	18.4	7.9
CAK-001EFF-20080807	**001 Effluent**	**8/7/2008**											
	Total Recoverable Iron	1.09	mg/L	201	0.212	0.283	**3.1**	+---+---**0**---+---+ **X**	1.31	0.463	0.522	0.643	0.446
CAK-001EFF-20080812	**001 Effluent**	**8/12/2008**											
	Total Recoverable Iron	0.811	mg/L	202	0.217	0.289	**2.1**	+---+---**0**---+---+ **X**	1.09	1.31	0.463	0.522	0.643
CAK-001EFF-20080819	**001 Effluent**	**8/19/2008**											
	Total Recoverable Zinc	24.3	ug/L	624	4.71	3.19	**6.1**	+---+---**0**---+---+ **X**	6	6.9	12.5	8.3	9.5

Variance Report: Outfall 001 September 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20080909	**001 Effluent**	**9/9/2008**											
	pH lab	7.78	pH	421	8.08	0.148	**-2**	**X** +---+---**0**---+---+	7.56	7.32	8.1	7.9	8.2
CAK-001EFF-20080911	**001 Effluent**	**9/11/2008**											
	Total Recoverable Iron	0.893	mg/L	209	0.228	0.293	**2.3**	+---+---**0**---+---+ **X**	0.519	0.728	0.63	0.589	0.372

Variance Report: Outfall 001 October 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001IN-20081006	**001 Influent**	**10/6/2008**											
	Total Suspended Solids	2570	mg/L	1554	238	652	**3.6**	+---+---**0**---+---+ **X**	39	76	145	522	1280
CAK-001EFF-20081002	**001 Effluent**	**10/2/2008**											
	Total Suspended Solids	16	mg/L	1360	4.48	2.06	**5.6**	+---+---**0**---+---+ **X**	7	4	8	5	<4
CAK-001EFF-20081006	**001 Effluent**	**10/6/2008**											
	Total Suspended Solids	15	mg/L	1364	4.49	2.08	**5**	+---+---**0**---+---+ **X**	6	6	5	16	7
CAK-001EFF-20081007	**001 Effluent**	**10/7/2008**											
	Total Recoverable Iron	0.836	mg/L	213	0.236	0.296	**2**	+---+---**0**---+---+ **X**	0.536	0.602	0.412	0.893	0.519
CAK-001EFF-20081014	**001 Effluent**	**10/14/2008**											
	Lab Turbidity 001 Background	2.9	NTU	123	0.437	0.548	**4.5**	+---+---**0**---+---+ **X**	0.3	0.3	0.5	0.5	0.4
CAK-001EFF-20081019	**001 Effluent**	**10/19/2008**											
	Lab Turbidity 001 Background	29.3	NTU	125	0.456	0.587	**49**	+---+---**0**---+---+ **X**	0.4	2.9	0.3	0.3	0.5
	Lab Turbidity Difference	-25.6	NTU	112	0.77	1.36	**-19**	**X** +---+---**0**---+---+	1.8	-1	2.3	0.9	1.9
CAK-001EFF-20081021	**001 Effluent**	**10/21/2008**											
	Lab Turbidity	3.9	NTU	134	1.18	1.3	**2.1**	+---+---**0**---+---+ **X**	3.7	2.2	1.9	2.6	1.2
	Total Recoverable Iron	0.867	mg/L	217	0.243	0.299	**2.1**	+---+---**0**---+---+ **X**	0.593	0.503	0.706	0.836	0.536

Variance Report: Outfall 001 November 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20081104	**001 Effluent**	**11/4/2008**											
	Lab Turbidity	4.7	NTU	136	1.21	1.31	**2.7**	+---+---**0**---+---+ **X**	2.2	3.9	3.7	2.2	1.9
CAK-001EFF-20081106	**001 Effluent**	**11/6/2008**											
	Total Dissolved Solids	140	mg/L	636	310	80.5	**-2.1**	**X** +---+---**0**---+---+	184	185	172	175	187
CAK-001EFF-20081111	**001 Effluent**	**11/11/2008**											
	Total Recoverable Iron	0.897	mg/L	221	0.252	0.304	**2.1**	+---+---**0**---+---+ **X**	0.642	0.661	0.802	0.867	0.593

Variance Report: Outfall 001 December 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-001EFF-20081202	**001 Effluent**	**12/2/2008**											
	pH lab	7.42	pH	422	8.08	0.148	**-4.5**	**X** +---+---**0**---+---+	7.78	7.56	7.32	8.1	7.9
CAK-001EFF-20081216	**001 Effluent**	**12/16/2008**											
	Total Dissolved Solids	137	mg/L	643	309	81	**-2.1**	**X** +---+---**0**---+---+	216	222	197	199	220
CAK-001EFF-20081230	**001 Effluent**	**12/30/2008**											
	Dissolved Oxygen	17.83	mg/L	619	11.8	1.2	**5**	+---+---**0**---+---+ **X**	13.06	13.11	12.14	13.58	13.45

Variance Report: Receiving Waters January 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-JS2-20080102	**JS2**	**1/2/2008**											
	Ammonia as N	0.5	mg/L	30	0.095	0.0153	**27**	+---+---**0**---+---+ **X**	<0.1	0.1	0.1	<0.1	<0.1
CAK-JS5-20080102	**JS5**	**1/2/2008**											
	Ammonia as N	0.8	mg/L	30	0.095	0.0274	**26**	+---+---**0**---+---+ **X**	<0.1	<0.1	0.2	<0.1	<0.1
CAK-JS4-20080102	**JS4**	**1/2/2008**											
	Ammonia as N	2.3	mg/L	30	0.0917	0.019	**>100**	+---+---**0**---+---+ **X**	<0.1	0.1	<0.1	<0.1	<0.1
CAK-SH103-20080107	**SH103**	**1/7/2008**											
	Conductivity	897	umhos/cm	42	346	245	**2.2**	+---+---**0**---+---+ **X**	1013	936	142.2	286	116.1
	Dissolved Oxygen	9.11	mg/L	40	11.4	1.14	**-2**	**X** +---+---**0**---+---+	11.54	11.44	9.56	11.24	10.26
	Hardness, Total	380	mg/L	40	148	97.7	**2.4**	+---+---**0**---+---+ **X**	490	400	60	100	50
	pH field	6.94	pH	42	7.45	0.255	**-2**	**X** +---+---**0**---+---+	7.14	7.29	7.3	7.14	7.11
	Sulfate	322	mg/L	31	103	95.8	**2.3**	+---+---**0**---+---+ **X**	414	368	29.9	73.9	20.2
	Total Dissolved Solids	650	mg/L	39	220	161	**2.7**	+---+---**0**---+---+ **X**	750	690	80	150	220
CAK-SH105-20080107	**SH105**	**1/7/2008**											
	Alkalinity, Total as CaCO3	50	mg/L	31	33.4	7.8	**2.1**	+---+---**0**---+---+ **X**	35	28	34	31	25
	Conductivity	199.7	umhos/cm	43	107	34.8	**2.7**	+---+---**0**---+---+ **X**	115.3	86.3	130.7	112.4	106.2
	Hardness, Total	90	mg/L	40	43.9	13.2	**3.5**	+---+---**0**---+---+ **X**	50	40	60	50	30
	Sulfate	41.2	mg/L	34	12.6	7.67	**3.7**	+---+---**0**---+---+ **X**	16.3	8.9	20.5	14.2	7.5
CAK-SLC-20080109	**SLC**	**1/9/2008**											
	Ammonia as N	0.6	mg/L	33	0.12	0.162	**3**	+---+---**0**---+---+ **X**	<0.1	1.0	<0.1	<0.1	<0.1
	Dissolved Zinc	32.9	ug/L	33	7.75	12.3	**2**	+---+---**0**---+---+ **X**	31.9	51.4	47.1	7.8	4.9
	Sulfate	9.3	mg/L	33	3.98	1.9	**2.8**	+---+---**0**---+---+ **X**	8.9	7.2	6.3	6.6	7.3
CAK-SLB-20080109	**SLB**	**1/9/2008**											
	Ammonia as N	0.8	mg/L	34	0.0899	0.0294	**24**	+---+---**0**---+---+ **X**	<0.1	<0.1	<0.1	<0.1	<0.1
	Sulfate	12.2	mg/L	34	3.61	2.91	**3**	+---+---**0**---+---+ **X**	11.6	9.0	9.1	10.1	7.5

Variance Report: Receiving Waters February 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-JS5-20080210	**JS5**	**2/10/2008**											
	Dissolved Zinc	7.3	ug/L	31	2.73	1.63	**2.8**	+---+---**0**---+---+ **X**	<2.5	<2.5	2.5	2.6	<2.5
CAK-SH113-20080211	**SH113**	**2/11/2008**											
	Conductivity	345	umhos/cm	12	185	57.4	**2.8**	+---+---**0**---+---+ **X**	276	177.6	173.8	127.4	258
	Dissolved Manganese	41	ug/L	12	15.7	12.5	**2**	+---+---**0**---+---+ **X**	9	28	28	21	35
	Dissolved Zinc	7.4	ug/L	12	2.94	0.729	**6.1**	+---+---**0**---+---+ **X**	<2.5	4.5	<2.5	3.0	<2.5
	Sulfate	82.9	mg/L	12	32.6	17.8	**2.8**	+---+---**0**---+---+ **X**	53.2	58.3	29.5	15.9	54.1
	Total Dissolved Solids	220	mg/L	12	111	38.5	**2.8**	+---+---**0**---+---+ **X**	160	150	100	70	140
CAK-SH103-20080211	**SH103**	**2/11/2008**											
	Color	29	Color Unit	32	9.62	7.39	**2.6**	+---+---**0**---+---+ **X**	10	10	21	5.0	<5.0
	Conductivity	1009	umhos/cm	43	359	257	**2.5**	+---+---**0**---+---+ **X**	897	1013	936	142.2	286
	Hardness, Total	420	mg/L	41	154	103	**2.6**	+---+---**0**---+---+ **X**	380	490	400	60	100
	Lab Turbidity	1.2	NTU	17	0.223	0.106	**9.2**	+---+---**0**---+---+ **X**	0.10	0.10	0.21	0.47	0.15
	pH field	6.88	pH	43	7.44	0.264	**-2.1**	**X** +---+---**0**---+---+	6.94	7.14	7.29	7.3	7.14
	Total Dissolved Solids	690	mg/L	40	231	173	**2.7**	+---+---**0**---+---+ **X**	650	750	690	80	150

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SH103-20080211	**SH103**	**2/11/2008**											
Total Suspended Solids		7	mg/L	39	4.82	0.683	**3.2**	+---+---**0**---+---+ **X**	<5	<5	<5	<5	<5
CAK-SH109-20080211	**SH109**	**2/11/2008**											
Dissolved Manganese		3	ug/L	35	1.1	0.331	**5.7**	+---+---**0**---+---+ **X**	<1	2	1	<1	<1
CAK-SH105-20080220	**SH105**	**2/20/2008**											
Chloride		11	mg/L	35	2.06	1.73	**5.2**	+---+---**0**---+---+ **X**	4	3	1	2	1
CAK-SLB-20080207	**SLB**	**2/7/2008**											
Sulfate		13.1	mg/L	35	3.85	3.21	**2.9**	+---+---**0**---+---+ **X**	12.2	11.6	9.0	9.1	10.1
CAK-SLC-20080221	**SLC**	**2/21/2008**											
Chloride		4	mg/L	34	1.72	0.72	**3.2**	+---+---**0**---+---+ **X**	2	2	2	2	2

Variance Report: Receiving Waters March 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-JS2-20080303	**JS2**	**3/3/2008**											
Sulfate		2.2	mg/L	32	1.4	0.39	**2**	+---+---**0**---+---+ **X**	2.0	1.8	1.6	1.0	1.0
CAK-JS4-20080303	**JS4**	**3/3/2008**											
Sulfate		8.4	mg/L	32	4.54	1.9	**2**	+---+---**0**---+---+ **X**	7.4	6.6	6.5	4.4	4.3
CAK-SH113-20080304	**SH113**	**3/4/2008**											
Chloride		8	mg/L	13	3.69	1.65	**2.6**	+---+---**0**---+---+ **X**	6	4	7	4	3
CAK-SH105-20080304	**SH105**	**3/4/2008**											
Chloride		7	mg/L	36	2.31	2.27	**2.1**	+---+---**0**---+---+ **X**	11	4	3	1	2
Conductivity		212	umhos/cm	45	110	37.7	**2.7**	+---+---**0**---+---+ **X**	164.5	199.7	115.3	86.3	130.7
Dissolved Calcium		28	mg/L	32	16.5	5.37	**2.1**	+---+---**0**---+---+ **X**	21	30	18	13	20
Hardness, Total		80	mg/L	42	45.3	14.9	**2.3**	+---+---**0**---+---+ **X**	60	90	50	40	60
Sulfate		36.4	mg/L	36	13.6	8.95	**2.5**	+---+---**0**---+---+ **X**	21.6	41.2	16.3	8.9	20.5
CAK-SH103-20080304	**SH103**	**3/4/2008**											
Conductivity		1092	umhos/cm	44	374	272	**2.6**	+---+---**0**---+---+ **X**	1009	897	1013	936	142.2
Dissolved Zinc		9.4	ug/L	41	3.82	2.59	**2.2**	+---+---**0**---+---+ **X**	6.2	<2.5	3.6	3.0	3.0
Hardness, Total		430	mg/L	42	160	110	**2.5**	+---+---**0**---+---+ **X**	420	380	490	400	60
Sulfate		374	mg/L	33	116	106	**2.4**	+---+---**0**---+---+ **X**	312	322	414	368	29.9
Total Dissolved Solids		760	mg/L	41	242	185	**2.8**	+---+---**0**---+---+ **X**	690	650	750	690	80
CAK-MLA-20080306	**MLA**	**3/6/2008**											
Dissolved Zinc		8.4	ug/L	38	2.87	1.68	**3.3**	+---+---**0**---+---+ **X**	<2.5	<2.5	6.2	3.2	4.5
CAK-SLB-20080306	**SLB**	**3/6/2008**											
Dissolved Cadmium		0.7	ug/L	36	0.172	0.192	**2.7**	+---+---**0**---+---+ **X**	0.4	0.4	0.6	0.2	1.1
Dissolved Copper		3	ug/L	36	1.16	0.885	**2.1**	+---+---**0**---+---+ **X**	2	2	3	4	4
Dissolved Nickel		6	ug/L	36	1.88	1.87	**2.2**	+---+---**0**---+---+ **X**	4	4	5	7	7
Dissolved Zinc		81.2	ug/L	36	14.2	25.2	**2.7**	+---+---**0**---+---+ **X**	53.7	50.2	66.9	95.5	92.7

Variance Report: Receiving Waters April 2008

Sample No.	Stn.Code	Date	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLB-20080407	**SLB**	**4/7/2008**											
Dissolved Aluminum		134	ug/L	37	56.6	29	**2.7**	+---+---**0**---+---+ **X**	106	43	42	60	88
Dissolved Cadmium		1.9	ug/L	37	0.186	0.208	**8.2**	+---+---**0**---+---+ **X**	0.7	0.4	0.4	0.6	0.2
Dissolved Copper		4	ug/L	37	1.21	0.923	**3**	+---+---**0**---+---+ **X**	3	2	2	3	4
Dissolved Manganese		127	ug/L	37	18.5	29	**3.7**	+---+---**0**---+---+ **X**	70	28	33	46	118
Dissolved Nickel		13	ug/L	37	1.99	1.97	**5.6**	+---+---**0**---+---+ **X**	6	4	4	5	7
Dissolved Zinc		180	ug/L	37	16	27.2	**6**	+---+---**0**---+---+ **X**	81.2	53.7	50.2	66.9	95.5
Sulfate		16.1	mg/L	37	4.26	3.59	**3.3**	+---+---**0**---+---+ **X**	9.7	13.1	12.2	11.6	9.0

Sample No.	Stn.Code	Date	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLC-20080407	SLC	4/7/2008											
	Dissolved Cadmium	1.0	ug/L	36	0.161	0.166	**5.1**	+---+---**0**---+---+ **X**	0.2	0.2	0.3	0.3	<0.1
	Dissolved Manganese	66	ug/L	36	9.02	13.4	**4.2**	+---+---**0**---+---+ **X**	26	23	19	18	56
	Dissolved Nickel	7	ug/L	36	1.64	1.19	**4.5**	+---+---**0**---+---+ **X**	2	2	3	3	4
	Dissolved Zinc	95.9	ug/L	36	9.89	13.8	**6.2**	+---+---**0**---+---+ **X**	34.9	32.4	32.9	31.9	51.4
	Sulfate	9.5	mg/L	36	4.2	2.04	**2.6**	+---+---**0**---+---+ **X**	5.7	4.6	9.3	8.9	7.2
CAK-SH103-20080408	SH103	4/8/2008											
	Conductivity	1140	umhos/cm	45	390	289	**2.6**	+---+---**0**---+---+ **X**	1092	1009	897	1013	936
	Hardness, Total	490	mg/L	43	167	116	**2.8**	+---+---**0**---+---+ **X**	430	420	380	490	400
	Sulfate	394	mg/L	34	123	114	**2.4**	+---+---**0**---+---+ **X**	374	312	322	414	368
	Total Dissolved Solids	840	mg/L	42	254	199	**2.9**	+---+---**0**---+---+ **X**	760	690	650	750	690
CAK-SH113-20080408	SH113	4/8/2008											
	Dissolved Manganese	51	ug/L	14	19.2	14.6	**2.2**	+---+---**0**---+---+ **X**	40	41	9	28	28
CAK-JS5-20080409	JS5	4/9/2008											
	Sulfate	9.1	mg/L	33	3.97	1.8	**2.9**	+---+---**0**---+---+ **X**	7.1	6.2	5.6	5.1	3.5
CAK-JS4-20080409	JS4	4/9/2008											
	Sulfate	9.9	mg/L	33	4.66	1.98	**2.6**	+---+---**0**---+---+ **X**	8.4	7.4	6.6	6.5	4.4

Variance Report: Receiving Waters May 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLC-20080514	SLC	5/14/2008											
	pH field	7.1	pH	37	7.71	0.276	**-2.2**	**X** +---+---**0**---+---+	7.58	7.65	7.67	7.93	7.92
CAK-SLB-20080514	SLB	5/14/2008											
	pH field	6.97	pH	38	7.7	0.304	**-2.4**	**X** +---+---**0**---+---+	7.52	7.55	8.14	7.45	7.87
	Total Dissolved Solids	18	mg/L	38	63	20.5	**-2.2**	**X** +---+---**0**---+---+	60	70	100	60	60
CAK-JS4-20080513	JS4	5/13/2008											
	pH field	7.05	pH	34	7.51	0.216	**-2.1**	**X** +---+---**0**---+---+	7.47	7.82	7.68	7.81	7.54
CAK-SH113-20080512	SH113	5/12/2008											
	Alkalinity, Total as CaCO3	24	mg/L	15	49.8	10.8	**-2.4**	**X** +---+---**0**---+---+	50	59	66	62	59
	Color	30	Color Unit	15	14.4	7.65	**2**	+---+---**0**---+---+ **X**	11	6.0	12	8.0	24
	Dissolved Aluminum	37.5	ug/L	15	7.67	6.67	**4.5**	+---+---**0**---+---+ **X**	10	5	<1	<1	<1
	Dissolved Copper	1.9	ug/L	15	1	0	**>100**	+---+---**0**---+---+ **X**	<1	<1	<1	<1	<1
Sample No.	**Stn.Code**	**Collect Date/Time**	**Units**	**N**	**Avg**	**St.Dev.**	**Num.SD**	**-2S --- 0 --- +2S**	**Most Recent Results -->**				
CAK-SH113-20080512	SH113	5/12/2008											
	Mercury Dissolved	0.0021	ug/L	14	0.00102	5.79E-05	**19**	+---+---**0**---+---+ **X**	0.001	<0.001	<0.001	<0.001	0.0012
	Lab Turbidity	3.6	NTU	15	0.6	0.318	**9.4**	+---+---**0**---+---+ **X**	0.13	0.62	0.80	0.37	1.3
	pH field	7.31	pH	15	7.63	0.0814	**-3.9**	**X** +---+---**0**---+---+	7.53	7.69	7.64	7.53	7.6
CAK-SH111-20080512	SH111	5/12/2008											
	Dissolved Copper	1.4	ug/L	22	1	0	**>100**	+---+---**0**---+---+ **X**	<1	<1	<1	<1	<1
	Nitrate as N	0.68	mg/L	9	0.114	0.0767	**7.4**	+---+---**0**---+---+ **X**	0.14	0.05	0.06	<0.05	0.18
CAK-SH109-20080512	SH109	5/12/2008											
	Alkalinity, Total as CaCO3	23	mg/L	35	38.1	6.88	**-2.2**	**X** +---+---**0**---+---+	40	45	49	46	48
	Conductivity	52.3	umhos/cm	47	95.9	19.4	**-2.2**	**X** +---+---**0**---+---+	111.8	114.6	114.9	117.5	106.3
	Lab Turbidity	7.1	NTU	61	0.328	0.276	**25**	+---+---**0**---+---+ **X**	0.19	0.14	0.20	0.12	0.16
	Total Suspended Solids	17	mg/L	45	5.11	2.31	**5.2**	+---+---**0**---+---+ **X**	<5	<5	<5	<5	<5

Variance Report: Receiving Waters June 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->
NO RESULTS									

Variance Report: Receiving Waters July 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SH109-20080701	**SH109**	**7/1/2008**											
Lab Turbidity		3.4	NTU	69	0.442	0.861	**3.4**	+---+---**0**---+---+ **X**	0.5	0.4	<0.1	0.4	0.3
CAK-SH103-20080708	**SH103**	**7/8/2008**											
pH field		6.74	pH	48	7.4	0.274	**-2.4**	**X** +---+---+---**0**---+---+	7.16	7.15	7	7.32	6.88
CAK-SH105-20080708	**SH105**	**7/8/2008**											
pH field		6.96	pH	49	7.58	0.229	**-2.7**	**X** +---+---+---**0**---+---+	7.42	7.38	7.66	8	7.6
CAK-JS5-20080708	**JS5**	**7/8/2008**											
pH field		8.11	pH	36	7.44	0.25	**2.7**	+---+---**0**---+---+ **X**	7.33	7.09	7.03	7.86	7.6
CAK-JS4-20080708	**JS4**	**7/8/2008**											
pH field		8.08	pH	36	7.49	0.229	**2.6**	+---+---**0**---+---+ **X**	7.2	7.05	7.47	7.82	7.68
CAK-SLB-20080715	**SLB**	**7/15/2008**											
Mercury Dissolved		0.0094	ug/L	38	0.00192	0.00075	**10**	+---+---**0**---+---+ **X**	0.0011	0.0024	0.0018	0.0027	<0.001
Total Dissolved Solids		106	mg/L	40	62.3	21.4	**2**	+---+---**0**---+---+ **X**	80	18	60	70	100

Variance Report: Receiving Waters August 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-MLA-20080820	**MLA**	**8/20/2008**											
Dissolved Oxygen		7.54	mg/L	30	11	1.73	**-2**	**X** +---+---**0**---+---+	10.83	11.23	12.21	11.78	10.29

Variance Report: Receiving Waters September 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-JS5-20080903	**JS5**	**9/3/2008**											
pH field		6.83	pH	38	7.46	0.266	**-2.4**	**X** +---+---**0**---+---+	7.48	8.11	7.33	7.09	7.03
CAK-MLA-20080910	**MLA**	**9/10/2008**											
Turbidity		3.47	NTU	41	0.923	0.535	**4.8**	+---+---**0**---+---+ **X**	1	0.4	N/A	0.96	1.11
CAK-SLB-20080910	**SLB**	**9/10/2008**											
Dissolved Aluminum		145	ug/L	42	58.9	30.3	**2.8**	+---+---**0**---+---+ **X**	75.7	44.3	41.1	82.7	134
Dissolved Copper		4.1	ug/L	42	1.32	0.993	**2.8**	+---+---**0**---+---+ **X**	2.7	1.3	1.2	1.7	4
Dissolved Iron		0.454	mg/L	42	0.139	0.0839	**3.8**	+---+---**0**---+---+ **X**	0.18	0.09	0.064	0.134	0.28
Sulfate		14.8	mg/L	42	4.85	3.99	**2.5**	+---+---**0**---+---+ **X**	9.9	9.6	6.2	4.4	16.1
Total Dissolved Solids		129	mg/L	42	64	22.3	**2.9**	+---+---**0**---+---+ **X**	89	106	80	18	60
CAK-SLC-20080918	**SLC**	**9/18/2008**											
Dissolved Cadmium		1	ug/L	41	0.18	0.204	**4**	+---+---**0**---+---+ **X**	0.2	0.1	<0.1	0.2	1.0
Dissolved Manganese		82.7	ug/L	41	10.2	15.5	**4.7**	+---+---**0**---+---+ **X**	5.3	1.7	3.8	17.2	66
Dissolved Nickel		6.9	ug/L	41	1.76	1.4	**3.7**	+---+---**0**---+---+ **X**	2	1.3	1.2	1.8	7
Dissolved Zinc		96.6	ug/L	41	12.2	18.7	**4.5**	+---+---**0**---+---+ **X**	15.2	6.9	8.1	18	95.9
Sulfate		14.1	mg/L	41	4.5	2.23	**4.3**	+---+---**0**---+---+ **X**	8.3	7.6	4.4	3.8	9.5
CAK-SH111-20080908	**SH111**	**9/8/2008**											
Mercury Dissolved		0.0054	ug/L	20	0.00109	0.000541	**8**	+---+---**0**---+---+ **X**	<0.0010	<0.0010	<0.001	<0.001	0.0029

Variance Report: Receiving Waters October 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLB-20081020	**SLB**	**10/20/2008**											
Dissolved Manganese		112	ug/L	43	21.2	31.9	**2.8**	+---+---**0**---+---+ **X**	37.5	10.9	3.1	9.3	36.9

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLB-20081020	**SLB**	**10/20/2008**											
pH field		6.92	pH	43	7.69	0.319	**-2.4**	**X** +---+---**0**---+---+	7.43	7.97	7.98	8.02	6.97
CAK-SLC-20081020	**SLC**	**10/20/2008**											
pH field		7.02	pH	42	7.71	0.281	**-2.4**	**X** +---+---**0**---+---+	7.84	7.97	7.56	7.88	7.1
CAK-SH113-20081001	**SH113**	**10/1/2008**											
pH field		7.31	pH	20	7.59	0.111	**-2.6**	**X** +---+---**0**---+---+	7.48	7.55	7.44	7.61	7.31
pH lab		7.51	pH	6	7.95	0.138	**-3.2**	**X** +---+---**0**---+---+	8.2	7.8	7.9	7.9	8.0
CAK-SH103-20081001	**SH103**	**10/1/2008**											
pH lab		7.37	pH	14	7.75	0.122	**-3.1**	**X** +---+---**0**---+---+	7.9	7.7	7.7	7.8	7.6
CAK-SH105-20081001	**SH105**	**10/1/2008**											
Dissolved Zinc		9.1	ug/L	51	3.59	2.11	**2.6**	+---+---**0**---+---+ **X**	2.6	<2.5	<2.5	<2.5	<2.5
pH field		6.85	pH	52	7.56	0.239	**-3**	**X** +---+---**0**---+---+	7.47	7.47	6.96	7.42	7.38
pH lab		7.4	pH	18	7.78	0.156	**-2.4**	**X** +---+---**0**---+---+	8.1	7.7	8.0	7.7	7.7
CAK-SH109-20081001	**SH109**	**10/1/2008**											
pH field		7.12	pH	53	7.62	0.241	**-2.1**	**X** +---+---**0**---+---+	7.66	7.69	7.57	7.54	7.37
CAK-SH111-20081001	**SH111**	**10/1/2008**											
Lab Turbidity		0.7	NTU	14	0.174	0.0628	**8.4**	+---+---**0**---+---+ **X**	<0.1	0.2	0.2	0.2	<0.1
Sample No.	**Stn.Code**	**Collect Date/Time**	**Units**	**N**	**Avg**	**St.Dev.**	**Num.SD**	**-2S --- 0 --- +2S**	**Most Recent Results -->**				
CAK-SH109-20081014	**SH109**	**10/14/2008**											
Lab Turbidity		2.9	NTU	87	0.466	0.834	**2.9**	+---+---**0**---+---+ **X**	0.3	0.4	0.3	0.5	0.5
CAK-SH109-20081019	**SH109**	**10/19/2008**											
Lab Turbidity		29.3	NTU	89	0.492	0.864	**33**	+---+---**0**---+---+ **X**	0.4	2.9	0.3	0.4	0.3
CAK-JS4-20081028	**JS4**	**10/28/2008**											
pH field		6.93	pH	39	7.49	0.252	**-2.2**	**X** +---+---**0**---+---+	7.03	7.37	8.08	7.2	7.05

Variance Report: Receiving Waters November 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLC-20081112	**SLC**	**11/12/2008**											
Dissolved Manganese		62.4	ug/L	43	12.9	19.8	**2.5**	+---+---**0**---+---+ **X**	54.2	82.7	5.3	1.7	3.8
CAK-SLB-20081112	**SLB**	**11/12/2008**											
Dissolved Manganese		137	ug/L	44	23.2	34.4	**3.3**	+---+---**0**---+---+ **X**	112	37.5	10.9	3.1	9.3
CAK-JS4-20081104	**JS4**	**11/4/2008**											
pH field		6.49	pH	40	7.47	0.264	**-3.7**	**X** +---+---**0**---+---+	6.93	7.03	7.37	8.08	7.2
CAK-JS5-20081104	**JS5**	**11/4/2008**											
pH field		6.6	pH	40	7.44	0.28	**-3**	**X** +---+---**0**---+---+	7.21	6.83	7.48	8.11	7.33

Variance Report: Receiving Waters December 2008

Sample No.	Stn.Code	Collect Date/Time	Units	N	Avg	St.Dev.	Num.SD	-2S --- 0 --- +2S	Most Recent Results -->				
CAK-SLB-20081210	**SLB**	**12/10/2008**											
pH field		6.69	pH	45	7.68	0.333	**-3**	**X** +---+---**0**---+---+	7.78	6.92	7.43	7.97	7.98
CAK-SLC-20081210	**SLC**	**12/10/2008**											
pH field		7.08	pH	44	7.69	0.294	**-2.1**	**X** +---+---**0**---+---+	7.69	7.02	7.84	7.97	7.56
CAK-JS5-20081209	**JS5**	**12/9/2008**											
Dissolved Oxygen		14.35	mg/L	38	12.2	0.773	**2.8**	+---+---**0**---+---+ **X**	11.76	11.83	11.35	11.31	11.71
pH field		6.67	pH	41	7.42	0.306	**-2.4**	**X** +---+---**0**---+---+	6.6	7.21	6.83	7.48	8.11
CAK-JS4-20081209	**JS4**	**12/9/2008**											
pH field		6.29	pH	41	7.45	0.302	**-3.8**	**X** +---+---**0**---+---+	6.49	6.93	7.03	7.37	8.08
CAK-JS2-20081209	**JS2**	**12/9/2008**											
Lab Turbidity		0.7	NTU	27	0.276	0.205	**2.1**	+---+---**0**---+---+ **X**	<0.1	0.3	0.1	0.1	0.4

Appendix C – Discharge Monitoring Reports Results

OUTFALL 001- Influent

2008 Discharge Monitoring Report Results

		January		*February*		*March*	
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Total Suspended Solids	mg/L	172	642	228	900	349.00	996
Total Recoverable Arsenic	ug/L	0.0	<2.5	0.7	2.6	1.4	2.8
Total Recoverable Iron	ug/L	3,712	6,140	8,458	22,500	16,870	23,200
Total Recoverable Selenium	ug/L	1.2	2	0.0	<1.0	0.00	<1.0
Total Chromium	ug/L	0.0	<2.5	1.88	7.5	5.7	10.5
Total Recoverable Nickel	ug/L	1.4	2	3	6	5	7
Total Recoverable Silver	ug/L	0.02	0.10	0.00	<0.1	0	<0.1
Total Recoverable Zinc	ug/L	26.46	44.8	47.38	99.2	74.65	102
Total Recoverable Aluminum	ug/L	2,534	3,660	6,023	16,800	9,690	13,000
Total Recoverable Cadmium	ug/L	0.00	<0.1	0.00	<0.1	0	<0.1
Total Recoverable Lead	ug/L	1.29	2.34	2.60	5.84	8.05	18.2
Total Recoverable Copper	ug/L	15.4	31	36.5	98.0	68.25	102
Total Recoverable Manganese	ug/L	155.6	276	367.3	964	730	1150
Mercury Total	ug/L	0.006	0.008	0.007	0.014	0.036	0.097

* Values reported as less than MDL were replaced with zero for calculating monthly averages

OUTFALL 001- Influent

2008 Discharge Monitoring Report Results

		April		*May*		*June*	
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Total Suspended Solids	mg/L	222	1270	148	1120	58	247
Total Recoverable Arsenic	ug/L	0.0	<2.5	0.0	<2.5	0.0	<2.5
Total Recoverable Iron	ug/L	3,098	5,260	5,135	10,300	3,237	6,290
Total Recoverable Selenium	ug/L	0.0	<1.0	1.35	1.90	1.78	2.00
Total Chromium	ug/L	0.0	<2.5	0.0	<2.5	1.5	3.4
Total Recoverable Nickel	ug/L	2.0	3.0	1.63	3.8	0.6	1.2
Total Recoverable Silver	ug/L	0.00	<0.1	0.03	0.1	0.0	<0.1
Total Recoverable Zinc	ug/L	17.6	37.3	13.68	23.4	11.6	18.7
Total Recoverable Aluminum	ug/L	1,906	3,270	1,674	3,400	1,787	3,540
Total Recoverable Cadmium	ug/L	0.00	<0.1	0.00	<0.1	0.0	<0.1
Total Recoverable Lead	ug/L	0.87	1.78	1.49	2.69	1.11	2.44
Total Recoverable Copper	ug/L	7.4	20	11.9	26.2	9.95	19.2
Total Recoverable Manganese	ug/L	128.8	230	192.8	126	113.7	200
Mercury Total	ug/L	0.005	0.007	0.0048	0.0085	0.003	0.006

* Values reported as less than MDL were replaced with zero for calculating monthly averages

OUTFALL 001- Influent

2008 Discharge Monitoring Report Results

		July		*August*		*September*	
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Total Suspended Solids	mg/L	115	730	56	214	115.00	1170
Total Recoverable Arsenic	ug/L	0.6	2.8	0.0	<2.5	0.0	<2.5
Total Recoverable Iron	ug/L	8,556	30,900	4,229	12,400	2,620	6,160
Total Recoverable Selenium	ug/L	2.3	2.6	2.1	2.6	1.76	2
Total Chromium	ug/L	3.5	12.5	0.8	3.2	0.00	<2.5
Total Recoverable Nickel	ug/L	1.48	4.8	0.85	2.1	0.6	1.7
Total Recoverable Silver	ug/L	0.10	0.3	0.0	<0.1	0.02	0.1
Total Recoverable Zinc	ug/L	19.24	62.7	12.08	21.4	17.06	27.9
Total Recoverable Aluminum	ug/L	4118	16900	2518	7220	1412.00	3590
Total Recoverable Cadmium	ug/L	0.06	0.20	0.00	<0.1	0	<0.1
Total Recoverable Lead	ug/L	2.41	8.36	1.30	3.04	1.1	2.29
Total Recoverable Copper	ug/L	25.2	88.8	12.35	27.5	9.56	21.4
Total Recoverable Manganese	ug/L	258.5	828	144.3	305	99	197
Mercury Total	ug/L	0.007	0.022	0.005	0.012	0.008	0.025

* Values reported as less than MDL were replaced with zero for calculating monthly averages

OUTFALL 001- Influent

2008 Discharge Monitoring Report Results

		October		*November*		*December*	
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Total Suspended Solids	mg/L	156	2570	18	86	84	262
Total Recoverable Arsenic	ug/L	0.0	<2.5	0.0	<2.5	0.0	<2.5
Total Recoverable Iron	ug/L	668	1,010	1,466	5,130	5,454	11,100
Total Recoverable Selenium	ug/L	1.2	1.6	1.8	2	1.7	1.9
Total Chromium	ug/L	0.0	<2.5	0.0	<2.5	0.00	<2.5
Total Recoverable Nickel	ug/L	0	<1	0.43	1.7	1.6	4.80
Total Recoverable Silver	ug/L	0.0	<0.1	0.05	0.2	0.12	0.3
Total Recoverable Zinc	ug/L	6.68	12.1	7.5	18	29.34	61.7
Total Recoverable Aluminum	ug/L	227	315	916	3,260	2,953	6,170
Total Recoverable Cadmium	ug/L	0.0	<0.1	0.0	<0.1	0	<0.1
Total Recoverable Lead	ug/L	0.3	0.61	0.70	2.3	2.39	4.91
Total Recoverable Copper	ug/L	2.2	2.8	4.20	13.4	13.5	27.8
Total Recoverable Manganese	ug/L	31.8	42	48.9	144	157	303
Mercury Total	ug/L	0.001	0.002	0.002	0.008	0.009	0.021

* Values reported as less than MDL were replaced with zero for calculating monthly averages

OUTFALL 001- Effluent

2008 Discharge Monitoring Report Results

		January		*February*		*March*	
Parameter	**Units**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**
pH	pH units	6.93	7.56	6.73	7.68	6.58	8.06
Hardness Downstream of Outfall	mg/L	114	131	85	130	90	121
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Temperature	oC	3.36	4.60	4.04	5.20	4.72	5.20
Turbidity	NTU	0.71	2.00	0.73	1.20	0.70	0.86
Background Turbidity	NTU	0.24	0.60	0.20	0.40	0.18	0.27
Turbidity Difference	NTU	0.47	1.79	0.56	1.07	0.52	0.68
Sulfate (as S)	mg/L	33	35	38	46	39	42
Dissolved oxygen	mg/L	12.31	13.52	12.84	13.65	12.73	13.16
Total Suspended Solids	mg/L	5.29	21	1.89	14	0.13	4.0
Ammonia as N	mg/L	0.12	0.2	0.10	0.20	0.04	0.20
Nitrate as N	mg/L	0.23	0.38	0.31	0.56	0.28	0.45
Total Recoverable Arsenic	ug/L	0.0	<2.5	0.00	<2.5	0.0	<2.5
Total Recoverable Iron	ug/L	470	1790	446	680	294	440
Total Recoverable Selenium	ug/L	1.40	2.00	0.00	<1	0.00	<1
Total Chromium	ug/L	0.00	<2.5	0.00	<2.5	0.00	<2.5
Total Recoverable Nickel- "O"	ug/L	***	***	***	2.00	***	2.00
Total Recoverable Nickel- "P"	ug/L	1.20	3.00	1.60	2.00	1.60	2.00
Total Recoverable Nickel- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Silver- "O"	ug/L	***	***	***	<0.1	***	<0.1
Total Recoverable Silver- "P"	ug/L	0.0	<0.1	0.00	<0.1	0.00	<0.1
Total Recoverable Silver- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Zinc- "O"	ug/L	***	***	***	***	***	19.9
Total Recoverable Zinc- "P"	ug/L	10.0	17.3	14.3	16.9	13.3	18.0
Total Recoverable Zinc- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Aluminum	ug/L	69.63	348.00	48.5	123.0	33.60	69
Total Recoverable Cadmium- "O"	ug/L	***	***	***	<0.1	***	<0.1
Total Recoverable Cadmium- "P"	ug/L	0.00	<0.1	0.00	<0.1	0.00	<0.1
Total Recoverable Cadmium- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Lead- "O"	ug/L	***	***	***	<0.16	***	<0.16
Total Recoverable Lead- "P"	ug/L	0.09	0.4	0.05	0.25	0.04	0.18
Total Recoverable Lead- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Copper- "O"	ug/L	***	***	***	<0.1	***	<1
Total Recoverable Copper- "P"	ug/L	1.20	3.0	1.20	2.0	0.00	<1
Total Recoverable Copper- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Manganese	ug/L	64.8	120	61.20	88.0	77.0	86.0
Total Dissolved Solids	mg/L	258	280	290	350	298	320
Mercury Total	ug/L	0.0021	0.0055	0.000	<0.001	0.000	<0.001

*Values reported as less than PQL were replaced with zero for calculating monthly averages

***No value to report: Downstream hardness not within criteria

OUTFALL 001- Effluent

2008 Discharge Monitoring Report Results

		April		*May*		*June*	
Parameter	**Units**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**
pH	pH units	6.81	7.60	6.90	7.64	6.84	8.04
Hardness Downstream of Outfall	mg/L	50	127	32.5	58.6	43	65
Parameter	**Units**	**MO AVG****	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Temperature	oC	5.76	6.90	8.24	10.00	6.24	8.10
Turbidity	NTU	0.16	0.34	0.29	0.50	2.32	6.00
Background Turbidity	NTU	0.16	0.20	0.52	1.20	0.26	0.5
Turbidity Difference	NTU	0.00	0.22	-0.21	0.50	2.06	5.60
Sulfate (as S)	mg/L	41	43	35	40.3	23	24
Dissolved oxygen	mg/L	12.13	12.96	11.35	11.98	11.45	11.96
Total Suspended Solids	mg/L	1.3	14	1.1	15	4.00	14
Ammonia as N	mg/L	0.12	0.30	0.08	0.2	0.00	<0.1
Nitrate as N	mg/L	0.46	0.74	0.31	0.51	0.15	0.18
Total Recoverable Arsenic	ug/L	0.00	<2.5	0.00	<2.5	0.00	<2.5
Total Recoverable Iron	ug/L	10	50	0.00	<50	279	773
Total Recoverable Selenium	ug/L	0.00	<1	0.72	1.50	1.8	2.00
Total Chromium	ug/L	0.0	<2.5	0.00	<2.5	0.00	<2.5
Total Recoverable Nickel- "O"	ug/L	2.00	3.00	0.50	2.5	0.72	2.2
Total Recoverable Nickel- "P"	ug/L	***	2.00	***	***	***	***
Total Recoverable Nickel- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Silver- "O"	ug/L	0.00	<1	0.00	<0.1	0.00	<0.1
Total Recoverable Silver- "P"	ug/L	***	<0.1	***	***	***	***
Total Recoverable Silver- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Zinc- "O"	ug/L	12.2	25.5	5.9	7.2	13.3	22.7
Total Recoverable Zinc- "P"	ug/L	***	9.1	***	***	***	***
Total Recoverable Zinc- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Aluminum	ug/L	8.2	16.0	0.96	1.3	31.92	90.80
Total Recoverable Cadmium- "O"	ug/L	0.00	<0.1	0.00	<0.1	0.00	<0.1
Total Recoverable Cadmium- "P"	ug/L	***	<0.1	***	***	***	***
Total Recoverable Cadmium- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Lead- "O"	ug/L	0.00	<0.16	0.00	<0.16	0.07	0.35
Total Recoverable Lead- "P"	ug/L	***	<0.16	***	***	***	***
Total Recoverable Lead- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Copper- "O"	ug/L	0.00	<1	0.00	<1	1.60	6.80
Total Recoverable Copper- "P"	ug/L	***	<1	***	***	***	***
Total Recoverable Copper- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Manganese	ug/L	71.0	85.0	76.2	87	39.42	54.20
Total Dissolved Solids	mg/L	318	330	215	248	190	204
Mercury Total	ug/L	0.000	<0.001	0.000	<0.001	0.000	<0.001

*Values reported as less than PQL were replaced with zero for calculating monthly averages

***No value to report: Downstream hardness not within criteria

OUTFALL 001- Effluent

2008 Discharge Monitoring Report Results

		July		*August*		*September*	
Parameter	**Units**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**
pH	pH units	6.65	7.85	6.64	7.81	6.65	7.46
Hardness Downstream of Outfall	mg/L	39	71	64	80	31	135
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Temperature	oC	8.52	9.8	8.76	9.7	7.73	8.2
Turbidity	NTU	2.46	3.8	2.86	6.8	1.63	2.8
Background Turbidity	NTU	0.84	3.4	0.46	0.8	0.47	0.6
Turbidity Difference	NTU	1.62	2.9	2.4	6.5	1.17	2.3
Sulfate (as S)	mg/L	26	29	26	29	26	27
Dissolved oxygen	mg/L	11.8	12.88	11.78	13.06	11.62	12.03
Total Suspended Solids	mg/L	1	11	1	8	2.00	8
Ammonia as N	mg/L	0	<0.1	0	<0.1	0.03	0.1
Nitrate as N	mg/L	0.17	0.29	0.15	0.21	0.15	0.2
Total Recoverable Arsenic	ug/L	0.0	<2.5	0.0	<2.5	0.0	<2.5
Total Recoverable Iron	ug/L	518	643	731	1310	615	893
Total Recoverable Selenium	ug/L	1.8	1.9	1.6	1.7	1.3	1.6
Total Chromium	ug/L	0.7	3.4	0.0	<2.5	0.0	<2.5
Total Recoverable Nickel- "O"	ug/L	1.02	1.6	1.34	1.7	1.32	1.6
Total Recoverable Nickel- "P"	ug/L	***	***	***	***	***	1.2
Total Recoverable Nickel- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Silver- "O"	ug/L	0.0	<0.1	0.0	<0.1	0	<0.1
Total Recoverable Silver- "P"	ug/L	***	***	***	***	***	<0.1
Total Recoverable Silver- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Zinc- "O"	ug/L	11.3	18.4	11.6	24.3	7	7.3
Total Recoverable Zinc- "P"	ug/L	***	***	***	***	***	9
Total Recoverable Zinc- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Aluminum	ug/L	32.5	47.7	40	106	19.83	26.5
Total Recoverable Cadmium- "O"	ug/L	0.00	<0.1	0	<0.1	0	<0.1
Total Recoverable Cadmium- "P"	ug/L	***	***	***	***	***	<0.1
Total Recoverable Cadmium- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Lead- "O"	ug/L	0.43	0.61	0.04	0.22	0	<0.16
Total Recoverable Lead- "P"	ug/L	***	***	***	***	***	<0.16
Total Recoverable Lead- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Copper- "O"	ug/L	8.2	12	0.62	2.0	0	<1
Total Recoverable Copper- "P"	ug/L	***	***	***	***	***	<1
Total Recoverable Copper- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Manganese	ug/L	56.2	67	54.2	61	46.9	60
Total Dissolved Solids	mg/L	200	239	165.8	220	202	216
Mercury Total	ug/L	0.000	<0.001	0.000	<0.001	0.000	<0.001

*Values reported as less than PQL were replaced with zero for calculating monthly averages

***No value to report: Downstream hardness not within criteria

OUTFALL 001- Effluent

2008 Discharge Monitoring Report Results

		October		*November*		*December*	
Parameter	**Units**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**	**MINIMUM**	**MAXIMUM**
pH	pH units	6.63	7.52	6.68	7.34	6.70	7.47
Hardness Downstream of Outfall	mg/L	38.1	74.2	59.9	83.3	63	136
Parameter	**Units**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**	**MO AVG**	**DAILY MX**
Temperature	oC	5.7	6.9	5.1	5.5	2.98	4.6
Turbidity	NTU	2.8	3.9	2.3	4.7	2.77	3.5
Background Turbidity	NTU	5.9	29.3	0.80	2.7	0.40	0.6
Turbidity Difference	NTU	-3.2	2.3	1.5	4.2	2.37	3.2
Sulfate (as S)	mg/L	22.8	24.3	23.2	25.7	26	27
Dissolved oxygen	mg/L	12.16	12.6	12.06	12.6	13.86	17.83
Total Suspended Solids	mg/L	2	16	1	6	1.00	6
Ammonia as N	mg/L	0	<0.1	0.22	1.1	0.00	<0.1
Nitrate as N	mg/L	0.09	0.13	0.09	0.1	0.09	0.11
Total Recoverable Arsenic	ug/L	0.0	<2.5	0.0	<2.5	0.0	<2.5
Total Recoverable Iron	ug/L	718	867	631	897	532	695
Total Recoverable Selenium	ug/L	1.2	1.6	1.3	1.5	1.3	1.4
Total Chromium	ug/L	0.0	<2.5	0.0	<2.5	0.0	<2.5
Total Recoverable Nickel- "O"	ug/L	0.4	1.4	0.5	1.5	1.47	1.4
Total Recoverable Nickel- "P"	ug/L	***	***	***	***	***	4
Total Recoverable Nickel- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Silver- "O"	ug/L	0.00	<0.1	0.00	<0.1	0	<0.1
Total Recoverable Silver- "P"	ug/L	***	***	***	***	***	<0.1
Total Recoverable Silver- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Zinc- "O"	ug/L	6.3	7.8	6.3	8	4.9	5.2
Total Recoverable Zinc- "P"	ug/L	***	***	***	***	***	5.7
Total Recoverable Zinc- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Aluminum	ug/L	29	54	26	50	33.58	52.6
Total Recoverable Cadmium- "O"	ug/L	0.00	<0.1	0.0	<0.1	0.0	<0.1
Total Recoverable Cadmium- "P"	ug/L	***	***	***	***	***	<0.1
Total Recoverable Cadmium- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Lead- "O"	ug/L	0.00	<0.16	0.00	<0.16	0.00	<0.16
Total Recoverable Lead- "P"	ug/L	***	***	***	***	***	<0.16
Total Recoverable Lead- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Copper- "O"	ug/L	0.0	<1	0.0	<1	0.23	1.4
Total Recoverable Copper- "P"	ug/L	***	***	***	***	***	<1
Total Recoverable Copper- "Q"	ug/L	***	***	***	***	***	***
Total Recoverable Manganese	ug/L	31.1	42	28.1	41	47.6	58.5
Total Dissolved Solids	mg/L	181	188	186	220	207	245
Mercury Total	ug/L	0.000	<0.001	0.0002	0.0012	0.0002	0.0011

*Values reported as less than PQL were replaced with zero for calculating monthly averages

***No value to report: Downstream hardness not within criteria

001 Final Effluent
TDS Quarterly Anions/Cations, March 2008
sampled 3/11/08

Parameters	*Units*	*Results*
Alkalinity	mg/L	74
Boron	mg/L	<0.05
Calcium	mg/L	73
Chloride	mg/L	9
Conductivity	umhos/cm	482
Fluoride	mg/L	0.1
Hardness	mg/L	203
Potassium	mg/L	1.3
Magnesium	mg/L	5
Sodium	mg/L	10
Sulfate, Total	mg/L	136
pH (Lab)	pH	8.1

001 Final Effluent
TDS Quarterly Anions/Cations, June 2008
sampled 6/3/08

Parameters	*Units*	*Results*
Alkalinity	mg/L	59
Boron	mg/L	<0.03
Calcium	mg/L	45.8
Chloride	mg/L	7
Conductivity	umhos/cm	300
Fluoride	mg/L	<0.2
Hardness	mg/L	128
Potassium	mg/L	<1
Magnesium	mg/L	3.4
Sodium	mg/L	4.4
Sulfate, Total	mg/L	70.1
pH (Lab)	pH	7.32

001 Final Effluent
TDS Quarterly Anions/Cations, June 2008
sampled 6/10/08

Parameters	*Units*	*Results*
Alkalinity	mg/L	61
Boron	mg/L	<0.03
Calcium	mg/L	49.3
Chloride	mg/L	7
Conductivity	umhos/cm	296
Fluoride	mg/L	<0.2
Hardness	mg/L	137
Potassium	mg/L	<1
Magnesium	mg/L	3.5
Sodium	mg/L	4.7
Sulfate, Total	mg/L	73
pH (Lab)	pH	7.56

001 Final Effluent
TDS Quarterly Anions/Cations, September 2008
sampled 9/9/08

Parameters	*Units*	*Results*
Alkalinity	mg/L	54
Boron	mg/L	<0.03
Calcium	mg/L	46.3
Chloride	mg/L	13.6
Conductivity	umhos/cm	344
Fluoride	mg/L	<0.2
Hardness	mg/L	132
Potassium	mg/L	<1
Magnesium	mg/L	4.01
Sodium	mg/L	5.16
Sulfate, Total	mg/L	80.4
pH (Lab)	pH	7.78

001 Final Effluent
TDS Quarterly Anions/Cations, December 2008
sampled 12/2/08

Parameters	*Units*	*Results*
Alkalinity	mg/L	63
Boron	mg/L	<0.03
Calcium	mg/L	47.5
Chloride	mg/L	8.5
Conductivity	umhos/cm	340
Fluoride	mg/L	<0.2
Hardness	mg/L	134
Potassium	mg/L	<1
Magnesium	mg/L	3.74
Sodium	mg/L	4.59
Sulfate, Total	mg/L	72.5
pH (Lab)	pH	7.42

March 2, 2009

Ms. Irene Hopkins
Office of Water – NPDES Compliance Assistance
U.S. Environmental Protection Agency
1200 Sixth Avenue (OW-133)
Seattle, WA 98101

RE: Annual Report; NPDES Permit AK 005057-1; Kensington Gold Project

Dear Ms. Hopkins:

As per the approved NPDES permit Coeur Alaska submits the required annual reporting. Enclosed please find:

- Annual Water Quality Monitoring Summary for 2008, Volume 1: Aquatic Resources; including sediment toxicity testing, resident and anadromous fish surveys, benthic invertebrate surveys and aquatic vegetation surveys.
- Annual Water Quality Monitoring Summary for 2008, Volume 2: Water Quality; including data for Outfall 001 influent and effluent and receiving water stations.
- An electronic copy of historical water quality data.

Permit AK 005057-1 was previously in effect from May 1998 to May 2003. Coeur Alaska continued monitoring in accordance with this permit until September 1, 2005 when the new permit became effective. Changes in required monitoring by the new permit took effect as of September 1, 2005. Results of monitoring from January 1 to December 31, 2008 are included in this report.

If you have any concerns or comments please feel free to call me at your earliest convenience at (907) 523-3309.

Sincerely,

C. D. Gill

Clyde Gillespie
Operations Manager

Attachment

Cc: Kenwyn George (ADEC)
John Dunker (ADNR)
Pete Griffin (USFS)
Dale Pernula (CBJ)
Luke Russell (Coeur)
CFS 8.1.5 Annual 2008