ALEXCO RESOURCE CORP.

Brewery Creek Mine

2008 ANNUAL WATER LICENCE REPORT

Submitted to the Yukon Water Board

Water Use Licence QZ96-007

2008 ANNUAL QUARTZ MINING LICENCE REPORT

Submitted to Yukon Government, Energy Mines and Resources

Yukon Quartz Mining Licence A99-001

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February 2009

Executive Summary

The Brewery Creek Mine, owned and operated by Alexco Resource Corp., is located in central Yukon approximately 55 kilometres east of Dawson City. The mine operates under Class ‘A’ Water Use Licence QZ96-007, originally issued as QZ94-003 in August 1995 and under Yukon Quartz Mining Licence A99-001 issued in 1999.

This report summarizes 2008 monitoring data and activities relevant to both the Water Use and Quartz Mining Licences.

During 2008 no mining operations were conducted. The heap leach pad was detoxified in 2002 and drained down in 2003. Throughout 2008, all assays for Total cyanide remained below 2.0 mg/l.

During 2008, no maintenance seeding and fertilization was completed. The annual revegetation monitoring program was completed.

The large scale lysimeter constructed in the Blue WRSA was monitored for chemistry and infiltration during 2008.

From May – June 2008, 24,572 m^3 of treated process solution was directly released into the Laura Creek watershed. No land application of solution occurred in 2008. Approximately 10,714 m^3 of fresh water from the surface of the heap and surrounding catchment was released as it was captured in the preg pond.

Final reclamation of the ponds was completed in 2008 through removal of all liners, resloping and scarification of the edges and side slopes.

Whenever flow and climatic conditions permitted, all monitoring required under QZ96-007 was carried out.

There was no surface discharge of accumulated waters from any of the 6 pits (Pacific, Blue, Moosehead, Kokanee, South Golden and Lucky). All water in the pits either evaporates or infiltrates into the ground.

Stream sediment sampling was completed in 2008. No benthic monitoring was conducted as 2008 was not a scheduled year.

A revegetation assessment was completed by Laberge Environmental Services in August 2008.

SRK Consulting completed an independent analysis of the reclamation activities and remaining liabilities in October 2008 and their report is attached as Appendix H and similar to previous years the report serves as the annual geotechnical inspection and reclamation status report.

No recordable spills occurred in 2008.

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1 INTRODUCTION

Brewery Creek Mine, owned and operated by Alexco Resource Corp., is located in central Yukon approximately 55 kilometers east of Dawson City. The mine is a conventional open pit heap leach operation that operated continuously from 1996 – 2001. The mine was permanently shut down in 2002. With the exception of some remaining site facilities, the mine has been fully reclaimed.

The mine operates under Class ‘A’ Water Use Licence QZ96-007, originally issued as QZ94-003 in August 1995 and under Quartz Mining Licence A99-001 issued in June 1999.

This report summarizes 2008 monitoring data and activities relevant to the Water Use and Quartz Mining Licences.

2 2008 OVERVIEW OF ACTIVITIES

The following tasks and activities were completed in 2008:

January 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Weekly site visits for security and wildlife protection were conducted on a weekly basis during the month.
- No other site activity was completed.

February 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Weekly site visits for security and wildlife protection were conducted on a weekly basis during the month.
- No other site activity was completed.

March 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.

- March sampling included quarterly monitoring.
- Weekly site visits for security and wildlife protection were conducted on a weekly basis during the month.

April 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Twice weekly site visits began in preparation for spring freshet.
- No other site activity was completed.

May 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Fresh water that was collected in the preg pond as the result of surface runoff during the spring freshet was released by siphoning from the pond.
- Discharge of heap effluent collected in the overflow pond was released during the month through siphoning from the pond.

June 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Sludge in the bottom of the preg pond was removed and stored in 1 tonne supersac bags for shipment and offsite reprocessing.
- Began removing liner from the 3 process ponds.

July 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Continued liner removal from ponds.

August 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- An inspection was completed by SRK Consulting for the purposes of determining the remaining closure liability as well as the SRK report serving as the annual geotechnical inspection.
- Began recontouring edges and sideslopes of process ponds after liner removal.

September 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Completed pond reclamation.

October 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- Ceased scheduled site visits for the duration of the year.
- Annual sediment monitoring program was carried out.

November 2008

- No activity or site visits.

December 2008

- Routine water quality monitoring was completed per the sites and conditions under Water Licence QZ96-007 and Quartz Mining Licence A99-001.
- No other site activity was completed.

3 WATER USE

In 2008, no water was withdrawn from Laura Creek or BC-23.

4 MONITORING

4.1 Climate

Temperatures that are variable and extreme, with warm summers and prolonged extreme cold spells in winter characterize climate at the Brewery Creek Mine site. Typical of northern interior regions, most precipitation occurs as summer rain.

The 2008 climate monitoring data is summarized in tabular and graphical form in Appendix A. Climate data was collected manually during the period from January through December 2008.

4.1.1 Temperature

August was the warmest month of 2008 with a recorded high of 26.0°C. February was the coldest month with a recorded minimum temperature of –36.4°C. Monthly climate data is presented in detail in Appendix A. No climate data was collected in November/December 2008 as the weekly site visits have been discontinued and the site is now on a quarterly monitoring program as per licence conditions.

4.1.2 Precipitation

Total 2008 precipitation measured at the mine site was 452 mm (see Appendix A). 2008 was well above the long-term average precipitation at Brewery Creek of 329 mm, as was experienced throughout the territory in 2008.

4.2 Water Quality and Hydrology

4.2.1 Water Quality Monitoring

Water quality sampling was performed as required by Schedule B of Water Licence QZ96-007. Appendix B presents a monthly summary of compliance sampling.

Components and procedures of the Brewery Creek Mine (BCM) water quality sampling program are summarized below.

Water Quality Laboratories:

Norwest Labs

Burnaby, BC

The Norwest Labs Certificate of Accreditation is attached.

Sampling Equipment:

Bottles: Bottles are supplied by the principal laboratory, arrive on site in coolers, and are stored in coolers. A running inventory of approximately 50 (1L) CN, 50 (1L) standard analytical, and 50 (250 ml) metals sample bottles are maintained on open shelves in the administration building warehouse.

Gloves: Sampling gloves are often used when taking surface water samples. Either neoprene, or rubber panner's gloves are used.

Groundwater Bailers: Single Sample ™ disposable polyethylene bailers, 0.75" to 1.5" diameter are used.

Sampling Procedure:

Surface Water Sampling:

Both the outside of cyanide sampling bottle, and the sampling glove, are rinsed prior to opening the sample bottle. The bottle is opened; care is taken to not touch bottle rim or inside of cap. If stream depth permits, bottle is submerged with top facing upstream and allowed to fill. For shallower sites, the bottle is only partially submerged. Non-cyanide bottles and cap are rinsed twice with water from the sampling site. Rinse water is discarded downstream. Cyanide bottles are not rinsed prior to filling. The bottle is filled and tightly capped. Prior to capping total metals sample, a nitric acid preservative (supplied by the principal analysis lab) is added to the bottle.

Groundwater Sampling, Using Bailers:

The sample bottle is opened, and care is taken to not touch bottle rim or inside of cap. The bailer is emptied through the top of the bailer, into the bottle. Non-cyanide bottles and cap are rinsed twice with water from the sampling site. Rinse water is discarded on the ground. Cyanide bottles are not rinsed prior to filling. The bottle is filled, and cap is placed tightly on bottle.

Dissolved metals samples are filtered in the field using a disposable filter apparatus. The filter apparatus is attached to a sterile collection bottle. Once filtered, a nitric acid preservative is added to the filtrate, and the cap is placed tightly on the bottle.

Occasionally the principal analysis lab performs the filtering and preserving of dissolved metals samples.

Dissolved metals samples are either filtered in the field using a disposable filter apparatus or filtered at the onsite mine environmental laboratory. The filter apparatus is attached to a sterile collection bottle. Once filtered, a nitric acid preservative is added to the filtrate, and the cap is placed tightly on the bottle.

Sample Labeling:

Sample bottles are labeled with the sample location, site name, date sampled, company name and parameters to be analyzed for.

Sample Storage:

Samples are stored in high density plastic sample jars and placed in a cooler until shipping.

Sample Shipping:

Surface and groundwater compliance samples are shipped either the day of, or the day following sampling. Samples are placed in coolers with one or more refrigeration packs, and shipped via courier, or with the samplers when they return to Whitehorse, and airfreight to Vancouver. The coolers are delivered to the principal laboratory.

CERTIFICATE OF ACCREDITATION

Standards Council of Canada

Conseil canadien des normes

CERTIFICAT D'ACCRÉDITATION

BODYCOTE TESTING GROUP (SURREY)

#104-19575-55A Avenue, Surrey, British Columbia

having been assessed by the Standards Council of Canada (SCC) and found to conform with the requirements of ISO/IEC 17025:2005 (CAN-P-4E) and the conditions for accreditation established by SCC is hereby recognized as an

ACCREDITED TESTING LABORATORY

for the specific tests or types of tests listed in the scope of accreditation approved by SCC and found on the SCC website at www.scc.ca.

ayant fait l'objet d'une évaluation réalisée par le Conseil canadien des normes (CCN) et été jugé conforme aux exigences énoncées dans ISO/CEI 17025:2005 (CAN-P-4E) et aux conditions liées à l'accréditation établies par le CCN, est, en vertu du présent certificat, reconnu comme étant un

LABORATOIRE D'ESSAIS ACCRÉDITÉ

pour les essais ou types d'essais énumérés dans la portée d'accréditation approuvée par le CCN et figurant dans le site Web du CCN à www.ccn.ca.

Accredited Laboratory No.: / Numéro de laboratoire accrédité : 188

Accreditation date: / Date d'accréditation : 1995-03-06

Issued on: / Délivré le : 2007-03-05

Expiry date: / Date d'expiration : 2009-03-06

Chairman (SCC) / Président (CCN)

This accreditation is the formal recognition of the technical competence of the laboratory, for the approved scope. In addition, this laboratory has demonstrated that they operate a quality management system (refer to the SCC website for the joint ISO-ILAC-IAF Communiqué dated 2005-06-18).

Cette accréditation est la reconnaissance officielle de la compétence technique du laboratoire pour la portée d'accréditation approuvée. Ce laboratoire a également prouvé qu'il gère un système de management de la qualité (voir le site Web du CCN pour le communiqué commun ISO-ILAC-IAF daté du 18 juin 2005).

Canada

4.3 Surface Water Quality Results

Locations and descriptions of surface water quality stations are given in Appendix B. 2008 surface water quality results are tabulated by station. Certain key parameters including total suspended solids (TSS), nitrogen species (ammonia), and selected metals are graphically compared to historical data. A major forest fire came through the Brewery Creek Mine in 2004 and most notably burned extremely hot through the Laura Creek watershed. The sampling results for total suspended solids (TSS) are evidence of the influence of the forest fires on water quality in the Laura Creek stations in 2005. TSS at stations BC-1, 2 and 3 are all elevated over historic levels. TSS at BC-1 during 2008 showed significant spikes in the late spring and summer period, consistent with the spring freshet and significantly high precipitation experienced in 2008. The same trends with TSS were exhibited at station BC-2 during 2008. TSS at station BC-3 was consistently low throughout the 2008 period. Ammonia at stations BC-1, 2 and 3 were consistently low throughout the year suggesting the effects of the 2004 fire are now negligible.

Arsenic and zinc concentrations at stations BC-1, 2 and 3 are similar to levels experienced in the past several years. No significant trends either up or down appear in any of the stations for the parameters arsenic and zinc. Occasional spikes occur at various stations but these are not associated with any trends.

Copper and lead levels at most stations are within historic levels and there is evidence that past spikes have diminished.

Selenium levels at stations BC-1, 2 and 3 show consistent trends from previous years. There were higher spikes of selenium at BC-2 in 2007 but they are lower than other historic selenium spikes at this station. Selenium at station BC-39 continues to be below the site specific criteria established (3.8 ug/l) for that station. The average selenium concentration at BC-39 during the year was 1.375 ug/l. The highest selenium value reported at station BC-39 in 2008 was 1.5 ug/l in, sampled in July 2008. The level of selenium at BC-39 is consistent with closure predictions indicating the heap closure measures have been effective.

4.3.1 Groundwater Quality Results

Locations and descriptions of groundwater quality stations are given in Appendix B. Water quality sampling from the groundwater stations is required on a quarterly basis as per the Water Licence. There are 7 groundwater piezometers and 1 deep groundwater well (BC-23) located downgradient of the leach pad. All of the stations are sampled on a quarterly basis but some of these stations continue to be dry and no sample is obtained. This is recorded in the sampling results in Appendix B. Station BC-20 contains frozen water on a year round basis. This station historically collected water but it became permanently frozen a few years ago. Attempts are made each quarter to collect a sample and the condition is continuously noted. Antimony, arsenic and cadmium levels at BC-19 showed no increasing trends in 2008. Copper levels at BC-19 appear to have decreased from the previous increasing trend exhibited in 2005 and 2006. Other parameters of note including mercury, silver, lead, iron, zinc and selenium continue to show no noticeable trends in BC-19.

Antimony, arsenic and cadmium levels at BC-21 showed no increasing trends in 2008 and are comparable to previous years. Copper levels at BC-21 exhibited a decrease in the previous trend of increasing values seen in 2005 and 2006. Other parameters of note including mercury, nickel, silver, lead, iron, zinc and selenium continue to show no noticeable trends of increasing levels in BC-21.

Arsenic at station BC-27 (Golden) showed significant variations in 2008. Other parameters at BC-27 such as antimony, cadmium, copper, silver, lead and selenium exhibit the same or a decreasing trend from previous years.

4.3.2 **In-Pit Monitoring Stations Water Quality Results**

Mined out pits were used effectively as sediment control basins. Snow melt and precipitation run-off was directed to the closest inactive pit. Samples from all pits were taken from surface standing water within each pit.

In-pit samples were taken from the west end of Pacific Pit (BC-51), Blue (BC-12), Moosehead Pit (BC-15), Kokanee Phase 3 (BC-10), South Golden Pit (BC-17), and Lucky (BC-18).

Samples collected from the Kokanee Phase 3 and Golden pits (BC-10 and BC-17 respectively), show no abnormal values. Pacific Pit (BC-51) showed a lower pH and ranged from 5.55 – 5.61 during the sampling periods, this is an increase in pH from previous years. High aluminum levels were associated with the lower pH during the same sampling periods. PH values in the Blue Pit (BC-12) ranged from 6.24 – 6.94 throughout the 12 month sampling period. These pH values are considerably higher than historic levels in the Blue Pit and suggest pit chemistry is stable and not trending towards any ARD concerns. Neither the Pacific or Blue Pits discharges to surface and all water infiltrates through the pit bottom. Previous years sampling in Moosehead showed higher levels of selenium. This trend appears to have reversed and selenium levels in Moosehead during 2008 continued to be below 0.05 mg/l. As is the case for all other pits, the water is contained in the pit and either exfiltrates or evaporates. The Lucky Pit (station BC-18) has generally been dry during the scheduled quarterly sampling events and this continued in 2008 where no water was found during any of the sampling events. Overall, the results of the pit water sampling indicates no trends or changes from previous years.

4.3.3 **Monitoring Conformance**

Throughout the year certain monitoring stations or frequencies were not sampled due to various reasons. The following summarizes stations, frequencies or parameters that were not achieved in 2008:

BC-1: Flow measurements were not recorded during the winter months due to very low or no water and significant ice and glacial cover.

BC-2: Flow measurements were not recorded during the winter months due to very low or no water and significant ice and glacial cover.

BC-3: Flow measurements were not recorded during the winter months due to very low or no water and significant ice and glacial cover.

BC-4: Flow measurements were not recorded during the winter months due to significant ice and glacial cover.

BC-5: Flow measurements were not recorded during the winter months due to significant ice and glacial cover.

BC-6: Flow measurements were not recorded during the winter months due to significant ice cover. Flow measurements were not recorded in the open water season because of safety concerns with personnel entering this large fast moving water body during open water season.

BC-9: This in pit station is Fosters Pit and has not had any water for several years and this continued in 2008 and no samples were collected.

BC-11: This station is an intermittent seep at the toe of the Blue WRSA and there was no visible flow during the scheduled quarterly monitoring periods. No samples were collected here during the 2008 monitoring period as no water was ever found.

BC-13: This station is the Moosehead West Waste Dump and no longer exists and there is no visible flow to monitor.

BC-14: This station is the Moosehead East Waste Dump and no longer exists and there is no visible flow to monitor.

BC-16: This station is an intermittent surface flow below the Pacific Pit. No samples were collected here during the 2008 monitoring period as no water was ever found.

BC-18: This station is water in the Lucky Pit. It is generally dry and no sample can be obtained. During the 2008 monitoring year this location was dry during each of the four quarterly sampling periods.

BC-20: This station is a piezometer below the leach pad and similar to previous years no water is found in this piezometer.

BC-23: This station is a deep well below the process area. The pump installed in BC-23 stopped functioning in 2004. An attempt was made to remove the pump and discharge pipe using the company's crane. During this exercise, the discharge pipe broke approximately 20 feet below the casing elevation. Further attempts to remove the pipe and pump have not been successful. Consequently there are no samples reported for BC-23.

BC-24: This station is a piezometer below the leach pad and similar to previous years no water is found in this piezometer.

BC-25: This station is a piezometer below the leach pad and similar to previous years no water is found in this piezometer.

BC-26: This station is a piezometer below the leach pad and similar to previous years no water is found in this piezometer.

4.3.4 **Hydrology**

Stream flow measurements for Laura Creek, Carolyn Creek, Lucky Creek, Lee Creek, and Pacific Creek stations were measured in 2008 during the regularly scheduled monitoring period. All data are presented in Appendix C-1. Inspection of the discharge channel from the outflow of the Overflow Pond siphon pipe has demonstrated each year that the discharge water goes to ground and does not enter any receiving water directly. Daily flows at the "pumphouse" (BC-1) were not recorded on a daily basis during the active period of direct discharge in 2008. Based on past experience, inspections and monitoring, it has been demonstrated that significant flows at BC-1 are evident and selenium criteria at BC-39 have been well under the licence condition and therefore daily changes in the discharge rates to match BC-1 flows has never been necessary.

4.4 **Benthic Monitoring**

As specified in Part F, Clause 45, of Water Licence QZ96-007 benthic monitoring was not required in 2008. Benthic monitoring was completed by Laberge Environmental Services in August 2007 and the next scheduled benthic monitoring program will be completed in 2009.

4.5 **Sediment Monitoring**

Annual stream sediment sampling was conducted in October 2008 along with the third quarterly sampling event. Sediment samples were collected from within the active channel of the streams, using an aluminum scoop. The samples were dried and screened using stainless steel sieves at ASTM mesh number 10, 20, 40, 60, 100, 140 and 270. Fraction weights were recorded. A minus 100-mesh sub-sample was analyzed for 33-element ultratrace ICP at Norwest Labs, Surrey British Columbia. Loss-on-ignition (LOI) was determined by heating the sample to 600°C. Results are tabulated in Appendix D.

Some obvious and notable decreasing trends are exhibited across a number of stations. Many parameters show levels have decreased back to pre mining conditions and baseline conditions. Arsenic, antimony and mercury are some of the best indicators and examples of decreasing metals in sediments over the past 9 years since mining ceased and the last 6 years since the major reclamation and stabilization work was completed.

4.6 **Revegetation Monitoring**

A revegetation monitoring and assessment report was completed by Laberge Environmental Services in August 2008. The assessment included permanent monitoring plots and other revegetated areas across the property. The Laberge report is included in Appendix F. Conclusions and recommendations are included in the report.

4.7 **Leak Detection and Recovery Systems**

Monitoring of (LDRS) systems was discontinued in 2005, consistent with long-term closure plans and the fact the heap has been fully decommissioned and drained. The leak detection piping and collection system remains intact however.

4.8 **Air Quality**

No air quality monitoring for mercury emissions was conducted in 2008 due to the dismantling of the ADR facility in 2004 and the cessation of refining. No further air quality monitoring is anticipated.

4.9 **Effects on Wildlife**

4.9.1 **Process-Related Mortalities**

No wildlife process – related mortalities occurred during 2008. The fence constructed in June 2006 to prevent wildlife from entering the process ponds was removed in 2008 during the final reclamation of the ponds. There is no liner remaining on site to pose any wildlife entrampment risk.

4.10 **Reclamation Activities Report**

An inspection of the reclamation activities and remaining liabilities was completed by SRK Consulting during August 2008. This report is attached as Appendix H. The SRK report serves as the annual geotechnical report as well as a status of the reclamation progress to date.

The major reclamation task completed in 2008 was the removal of the liners and reclamation of the process ponds. Design drawings for the construction of the diversion and overflow ditches were completed by Randy Clarkson P. Eng. prior to commencement of these structures. The design drawings are attached as Appendix I.

The only reclamation activities remaining at the site include dismantling the existing warehouse and breach of the dyke in the corner of leach pad Cell 1. Breach of the dyke will be completed in 2009.

5 REAGENT AND WASTE MANAGEMENT

5.1 **Spill Occurrence and Response**

No reportable spills occurred in 2008.

5.2 **Reagent Storage and Handling**

Other than some miscellaneous laboratory chemicals, there are no reagents or chemicals in storage at the Brewery Creek Mine. During the removal of the liner in the preg pond, approximately 70 bags of sludge/carbon was removed and is currently in storage in an area adjacent to the preg pond. This material will be sent offsite for further processing in 2009.

6 WATER MANAGEMENT

6.1 Direct Release

A total volume of 24,572 m^3 of compliant process solution and 10,714 m^3 of heap surface runoff was directly released in 2008. No solution was land applied in 2008. Water quality analysis and sampling was conducted and solution released was compliant with the water licence criteria and conditions. Bioassays were completed on the heap surface water runoff (preg pond water) and the discharge water (BC-28). These bioassays passed and the solution was demonstrated to be non toxic. Results of the bioassays are included in Appendix G. All samples from BC-28a (heap effluent) were below 2.0 ppm total cyanide in 2008. The first sample from the heap below 2.0 ppm total cyanide was in February 2002. All samples subsequently taken have returned a total cyanide value below 2.0 ppm. This constitutes 80 consecutive months where the total cyanide from the heap has been less than 2.0 ppm.

Table 6.1 Solution Release 2008

Month	Process Solution Direct Release (m^3)	Fresh Water Direct Release (m^3)	Land App Release (m^3)	**TOTAL (m^3)**
January				
February				
March				
April				
May	24,572	10,714		35,386
June				
July				
August	20,178 *			
September	30,000 *			
October				
November				
December				
Totals 2008	**24,572**	**10,714**		**35,386**
Totals To 2002 - 2008	**183,509**	**80,221**	**151,796**	**415,526**
Remaining Permitted	**na**	**na**	**248,204**	

* 20,718 m^3 from the overflow pond in August and 30,000 m^3 of solution from the barren pond (BTC) in September was transferred to the preg pond to complete the removal of the liner in these ponds. The transferred solution subsequently infiltrated into the ground in the preg pond since it no longer is lined and has been recontoured.

6.2 Selenium Criteria

Water quality results for BC-39 are detailed in Appendix B. All sampling periods at BC-39 returned a selenium concentration at or below the water licence criteria for site specific levels. The site specific selenium criteria for compliance at station BC-39 is 3.8 ug/l. The highest selenium measured at station BC-39 during 2008 was 1.5 ug/l and the lowest was 1.4 ug/l.

6.3 Heap Cover Infiltration

The water balance model used in all previous Brewery Creek assessments has been modified and updated to determine the estimated infiltration of precipitation through the heap cover. The model uses actual snowpack and precipitation data, pond volumes and release volumes to determine the amount of solution that infiltrates through the cover. The model results are included in Table 6.1. The model differentiates and separates surface runoff from water that infiltrates through the cover. It is anticipated that this model will be modified and calibrated as time goes on and more actual field performance of the cover is realized. The model uses the basic water balance assumption of:

Starting Pond Volume + Water In – Water Out = Ending Pond Volume

The starting and ending pond volumes can be measured at the end of each reporting period. For the basis of the model, a monthly period is used.

Water IN is measured by actual precipitation measurements. The amount of precipitation falling over the leach pad is separated from the amount falling over the ponds.

Water OUT is directly measurable from land application, direct discharge flowmeters and measured pond volumes. The model balances the Water IN and OUT and calculates the “missing” amount of water that has left the system. This amount is assumed to be the volume that has infiltrated through the heap cover.

The infiltration through the heap for 2008 is estimated at 13.7%. Details of the monthly inputs and calculations are found in Table 6.1. This infiltration rate is significantly lower than previous years (~24%) and is likely attributed to the fact that the liners were removed in 2008 and the ponds no longer contain water. The liners in all three process ponds were removed in 2008 and the surface of the ponds was scarified and recontoured. This work resulted in the ponds no longer retaining water and infiltrating into the ground. The water in the overflow pond (20,718 m^3) was transferred to the preg pond in August to facilitate removal of the overflow pond liner. Likewise the water in the barren pond (BTC, 30,000 m^3) was transferred to the preg pond in September 2008 to complete removal of the liner in that pond. The vast majority of this transferred water infiltrated through the unlined and recontoured preg pond. This resulted in only 23,800 m^3 of solution remaining in all of the ponds at the end of 2008. It is expected long term that the ponds will no longer retain water and after spring freshet the water will continue to infiltrate into the ground and it is likely that direct release or surface discharge of solution at Brewery Creek will no longer be required. These changes in the water management features have likely contributed to the estimated infiltration rate for the heap not being as accurate as years past.

Alexco Resource Corp.
Brewery Creek Mine
Heap Infiltration Model

TABLE 6.2 Heap Infiltration Water Balance

Pond Volume Start + IN - OUT = Pond Volume End

Pond Volume Start + Heap Infiltrate + Heap Spring Runoff + Pond Precip - Direct Release - Land App = Pond Volume End
Heap Infiltrate = Pond Volume End - Pond Volume Start - Heap Spring Runoff - Pond Precip + Direct Release + Land App

Pond Volume Start (m3) =	55,983
Pond Volume End (m3) =	23,886
Heap Spring Runoff (m3) =	19,929
Pond Precip (m3)=	14,283
Direct Release (m3) =	35,386
Land App Release (m3) =	50,178
Heap Infiltrate (m^3) =	19,255
Total Heap Precip (m^3) =	140,572
Estimated Heap Infiltrate %	13.70%

Cumulative Years				
2004	2005	2006	2007	2008
21.1%	24.1%	27.3%	24.1%	13.7%

* Feb-04 precip is the cumulative snowpack from October 2003 - February 2004

	CLIMATIC INPUTS	**CATCHMENT AREAS**						**SOLUTION OUT**			
Month	Precip. mm	Total Liner Area m^2	Ponds Catchment Area m^2	Precip Fallen Leach Pad	Heap Spring Runoff into Ponds	Precip Fallen Ponds	TOTAL IN	Direct Release	Land Application Release	Total Releases	Actual/Calculated Pond Volume
	Input	Input	Input	Calc		Calc	Calc	Input		Calc	Input
Jan-04		311,000	31,600	-		-	0			0	63,000
Feb-04 *	158.0	311,000	31,600	49,138		4,993	54,131			0	65,592
Mar-04	17.5	311,000	31,600	5,443		553	60,126			0	68,184
Apr-04	11.9	311,000	31,600	3,701		376	64,203			0	73,965
May-04	11.5	311,000	31,600	3,577	24,743	363	68,143	21,052		21,052	77,482
Jun-04	19.8	311,000	31,600	6,158		626	74,927	18,021		18,021	65,782
Jul-04	47.6	311,000	31,600	14,804		1,504	91,234	16,927	13,161	30,088	39,348
Aug-04	6.4	311,000	31,600	1,990		202	93,427	22,701		22,701	22,745
Sep-04	27.0	311,000	31,600	8,397		853	102,677	6,246		6,246	21,711
Oct-04	43.0	311,000	31,600	13,373		1,359	117,409			0	24,303
Nov-04	31.0	311,000	31,600	9,641		980	128,030			0	26,895
Dec-04	37.1	311,000	31,600	11,538		1,172	140,740			0	29,487
Jan-05	22.4	311,000	31,600	6,966		708	148,414			0	32,079
Feb-05	33.2	311,000	31,600	10,325		1,049	159,789			0	34,671
Mar-05	18.9	311,000	31,600	5,878		597	166,264			0	37,263
Apr-05	26.0	311,000	31,600	8,086	15,750	822	175,171			0	59,616
May-05	37.9	311,000	31,600	11,787	19,561	1,198	188,156	28,305		28,305	58,548
Jun-05	37.6	311,000	31,600	11,694		1,188	201,038	23,993		23,993	39,873
Jul-05	38.9	311,000	31,600	12,098		1,229	214,365	5,936		5,936	34,527
Aug-05	63.7	311,000	31,600	19,811		2,013	236,188	2,007		2,007	41,560
Sep-05	49.9	311,000	31,600	15,519		1,577	253,284			0	43,463
Oct-05	13.9	311,000	31,600	4,323		439	258,046			0	47,525
Nov-05	44.5	311,000	31,600	13,840		1,406	273,292			0	49,688
Dec-05	21.1	311,000	31,600	6,562		667	280,521			0	51,949

Alexco Resource Corp.
Brewery Creek Mine
Heap Infiltration Model

TABLE 6.2 Heap Infiltration Water Balance

Pond Volume Start + IN - OUT = Pond Volume End

Pond Volume Start + Heap Infiltrate + Heap Spring Runoff + Pond Precip - Direct Release - Land App = Pond Volume End
Heap Infiltrate = Pond Volume End - Pond Volume Start - Heap Spring Runoff - Pond Precip + Direct Release + Land App

Pond Volume Start (m3) =	55,983
Pond Volume End (m3) =	23,886
Heap Spring Runoff (m3) =	19,929
Pond Precip (m3)=	14,283
Direct Release (m3) =	35,386
Land App Release (m3) =	50,178
Heap Infiltrate (m^3) =	19,255
Total Heap Precip (m^3) =	140,572
Estimated Heap Infiltrate %	13.70%

Cumulative Years				
2004	2005	2006	2007	2008
21.1%	24.1%	27.3%	24.1%	13.7%

* Feb-04 precip is the cumulative snowpack from October 2003 - February 2004

	CLIMATIC INPUTS	CATCHMENT AREAS						SOLUTION OUT			
Month	Precip. mm	Total Liner Area m^2	Ponds Catchment Area m^2	Precip Fallen Leach Pad	Heap Spring Runoff into Ponds	Precip Fallen Ponds	TOTAL IN	Direct Release	Land Application Release	Total Releases	Actual/Calculated Pond Volume
	Input	Input	Input	Calc		Calc	Calc	Input		Calc	Input
Jan-06	6.4	311,000	31,600	1,990		202	282,714			0	53,149
Feb-06	20.4	311,000	31,600	6,344		645	289,703			0	54,349
Mar-06	20.3	311,000	31,600	6,313		641	296,657			0	55,549
Apr-06	33.0	311,000	31,600	10,263		1,043	307,963			0	79,284
May-06	34.7	311,000	31,600	10,792	34,196	1,097	319,851	24,750		24,750	74,079
Jun-06	52.8	311,000	31,600	16,421		1,668	337,941	34,196		34,196	56,829
Jul-06	20.7	311,000	31,600	6,438		654	345,032			0	29,133
Aug-06	64.6	311,000	31,600	20,091		2,041	367,164			0	32,633
Sep-06	39.2	311,000	31,600	12,191		1,239	380,594			0	36,133
Oct-06	29.3	311,000	31,600	9,112		926	390,633			0	38,633
Nov-06	12.3	311,000	31,600	3,825		389	394,847			0	40,633
Dec-06	17.3	311,000	31,600	5,380		547	400,773			0	42,133
Jan-07	22.4	311,000	31,600	6,966		708	408,448			0	43,235
Feb-07	38.0	311,000	31,600	11,818		1,201	421,467			0	44,535
Mar-07	31.2	311,000	31,600	9,703		986	432,156			0	45,835
Apr-07	9.8	311,000	31,600	3,048		310	435,513			0	47,135
May-07	27.9	311,000	31,600	8,677	9,624	882	445,072	15,684		15,684	48,435
Jun-07	29.5	311,000	31,600	9,175		932	455,178	18,180		18,180	49,735
Jul-07	30.0	311,000	31,600	9,330		948	465,456			0	51,035
Aug-07	26.7	311,000	31,600	8,304		844	474,604			0	52,335
Sep-07	38.9	311,000	31,600	12,098		1,229	487,931			0	50,783
Oct-07	11.6	311,000	31,600	3,608		367	491,905			0	52,083
Nov-07	13.6	311,000	31,600	4,230		430	496,564			0	53,383
Dec-07	15.7	311,000	31,600	4,883		496	501,943			0	54,683
Jan-08	21.3	311,000	31,600	6,624		673	509,241			0	55,983
Feb-08	30.5	311,000	31,600	9,486		964	519,690			0	57,283
Mar-08	26.3	311,000	31,600	8,179		831	528,700			0	58,583
Apr-08	35	311,000	31,600	10,885		1,106	540,691			0	62,787
May-08	43.6	311,000	31,600	13,560	19,929	1,378	555,629	35,386		35,386	43,810

TABLE 6.2 Heap Infiltration Water Balance

Pond Volume Start + IN - OUT = Pond Volume End

Alexco Resource Corp.
Brewery Creek Mine
Heap Infiltration Model

Pond Volume Start + Heap Infiltrate + Heap Spring Runoff + Pond Precip - Direct Release - Land App = Pond Volume End
Heap Infiltrate = Pond Volume End - Pond Volume Start - Heap Spring Runoff - Pond Precip + Direct Release + Land App

Pond Volume Start (m3) =	55,983
Pond Volume End (m3) =	23,886
Heap Spring Runoff (m3) =	19,929
Pond Precip (m3)=	14,283
Direct Release (m3) =	35,386
Land App Release (m3) =	50,178
Heap Infiltrate (m^3) =	19,255
Total Heap Precip (m^3) =	140,572
Estimated Heap Infiltrate %	13.70%

Cumulative Years

2004	2005	2006	2007	2008
21.1%	24.1%	27.3%	24.1%	13.7%

* Feb-04 precip is the cumulative snowpack from October 2003 - February 2004

	CLIMATIC INPUTS	CATCHMENT AREAS						SOLUTION OUT			
Month	Precip. mm	Total Liner Area m^2	Ponds Catchment Area m^2	Precip Fallen Leach Pad	Heap Spring Runoff into Ponds	Precip Fallen Ponds	TOTAL IN	Direct Release	Land Application Release	Total Releases	Actual/Calculated Pond Volume
	Input	Input	Input	Calc		Calc	Calc	Input		Calc	Input
Aug-08	94.2	311,000	31,600	29,296		2,977	617,057		30,000	30,000	56,386
Sep-08	52.6	311,000	31,600	16,359		1,662	635,078		20,178	20,178	56,386
Oct-08	22.9	311,000	31,600	7,122		724	642,923			0	46,386
Nov-08	19.6	311,000	31,600	6,096		619	649,638			0	31,386
Dec-08	20.9	311,000	31,600	6,500		660	656,798			0	23,886

The volume of water released in land application in 2008 indicates the amount that is estimated to have infiltrated into the ground from the unlined preg pond
No solution was actually land applied in 2008

6.4 **Blue WRSA Lysimeter**

A large scale lysimeter was constructed in 2003 to measure and collect precipitation as it passes through the 0.5 meter soil cover. Water quality samples are collected and analyzed. These results are included in Appendix B. The water quality from the large scale lysimeter is consistent with predictions made by SRK Consulting and there is no evidence of metal leaching or transport from the Blue WRSA material within the lysimeter.

The lysimeter also provides a mechanism to measure the overall level of precipitation infiltrating through the soil cover. A tank installed at the base of the Blue WRSA captures and measures the volume of solution that has passed through the cover. Precipitation levels throughout the year are measured and the percent infiltration can be calculated. The cumulative infiltration through the Blue WRSA lysimeter over the period 2004 – 2008 is estimated at 7.5%. The infiltration during this period is significantly less than the predicted rates from the modeling. Figures 7.1 and 7.2 present graphically the infiltration rates through the Blue WRSA cover.

Based on the water quality from the lysimeter and the infiltration rate through the cover, the remediation measures implemented in the Blue WRSA are demonstrated to be effective.

Figure 6.1 Blue WRSA Lysimeter

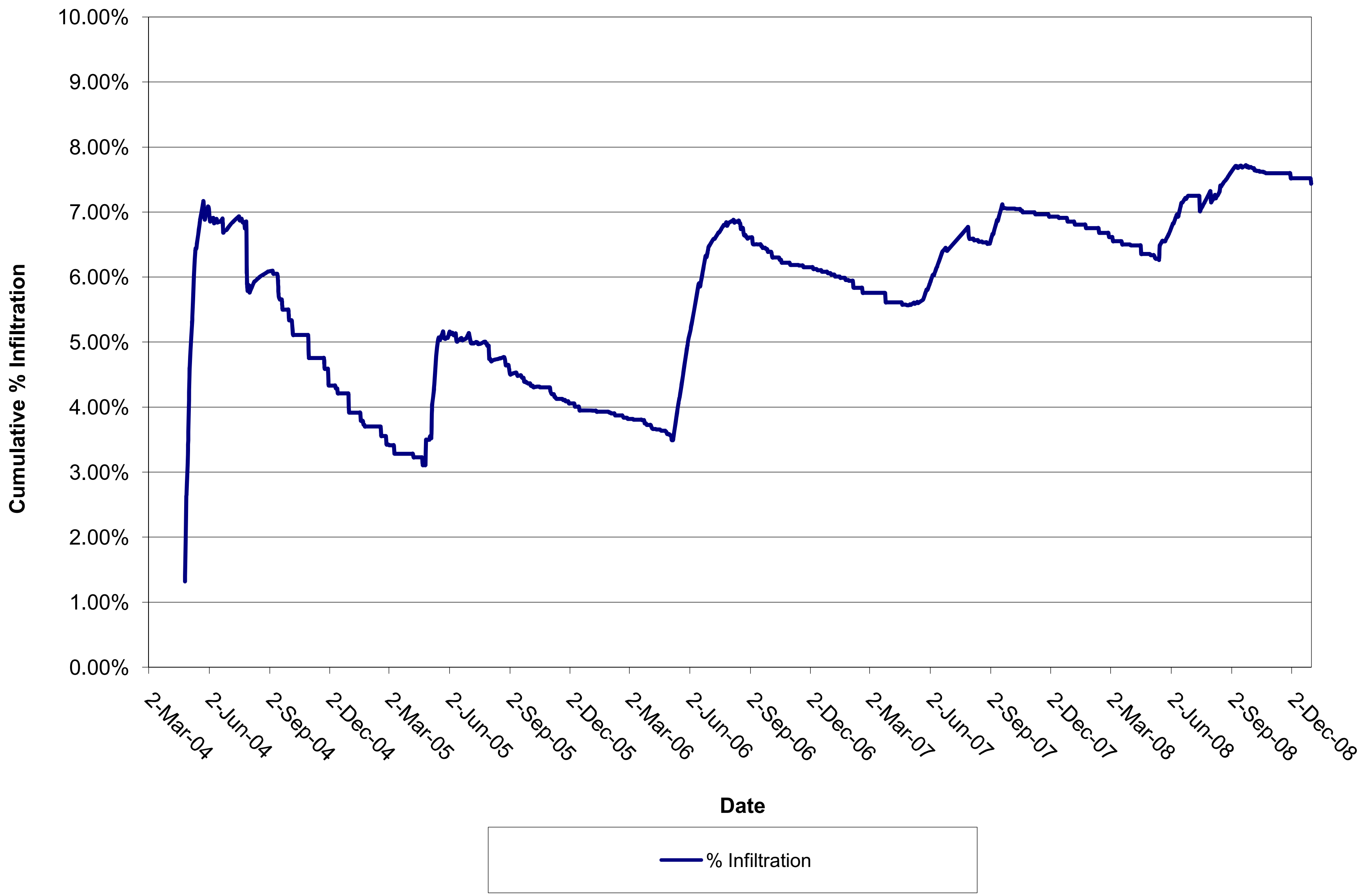
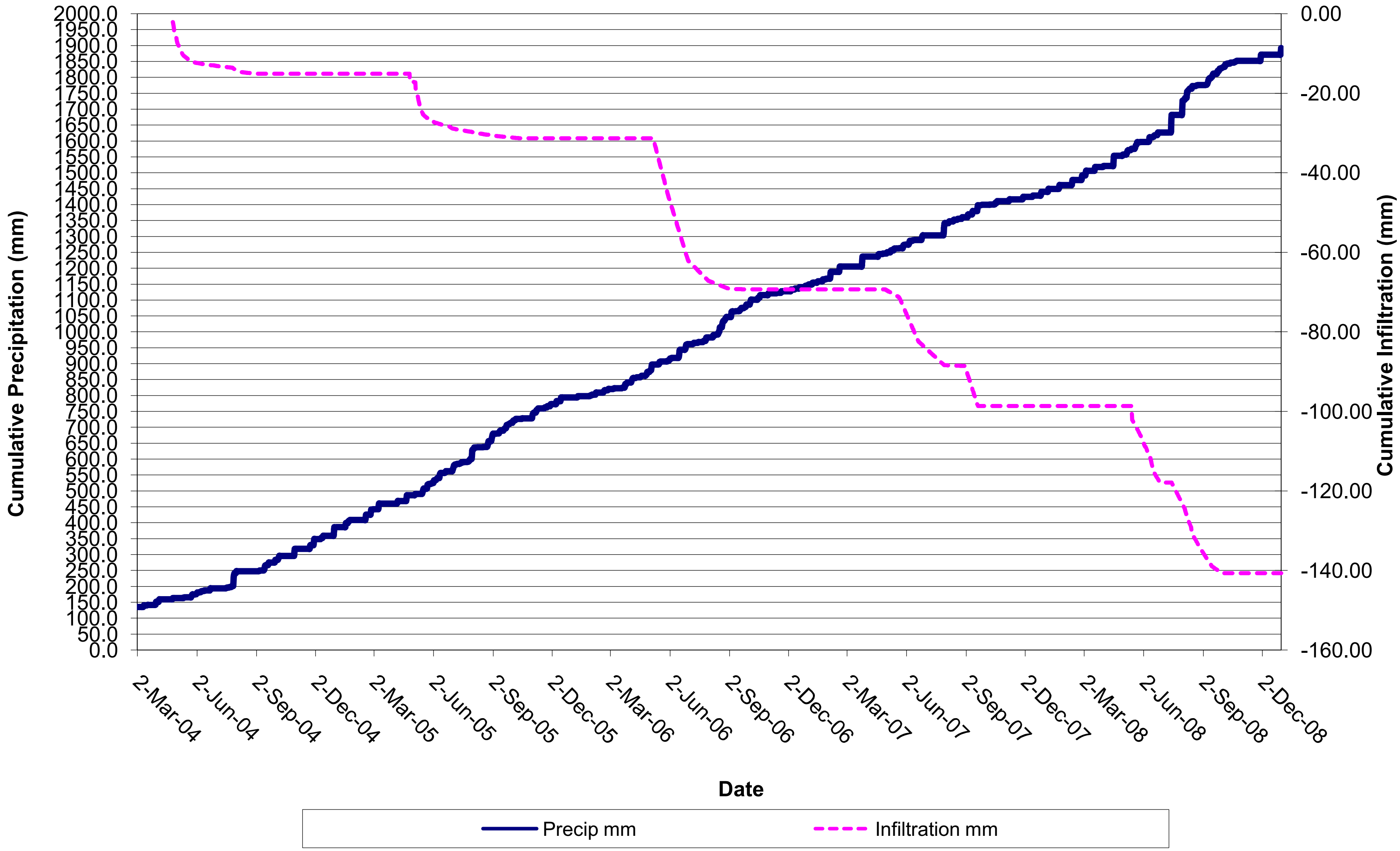


Figure 6.2
Blue WRSA Lysimeter
Soil Cover Infiltration Performance



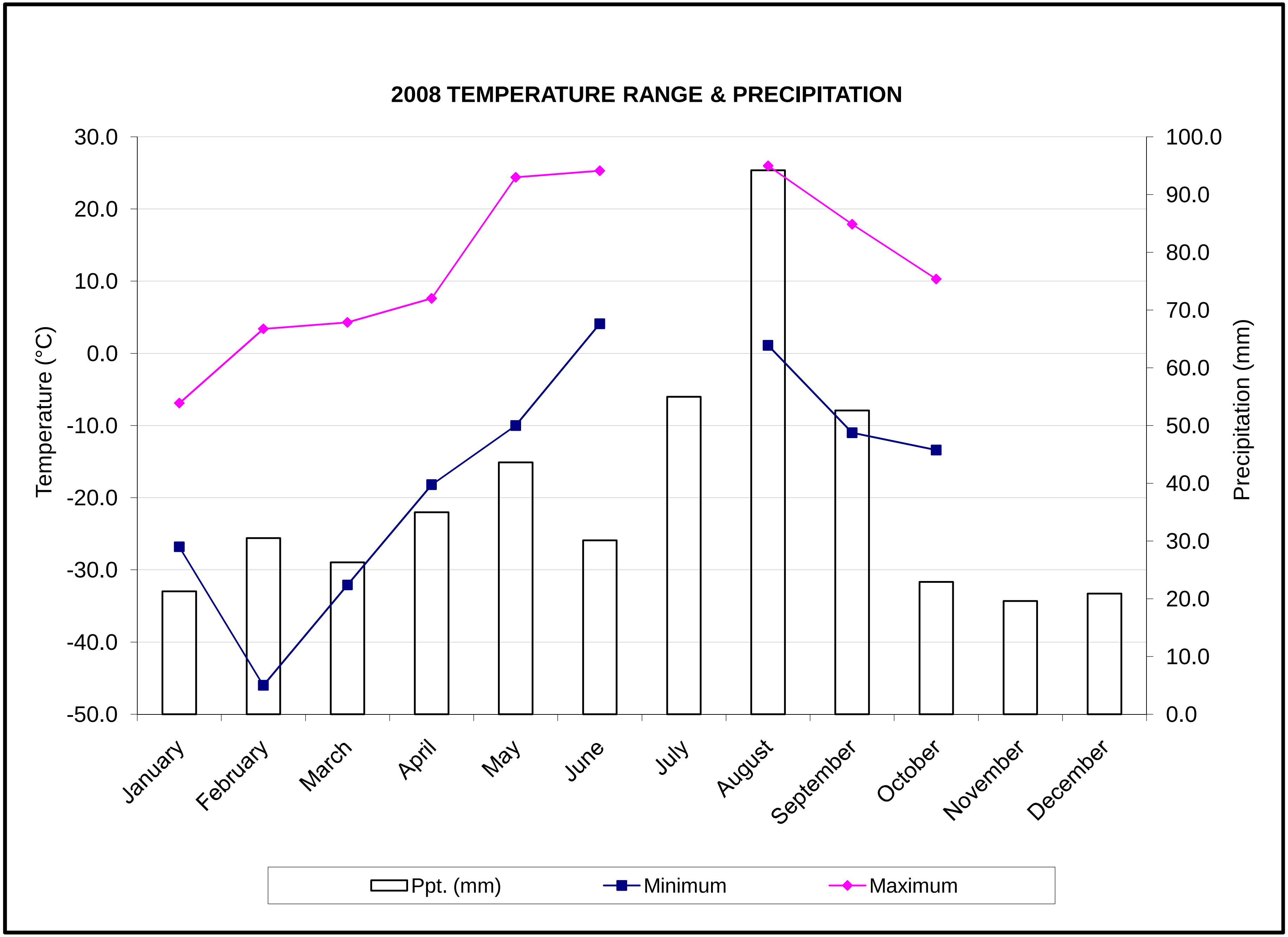
Appendix A

2008 Climate Data

Brewery Creek Mine

Climate Data - Summary 2008

Date	Temperature °C			Precipitation (mm)
	Max.	Min.	Avg.	
January	-6.9	-26.8	-20.8	21.3
February	3.4	-46.0	-36.4	30.5
March	4.3	-32.1	-13.2	26.3
April	7.6	-18.2	-6.8	35.0
May	24.4	-10.0	8.8	43.6
June	25.3	4.1	14.8	30.1
July				55.0
August	26.0	1.1	10.9	94.2
September	17.9	-11.0	5.9	52.6
October	10.3	-13.4	-2.8	22.9
November				19.6
December				20.9
Summary				**452.0**


2008 TEMPERATURE RANGE & PRECIPITATION
Temperature (°C)
Precipitation (mm)
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
-50.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
January
February
March
April
May
June
July
August
September
October
November
December
Ppt. (mm)
Minimum
Maximum

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - January 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Jan-08				
02-Jan-08				
03-Jan-08				
04-Jan-08				
05-Jan-08				
06-Jan-08				
07-Jan-08	-6.9	-26.8	-16.9	9.4
08-Jan-08				
09-Jan-08				
10-Jan-08				
11-Jan-08				
12-Jan-08				
13-Jan-08				
14-Jan-08				
15-Jan-08				
16-Jan-08				
17-Jan-08				
18-Jan-08				
19-Jan-08				
20-Jan-08				
21-Jan-08				
22-Jan-08				
23-Jan-08				
24-Jan-08	-35.2	-14.3	-24.8	11.9
25-Jan-08				
26-Jan-08				
27-Jan-08				
28-Jan-08				
29-Jan-08				
30-Jan-08				
31-Jan-08				

Monthly Min. Temp.	-26.8	°C
Monthly Max. Temp.	-6.9	°C
Average Temperature	-20.8	°C
Total AWS Precipitation	21.3	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - February 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Feb-08				
02-Feb-08				
03-Feb-08				
04-Feb-08				
05-Feb-08				
06-Feb-08				
07-Feb-08				
08-Feb-08				
09-Feb-08				
10-Feb-08				
11-Feb-08				
12-Feb-08				
13-Feb-08	-6.0	-46.0	-44.5	16.0
14-Feb-08				
15-Feb-08				
16-Feb-08				
17-Feb-08				
18-Feb-08				
19-Feb-08				
20-Feb-08				
21-Feb-08				
22-Feb-08				
23-Feb-08				
24-Feb-08				
25-Feb-08				
26-Feb-08				
27-Feb-08				
28-Feb-08	3.4	-22.8	-28.2	14.5

Monthly Min. Temp.	-46.0	°C
Monthly Max. Temp.	3.4	°C
Average Temperature	-36.4	°C
Total AWS Precipitation	30.5	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - March 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Mar-08				
02-Mar-08				
03-Mar-08				
04-Mar-08				
05-Mar-08	-2.8	-32.1	-17.5	14.5
06-Mar-08				
07-Mar-08				
08-Mar-08				
09-Mar-08				
10-Mar-08				
11-Mar-08				
12-Mar-08				
13-Mar-08				
14-Mar-08				
15-Mar-08				
16-Mar-08				
17-Mar-08				
18-Mar-08				
19-Mar-08	4.3	-22.1	-8.9	11.8
20-Mar-08				
21-Mar-08				
22-Mar-08				
23-Mar-08				
24-Mar-08				
25-Mar-08				
26-Mar-08				
27-Mar-08				
28-Mar-08				
29-Mar-08				
30-Mar-08				
31-Mar-08				

Monthly Min. Temp.	-32.1	°C
Monthly Max. Temp.	4.3	°C
Average Temperature	-13.2	°C
Total AWS Precipitation	26.3	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - April 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Apr-08	5.7	-22.2	-8.3	3.0
02-Apr-08				
03-Apr-08				
04-Apr-08				
05-Apr-08				
06-Apr-08				
07-Apr-08				
08-Apr-08				
09-Apr-08				
10-Apr-08				
11-Apr-08				
12-Apr-08				
13-Apr-08				
14-Apr-08				
15-Apr-08				
16-Apr-08				
17-Apr-08	7.6	-18.2	-5.3	32.0
18-Apr-08				
19-Apr-08				
20-Apr-08				
21-Apr-08				
22-Apr-08				
23-Apr-08				
24-Apr-08				
25-Apr-08				
26-Apr-08				
27-Apr-08				
28-Apr-08				
29-Apr-08				
30-Apr-08				

Monthly Min. Temp.	-22.2	°C
Monthly Max. Temp.	7.6	°C
Average Temperature	-6.8	°C
Total AWS Precipitation	35.0	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - May 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-May-08	13.9	-10	1.95	4.0
02-May-08				
03-May-08				
04-May-08				
05-May-08				
06-May-08				
07-May-08	14.7	-2.2	6.25	4.2
08-May-08	13.9	0.4	7.15	7.5
09-May-08	14.4	0.7	7.6	2.5
10-May-08				
11-May-08				
12-May-08	17.2	3.8	10.5	
13-May-08	13.0	1.2	7.1	
14-May-08	14.7	0.6	7.7	4.0
15-May-08	8.6	2.2	5.4	
16-May-08	12.5	1.7	7.1	
17-May-08				
18-May-08				
19-May-08				
20-May-08	17.6	1.6	9.6	6.4
21-May-08	17.2	3.9	10.55	4.8
22-May-08	17.9	5.4	11.7	3.2
23-May-08	14.7	4.6	9.7	6.5
24-May-08				
25-May-08				
26-May-08	24.4	3.3	13.85	
27-May-08	20.7	6.2	13.45	
28-May-08	14.7	3.2	9.0	0.5
29-May-08	14.3	-0.6	6.9	
30-May-08				
31-May-08				

Monthly Min. Temp.	-10.0	°C
Monthly Max. Temp.	24.4	°C
Average Temperature	8.5	°C
Total AWS Precipitation	43.6	mm

Brewery Creek Mine

Monitoring Pursuant to Water License QZ96-007

Climate Data - June 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Jun-08				
02-Jun-08	22.4	4.3	13.4	
03-Jun-08	23.1	9.4	16.3	
04-Jun-08	22.9	7.5	15.2	
05-Jun-08	20.9	4.1	12.5	
06-Jun-08	19.2	5.0	12.1	
07-Jun-08				
08-Jun-08				
09-Jun-08	24.3	4.3	14.3	0.9
10-Jun-08	21.1	5.6	13.4	
11-Jun-08	22.6	6.5	14.6	14.0
12-Jun-08	23.8	5.9	14.9	
13-Jun-08	19.1	5.7	12.4	
14-Jun-08				
15-Jun-08				
16-Jun-08	24.2	5.6	14.9	0.6
17-Jun-08	25.1	6.4	15.8	0.4
18-Jun-08	22.2	6.9	14.6	4.0
19-Jun-08	17.6	8.1	12.9	1.5
20-Jun-08	22.1	9.8	16.0	
21-Jun-08				
22-Jun-08				
23-Jun-08	25.3	11.2	18.3	0.7
24-Jun-08	24.9	7.8	16.4	7.6
25-Jun-08	21.8	7.2	14.5	
26-Jun-08	23.2	10.4	16.8	
27-Jun-08	25.2	8.9	17.1	0.4
28-Jun-08				
29-Jun-08				
30-Jun-08				

Monthly Min. Temp.	4.1	°C
Monthly Max. Temp.	25.3	°C
Average Temperature	14.8	°C
Total AWS Precipitation	30.1	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - July 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Jul-08	No temperature data collected in July due to no site presence			
02-Jul-08				
03-Jul-08				
04-Jul-08				
05-Jul-08				
06-Jul-08				
07-Jul-08				
08-Jul-08				
09-Jul-08				
10-Jul-08				
11-Jul-08				
12-Jul-08				
13-Jul-08				
14-Jul-08				
15-Jul-08				
16-Jul-08				
17-Jul-08				
18-Jul-08				
19-Jul-08				
20-Jul-08				
21-Jul-08				
22-Jul-08				
23-Jul-08				
24-Jul-08				
25-Jul-08				
26-Jul-08				
27-Jul-08				
28-Jul-08				
29-Jul-08				
30-Jul-08				
31-Jul-08				55.0

Monthly Min. Temp.		°C
Monthly Max. Temp.		°C
Average Temperature		°C
Total AWS Precipitation	55.0	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - August 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Aug-08				
02-Aug-08				
03-Aug-08				
04-Aug-08	26.0	4.0	15.0	45.0
05-Aug-08	21.2	6.5	13.9	0.4
06-Aug-08	16.2	5.3	10.8	1.5
07-Aug-08	14.1	5.4	9.8	0.4
08-Aug-08	13.8	6.8	10.3	6.1
09-Aug-08				
10-Aug-08				
11-Aug-08	17.9	2.5	10.2	20.0
12-Aug-08	19.5	3.5	11.5	0.6
13-Aug-08	18.4	8.5	13.5	4.1
14-Aug-08	14.2	7.4	10.8	2.6
15-Aug-08	17.6	8.3	13.0	2.0
16-Aug-08				
17-Aug-08				
18-Aug-08				
19-Aug-08	19.8	5.6	12.7	7.8
20-Aug-08	16.8	4.7	10.8	
21-Aug-08	16.1	4.8	10.5	
22-Aug-08	17.2	3.7	10.5	
23-Aug-08				
24-Aug-08				
25-Aug-08	17.6	1.7	9.7	1.5
26-Aug-08	11.9	3.5	7.7	1.2
27-Aug-08	13.9	4.3	9.1	
28-Aug-08	14.1	4.1	9.1	1.0
29-Aug-08	15.7	1.1	8.4	
30-Aug-08				
31-Aug-08				

Monthly Min. Temp.	1.1	°C
Monthly Max. Temp.	26.0	°C
Average Temperature	10.9	°C
Total AWS Precipitation	94.2	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - September 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Sep-08	17.2	-2.1	7.55	
02-Sep-08	17.2	5.8	11.5	
03-Sep-08	15.9	4.4	10.15	
04-Sep-08	15.9	4.4	10.15	
05-Sep-08				
06-Sep-08				
07-Sep-08	17.9	2.7	10.3	0.6
08-Sep-08	13.4	6.9	10.2	2.8
09-Sep-08	12.3	5.2	8.8	4.1
10-Sep-08	8.2	4.1	6.2	9.0
11-Sep-08	10.1	3.2	6.7	4.0
12-Sep-08				
13-Sep-08				
14-Sep-08	13.4	2.7	8.1	4.4
15-Sep-08	11.7	4.8	8.3	
16-Sep-08	10.4	5.2	7.8	3.0
17-Sep-08	8.8	1.9	5.4	6.9
18-Sep-08	9.5	2.7	6.1	0.8
19-Sep-08				
20-Sep-08				
21-Sep-08				
22-Sep-08	7.7	-1.2	3.3	
23-Sep-08	8.4	2.0	5.2	
24-Sep-08	10.3	3.5	6.9	8.4
25-Sep-08	11.2	-3.1	4.1	
26-Sep-08	7.3	-1.0	3.2	
27-Sep-08	1.3	-4.5	-1.6	7.0
28-Sep-08	1.4	-11.0	-4.8	
29-Sep-08	-1.3	-6.2	-3.75	1.6
30-Sep-08				

Monthly Min. Temp.	-11.0	°C
Monthly Max. Temp.	17.9	°C
Average Temperature	5.9	°C
Total AWS Precipitation	52.6	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - October 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Oct-08	3.7	-2.5	0.6	1.2
02-Oct-08	3.2	-3.7	-0.3	1.6
03-Oct-08	10.3	-1.5	4.4	1.8
04-Oct-08				
05-Oct-08				
06-Oct-08	9.2	-3.5	2.9	7.8
07-Oct-08	2.4	-5.1	-1.4	
08-Oct-08	1.5	-4.7	-1.6	
09-Oct-08	-1.5	-7.2	-4.35	2.4
10-Oct-08	0.5	-3.3	-1.4	
11-Oct-08				
12-Oct-08				
13-Oct-08				
14-Oct-08	5.5	-6.7	-0.6	2.9
15-Oct-08	0.0	-4.8	-2.4	
16-Oct-08	1.5	-11.2	-4.9	
17-Oct-08	-6.6	-13.0	-9.8	
18-Oct-08	-7.5	-13.4	-10.5	
19-Oct-08				
20-Oct-08	-0.8	-12.1	-6.45	2.0
21-Oct-08	-2.4	-8.3	-5.35	
22-Oct-08	0.8	-3.3	-1.25	1.2
23-Oct-08	1.2	-13.1	-5.95	2.0
24-Oct-08				
25-Oct-08				
26-Oct-08				
27-Oct-08				
28-Oct-08				
29-Oct-08				
30-Oct-08				
31-Oct-08				

Monthly Min. Temp.	-13.4	°C
Monthly Max. Temp.	10.3	°C
Average Temperature	-2.8	°C
Total AWS Precipitation	22.9	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - November 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Nov-08				
02-Nov-08				
03-Nov-08				
04-Nov-08				
05-Nov-08				
06-Nov-08				
07-Nov-08				
08-Nov-08				
09-Nov-08				
10-Nov-08				
11-Nov-08				
12-Nov-08				
13-Nov-08				
14-Nov-08	No Climate date collected in November due to no site presence			
15-Nov-08				
16-Nov-08				
17-Nov-08				
18-Nov-08				
19-Nov-08				
20-Nov-08				
21-Nov-08				
22-Nov-08				
23-Nov-08				
24-Nov-08				
25-Nov-08				
26-Nov-08				
27-Nov-08				
28-Nov-08				
29-Nov-08				
30-Nov-08				19.6

Monthly Min. Temp.		°C
Monthly Max. Temp.		°C
Average Temperature		°C
Total AWS Precipitation	19.6	mm

Brewery Creek Mine
Monitoring Pursuant to Water License QZ96-007

Climate Data - December 2008

Date	Temperature °C			Ppt. (mm)
	Max.	Min.	Avg.	
01-Dec-08				
02-Dec-08				
03-Dec-08				
04-Dec-08				
05-Dec-08				
06-Dec-08				
07-Dec-08				
08-Dec-08				
09-Dec-08				
10-Dec-08				
11-Dec-08				
12-Dec-08				
13-Dec-08				
14-Dec-08				
15-Dec-08	No Climate data collected in December due to no site presence			
16-Dec-08				
17-Dec-08				
18-Dec-08				
19-Dec-08				
20-Dec-08				
21-Dec-08				
22-Dec-08				
23-Dec-08				
24-Dec-08				
25-Dec-08				
26-Dec-08				
27-Dec-08				
28-Dec-08				
29-Dec-08				
30-Dec-08				
31-Dec-08				20.9

Monthly Min. Temp.		°C
Monthly Max. Temp.		°C
Average Temperature		°C
Total AWS Precipitation	20.9	mm

Appendix B

2008 Water Quality Monitoring Program

Results

QZ96-007 - Amendment 7 (Application QZ03-062)

SCHEDULE A
MONITORING STATIONS

Station	Description	UTM Coordinates (Zone 7) Northing (m)	Easting (m)
BC-01, H5, W5, B3	Laura Ck., 50 m u/s from Ditch Road	7,099,630	634,420
BC-02, H15, W15	Carolyn Ck. u/s from Laura Ck.	7,101,970	633,250
BC-03, 2, W4B	Laura Ck. above Carolyn Ck.	7,102,570	632,345
BC-04, H13, W13, B7	Lucky Ck. d/s from Lucky Pit	7,107,640	639,180
BC-05	Pacific Ck. u/s from confl. with Lee Ck.	7,103,130	627,610
BC-06, K1, W9, B5	South Klondike d/s from confl. with Lee Ck.	7,097,460	627,400
BC-09	Fosters Pit and Dump (Upper)		
BC-10	Kokanee Pit and Dump	7,105,760	635,620
BC-11	Blue Waste Dump	7,105,050	633,740
BC-12	Blue Pit	7,105,420	634,090
BC-13	Moosehead West Waste Dump	7,106,120	634,150
BC-14	Moosehead East Waste Dump		
BC-15	Moosehead Pit discharge	7,106,430	634,420
BC-16	Pacific Gulch - 300m above Laura	7,105,140	633,350
BC-17	Golden Pit and Dump	7,106,510	637,560
BC-18S	Lucky Pit and Dump - south end	7,107,220	638,180
BC-18N	Lucky Pit and Dump - north end	7,107,410	638,160
BC-19	Piezometer RC94-843	7,103,750	632,290
BC-20	Piezometer RC94-844	7,104,710	632,070
BC-21	Piezometer RC95-1354	7,105,070	632,740
BC-22	Piezometer RC95-1357	7,104,000	632,066
BC-23	Piezometer RC95-1370	7,103,410	632,500
BC-24	Piezometer RC95-1400	7,104,630	631,920
BC-25	Piezometer RC96-1608	7,104,000	632,215
BC-26	Piezometer RC97-2024	7,107,120	638,320
BC-27	Piezometer RC97-2026	7,106,550	637,380
BC-28	Overflow pond decant	7,103,800	632,540
BC28a	Discharge from heap		
BC-39	Laura Creek in the side channel of the South Klondike River	7,098,230	631,340
BC-51W	Pacific Pit - west side	7,105,240	633,130
BC-65	Land Appication Piezometer	7,102,140	633,990
BC-66	Land Appication Piezometer	7,100,660	634,710
BC-67	Blue WRSA Piezometer	7,105,280	633,710
BC-68	Blue WRSA Piezometer	7,105,310	633,920
BC-69	Blue WRSA Piezometer	7,105,150	633,820
H2, W2, B2, BC-31	Golden Creek above confluence with S. Klondike	7,104,030	642,340
H3, W3, BC-32	Laura Creek below exploration camp	7,105,100	634,170
H6, W6A, B6, BC-33	Lee Creek above Pacific Creek	7,103,240	627,420
H7, W7, B1, BC-34	Lee Creek at Ditch Road	7,100,380	627,710
He, W14, BC-35	Pacific Creek below heap leach pad	7,106,010	630,650
H16, W16, BC-36	Golden Creek above confluence with Lucky Creek	7,109,860	640,500
H17, W5A, BC-37	Laura Creek at Ditch Road	7,099,700	633,960
K4, W8, B4, BC-38	S. Klondike upstream from confluence with Golden Creek	7,102,670	642,250

QZ96-007 - Amendment 7 (Application QZ03-062)

SCHEDULE B-1
MONITORING SCHEDULE (2005 to 2009)

Parameter	Monitoring Station																																			
	BC 1	BC 2	BC 3	BC 4	BC 5	BC 6	BC 9	BC 10	BC 11	BC 12	BC 13	BC 14	BC 15	BC 16	BC 17	BC 18	BC 19	BC 20	BC 21	BC 22	BC 23	BC 24	BC 25	BC 26	BC 27	BC 28	BC 28a	BC 31	BC 34	BC 39	BC 51W	BC 65	BC 66	BC 67	BC 68	BC 69
Flow	M/Q	M/Q	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	C		Q	Q	Q	Q	(2)	(2)	(2)	(2)	(2)
pH (field)	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	MWA	MWA	Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
pH (laboratory)	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q			Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Conductivity (field)	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	MWA	MWA	Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Conductivity (lab)	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q			Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Temperature (field)	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q												Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Hardness	M/Q	M/Q	M/Q	Q	Q	Q																														
Alkalinity	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q			Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Dissolved solids	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q			Q	Q	Q	Q			Q	Q	Q
Suspended solids	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q										MWA	MWA	Q	Q	Q	Q	MA/Q	MA/Q			
Chloride	M/Q	M/Q	M/Q	Q	Q	Q											Q	Q	Q	Q	Q	Q	Q	Q	Q									Q	Q	Q
Sulphate	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q			Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Ammonia	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	MWA	MWA	Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Nitrate	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q			Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Total cyanide	M/Q	M/Q				Q											Q	Q	Q	Q	Q	Q	Q	Q	Q	MWA	MWA					MA/Q	MA/Q	Q	Q	Q
WAD cyanide	M/Q	M/Q				Q											Q	Q	Q	Q	Q	Q	Q	Q	Q	MWA	MWA					MA/Q	MA/Q	Q	Q	Q
ICP metals	M/Q	M/Q	M/Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	MWA	MWA	Q	Q	Q	Q	MA/Q	MA/Q	Q	Q	Q
Bio-assay																										MWA	MWA									

LEGEND

ICP metals to include Ca, Mg, Na, K, Cu, As, Sb, Hg, Zn, Se, Pb, Al Bi, Cd, Cr, Fe, Mn, Mo, Ni, Ag and S.

Q = Quarterly
M/Q = Monthly in years 2005, 2006 and 2007, and quarterly in years 2008 and 2009
C = Continuous
MWA=Monthly when active
MA/Q=Monthly when active and quarterly when not active

BC-18 includes BC-18S and BC-18N
(2) denotes static water elevation

QZ96-007 - Amendment 7 (Application QZ03-062)

SCHEDULE B-2
MONITORING SCHEDULE (2010 to 2014)

Monitoring Station

Parameter	BC 1	BC 2	BC 3	BC 4	BC 5	BC 6	BC 9	BC 10	BC 11	BC 12	BC 13	BC 14	BC 15	BC 16	BC 17	BC 18	BC 19	BC 20	BC 21	BC 22	BC 23	BC 24	BC 25	BC 26	BC 27	BC 28	BC 28a	BC 31	BC 34	BC 39	BC 51W	BC 65	BC 66	BC 67	BC 68	BC 69
Flow	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	C		SA	SA	SA	SA	(2)	(2)	(2)	(2)	(2)
pH (field)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	MWA	MWA	SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
pH (laboratory)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA			SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Conductivity (field)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	MWA	MWA	SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Conductivity (lab)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA			SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Temperature (field)	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA												SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Hardness	SA	SA	SA	SA	SA	SA																														
Alkalinity	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA			SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Dissolved solids	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA			SA	SA	SA	SA			A	A	A
Suspended solids	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA										MWA	MWA	SA	SA	SA	SA	MA/Q	MA/Q			
Chloride	SA	SA	SA	SA	SA	SA											SA	SA	SA	SA	SA	SA	SA	SA	SA									A	A	A
Sulphate	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA			SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Ammonia	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	MWA	MWA	SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Nitrate	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA			SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Total cyanide	SA	SA				SA											SA	SA	SA	SA	SA	SA	SA	SA	SA	MWA	MWA					MA/Q	MA/Q	A	A	A
WAD cyanide	SA	SA				SA											SA	SA	SA	SA	SA	SA	SA	SA	SA	MWA	MWA					MA/Q	MA/Q	A	A	A
ICP metals	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	MWA	MWA	SA	SA	SA	SA	MA/Q	MA/Q	A	A	A
Bio-assay																										MWA	MWA									

LEGEND

A=Annually
SA=Semi-Annually
MWA=Monthly when active
MA/Q=Monthly when active and quarterly when not active
C = Continuous

ICP metals to include Ca, Mg, Na, K, Cu, As, Sb, Hg, Zn, Se, Pb, Al Bi, Cd, Cr, Fe, Mn, Mo, Ni, Ag and S.

BC-18 includes BC-18S and BC-18N
(2) denotes static water elevation

QZ96-007 - Amendment 7 (Application QZ03-062)

SCHEDULE B-3
MONITORING SCHEDULE (2015 to expiry)

	Monitoring Station																																		
Parameter	**BC 1**	**BC 2**	**BC 3**	**BC 4**	**BC 5**	**BC 6**	**BC 9**	**BC 10**	**BC 11**	**BC 12**	**BC 13**	**BC 14**	**BC 15**	**BC 16**	**BC 17**	**BC 18**	**BC 19**	**BC 20**	**BC 21**	**BC 22**	**BC 23**	**BC 24**	**BC 25**	**BC 26**	**BC 27**	**BC 28**	**BC 28a**	**BC 31**	**BC 34**	**BC 39**	**BC 51W**	**BC 65**	**BC 66**	**BC 67**	**BC 68**	**BC 69**
Flow	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	C		A	A	A	A	(2)	(2)	(2)	(2)	(2)
pH (field)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	MWA	MWA	A	A	A	A	MA/Q	MA/Q	A	A	A
pH (laboratory)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	A	A	A	MA/Q	MA/Q	A	A	A
Conductivity (field)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	MWA	MWA	A	A	A	A	MA/Q	MA/Q	A	A	A
Conductivity (lab)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	A	A	A	MA/Q	MA/Q	A	A	A
Temperature (field)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A												A	A	A	A	MA/Q	MA/Q	A	A	A
Hardness	A	A	A	A	A	A																														
Alkalinity	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	A	A	A	MA/Q	MA/Q	A	A	A
Dissolved solids	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	A	A	A			A	A	A
Suspended solids	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A										MWA	MWA	A	A	A	A	MA/Q	MA/Q			
Chloride	A	A	A	A	A	A											A	A	A	A	A	A	A	A	A									A	A	A
Sulphate	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	A	A	A	MA/Q	MA/Q	A	A	A
Ammonia	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	MWA	MWA	A	A	A	A	MA/Q	MA/Q	A	A	A
Nitrate	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A	A	A	A	MA/Q	MA/Q	A	A	A
Total cyanide	A	A				A											A	A	A	A	A	A	A	A	A	MWA	MWA					MA/Q	MA/Q	A	A	A
WAD cyanide	A	A				A											A	A	A	A	A	A	A	A	A	MWA	MWA					MA/Q	MA/Q	A	A	A
ICP metals	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	MWA	MWA	A	A	A	A	MA/Q	MA/Q	A	A	A
Bio-assay																										MWA	MWA									

LEGEND

A=Annually

MWA=Monthly when active

MA/Q=Monthly when active and quarterly when not active

C = Continuous

ICP metals to include Ca, Mg, Na, K, Cu, As, Sb, Hg, Zn, Se, Pb, Al Bi, Cd, Cr, Fe, Mn, Mo, Ni, Ag and S.

BC-18 includes BC-18S and BC-18N

(2) denotes static water elevation

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-1

		Sample Date	24-Jan-2008	Feb-2008	Mar-2008	18-Apr-2008	13-May-2008	18-Jun-2008	09-Jul-2008	12-Aug-2008
		Lab Report No	1094418			1111778	1121717	1130137	1134801	1142539
Parameter	**Standard**	**Units**								
pH, Laboratory		pH units	7.35			7.94	7.8	7.98	7.69	7.95
pH, Field		pH units	7.67			7.8	7.62	7.4	7.18	7.11
Conductivity - Lab		µS/cm	646			937	312	484	306	308
Conductivity Field		µS/cm	621			750	281	414	264	279
Temperature		°C	0.2			0.2	0	2.1	3	1
Hardness calculated from total metal scan		mgCaCO3/L	376			519	141	258	320	166
Alkalinity, Total		mgCaCO3/L	205			257	72	136	84	98
Alkalinity, Hydroxide OH		mgCaCO3/L	<5			<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6			<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	250			314	90	160	100	100
Total Suspended Solids		mg/L	3			<2	<2	10	131	102
Total Dissolved Solids		mg/L	502			816	222	340	240	268
Chloride		mg/L	0.76			2.15	1.02	0.57	0.33	0.29
Sulphate, Dissolved		mg/L	184			321	68	124	68.6	63.5
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.02			<0.005	0.027	0.01	0.028	0.016
Nitrate Nitrogen, NO_3^-	15	mg/L	0.13			0.02	4.2	0.46	0.84	0.45
Cyanide, Total		mg/L	0.001			0.001	0.015	0.001	<0.001	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002			<0.002	0.006	0.002	0.002	0.002
Calcium, total	0.25	mg/L	92.8	no water found	no water found	124	35.4	62.7	78.5	41
Magnesium, total		mg/L	35.1			50.6	12.9	24.7	30.2	15.5
Sodium, total		mg/L	7.2			9.6	8.6	4.8	8.7	3.2
Potassium, total		mg/L	1.9			3.5	1.5	1.3	2.8	1.3
Copper, total		mg/L	0.001			0.002	0.004	0.002	0.009	0.006
Arsenic, total	0.5	mg/L	0.0083			0.0068	0.0072	0.0047	0.0084	0.0074
Antimony, total	0.5	mg/L	0.0025			0.0031	0.0044	0.0031	0.0044	0.0042
Mercury, total	1	mg/L	<0.0001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc, total	0.005	mg/L	0.021			0.015	0.015	0.007	0.034	0.017
Selenium, total	0.5	mg/L	0.0022			0.0031	0.003	0.0013	0.0013	0.0014
Lead, total	0.75	mg/L	0.0002			0.0001	0.0012	0.0003	0.0041	0.0019
Aluminum, total	0.2	mg/L	0.101			0.011	1.64	0.39	3.82	2.9
Bismuth, total	1	mg/L	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium, total	0.5	mg/L	0.00009			0.00012	0.00013	0.00004	0.0002	0.00014
Chromium, total	0.1	mg/L	0.0008			0.0011	0.0031	0.001	0.0075	0.0055
Iron, total	0.5	mg/L	0.2			<0.1	1.9	0.5	10.6	3.37
Manganese, total	1	mg/L	0.08			0.016	0.17	0.038	0.237	0.093
Molybdenum, total	2	mg/L	0.005			0.003	0.002	0.003	0.002	0.002
Nickel, total	0.5	mg/L	0.0015			0.0016	0.0051	0.0014	0.0105	0.0084
Silver, total	0.8	mg/L	<0.0001			0.00001	0.00003	<0.00001	0.00009	0.00006
Sulphur, total	0.1	mg/L	61.5			97.7	21.9	43	46.2	22

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-1

		Sample Date	17-Sep-2008	18-Dec-2008
		Lab Report No	1152079	1184909
Parameter	Standard	Units		
pH, Laboratory		pH units	8.03	8.11
pH, Field		pH units	7.15	*nm
Conductivity - Lab		µS/cm	381	475
Conductivity Field		µS/cm	347	*nm
Temperature		°C	3	*nm
Hardness calculated from total metal scan		mgCaCO3/L	205	315
Alkalinity, Total		mgCaCO3/L	114	135
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	140	160
Total Suspended Solids		mg/L	42	4
Total Dissolved Solids		mg/L	318	352
Chloride		mg/L	0.7	0.4
Sulphate, Dissolved		mg/L	98.3	125
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.012	0.1
Nitrate Nitrogen, NO_3^-	15	mg/L	1.07	0.03
Cyanide, Total		mg/L	0.002	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	<0.002
Calcium, total	0.25	mg/L	51.6	78.1
Magnesium, total		mg/L	18.6	29
Sodium, total		mg/L	4.6	4.8
Potassium, total		mg/L	1.26	1.4
Copper, total		mg/L	0.002	<0.001
Arsenic, total	0.5	mg/L	0.004	0.0044
Antimony, total	0.5	mg/L	0.0042	0.0028
Mercury, total	1	mg/L		<0.0001
Zinc, total	0.005	mg/L	0.007	0.007
Selenium, total	0.5	mg/L	0.0008	0.0019
Lead, total	0.75	mg/L	0.0006	0.0002
Aluminum, total	0.2	mg/L	0.649	0.181
Bismuth, total	1	mg/L	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00007	0.00006
Chromium, total	0.1	mg/L	0.0021	0.0006
Iron, total	0.5	mg/L	1.1	0.2
Manganese, total	1	mg/L	0.0575	0.04
Molybdenum, total	2	mg/L	0.0022	0.003
Nickel, total	0.5	mg/L	0.002	0.002
Silver, total	0.8	mg/L	<0.00001	<0.00001
Sulphur, total	0.1	mg/L		50.5

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-2

		Sample Date	24-Jan-2008	28-Feb-2008	Mar-2008	18-Apr-2008	13-May-2008	18-Jun-2008	09-Jul-2008	12-Aug-2008
		Lab Report No	1094418	1099343		1111778	1121717	1130137	1134801	1142539
Parameter	**Standard**	**Units**								
pH, Laboratory		pH units	7.13	7.9		8.17	7.75	7.54	7.14	7.98
pH, Field		pH units	7.29	nm*		7.86	7.64	7.4	7.25	7.33
Conductivity - Lab		µS/cm	1040	1350		1940	752	631	262	330
Conductivity Field		µS/cm	987	nm*		885	661	541	227	295
Temperature		°C	0.1	nm*		0.2	0.7	2.4	5	1
Hardness calculated from total metal scan		mgCaCO3/L	596	726		1230	249	332	307	180
Alkalinity, Total		mgCaCO3/L	155	226		429	65	108	42	108
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5		<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6		<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	189	275		523	80	130	50	130
Total Suspended Solids		mg/L	<2	2		<2	<2	88	344	36
Total Dissolved Solids		mg/L	940	1130		1870	576	466	218	290
Chloride		mg/L	1.98	2		3.31	5.78	1.88	0.97	0.31
Sulphate, Dissolved		mg/L	425	501		988	173	199	66	68.8
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	<0.01	0.101		0.018	0.017	0.117	0.128	0.013
Nitrate Nitrogen, NO_3^-	15	mg/L	0.16	0.26		2.4	34.2	5.24	4.2	0.2
Cyanide, Total		mg/L	0.003	0.002		0.004	0.12	0.018	0.017	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	0.002		0.002	0.038	0.006	0.008	0.002
Calcium, total	0.25	mg/L	128	160	no water found	274	63.2	74.9	70	44.2
Magnesium, total		mg/L	67.4	79.4		133	22.3	35.2	32.1	16.8
Sodium, total		mg/L	21.4	21.6		39.9	56.8	22.4	24.7	2.1
Potassium, total		mg/L	1.8	3.4		6.7	2.1	2.8	5.6	1.1
Copper, total		mg/L	0.001	0.002		0.013	0.002	0.024	0.038	0.004
Arsenic, total	0.5	mg/L	0.0004	0.001		0.001	0.002	0.0085	0.0147	0.0058
Antimony, total	0.5	mg/L	<0.0002	0.0004		0.0006	0.0221	0.0018	0.0032	0.0051
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Zinc, total	0.005	mg/L	0.011	0.026		0.042	0.007	0.077	0.15	0.012
Selenium, total	0.5	mg/L	0.0041	0.0221		0.0289	0.0152	0.0053	0.0038	0.0014
Lead, total	0.75	mg/L	0.0001	0.0002		0.0013	0.0004	0.0114	0.0158	0.0007
Aluminum, total	0.2	mg/L	0.017	0.019		0.031	0.504	13.5	22.6	1.13
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium, total	0.5	mg/L	0.00003	0.00018		0.00013	0.00002	0.0003	0.00057	0.00011
Chromium, total	0.1	mg/L	0.0008	0.0005		0.0015	0.0012	0.0222	0.0372	0.0025
Iron, total	0.5	mg/L	<0.1	<0.1		<0.1	0.6	21.9	60	1.33
Manganese, total	1	mg/L	0.055	0.814		0.025	0.274	0.402	0.86	0.066
Molybdenum, total	2	mg/L	<0.001	<0.001		<0.001	<0.001	0.001	0.002	0.002
Nickel, total	0.5	mg/L	0.0014	0.0036		0.0017	0.0016	0.0216	0.038	0.0057
Silver, total	0.8	mg/L	<0.0001	<0.00001		0.00003	0.00001	0.00013	0.00031	0.00003
Sulphur, total	0.1	mg/L	159	185		285	57	71.8	45.3	23.9

*not measured - multi-meter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-2

		Sample Date	17-Sep-2008	18-Dec-2008
		Lab Report No	1152079	1184909
Parameter	**Standard**	**Units**		
pH, Laboratory		pH units	8.01	7.61
pH, Field		pH units	7.46	*nm
Conductivity - Lab		µS/cm	412	1020
Conductivity Field		µS/cm	355	*nm
Temperature		°C	4	*nm
Hardness calculated from total metal scan		mgCaCO3/L	222	514
Alkalinity, Total		mgCaCO3/L	125	189
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	150	230
Total Suspended Solids		mg/L	12	6
Total Dissolved Solids		mg/L	244	868
Chloride		mg/L	0.55	2.5
Sulphate, Dissolved		mg/L	108	394
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01	0.09
Nitrate Nitrogen, NO_3^-	15	mg/L	0.18	1.4
Cyanide, Total		mg/L	<0.001	0.008
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	0.006
Calcium, total	0.25	mg/L	54.5	118
Magnesium, total		mg/L	20.9	53
Sodium, total		mg/L	2.6	24.1
Potassium, total		mg/L	1.31	2
Copper, total		mg/L	0.002	0.001
Arsenic, total	0.5	mg/L	0.0029	0.0005
Antimony, total	0.5	mg/L	0.0042	0.0016
Mercury, total	1	mg/L		<0.0001
Zinc, total	0.005	mg/L	0.009	0.007
Selenium, total	0.5	mg/L	0.0014	0.0048
Lead, total	0.75	mg/L	0.0002	0.0001
Aluminum, total	0.2	mg/L	0.202	0.027
Bismuth, total	1	mg/L	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00004	0.00004
Chromium, total	0.1	mg/L	0.001	<0.0005
Iron, total	0.5	mg/L	0.46	<0.05
Manganese, total	1	mg/L	0.064	0.052
Molybdenum, total	2	mg/L	0.00195	<0.001
Nickel, total	0.5	mg/L	0.003	0.0019
Silver, total	0.8	mg/L	0.00014	<0.00001
Sulphur, total	0.1	mg/L		123

*not measured - multi-meter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-3

		Sample Date	24-Jan-2008	28-Feb-2008	05-Mar-2008	18-Apr-2008	13-May-2008	18-Jun-2008	09-Jul-2008
		Lab Report No	1094418	1099343	1099296	1111778	1121717	1130137	1134801
Parameter	**Standard**	**Units**							
pH, Laboratory		pH units	7.83	8.09	7.75	8.06	7.91	7.91	7.81
pH, Field		pH units	7.4	nm*	7.5	7.79	7.7	7.4	7.18
Conductivity - Lab		µS/cm	1220	1790	2080	938	274	526	365
Conductivity Field		µS/cm	633	nm*	1726	661	241	463	264
Temperature		°C	0.2	nm*	0.1	0.5	0	1	3
Hardness calculated from total metal scan		mgCaCO3/L	722	1090	1340	507	138	286	384
Alkalinity, Total		mgCaCO3/L	183	437	495	288	80	148	108
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	223	533	604	351	100	180	130
Total Suspended Solids		mg/L	3	<2	7	<2	<2	6	20
Total Dissolved Solids		mg/L	1110	1560	1930	786	204	380	276
Chloride		mg/L	2.53	2.44	3.67	1.97	0.32	0.55	0.22
Sulphate, Dissolved		mg/L	533	643	821	326	60.9	145	83
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.02	0.028	0.23	0.01	0.013	0.011	0.015
Nitrate Nitrogen, NO_3^-	15	mg/L	0.21	<0.02	0.27	0.26	0.06	0.17	0.19
Cyanide, Total		mg/L	0.004	0.001	0.005	0.001	0.001	<0.001	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	0.002	0.002	<0.002	0.002	0.002	0.002
Calcium, total	0.25	mg/L	151	244	298	120	34.7	68.1	94.2
Magnesium, total		mg/L	83.8	116	144	50.3	12.4	28.1	36.1
Sodium, total		mg/L	26.6	15.9	20.9	6.5	1.5	3.2	4.7
Potassium, total		mg/L	2.7	6.6	7.3	2.9	1.1	1.4	2.4
Copper, total		mg/L	0.001	0.002	0.007	0.001	0.002	0.001	0.006
Arsenic, total	0.5	mg/L	0.001	0.0069	0.0067	0.0033	0.0041	0.0036	0.0058
Antimony, total	0.5	mg/L	0.0005	0.0067	0.0069	0.0064	0.0024	0.0041	0.0056
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc, total	0.005	mg/L	0.024	0.02	0.039	0.013	0.01	0.008	0.012
Selenium, total	0.5	mg/L	0.0051	0.003	0.0069	0.0021	0.001	0.0011	0.0013
Lead, total	0.75	mg/L	0.0002	0.0001	0.0028	0.0002	0.0001	0.0002	0.0016
Aluminum, total	0.2	mg/L	0.02	0.013	0.032	0.009	0.151	0.193	0.68
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium, total	0.5	mg/L	0.00006	0.00013	0.00046	0.00005	0.00005	0.00005	0.00009
Chromium, total	0.1	mg/L	0.0008	0.0006	0.0016	0.0013	0.0009	0.0008	0.0019
Iron, total	0.5	mg/L	<0.1	<0.1	<0.1	<0.1	0.3	0.37	2
Manganese, total	1	mg/L	0.129	0.051	0.082	0.032	0.103	0.133	0.13
Molybdenum, total	2	mg/L	<0.001	0.003	0.003	0.002	0.002	0.003	0.002
Nickel, total	0.5	mg/L	0.0026	0.0038	0.0054	0.0016	0.0028	0.0022	0.0043
Silver, total	0.8	mg/L	<0.0001	0.00001	0.00006	<0.00001	0.00001	0.00004	0.00002
Sulphur, total	0.1	mg/L	194	233	294	88.4	19.5	48.6	55.1

*not measured - multi-meter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-3

		Sample Date	12-Aug-2008	17-Sep-2008	18-Dec-2008
		Lab Report No	1142539	1152079	1184909
Parameter	**Standard**	**Units**			
pH, Laboratory		pH units	7.59	7.74	7.94
pH, Field		pH units	7.42	7.52	*nm
Conductivity - Lab		µS/cm	302	497	668
Conductivity Field		µS/cm	265	375	*nm
Temperature		°C	3	3	*nm
Hardness calculated from total metal scan		mgCaCO3/L	154	201	350
Alkalinity, Total		mgCaCO3/L	61	82	183
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	70	100	220
Total Suspended Solids		mg/L	426	31	6
Total Dissolved Solids		mg/L	282	400	512
Chloride		mg/L	1.2	2.7	0.47
Sulphate, Dissolved		mg/L	76.7	143	191
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.072	0.064	0.09
Nitrate Nitrogen, NO_3^-	15	mg/L	3.17	11.2	0.22
Cyanide, Total		mg/L	0.009	0.026	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.004	0.016	<0.002
Calcium, total	0.25	mg/L	36.5	48.7	84.5
Magnesium, total		mg/L	15.2	19.3	33.6
Sodium, total		mg/L	10.2	23.4	4.2
Potassium, total		mg/L	2.1	1.31	1.6
Copper, total		mg/L	0.016	0.003	0.002
Arsenic, total	0.5	mg/L	0.0064	0.0011	0.0013
Antimony, total	0.5	mg/L	0.0018	0.0053	0.0036
Mercury, total	1	mg/L	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.044	0.009	0.009
Selenium, total	0.5	mg/L	0.0025	0.0038	0.0014
Lead, total	0.75	mg/L	0.0063	0.001	0.0002
Aluminum, total	0.2	mg/L	9.38	0.896	0.036
Bismuth, total	1	mg/L	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00024	0.00004	0.00006
Chromium, total	0.1	mg/L	0.0166	0.0023	<0.0005
Iron, total	0.5	mg/L	11.8	1.94	0.07
Manganese, total	1	mg/L	0.246	0.183	0.099
Molybdenum, total	2	mg/L	<0.001	0.00048	0.002
Nickel, total	0.5	mg/L	0.0169	0.001	0.003
Silver, total	0.8	mg/L	0.00014	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	27		60.6

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-4

		Sample Date	06-Mar-2008	19-Jun-2008	18-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.94	7.79	7.78	7.87
pH, Field		pH units	7.81	7.43	7.51	*nm
Conductivity - Lab		µS/cm	1540	632	323	788
Conductivity Field		µS/cm	509	555	309	*nm
Temperature		°C	0.1	1	1.5	*nm
Hardness calculated from total metal scan		mgCaCO3/L	952	348	167	443
Alkalinity, Total		mgCaCO3/L	387	158	81	214
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	472	190	100	260
Total Suspended Solids		mg/L	<2	23	25	18
Total Dissolved Solids		mg/L	1320	470	256	628
Chloride		mg/L	1.07	0.26	0.16	0.36
Sulphate, Dissolved		mg/L	499	192	95.3	235
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.04	0.011	0.017	0.06
Nitrate Nitrogen, NO_3^-	15	mg/L	<0.02	0.16	0.17	0.01
Cyanide, Total		mg/L			0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L			<0.002	<0.002
Calcium, total	0.25	mg/L	232	77.5	38.3	102
Magnesium, total		mg/L	90.7	37.6	17.3	45.8
Sodium, total		mg/L	3.9	2	1.6	1.8
Potassium, total		mg/L	3.7	1.3	0.87	1.4
Copper, total		mg/L	0.004	0.002	0.002	<0.001
Arsenic, total	0.5	mg/L	0.0034	0.0044	0.003	0.0041
Antimony, total	0.5	mg/L	0.0044	0.0039	0.0029	0.0035
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.04	0.025	0.019	0.03
Selenium, total	0.5	mg/L	0.0051	0.0034	0.0016	0.0042
Lead, total	0.75	mg/L	0.0011	0.0005	0.0008	0.0002
Aluminum, total	0.2	mg/L	0.027	0.47	0.806	0.203
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.0004	0.00024	0.00021	0.00028
Chromium, total	0.1	mg/L	0.0015	0.0012	0.002	0.0008
Iron, total	0.5	mg/L	<0.1	1.07	1.71	1.24
Manganese, total	1	mg/L	0.032	0.257	0.0961	0.266
Molybdenum, total	2	mg/L	0.002	0.004	0.00163	0.004
Nickel, total	0.5	mg/L	0.0034	0.0101	0.004	0.013
Silver, total	0.8	mg/L	0.00004	<0.00001	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	192	64.6		77

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-5

		Sample Date	06-Mar-2008	19-Jun-2008	18-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.63	8.02	8	8.08
pH, Field		pH units	7.67	7.61	7.5	*nm
Conductivity - Lab		µS/cm	2650	528	344	706
Conductivity Field		µS/cm	540	457	311	*nm
Temperature		°C	0.1	1.5	2	*nm
Hardness calculated from total metal scan		mgCaCO3/L	1460	292	182	392
Alkalinity, Total		mgCaCO3/L	797	156	109	219
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	971	190	130	270
Total Suspended Solids		mg/L	14	2	6	<2
Total Dissolved Solids		mg/L	2470	406	294	578
Chloride		mg/L	2.27	0.19	0.19	0.27
Sulphate, Dissolved		mg/L	996	135	82.3	188
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.02	0.006	0.01	0.07
Nitrate Nitrogen, NO_3^-	15	mg/L	1.4	0.03	0.07	<0.01
Cyanide, Total		mg/L			0.001	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L			<0.002	<0.002
Calcium, total	0.25	mg/L	323	72.4	46.1	97.6
Magnesium, total		mg/L	158	27	16.4	36
Sodium, total		mg/L	9.2	1.2	1.3	1.9
Potassium, total		mg/L	5.2	0.8	0.56	0.8
Copper, total		mg/L	0.006	0.001	0.002	0.001
Arsenic, total	0.5	mg/L	0.0014	0.0005	0.0003	0.0005
Antimony, total	0.5	mg/L	0.0009	0.0005	0.0002	0.0004
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.067	0.012	0.019	0.014
Selenium, total	0.5	mg/L	0.0139	0.0011	0.0019	0.0019
Lead, total	0.75	mg/L	0.0007	<0.0001	0.0001	<0.0001
Aluminum, total	0.2	mg/L	0.019	0.022	0.132	0.014
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00075	0.00005	0.00005	0.00006
Chromium, total	0.1	mg/L	0.0015	<0.0005	0.001	<0.0005
Iron, total	0.5	mg/L	<0.1	0.06	0.27	<0.05
Manganese, total	1	mg/L	0.042	<0.005	0.0183	0.006
Molybdenum, total	2	mg/L	0.005	0.003	0.00225	0.003
Nickel, total	0.5	mg/L	0.0075	0.0025	0.004	0.0026
Silver, total	0.8	mg/L	0.00002	0.00003	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	277	45.5		59.5

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-6

		Sample Date	06-Mar-2008	19-Jun-2008	18-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	Standard	Units				
pH, Laboratory		pH units	7.43	7.63	7.97	7.76
pH, Field		pH units	7.52	7.29	7.48	*nm
Conductivity - Lab		µS/cm	367	434	377	358
Conductivity Field		µS/cm	315	361	336	*nm
Temperature		°C	0.1	4.2	3.5	*nm
Hardness calculated from total metal scan		mgCaCO3/L	180	233	206	181
Alkalinity, Total		mgCaCO3/L	113	126	120	110
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	138	150	150	130
Total Suspended Solids		mg/L	<2	<2	2	25
Total Dissolved Solids		mg/L	230	336	280	328
Chloride		mg/L	0.65	0.24	0.11	0.3
Sulphate, Dissolved		mg/L	72.7	107	91.8	79.5
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01	<0.005	0.006	0.07
Nitrate Nitrogen, NO_3^-	15	mg/L	0.18	0.07	0.11	0.09
Cyanide, Total		mg/L	<0.001	0.001	<0.001	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	47.6	58.6	52.6	47.8
Magnesium, total		mg/L	14.9	21	18.2	15
Sodium, total		mg/L	4.2	1.8	1.3	2.3
Potassium, total		mg/L	0.8	0.6	0.64	0.5
Copper, total		mg/L	0.002	0.001	0.002	<0.001
Arsenic, total	0.5	mg/L	0.0003	0.0003	<0.0002	0.0003
Antimony, total	0.5	mg/L	<0.0002	0.0003	<0.0002	<0.0002
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.009	0.009	0.009	0.007
Selenium, total	0.5	mg/L	0.0011	0.0011	0.0018	0.0011
Lead, total	0.75	mg/L	0.0003	<0.0001	0.0002	<0.0001
Aluminum, total	0.2	mg/L	0.006	0.018	0.038	0.008
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00006	0.00006	0.00007	0.00005
Chromium, total	0.1	mg/L	0.0014	0.0006	0.0008	<0.0005
Iron, total	0.5	mg/L	<0.1	<0.05	0.09	<0.05
Manganese, total	1	mg/L	<0.005	<0.005	0.0065	<0.005
Molybdenum, total	2	mg/L	<0.001	0.001	0.00128	<0.001
Nickel, total	0.5	mg/L	0.0007	0.0011	0.002	0.0011
Silver, total	0.8	mg/L	0.00002	<0.00001	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	25.9	36.5		25.3

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-16

		Sample Date	17-Jun-2008
		Lab Report No	1130137
Parameter	Standard	Units	
pH, Laboratory		pH units	7.37
pH, Field		pH units	7.14
Conductivity - Lab		µS/cm	714
Conductivity Field		µS/cm	602
Temperature		°C	16.1
Hardness calculated from total metal scan		mgCaCO3/L	395
Alkalinity, Total		mgCaCO3/L	180
Alkalinity, Hydroxide OH		mgCaCO3/L	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	220
Total Suspended Solids		mg/L	<2
Total Dissolved Solids		mg/L	12400
Chloride		mg/L	1.68
Sulphate, Dissolved		mg/L	214
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01
Nitrate Nitrogen, NO_3^-	15	mg/L	0.16
Cyanide, Total		mg/L	
Cyanide, Weak Acid Dissociable.	2	mg/L	
Calcium, total	0.25	mg/L	112
Magnesium, total		mg/L	27.7
Sodium, total		mg/L	1.2
Potassium, total		mg/L	1.3
Copper, total		mg/L	0.002
Arsenic, total	0.5	mg/L	0.0064
Antimony, total	0.5	mg/L	0.0434
Mercury, total	1	mg/L	<0.0001
Zinc, total	0.005	mg/L	0.014
Selenium, total	0.5	mg/L	0.0054
Lead, total	0.75	mg/L	0.0001
Aluminum, total	0.2	mg/L	0.014
Bismuth, total	1	mg/L	<0.0005
Cadmium, total	0.5	mg/L	0.00009
Chromium, total	0.1	mg/L	<0.0005
Iron, total	0.5	mg/L	<0.05
Manganese, total	1	mg/L	0.011
Molybdenum, total	2	mg/L	0.001
Nickel, total	0.5	mg/L	<0.0005
Silver, total	0.8	mg/L	<0.00001
Sulphur, total	0.1	mg/L	74.2

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-31

		Sample Date	Mar-2008	19-Jun-2008	18-Sep-2008	18-Dec-2008
		Lab Report No		1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units		8.09	7.99	8.07
pH, Field		pH units		7.5	7.57	nm*
Conductivity - Lab		µS/cm		558	307	660
Conductivity Field		µS/cm		476	275	nm*
Temperature		°C		2.5	3	nm*
Hardness calculated from total metal scan		mgCaCO3/L		310	166	361
Alkalinity, Total		mgCaCO3/L		166	102	199
Alkalinity, Hydroxide OH		mgCaCO3/L		<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L		<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L		200	120	240
Total Suspended Solids		mg/L		<2	43	<2
Total Dissolved Solids		mg/L		392	220	500
Chloride		mg/L		0.19	0.12	0.24
Sulphate, Dissolved		mg/L		146	67.1	176
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L		0.005	0.013	0.05
Nitrate Nitrogen, NO_3^-	15	mg/L		0.11	0.14	0.12
Cyanide, Total		mg/L			0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L			<0.002	<0.002
Calcium, total	0.25	mg/L		72.3	40.2	85.7
Magnesium, total		mg/L	no water found	31.4	16	35.7
Sodium, total		mg/L		1.9	1.2	2.3
Potassium, total		mg/L		0.9	0.73	0.8
Copper, total		mg/L		0.001	0.005	0.001
Arsenic, total	0.5	mg/L		0.0006	0.0015	0.0004
Antimony, total	0.5	mg/L		0.0007	0.0004	0.0007
Mercury, total	1	mg/L		<0.0001		<0.0001
Zinc, total	0.005	mg/L		0.006	0.019	0.009
Selenium, total	0.5	mg/L		0.0012	0.0012	0.0018
Lead, total	0.75	mg/L		<0.0001	0.0012	0.0001
Aluminum, total	0.2	mg/L		0.018	0.969	0.021
Bismuth, total	1	mg/L		<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L		0.00003	0.00016	0.00005
Chromium, total	0.1	mg/L		<0.0005	0.0026	<0.0005
Iron, total	0.5	mg/L		<0.05	1.84	<0.05
Manganese, total	1	mg/L		<0.005	0.0553	0.005
Molybdenum, total	2	mg/L		0.002	0.00104	0.002
Nickel, total	0.5	mg/L		0.0009	0.003	0.0019
Silver, total	0.8	mg/L		<0.00001	<0.00001	<0.00001
Sulphur, total	0.1	mg/L		49.4		55.7

not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-34

		Sample Date	05-Mar-2008	19-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	8.13	8.1	8.05	7.73
pH, Field		pH units	7.85	7.49	7.39	nm*
Conductivity - Lab		µS/cm	932	473	375	524
Conductivity Field		µS/cm	8.06	400	342	nm*
Temperature		°C	0	5	3	nm*
Hardness calculated from total metal scan		mgCaCO3/L	413	261	211	286
Alkalinity, Total		mgCaCO3/L	247	135	121	151
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	302	160	150	180
Total Suspended Solids		mg/L	<2	<2	2	<2
Total Dissolved Solids		mg/L	704	360	300	374
Chloride		mg/L	2	0.15	0.16	0.16
Sulphate, Dissolved		mg/L	269	124	95.5	138
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.07	0.006	0.009	0.06
Nitrate Nitrogen, NO_3^-	15	mg/L	0.42	0.03	0.09	0.19
Cyanide, Total		mg/L				0.001
Cyanide, Weak Acid Dissociable.	2	mg/L				
Calcium, total	0.25	mg/L	81.2	64.4	54.2	71.9
Magnesium, total		mg/L	51	24.3	18.3	25.9
Sodium, total		mg/L	57.8	1.3	1.2	1.5
Potassium, total		mg/L	1.7	0.6	0.64	0.6
Copper, total		mg/L	0.008	0.001	0.002	0.001
Arsenic, total	0.5	mg/L	0.0006	<0.0002	0.0004	0.0005
Antimony, total	0.5	mg/L	0.0004	0.0003	0.0003	0.0002
Mercury, total	1	mg/L				
Zinc, total	0.005	mg/L	0.031	0.01	0.009	0.015
Selenium, total	0.5	mg/L	0.0046	0.0012	0.001	0.0024
Lead, total	0.75	mg/L	0.0004	<0.0001	0.0001	0.0001
Aluminum, total	0.2	mg/L	0.036	0.025	0.043	0.024
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00001	0.00006	0.00007	0.0001
Chromium, total	0.1	mg/L	0.0008	<0.0005	0.001	<0.0005
Iron, total	0.5	mg/L	<0.1	<0.05	0.08	<0.05
Manganese, total	1	mg/L	0.018	<0.005	0.0076	0.008
Molybdenum, total	2	mg/L	0.002	0.001	0.00139	0.001
Nickel, total	0.5	mg/L	0.0056	0.0012	0.002	0.0021
Silver, total	0.8	mg/L	0.00002	<0.00001	0.00001	0.00001
Sulphur, total	0.1	mg/L	97.4	42.6		45.2

not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-39

		Sample Date	13-May-2008	18-Jun-2008	09-Jul-2008	12-Aug-2008
		Lab Report No	1121717	1130137	1134801	1142539
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.86	8	7.73	7.98
pH, Field		pH units	7.66	7.41	7.45	7.11
Conductivity - Lab		µS/cm	262	477	299	299
Conductivity Field		µS/cm	227	396	253	263
Temperature		°C	3	9	6	2.5
Hardness calculated from total metal scan		mgCaCO3/L	129	253	296	155
Alkalinity, Total		mgCaCO3/L	73	133	82	94
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	90	160	100	100
Total Suspended Solids		mg/L	<2	8	8	7
Total Dissolved Solids		mg/L	204	354	226	272
Chloride		mg/L	0.46	0.56	0.31	0.28
Sulphate, Dissolved		mg/L	58.7	124	67.1	61.2
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.025	0.017	0.013	0.017
Nitrate Nitrogen, NO_3^-	15	mg/L	0.52	0.44	0.8	0.41
Cyanide, Total		mg/L	0.002	0.002	0.003	0.002
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	0.004	0.002	0.002
Calcium, total	0.25	mg/L	32.3	61.9	73.5	38.4
Magnesium, total		mg/L	11.7	24	27.5	14.3
Sodium, total		mg/L	2.9	4.8	8.9	2.9
Potassium, total		mg/L	1.2	1.4	2.2	0.9
Copper, total		mg/L	0.004	0.002	0.004	0.003
Arsenic, total	0.5	mg/L	0.0033	0.0043	0.0038	0.0035
Antimony, total	0.5	mg/L	0.0023	0.0031	0.0038	0.0038
Mercury, total	1	mg/L				<0.0001
Zinc, total	0.005	mg/L	0.02	0.007	0.008	0.007
Selenium, total	0.5	mg/L	0.0013	0.0013	0.0015	0.0014
Lead, total	0.75	mg/L	0.0007	0.0003	0.0008	0.0002
Aluminum, total	0.2	mg/L	0.336	0.364	0.749	0.521
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium, total	0.5	mg/L	0.00008	0.00004	0.00004	0.00004
Chromium, total	0.1	mg/L	0.0013	0.001	0.002	0.0017
Iron, total	0.5	mg/L	0.3	0.41	2.01	0.61
Manganese, total	1	mg/L	0.01	0.015	0.038	0.016
Molybdenum, total	2	mg/L	0.002	0.003	0.002	0.002
Nickel, total	0.5	mg/L	0.003	0.0009	0.0032	0.0033
Silver, total	0.8	mg/L	0.00002	<0.00001	0.00004	0.00002
Sulphur, total	0.1	mg/L	19.2	42.3	44.5	21.1

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-53

		Sample Date	24-Jan-2008	Feb-2008	Mar-2008	18-Apr-2008	24-May-2008	18-Jun-2008	09-Jul-2008	12-Aug-2008
		Lab Report No	1094418			1111778	1122791	1130137	1134801	1142539
Parameter	**Standard**	**Units**								
pH, Laboratory		pH units	7.38	no water found	no water found	8.05	7.9	8.1	7.72	7.98
pH, Field		pH units				7.85	7.69	7.52	7.38	7.29
Conductivity - Lab		µS/cm	700			1100	349	480	304	310
Conductivity Field		µS/cm				755	271	410	220	265
Temperature		°C				0.2	0	4	4	1.5
Hardness calculated from total metal scan		mgCaCO3/L	406			598	184	254	322	164
Alkalinity, Total		mgCaCO3/L	216			283	79	134	84	97
Alkalinity, Hydroxide OH		mgCaCO3/L	<5			<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6			<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	263			346	100	160	100	100
Total Suspended Solids		mg/L	<2			<2	<2	18	231	126
Total Dissolved Solids		mg/L	562			946	270	352	234	274
Chloride		mg/L	0.78			1.93	1.19	0.59	0.32	0.37
Sulphate, Dissolved		mg/L	210			428	78.5	124	68.3	63.4
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01			0.013	0.012	0.008	0.032	0.021
Nitrate Nitrogen, NO_3^-	15	mg/L	0.04			<0.02	4.44	0.5	0.85	0.43
Cyanide, Total		mg/L	0.001			0.002	0.017	0.001	0.76	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002			<0.002	0.004	0.004	0.122	0.002
Calcium, total	0.25	mg/L	99.3			140	45.5	61.5	76.1	40.5
Magnesium, total		mg/L	38.5			60.2	17.2	24.3	32.1	15.3
Sodium, total		mg/L	8			11.9	12.3	5	4240	3.1
Potassium, total		mg/L	2.5			4.8	2.8	1.4	5.5	1.2
Copper, total		mg/L	0.001			0.002	0.025	0.007	0.019	0.007
Arsenic, total	0.5	mg/L	0.0045			0.0081	0.0387	0.0053	0.0178	0.0076
Antimony, total	0.5	mg/L	0.0031			0.0037	0.0087	0.0034	0.0062	0.0042
Mercury, total	1	mg/L	<0.0001			<0.0001	0.001	<0.0001	0.0001	<0.0001
Zinc, total	0.005	mg/L	0.024			0.02	0.108	0.011	0.085	0.022
Selenium, total	0.5	mg/L	0.0028			0.0044	0.004	0.0012	0.0031	0.0017
Lead, total	0.75	mg/L	0.0002			0.0001	0.0083	0.0007	0.0121	0.0016
Aluminum, total	0.2	mg/L	0.013			0.013	10.6	0.942	8.26	2.86
Bismuth, total	1	mg/L	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium, total	0.5	mg/L	0.00014			0.00024	0.00077	0.00007	0.00046	0.00016
Chromium, total	0.1	mg/L	0.0008			0.0012	0.0222	0.0021	0.0159	0.0056
Iron, total	0.5	mg/L	<0.1			<0.1	16.8	1.14	17.5	3.32
Manganese, total	1	mg/L	0.005			0.029	0.826	0.047	0.441	0.092
Molybdenum, total	2	mg/L	0.004			0.004	0.003	0.004	0.003	0.002
Nickel, total	0.5	mg/L	0.0011			0.002	0.0281	0.0025	0.0196	0.0088
Silver, total	0.8	mg/L	<0.0001			<0.00001	0.00019	<0.00001	0.00017	0.00006
Sulphur, total	0.1	mg/L	69.4			119	24.9	41.9	46.2	21.9

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Surface Station BC-53

		Sample Date	17-Sep-2008	18-Dec-2008
		Lab Report No	1152079	1184909
Parameter	**Standard**	**Units**		
pH, Laboratory		pH units	8.08	8.07
pH, Field		pH units	7.42	nm*
Conductivity - Lab		µS/cm	386	584
Conductivity Field		µS/cm	344	nm*
Temperature		°C	3	nm*
Hardness calculated from total metal scan		mgCaCO3/L	210	304
Alkalinity, Total		mgCaCO3/L	114	168
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	140	200
Total Suspended Solids		mg/L	38	<2
Total Dissolved Solids		mg/L	312	502
Chloride		mg/L	0.75	0.51
Sulphate, Dissolved		mg/L	97	158
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.024	0.08
Nitrate Nitrogen, NO_3^-	15	mg/L	1.03	0.1
Cyanide, Total		mg/L	0.002	0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	<0.002
Calcium, total	0.25	mg/L	52.6	75.5
Magnesium, total		mg/L	19.1	28.1
Sodium, total		mg/L	4.8	4.7
Potassium, total		mg/L	1.28	1.3
Copper, total		mg/L	0.002	<0.001
Arsenic, total	0.5	mg/L	0.0039	0.004
Antimony, total	0.5	mg/L	0.0043	0.0027
Mercury, total	1	mg/L		<0.0001
Zinc, total	0.005	mg/L	0.008	0.007
Selenium, total	0.5	mg/L	0.0012	0.002
Lead, total	0.75	mg/L	0.0006	0.0001
Aluminum, total	0.2	mg/L	0.616	0.158
Bismuth, total	1	mg/L	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00007	0.00004
Chromium, total	0.1	mg/L	0.0021	<0.0005
Iron, total	0.5	mg/L	1.06	0.16
Manganese, total	1	mg/L	0.0541	0.027
Molybdenum, total	2	mg/L	0.00234	0.003
Nickel, total	0.5	mg/L	0.002	0.0019
Silver, total	0.8	mg/L	0.00002	<0.00001
Sulphur, total	0.1	mg/L		49.1

not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Overflow Pond Decant, BC-28

		Smpl Date	09-May-2008	19-Aug-2008
		Lab Report No	1118647	1143950
Parameter	Standard	Units		
Water Level, Gauge reading, Piezometric reading		m	*nm	*nm
pH, Laboratory		pH units	7.71	8.2
pH, Field		pH units	*nm	*nm
Conductivity - Lab		µS/cm	2120	1680
Conductivity Field		µS/cm	*nm	*nm
Temperature		C	*nm	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	528	
Alkalinity, Total		mgCaCO3/L	146	60
Alkalinity, Hydroxide OH		mgCaCO3/L	5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	178	70
Total Suspended Solids		mg/L		6
Total Dissolved Solids		mg/L	1700	1450
Chloride		mg/L	21.1	17.7
Sulphate, Dissolved		mg/L	339	298
Ammonium Nitrogen (NH_3, NH_4^+), as N	15	mg/L	0.151	0.06
Nitrate Nitrogen, NO_3^-		mg/L	153	122
Cyanide, Total	2	mg/L	0.48	0.34
Cyanide, Weak Acid Dissociable.	0.25	mg/L	0.16	0.156
Calcium, total		mg/L	148	114
Magnesium, total		mg/L	34.2	30.3
Sodium, total		mg/L	263	210
Potassium, total		mg/L	7	5.5
Copper, total	0.5	mg/L	0.003	0.003
Arsenic, total	0.5	mg/L	0.225	0.126
Antimony, total	1	mg/L	0.941	0.714
Mercury, total	0.005	mg/L	0.0001	<0.0001
Zinc, total	0.5	mg/L	0.008	0.002
Selenium, total	0.75	mg/L	0.0851	0.0788
Lead, total	0.2	mg/L	0.0002	0.0001
Aluminum, total	1	mg/L	0.025	0.04
Bismuth, total	0.5	mg/L	0.001	<0.0005
Cadmium, total	0.1	mg/L	0.00002	<0.00001
Chromium, total	0.5	mg/L	0.001	<0.0005
Iron, total	1	mg/L	0.2	0.05
Manganese, total	2	mg/L	0.27	0.052
Molybdenum, total	0.5	mg/L	0.026	0.018
Nickel, total	0.8	mg/L	0.0042	0.0072
Silver, total	0.1	mg/L	0.00002	0.00001
Sulphur, total		mg/L	115	103

*not measured - mulitmeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Discharge from Heap, BC-28a

		Smpl Date	24-Jan-2008	28-Feb-2008	09-Mar-2008	18-Apr-2008	13-May-2008	24-May-2008	19-Jun-2008
		Lab Report No	1094418	1099343	1099296	1111778	1121717	1122791	1130137
Parameter	Standard	Units							
Flow rate, volumetric		L/s	0.5	0.4	0.46	3.8	0.5	0.5	*nm
pH, Laboratory		pH units	8	8.07	8.01	8.02	8.05	7.92	7.72
pH, Field		pH units	7.89	*nm	7.14	7.88	7.45	7.45	7.34
Conductivity - Lab		µS/cm	3810	4180	4200	3880	2010	2500	3350
Conductivity Field		µS/cm	3246	*nm	5030	3960	1679	1679	4080
Temperature		C	2.8	*nm	2.8	2.6	5.2	5.2	4
Hardness calculated from dissolved metal scan		mgCaCO3/L	1130	1040	1080	1130	538	741	936
Alkalinity, Total		mgCaCO3/L	112	111	111	113	103	120	131
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	136	135	136	137	120	150	160
Total Suspended Solids		mg/L	<2	4	<2	<2	<2	<2	<2
Total Dissolved Solids		mg/L	3450	3560	3380	3600	1610	2030	2910
Chloride		mg/L	34.2	5.25	65.5	36.2	14.5	18.6	27.3
Sulphate, Dissolved		mg/L	578	559	541	662	409	522	572
Ammonium Nitrogen (NH_3, NH_4^+), as N	15	mg/L	0.02	0.019	0.01	0.018	0.018	0.017	0.011
Nitrate Nitrogen, NO_3^-		mg/L	458	393	377	407	146	169	252
Cyanide, Total	2	mg/L	2	1.6	1.6	1	0.67	0.86	1.2
Cyanide, Weak Acid Dissociable.	0.25	mg/L	0.114	0.188	0.108	0.34	0.136	0.086	0.14
Calcium, total		mg/L	338	309	321	348	158	213	274
Magnesium, total		mg/L	69.9	65	66.4	63.4	34.6	50.9	61.1
Sodium, total		mg/L	490	484	488	481	221	252	385
Potassium, total		mg/L	5.6	5.6	5.6	5.5	3.4	3.8	4.8
Copper, total	0.5	mg/L	0.004	0.004	0.004	0.003	0.003	0.005	0.003
Arsenic, total	0.5	mg/L	0.339	0.376	0.371	0.337	0.39	0.369	0.302
Antimony, total	1	mg/L	1.66	1.76	1.67	1.61	1.62	1.38	1.58
Mercury, total	0.005	mg/L	0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001
Zinc, total	0.5	mg/L	0.02	0.019	0.014	0.012	0.012	0.019	0.01
Selenium, total	0.75	mg/L	0.186	0.228	0.221	0.206	0.0876	0.106	0.152
Lead, total	0.2	mg/L	<0.0002	<0.0001	<0.0001	<0.0001	0.0004	0.0005	<0.0001
Aluminum, total	1	mg/L	0.02	0.006	0.012	0.013	0.548	0.468	0.026
Bismuth, total	0.5	mg/L	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium, total	0.1	mg/L	<0.00002	<0.00001	<0.00001	<0.00001	0.00011	0.0001	0.00005
Chromium, total	0.5	mg/L	0.001	0.0008	0.0023	0.0012	0.0018	0.0022	0.0006
Iron, total	1	mg/L	0.3	0.3	0.3	0.3	0.4	0.5	0.26
Manganese, total	2	mg/L	0.02	0.013	0.014	0.014	0.04	0.034	0.02
Molybdenum, total	0.5	mg/L	0.031	0.031	0.03	0.03	0.04	0.03	0.025
Nickel, total	0.8	mg/L	0.0082	0.0113	0.0125	0.0016	0.004	0.0072	0.0039
Silver, total	0.1	mg/L	<0.0002	0.00001	<0.00001	<0.00001	0.00004	0.00002	<0.00001
Sulphur, total		mg/L	220	208	210	197	136	177	209

*not measured - mulitmeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Discharge from Heap, BC-28a

		09-Jul-2008	12-Aug-2008	18-Sep-2008	19-Dec-2008
		1134801	1142539	1152079	1184909
Parameter	**Standard**				
Flow rate, volumetric		2	*nm	*nm	0.5
pH, Laboratory		7.72	7.91	7.88	7.99
pH, Field		7.24	7.36	nm	*nm
Conductivity - Lab		2650	3120	3130	4320
Conductivity Field		334	3950	*nm	*nm
Temperature		6	7	*nm	*nm
Hardness calculated from dissolved metal scan		1790	1040	1020	1180
Alkalinity, Total		135	144	138	107
Alkalinity, Hydroxide OH		<5	<5	<5	<5
Alaklinity, Carbonate CO_3		<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		160	180	170	130
Total Suspended Solids		<2	4	4	4
Total Dissolved Solids		2240	2920	3060	3720
Chloride		16.8	23.2	25.4	36.2
Sulphate, Dissolved		734	776	732	825
Ammonium Nitrogen (NH_3, NH_4^+), as N	15	0.012	0.02	0.011	0.07
Nitrate Nitrogen, NO_3^-		90.9	223	310	415
Cyanide, Total	2	0.85	0.9	1	1.2
Cyanide, Weak Acid Dissociable.	0.25	0.104	0.19	0.122	0.158
Calcium, total		499	296	295	354
Magnesium, total		133	73	70.3	73.4
Sodium, total		498	303	368	481
Potassium, total		8	4.4	4.7	5.6
Copper, total	0.5	0.008	0.006	0.003	0.003
Arsenic, total	0.5	0.294	0.322	0.272	0.327
Antimony, total	1	1.3	1.59	1.42	1.61
Mercury, total	0.005	0.0001	<0.0001		<0.0001
Zinc, total	0.5	0.05	0.032	0.008	0.007
Selenium, total	0.75	0.118	0.133	0.125	0.184
Lead, total	0.2	0.0001	<0.0001	<0.0001	0.0001
Aluminum, total	1	0.516	0.367	0.01	0.015
Bismuth, total	0.5	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.1	0.00015	0.00009	0.00012	0.00009
Chromium, total	0.5	0.0013	0.001	0.0014	<0.0005
Iron, total	1	0.43	0.22	0.23	0.29
Manganese, total	2	0.361	0.152	0.0215	0.011
Molybdenum, total	0.5	0.02	0.023	0.0198	0.027
Nickel, total	0.8	0.0186	0.0132	0.006	0.0072
Silver, total	0.1	0.00003	<0.00001	<0.00001	0.00001
Sulphur, total		497	271		257

*not measured - mulitmeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
In-Pit Station BC-10

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	Standard	Units				
pH, Laboratory		pH units	7.84	8.03	8.18	7.85
pH, Field		pH units	7.34	7.49	7.6	*nm
Conductivity - Lab		µS/cm	507	326	411	478
Conductivity Field		µS/cm	425	283	367	*nm
Temperature		°C	0.1	14	8	*nm
Hardness calculated from total metal scan		mgCaCO3/L	262	168	226	258
Alkalinity, Total		mgCaCO3/L	164	100	132	149
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	200	100	160	180
Total Suspended Solids		mg/L	<2	3	<2	<2
Total Dissolved Solids		mg/L	330	240	332	346
Chloride		mg/L	0.76	0.39	0.36	0.3
Sulphate, Dissolved		mg/L	103	75.9	108	117
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	<0.01	0.006	0.01	0.04
Nitrate Nitrogen, NO_3^-	15	mg/L	0.15	<0.01	<0.01	<0.01
Cyanide, Total		mg/L				
Cyanide, Weak Acid Dissociable.	2	mg/L				
Calcium, total	0.25	mg/L	62.5	40.2	55.4	61.9
Magnesium, total		mg/L	25.7	16.5	21.3	25.2
Sodium, total		mg/L	1.9	0.4	0.7	0.8
Potassium, total		mg/L	1.6	1.6	1.42	1.3
Copper, total		mg/L	0.002	0.002	<0.001	<0.001
Arsenic, total	0.5	mg/L	0.0208	0.0106	0.0122	0.0115
Antimony, total	0.5	mg/L	0.241	0.122	0.196	0.171
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.02	0.006	0.003	0.007
Selenium, total	0.5	mg/L	0.0052	0.0034	0.0043	0.0046
Lead, total	0.75	mg/L	0.0005	0.0002	0.0002	0.0001
Aluminum, total	0.2	mg/L	0.012	0.128	0.051	0.011
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.0001	0.00004	0.00003	0.00007
Chromium, total	0.1	mg/L	0.0012	0.0009	0.0009	<0.0005
Iron, total	0.5	mg/L	<0.1	0.09	0.04	<0.05
Manganese, total	1	mg/L	0.014	<0.005	0.0081	<0.005
Molybdenum, total	2	mg/L	0.005	0.004	0.00377	0.004
Nickel, total	0.5	mg/L	0.0006	0.0005	<0.001	0.0008
Silver, total	0.8	mg/L	<0.00001	<0.00001	0.00003	0.00001
Sulphur, total	0.1	mg/L	34.9	24.8		37.3

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
In-Pit Station BC-12

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	Standard	Units				
pH, Laboratory		pH units	6.27	5.14	6.4	6.25
pH, Field		pH units	6.94	6.2	6.29	*nm
Conductivity - Lab		µS/cm	1440	800	1170	1720
Conductivity Field		µS/cm	1223	636	1008	*nm
Temperature		°C	0.1	16	9	*nm
Hardness calculated from total metal scan		mgCaCO3/L	838	433	689	1140
Alkalinity, Total		mgCaCO3/L	78	<5	<5	76
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	96	<5	<5	90
Total Suspended Solids		mg/L	<2	<2	4	6
Total Dissolved Solids		mg/L	1280	716	1200	1720
Chloride		mg/L	1.5	1.44	1.21	1.47
Sulphate, Dissolved		mg/L	696	400	722	1050
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.14	0.009	0.04	0.1
Nitrate Nitrogen, NO_3^-	15	mg/L	<0.02	0.16	0.14	0.08
Cyanide, Total		mg/L				
Cyanide, Weak Acid Dissociable.	2	mg/L				
Calcium, total	0.25	mg/L	205	107	184	269
Magnesium, total		mg/L	79.2	40.4	55.8	115
Sodium, total		mg/L	2.5	0.7	1.1	1.8
Potassium, total		mg/L	4	2.2	2.64	4
Copper, total		mg/L	0.016	0.052	0.043	0.039
Arsenic, total	0.5	mg/L	0.016	0.0022	0.007	0.0226
Antimony, total	0.5	mg/L	0.01	0.0183	0.0308	0.0619
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.246	0.141	0.21	0.304
Selenium, total	0.5	mg/L	<0.0002	0.0016	<0.0006	0.0006
Lead, total	0.75	mg/L	0.0005	<0.0001	<0.0001	<0.0001
Aluminum, total	0.2	mg/L	0.134	0.94	0.239	0.36
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00262	0.00232	0.00269	0.00317
Chromium, total	0.1	mg/L	0.0008	0.0005	0.0004	<0.0005
Iron, total	0.5	mg/L	0.2	0.59	0.82	0.5
Manganese, total	1	mg/L	1.9	0.847	1.27	2.26
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00096	0.005
Nickel, total	0.5	mg/L	0.111	0.0747	0.098	0.157
Silver, total	0.8	mg/L	<0.00001	<0.00001	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	252	144		339

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
In-Pit Station BC-15

		Sample Date	Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No		1130137	1152079	1184909
Parameter	Standard	Units				
pH, Laboratory		pH units	no water found	7.89	8.11	7.68
pH, Field		pH units		7.32	7.62	*nm
Conductivity - Lab		µS/cm		692	842	974
Conductivity Field		µS/cm		584	739	*nm
Temperature		°C		12.5	7.5	*nm
Hardness calculated from total metal scan		mgCaCO3/L		379	493	569
Alkalinity, Total		mgCaCO3/L		84	96	110
Alkalinity, Hydroxide OH		mgCaCO3/L		<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L		<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L		100	100	130
Total Suspended Solids		mg/L		<2	<2	4
Total Dissolved Solids		mg/L		572	770	890
Chloride		mg/L		0.12	0.07	0.14
Sulphate, Dissolved		mg/L		268	406	459
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L		0.005	0.01	0.04
Nitrate Nitrogen, NO_3^-	15	mg/L		0.57	0.68	0.72
Cyanide, Total		mg/L				
Cyanide, Weak Acid Dissociable.	2	mg/L				
Calcium, total	0.25	mg/L		81.5	114	122
Magnesium, total		mg/L		42.5	50.4	64
Sodium, total		mg/L		<0.4	0.4	<0.4
Potassium, total		mg/L		0.8	1.06	1
Copper, total		mg/L		<0.001	0.002	<0.001
Arsenic, total	0.5	mg/L		0.028	0.0343	0.0255
Antimony, total	0.5	mg/L		0.0037	0.0034	0.0029
Mercury, total	1	mg/L		0.0001		<0.0001
Zinc, total	0.005	mg/L		0.004	0.016	0.007
Selenium, total	0.5	mg/L		0.0151	0.0262	0.0334
Lead, total	0.75	mg/L		0.0001	0.001	<0.0001
Aluminum, total	0.2	mg/L		0.026	0.016	0.008
Bismuth, total	1	mg/L		<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L		0.00003	0.00021	0.00004
Chromium, total	0.1	mg/L		0.0005	0.001	<0.0005
Iron, total	0.5	mg/L		<0.05	0.03	<0.05
Manganese, total	1	mg/L		<0.005	0.0009	<0.005
Molybdenum, total	2	mg/L		<0.001	0.00091	0.001
Nickel, total	0.5	mg/L		<0.0005	<0.001	0.001
Silver, total	0.8	mg/L		<0.00001	0.00002	<0.00001
Sulphur, total	0.1	mg/L		98.5		146

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
In-Pit Station BC-17

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.9	8.04	8.16	7.78
pH, Field		pH units	7.52	7.11	7.7	*nm
Conductivity - Lab		µS/cm	728	595	730	1410
Conductivity Field		µS/cm	628	556	656	*nm
Temperature		°C	0.1	13.5	8.5	*nm
Hardness calculated from total metal scan		mgCaCO3/L	390	328	447	885
Alkalinity, Total		mgCaCO3/L	212	148	182	381
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	259	180	220	460
Total Suspended Solids		mg/L	<2	<2	<2	2
Total Dissolved Solids		mg/L	522	476	660	1240
Chloride		mg/L	1.1	0.67	1.09	1.51
Sulphate, Dissolved		mg/L	201	181	276	523
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01	0.006	0.016	0.07
Nitrate Nitrogen, NO_3^-	15	mg/L	0.06	<0.01	0.05	0.24
Cyanide, Total		mg/L				
Cyanide, Weak Acid Dissociable.	2	mg/L				
Calcium, total	0.25	mg/L	95.7	78.5	108	211
Magnesium, total		mg/L	36.8	31.9	43	86.9
Sodium, total		mg/L	2.6	1.1	1.5	3.8
Potassium, total		mg/L	1.5	1.3	1.76	2.8
Copper, total		mg/L	0.002	0.001	<0.001	<0.001
Arsenic, total	0.5	mg/L	0.0241	0.0202	0.0272	0.0706
Antimony, total	0.5	mg/L	0.0342	0.045	0.0559	0.106
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.033	0.007	0.011	0.013
Selenium, total	0.5	mg/L	0.0027	0.0024	0.0031	0.0074
Lead, total	0.75	mg/L	0.0007	0.0002	0.0003	0.0001
Aluminum, total	0.2	mg/L	0.01	0.037	0.012	0.006
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.00009	0.00003	0.00004	0.00029
Chromium, total	0.1	mg/L	0.0017	0.0006	0.001	0.0005
Iron, total	0.5	mg/L	<0.1	<0.05	<0.01	<0.05
Manganese, total	1	mg/L	0.026	<0.005	0.009	0.022
Molybdenum, total	2	mg/L	0.009	0.006	0.00555	0.017
Nickel, total	0.5	mg/L	0.001	<0.0005	<0.001	0.001
Silver, total	0.8	mg/L	<0.00001	<0.00001	0.00008	0.00001
Sulphur, total	0.1	mg/L	64.2	61		166

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
In-Pit Station BC-51W

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	3.28	3.85	3.41	3.15
pH, Field		pH units	5.55	5.54	5.61	nm*
Conductivity - Lab		µS/cm	1080	295	681	1160
Conductivity Field		µS/cm	902	246	609	nm*
Temperature		°C	0.1	16	8	nm*
Hardness calculated from total metal scan		mgCaCO3/L	404	97	243	441
Alkalinity, Total		mgCaCO3/L	<5	<5	<5	<5
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	<5	<5	<5	<5
Total Suspended Solids		mg/L	<2	<2	<2	<2
Total Dissolved Solids		mg/L	804	708	572	986
Chloride		mg/L	3.04	1.92	1.8	1.96
Sulphate, Dissolved		mg/L	493	122	333	571
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.16	0.016	0.012	0.04
Nitrate Nitrogen, NO_3^-	15	mg/L	<0.02	0.04	<0.01	0.37
Cyanide, Total		mg/L				
Cyanide, Weak Acid Dissociable.	2	mg/L				
Calcium, total	0.25	mg/L	92.8	23.3	55.7	97
Magnesium, total		mg/L	41.9	9.5	25.2	48.2
Sodium, total		mg/L	2	<0.4	0.8	1
Potassium, total		mg/L	2.5	1.8	1.38	1.5
Copper, total		mg/L	0.54	0.162	0.382	0.86
Arsenic, total	0.5	mg/L	0.0119	0.0089	0.0107	0.0176
Antimony, total	0.5	mg/L	0.003	0.0045	0.0039	0.0041
Mercury, total	1	mg/L	<0.0001	<0.0001		<0.0001
Zinc, total	0.005	mg/L	0.985	0.178	0.373	0.809
Selenium, total	0.5	mg/L	0.0064	0.0012	0.0028	0.0067
Lead, total	0.75	mg/L	0.0007	0.0002	0.0006	0.0002
Aluminum, total	0.2	mg/L	9.89	2.27	5.35	11.5
Bismuth, total	1	mg/L	<0.0005	<0.0005	<0.0001	<0.0005
Cadmium, total	0.5	mg/L	0.0091	0.00187	0.00451	0.00854
Chromium, total	0.1	mg/L	0.0065	0.0011	0.0028	0.0052
Iron, total	0.5	mg/L	7.1	0.98	3.98	10.9
Manganese, total	1	mg/L	5.3	0.998	2.18	4.96
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00009	<0.001
Nickel, total	0.5	mg/L	0.322	0.064	0.124	0.28
Silver, total	0.8	mg/L	0.00002	<0.00001	0.00004	0.00002
Sulphur, total	0.1	mg/L	168	39		185

not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-19

		Sample Date	06-Mar-2008	18-Jun-2008	17-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	6.99	6.85	7.59	7.45
pH, Field		pH units	7.23	6.98	6.97	*nm
Conductivity - Lab		µS/cm	688	679	639	679
Conductivity Field		µS/cm	401	584	601	*nm
Temperature		°C	1	2	2	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	362	351	371	321
Alkalinity, Total		mgCaCO3/L	230	230		232
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5		<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6		<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	280	280		280
Total Suspended Solids		mg/L	18	4	6	16
Total Dissolved Solids		mg/L	478	462	490	470
Chloride		mg/L	0.6	0.61	0.72	0.13
Sulphate, Dissolved		mg/L	148	150	159	0.67
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.03	0.034	0.042	0.19
Nitrate Nitrogen, NO_3^-	15	mg/L	0.16	0.13	0.23	0.09
Cyanide, Total		mg/L	0.001	<0.001	<0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	81	77.7	84.6	67.4
Magnesium, total		mg/L	38.7	38.1	38.7	37.2
Sodium, total		mg/L	10.9	10	9.89	9.5
Potassium, total		mg/L	2.4	2.2	2.6	2.3
Copper, total		mg/L	0.006	0.008	0.011	0.011
Arsenic, total	0.5	mg/L	0.0012	0.001	0.0014	0.0016
Antimony, total	0.5	mg/L	0.0006	0.0016	0.0018	0.0005
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.047	0.054	0.051	0.057
Selenium, total	0.5	mg/L	0.0025	0.0023	0.0039	0.0009
Lead, total	0.75	mg/L	<0.0001	0.0003	0.0008	0.0001
Aluminum, total	0.2	mg/L	<0.005	0.017	0.021	<0.005
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.00041	0.0005	0.00052	0.00044
Chromium, total	0.1	mg/L	0.0024	0.0005	0.003	0.001
Iron, total	0.5	mg/L	<0.01	0.04	0.04	0.03
Manganese, total	1	mg/L	0.033	0.028	0.0673	0.057
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00018	<0.001
Nickel, total	0.5	mg/L	0.0044	0.0049	0.007	0.0073
Silver, total	0.8	mg/L	<0.00001	0.00003	0.00003	0.00003
Sulphur, total	0.1	mg/L	50.3	49.3		46

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-21

		Sample Date	06-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	6.77	6.85	6.19	5.87
pH, Field		pH units	7.6	7.1	7.27	*nm
Conductivity - Lab		µS/cm	311	286	330	427
Conductivity Field		µS/cm	161.5	255	315	*nm
Temperature		°C	0.2	3.5	4	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	134	121	127	146
Alkalinity, Total		mgCaCO3/L	82	118	8	7
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	9	9
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	100	140	<5	<5
Total Suspended Solids		mg/L	8	22	103	14
Total Dissolved Solids		mg/L	190	170	346	366
Chloride		mg/L	31.3	6.4	98.1	115
Sulphate, Dissolved		mg/L	26.7	23.9	13.5	12.5
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.03	<0.005	0.016	0.07
Nitrate Nitrogen, NO_3^-	15	mg/L	0.39	0.34	0.79	0.97
Cyanide, Total		mg/L	<0.001	<0.001	<0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	<0.002	<0.002	
Calcium, total	0.25	mg/L	25.2	19.9	30.5	33.4
Magnesium, total		mg/L	17.4	17.3	12.3	15.2
Sodium, total		mg/L	8.1	7.6	6.21	7.3
Potassium, total		mg/L	2.5	2	2.26	2.4
Copper, total		mg/L	0.003	0.004	0.004	0.003
Arsenic, total	0.5	mg/L	0.005	0.0015	0.0015	0.0014
Antimony, total	0.5	mg/L	0.0005	0.0011	0.0017	0.0008
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.028	0.019	0.03	0.037
Selenium, total	0.5	mg/L	0.0097	0.0132	0.0012	<0.0002
Lead, total	0.75	mg/L	0.0001	0.0002	0.0014	0.0002
Aluminum, total	0.2	mg/L	<0.005	0.012	0.016	0.018
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.00024	0.00014	0.00064	0.00078
Chromium, total	0.1	mg/L	0.0013	0.0006	0.0006	<0.0005
Iron, total	0.5	mg/L	<0.01	<0.01	0.01	<0.01
Manganese, total	1	mg/L	0.056	0.064	0.154	0.188
Molybdenum, total	2	mg/L	<0.001	<0.001	<0.00002	<0.001
Nickel, total	0.5	mg/L	0.0124	0.0103	0.027	0.0362
Silver, total	0.8	mg/L	<0.00001	0.00004	<0.00001	0.00005
Sulphur, total	0.1	mg/L	8.7	7.8		3.7

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-22

		Sample Date	06-Mar-2008	18-Jun-2008	17-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	5.9	5.79	6.26	6.48
pH, Field		pH units	6.8	6.63	6.76	*nm
Conductivity - Lab		µS/cm	1400	1380	1330	1410
Conductivity Field		µS/cm	1075	1162	1223	*nm
Temperature		°C	0.5	1.8	2	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	792	771	937	701
Alkalinity, Total		mgCaCO3/L	90	90	89	92
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	110	100	100	100
Total Suspended Solids		mg/L	2	10	10	12
Total Dissolved Solids		mg/L	1260	1210	1230	1280
Chloride		mg/L	1.57	1.57	1.56	1.78
Sulphate, Dissolved		mg/L	633	721	739	728
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.06	0.055	0.064	0.22
Nitrate Nitrogen, NO_3^-	15	mg/L	3.43	3.53	3.66	2.93
Cyanide, Total		mg/L	<0.001	<0.001	<0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	204	197	244	173
Magnesium, total		mg/L	68.7	67.5	79.7	65.2
Sodium, total		mg/L	18.1	17.1	17.4	16.5
Potassium, total		mg/L	4.5	4.2	4.68	4.3
Copper, total		mg/L	0.015	0.007	0.008	0.009
Arsenic, total	0.5	mg/L	0.0027	0.0018	0.0012	0.0023
Antimony, total	0.5	mg/L	<0.0002	0.0011	0.001	0.0003
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.337	0.338	0.302	0.314
Selenium, total	0.5	mg/L	0.12	0.0929	0.104	0.0891
Lead, total	0.75	mg/L	0.0005	0.0006	0.0006	0.0003
Aluminum, total	0.2	mg/L	0.525	0.528	0.546	0.393
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.0124	0.0129	0.0121	0.0122
Chromium, total	0.1	mg/L	0.0028	0.0008	0.0034	0.0008
Iron, total	0.5	mg/L	0.02	0.01	0.03	<0.01
Manganese, total	1	mg/L	0.814	0.778	0.835	0.729
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00007	<0.001
Nickel, total	0.5	mg/L	0.152	0.147	0.133	0.132
Silver, total	0.8	mg/L	<0.00001	0.00003	0.00003	0.00003
Sulphur, total	0.1	mg/L	234	234		218

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-27

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.64	7.36	7.56	7.42
pH, Field		pH units	7.6	7.08	7.5	*nm
Conductivity - Lab		µS/cm	672	671	639	680
Conductivity Field		µS/cm	1762	637	608	*nm
Temperature		°C	0.8	4.5	4.5	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	372	363	372	344
Alkalinity, Total		mgCaCO3/L	162	163	164	164
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	197	200	200	200
Total Suspended Solids		mg/L	8	5	8	14
Total Dissolved Solids		mg/L	484	544	554	568
Chloride		mg/L	0.45	0.49	0.99	0.51
Sulphate, Dissolved		mg/L	214	209	227	219
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.07	0.04	0.058	0.05
Nitrate Nitrogen, NO_3^-	15	mg/L	<0.02	<0.01	0.07	<0.01
Cyanide, Total		mg/L	<0.001	<0.001	<0.001	0.002
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	<0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	90.2	87.5	90.2	78.9
Magnesium, total		mg/L	35.6	35.2	35.8	35.8
Sodium, total		mg/L	2.9	1.8	1.93	1.9
Potassium, total		mg/L	1.4	1.6	1.66	1.4
Copper, total		mg/L	<0.001	0.003	0.003	<0.001
Arsenic, total	0.5	mg/L	0.08	0.136	0.164	0.0291
Antimony, total	0.5	mg/L	<0.0002	0.0025	0.0009	0.0003
Mercury, total	1	mg/L	<0.0001	0.0003	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.015	0.028	0.023	0.007
Selenium, total	0.5	mg/L	<0.0002	<0.0002	0.0008	<0.0002
Lead, total	0.75	mg/L	<0.0001	0.0004	0.0013	0.0002
Aluminum, total	0.2	mg/L	<0.005	0.008	0.015	<0.005
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	<0.00001	0.00016	0.00014	0.00002
Chromium, total	0.1	mg/L	0.0017	<0.0005	0.0023	<0.0005
Iron, total	0.5	mg/L	<0.01	1.32	1.74	<0.01
Manganese, total	1	mg/L	0.214	0.198	0.219	0.195
Molybdenum, total	2	mg/L	0.013	0.014	0.0123	0.014
Nickel, total	0.5	mg/L	0.0015	0.0018	0.003	0.0029
Silver, total	0.8	mg/L	<0.00001	0.00018	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	70.5	69.4		67.8

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-65

		Sample Date	06-Mar-2008	18-Jun-2008	17-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.71	7.38	7.5	7.76
pH, Field		pH units	*nm	*nm	7.41	*nm
Conductivity - Lab		µS/cm	325	309	200	308
Conductivity Field		µS/cm	*nm	*nm	191	*nm
Temperature		°C	*nm	*nm	3	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	154	148	96	130
Alkalinity, Total		mgCaCO3/L	131	124	75	127
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	160	150	90	150
Total Suspended Solids		mg/L	44	72	24	22
Total Dissolved Solids		mg/L	214	198	172	126
Chloride		mg/L	0.69	0.73	2.55	0.44
Sulphate, Dissolved		mg/L	35.2	41.2	26.5	37.5
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01	0.01	0.011	0.05
Nitrate Nitrogen, NO_3^-	15	mg/L	0.07	0.16	0.77	0.05
Cyanide, Total		mg/L	<0.001	<0.001	0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	<0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	49.3	47.3	29.5	40
Magnesium, total		mg/L	7.5	7.4	5.48	7.1
Sodium, total		mg/L	8.3	6	4.54	5.6
Potassium, total		mg/L	2	2.1	1.94	1.7
Copper, total		mg/L	0.002	0.005	0.01	0.002
Arsenic, total	0.5	mg/L	0.0009	0.0006	0.0016	0.0004
Antimony, total	0.5	mg/L	0.0036	0.003	0.0043	0.0014
Mercury, total	1	mg/L	<0.0001	<0.0001	0.00002	<0.0001
Zinc, total	0.005	mg/L	0.013	0.011	0.022	0.005
Selenium, total	0.5	mg/L	<0.0002	<0.0002	0.0019	<0.0002
Lead, total	0.75	mg/L	<0.0001	0.0008	0.0037	0.0001
Aluminum, total	0.2	mg/L	<0.005	0.019	0.771	0.012
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.00001	0.00004	0.00014	0.00003
Chromium, total	0.1	mg/L	0.0016	<0.0005	0.0027	0.0005
Iron, total	0.5	mg/L	<0.01	0.02	0.55	0.02
Manganese, total	1	mg/L	<0.005	<0.005	0.015	<0.005
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00067	<0.001
Nickel, total	0.5	mg/L	0.0006	0.0017	0.003	0.0012
Silver, total	0.8	mg/L	<0.00001	0.00004	0.00005	0.00002
Sulphur, total	0.1	mg/L	13.5	13		11.4

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-66

		Sample Date	06-Mar-2008	18-Jun-2008	17-Sep-2008	18-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.46	6.79	7.16	7.55
pH, Field		pH units	*nm	*nm	7.28	*nm
Conductivity - Lab		µS/cm	688	229	257	407
Conductivity Field		µS/cm	*nm	*nm	253	*nm
Temperature		°C	*nm	*nm	3	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	285	85	106	147
Alkalinity, Total		mgCaCO3/L	161	84	95	105
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	196	100	100	130
Total Suspended Solids		mg/L	32	26	44	8
Total Dissolved Solids		mg/L	528	168	174	124
Chloride		mg/L	7.14	5.02	5.61	4.52
Sulphate, Dissolved		mg/L	20.9	18.3	21.7	17.8
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.02	0.009	0.013	0.04
Nitrate Nitrogen, NO_3^-	15	mg/L	43.5	1.38	3.59	20.7
Cyanide, Total		mg/L	0.11	0.006	0.011	0.08
Cyanide, Weak Acid Dissociable.	2	mg/L	0.03	0.002	0.008	0.038
Calcium, total	0.25	mg/L	59.4	23.8	28.6	31.9
Magnesium, total		mg/L	33.3	6.3	8.41	16.3
Sodium, total		mg/L	24.8	12.4	16.4	20.1
Potassium, total		mg/L	2.5	2.1	2.36	1.7
Copper, total		mg/L	0.01	0.01	0.013	0.006
Arsenic, total	0.5	mg/L	0.0026	0.0042	0.005	0.0034
Antimony, total	0.5	mg/L	0.0031	0.0387	0.0316	0.0076
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.045	0.022	0.038	0.027
Selenium, total	0.5	mg/L	0.0193	0.0012	0.0049	0.008
Lead, total	0.75	mg/L	0.0001	0.0012	0.0026	0.0008
Aluminum, total	0.2	mg/L	<0.005	0.236	0.093	0.023
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.00029	0.00031	0.00064	0.00026
Chromium, total	0.1	mg/L	0.0018	0.0008	0.0017	0.0008
Iron, total	0.5	mg/L	0.01	0.18	0.08	0.02
Manganese, total	1	mg/L	0.072	0.009	0.0343	0.012
Molybdenum, total	2	mg/L	<0.001	0.01	0.00876	0.002
Nickel, total	0.5	mg/L	0.0059	0.0044	0.006	0.0017
Silver, total	0.8	mg/L	<0.00001	0.00004	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	7.3	6.2		6.3

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-67

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.56	7.22	7.59	7.27
pH, Field		pH units	*nm	*nm	7.12	*nm
Conductivity - Lab		µS/cm	599	594	561	580
Conductivity Field		µS/cm	*nm	*nm	516	*nm
Temperature		°C	*nm	*nm	3.5	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	335	320	328	294
Alkalinity, Total		mgCaCO3/L	296	293	290	289
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	361	360	350	350
Total Suspended Solids		mg/L	309	579	482	1380
Total Dissolved Solids		mg/L	378	366	394	360
Chloride		mg/L	0.73	0.45	0.77	0.33
Sulphate, Dissolved		mg/L	45.1	53.2	53.6	50.9
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01	0.015	0.01	0.08
Nitrate Nitrogen, NO_3^-	15	mg/L	<0.02	0.09	0.08	<0.01
Cyanide, Total		mg/L	<0.001	<0.001	<0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002			<0.002
Calcium, total	0.25	mg/L	82.2	77.6	79.9	67.9
Magnesium, total		mg/L	31.4	30.7	31.2	30.2
Sodium, total		mg/L	3.8	2.9	3.12	3.2
Potassium, total		mg/L	1.9	1.7	1.89	1.8
Copper, total		mg/L	0.002	0.002	0.002	<0.001
Arsenic, total	0.5	mg/L	0.0032	0.0025	0.0028	0.0024
Antimony, total	0.5	mg/L	0.0154	0.0196	0.0167	0.0129
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.022	0.015	0.016	0.007
Selenium, total	0.5	mg/L	<0.0002	<0.0002	0.0009	<0.0002
Lead, total	0.75	mg/L	<0.0001	0.0004	0.0004	<0.0001
Aluminum, total	0.2	mg/L	<0.005	0.005	0.012	0.006
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.00012	0.00006	0.00014	0.00002
Chromium, total	0.1	mg/L	0.0026	<0.0005	0.0028	<0.0005
Iron, total	0.5	mg/L	<0.01	<0.01	0.04	<0.01
Manganese, total	1	mg/L	0.14	0.038	0.0378	<0.005
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00016	<0.001
Nickel, total	0.5	mg/L	0.0023	0.0019	0.002	0.0019
Silver, total	0.8	mg/L	<0.00001	0.00005	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	17	16.5		15.4

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-68

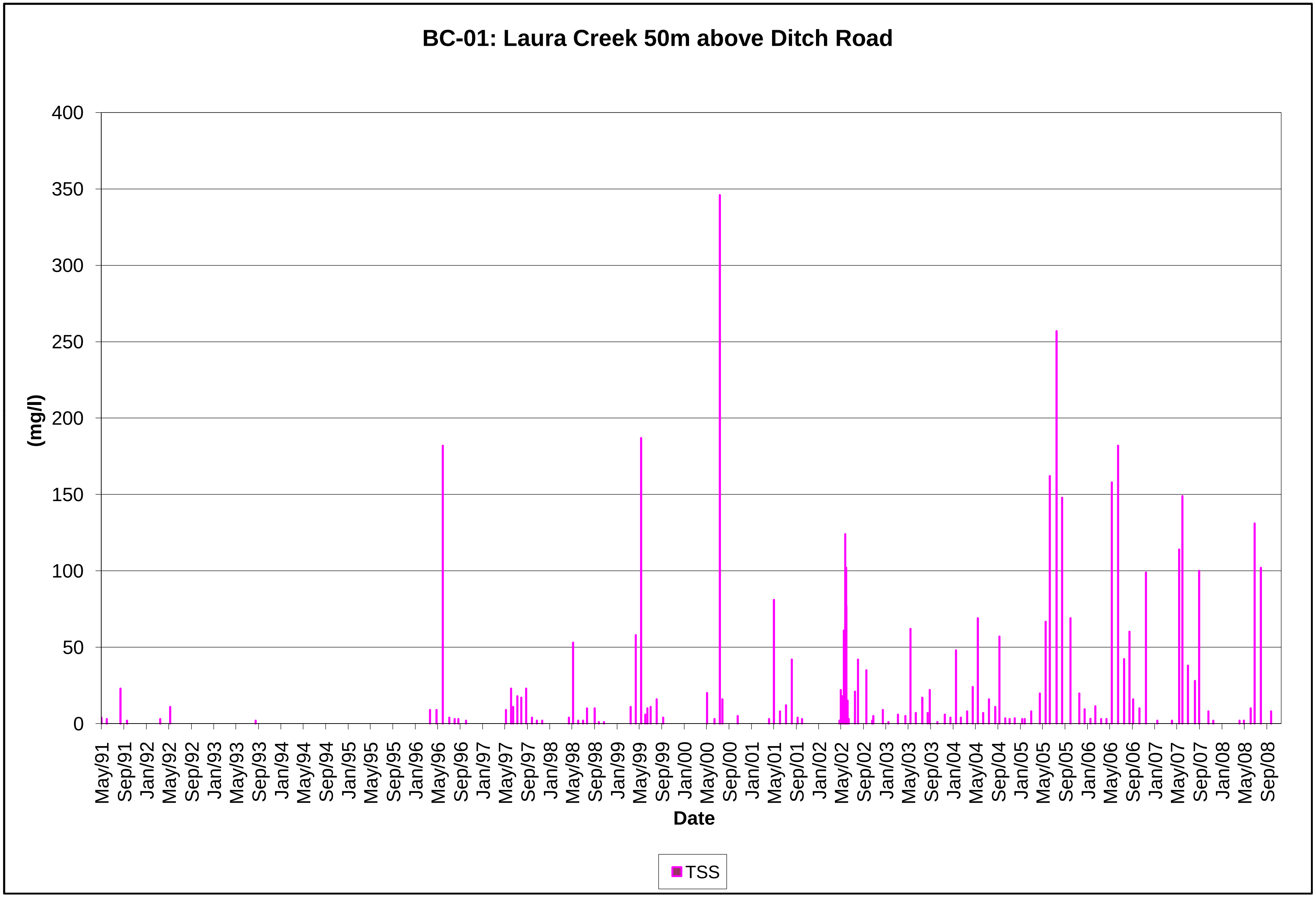
		Sample Date	07-Mar-2008	17-Jun-2008	Sep-2008	Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.38	7.12	no water found	no water found
pH, Field		pH units	*nm	*nm		
Conductivity - Lab		µS/cm	628	623		
Conductivity Field		µS/cm	*nm	*nm		
Temperature		°C	*nm	*nm		
Hardness calculated from dissolved metal scan		mgCaCO3/L	344	330		
Alkalinity, Total		mgCaCO3/L	281	281		
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5		
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6		
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	342	340		
Total Suspended Solids		mg/L	29	72		
Total Dissolved Solids		mg/L	392	384		
Chloride		mg/L	1.59	0.48		
Sulphate, Dissolved		mg/L	67.6	77.4		
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	<0.01	0.025		
Nitrate Nitrogen, NO_3^-	15	mg/L	0.14	0.29		
Cyanide, Total		mg/L	<0.001	<0.001		
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002			
Calcium, total	0.25	mg/L	77.6	73.8		
Magnesium, total		mg/L	36.5	35.5		
Sodium, total		mg/L	2.8	1.8		
Potassium, total		mg/L	6.1	4.9		
Copper, total		mg/L	0.003	0.005		
Arsenic, total	0.5	mg/L	0.0128	0.0442		
Antimony, total	0.5	mg/L	0.0103	0.0103		
Mercury, total	1	mg/L	<0.0001	<0.0001		
Zinc, total	0.005	mg/L	0.024	0.047		
Selenium, total	0.5	mg/L	<0.0002	<0.0002		
Lead, total	0.75	mg/L	0.0001	0.0006		
Aluminum, total	0.2	mg/L	<0.005	0.03		
Bismuth, total	1	mg/L	<0.0005	<0.0005		
Cadmium, total	0.5	mg/L	0.00015	0.00019		
Chromium, total	0.1	mg/L	0.0023	<0.0005		
Iron, total	0.5	mg/L	<0.01	0.47		
Manganese, total	1	mg/L	0.468	0.334		
Molybdenum, total	2	mg/L	0.001	<0.001		
Nickel, total	0.5	mg/L	0.0223	0.0223		
Silver, total	0.8	mg/L	<0.00001	0.00006		
Sulphur, total	0.1	mg/L	24.6	23.9		

*not measured - multimeter malfunction

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Groundwater Station BC-69

		Sample Date	07-Mar-2008	17-Jun-2008	16-Sep-2008	17-Dec-2008
		Lab Report No	1099296	1130137	1152079	1184909
Parameter	**Standard**	**Units**				
pH, Laboratory		pH units	7.42	7.21	7.56	7.22
pH, Field		pH units	*nm	*nm	6.72	*nm
Conductivity - Lab		µS/cm	837	644	577	755
Conductivity Field		µS/cm	*nm	*nm	509	*nm
Temperature		°C	*nm	*nm	4	*nm
Hardness calculated from dissolved metal scan		mgCaCO3/L	477	333	363	428
Alkalinity, Total		mgCaCO3/L	303	270	254	306
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	369	330	310	370
Total Suspended Solids		mg/L	729	304	73	873
Total Dissolved Solids		mg/L	578	422	416	542
Chloride		mg/L	0.94	0.49	1.42	1.15
Sulphate, Dissolved		mg/L	183	99.4	92.5	147
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	0.01	<0.005	0.011	0.09
Nitrate Nitrogen, NO_3^-	15	mg/L	0.06	0.16	0.6	0.15
Cyanide, Total		mg/L	<0.001	<0.001	<0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002			
Calcium, total	0.25	mg/L	88	62	69.3	75.3
Magnesium, total		mg/L	62.6	43.4	46.2	58.3
Sodium, total		mg/L	3	2	2.87	2.4
Potassium, total		mg/L	7	6	6.11	6.5
Copper, total		mg/L	0.001	0.002	0.003	0.001
Arsenic, total	0.5	mg/L	0.0457	0.0352	0.0296	0.0216
Antimony, total	0.5	mg/L	0.0056	0.0066	0.0065	0.0064
Mercury, total	1	mg/L	<0.0001	<0.0001	<0.00001	<0.0001
Zinc, total	0.005	mg/L	0.104	0.095	0.076	0.07
Selenium, total	0.5	mg/L	0.0042	0.0018	0.0038	0.0036
Lead, total	0.75	mg/L	0.0001	0.0004	0.0009	0.0002
Aluminum, total	0.2	mg/L	0.005	0.013	0.03	0.006
Bismuth, total	1	mg/L	<0.0005	<0.0005		<0.0005
Cadmium, total	0.5	mg/L	0.00063	0.00045	0.00041	0.00032
Chromium, total	0.1	mg/L	0.0025	<0.0005	0.0026	<0.0005
Iron, total	0.5	mg/L	<0.01	0.02	0.06	<0.01
Manganese, total	1	mg/L	0.04	0.008	0.0118	<0.005
Molybdenum, total	2	mg/L	<0.001	<0.001	0.00031	<0.001
Nickel, total	0.5	mg/L	0.0026	0.0015	0.002	0.002
Silver, total	0.8	mg/L	<0.00001	0.00009	<0.00001	<0.00001
Sulphur, total	0.1	mg/L	60.6	27.6		49.2

*not measured - multimeter malfunction


BC-01: Laura Creek 50m above Ditch Road
(mg/l)
400
350
300
250
200
150
100
50
0
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
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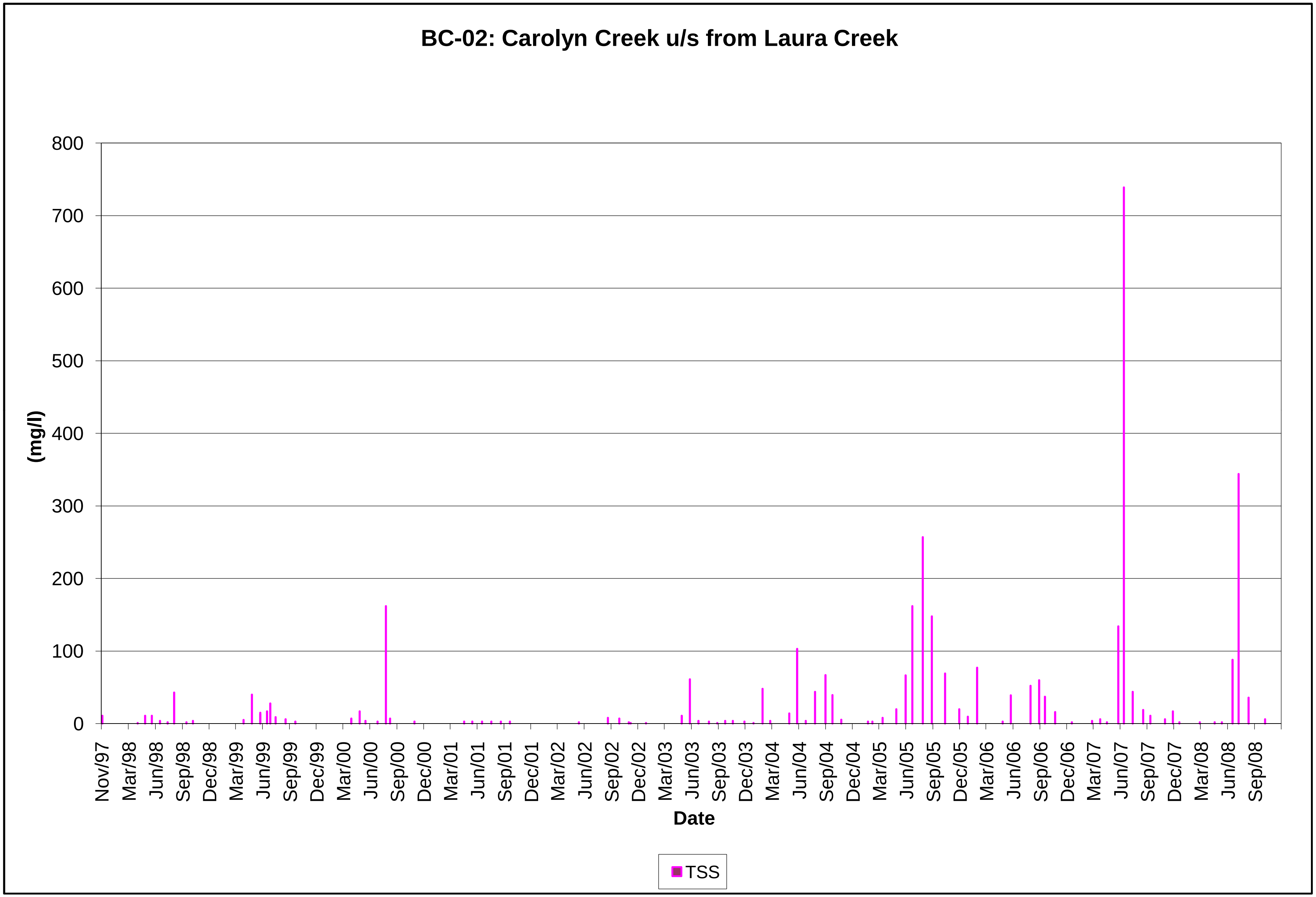
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
TSS


BC-02: Carolyn Creek u/s from Laura Creek
800
700
600
500
400
300
200
100
0
(mg/l)
Nov/97
Mar/98
Jun/98
Sep/98
Dec/98
Mar/99
Jun/99
Sep/99
Dec/99
Mar/00
Jun/00
Sep/00
Dec/00
Mar/01
Jun/01
Sep/01
Dec/01
Mar/02
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Sep/05
Dec/05
Mar/06
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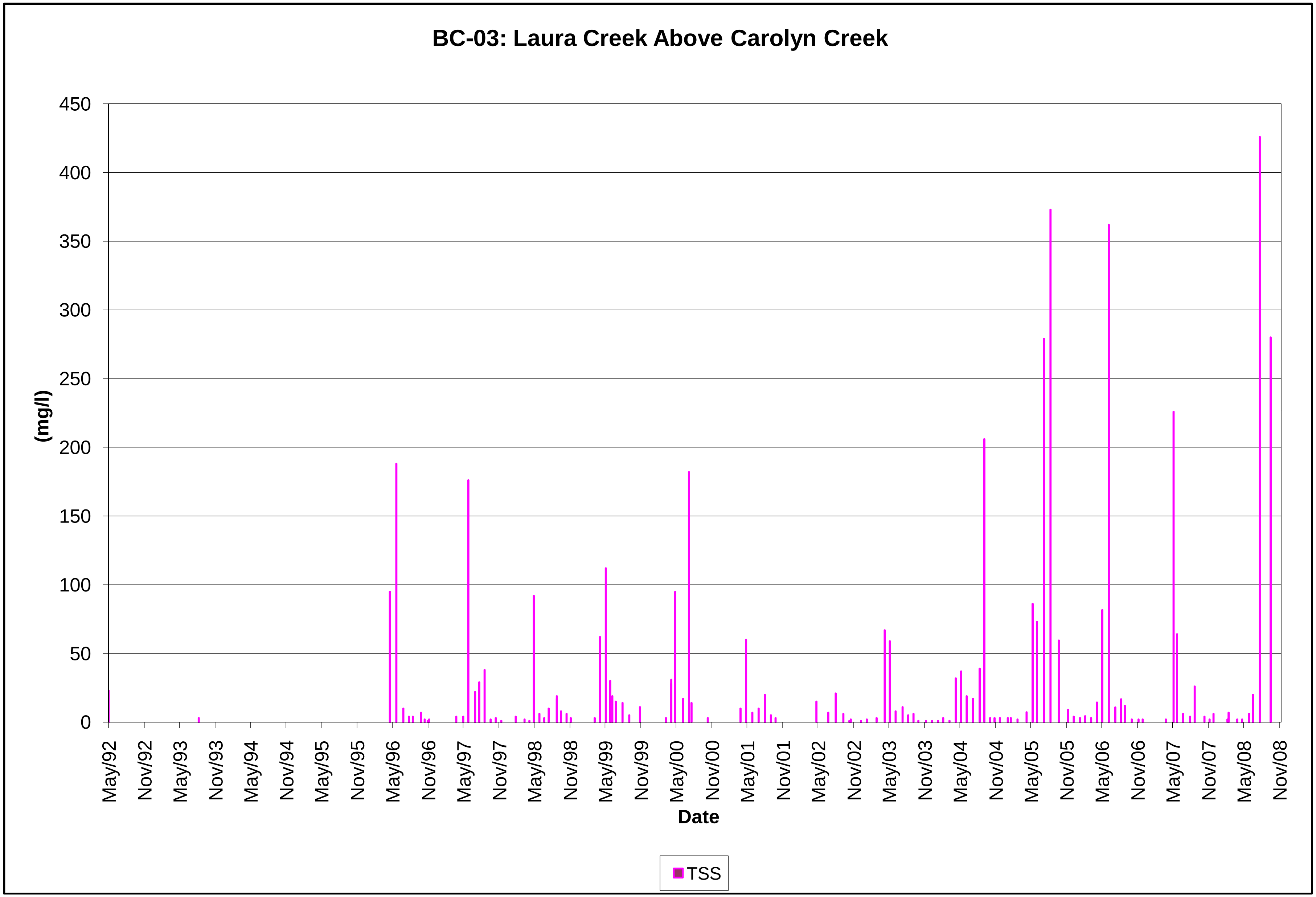
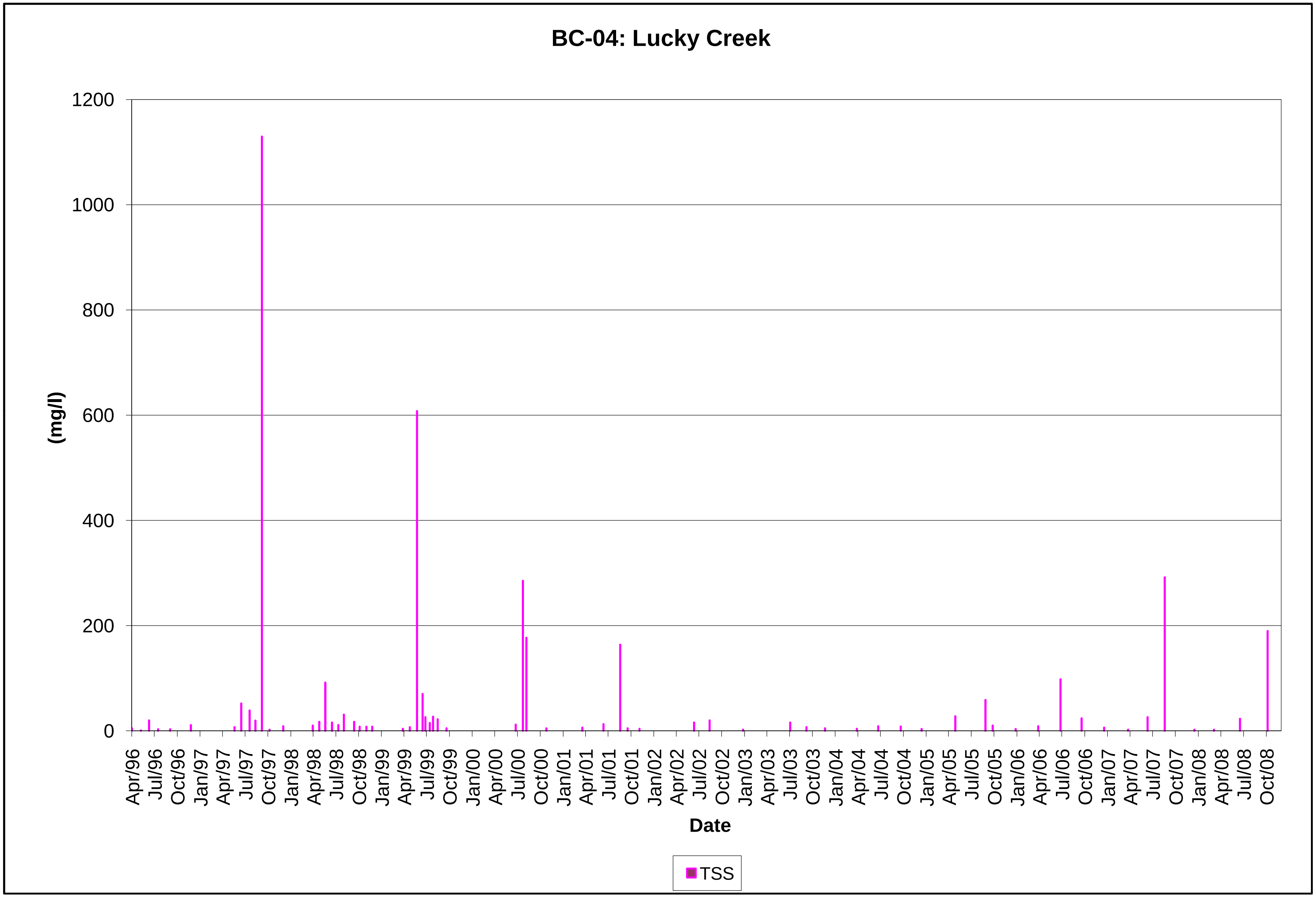
Dec/06
Mar/07
Jun/07
Sep/07
Dec/07
Mar/08
Jun/08
Sep/08
Date
TSS



BC-03: Laura Creek Above Carolyn Creek
(mg/l)
450
400
350
300
250
200
150
100
50
0
May/92
Nov/92
May/93
Nov/93
May/94
Nov/94
May/95
Nov/95
May/96
Nov/96
May/97
Nov/97
May/98
Nov/98
May/99
Nov/99
May/00
Nov/00
May/01
Nov/01
May/02
Nov/02
May/03
Nov/03
May/04
Nov/04
May/05
Nov/05
May/06
Nov/06
May/07
Nov/07
May/08
Nov/08
Date
TSS



BC-04: Lucky Creek
1200
1000
800
600
400
200
0
(mg/l)
Apr/96
Jul/96
Oct/96
Jan/97
Apr/97
Jul/97
Oct/97
Jan/98
Apr/98
Jul/98
Oct/98
Jan/99
Apr/99
Jul/99
Oct/99
Jan/00
Apr/00
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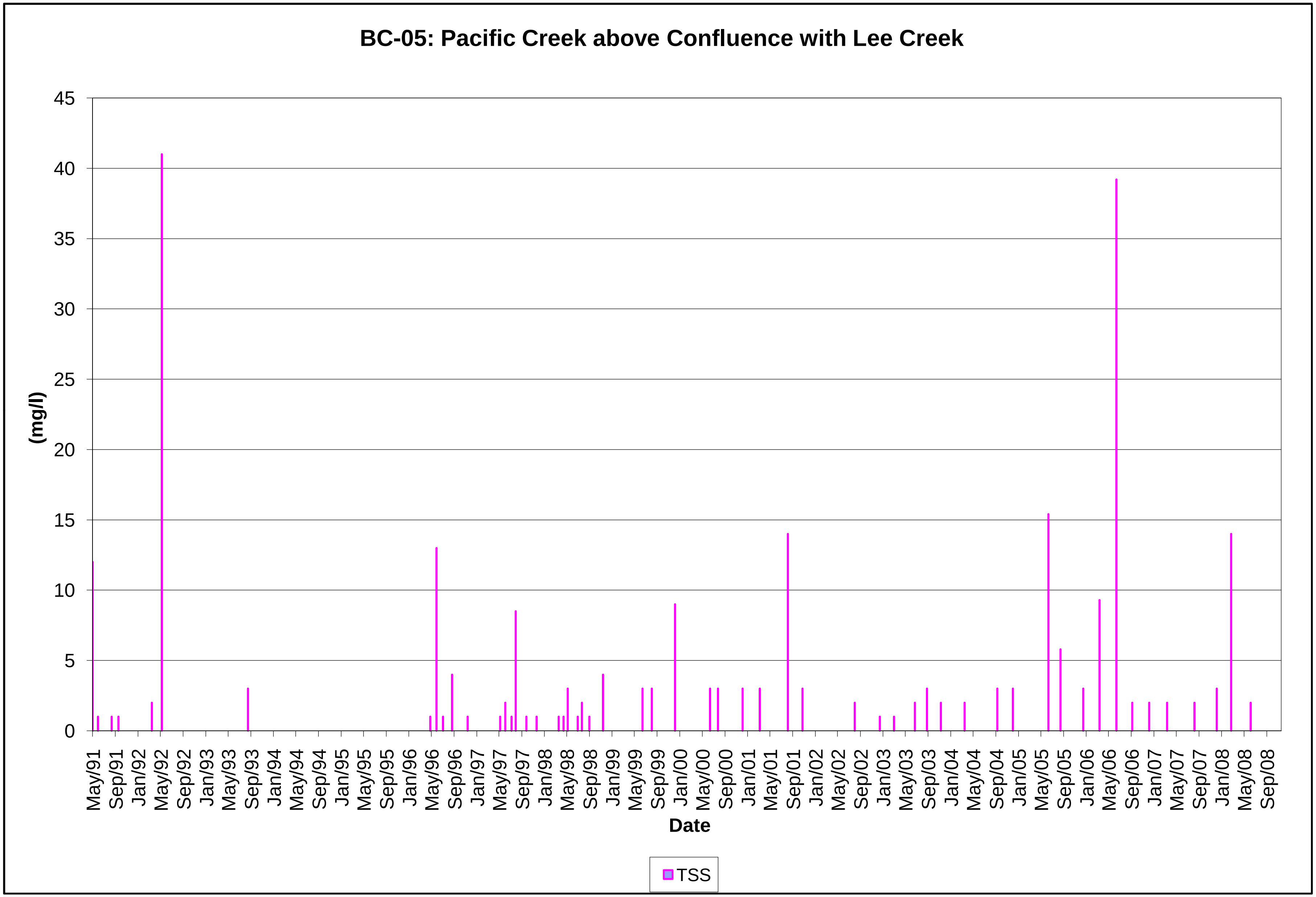
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
Jan/07
Apr/07
Jul/07
Oct/07
Jan/08
Apr/08
Jul/08
Oct/08
Date
TSS



BC-05: Pacific Creek above Confluence with Lee Creek
(mg/l)
0
5
10
15
20
25
30
35
40
45
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
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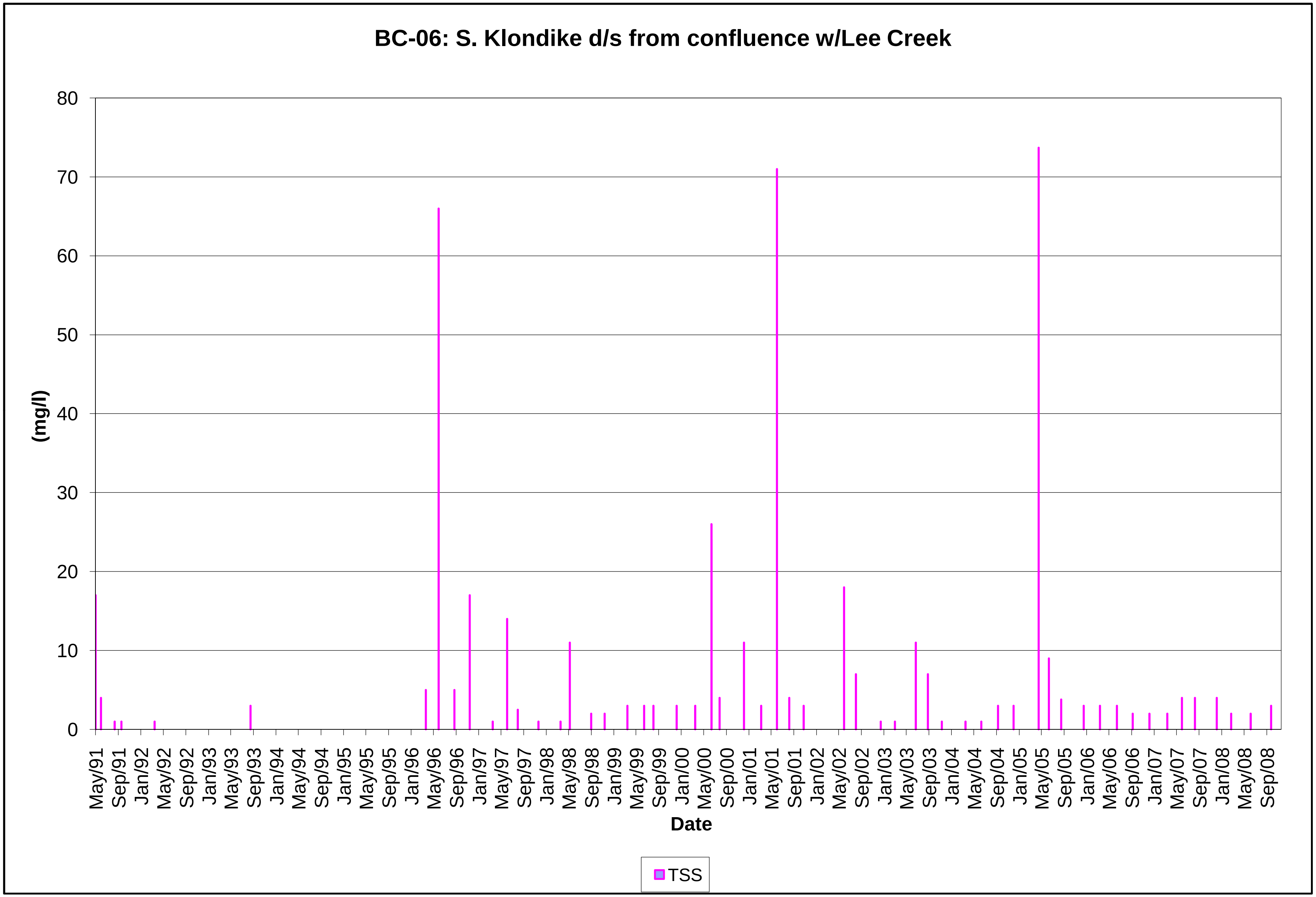
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
TSS


BC-06: S. Klondike d/s from confluence w/Lee Creek
(mg/l)
80
70
60
50
40
30
20
10
0
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
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Jan/05
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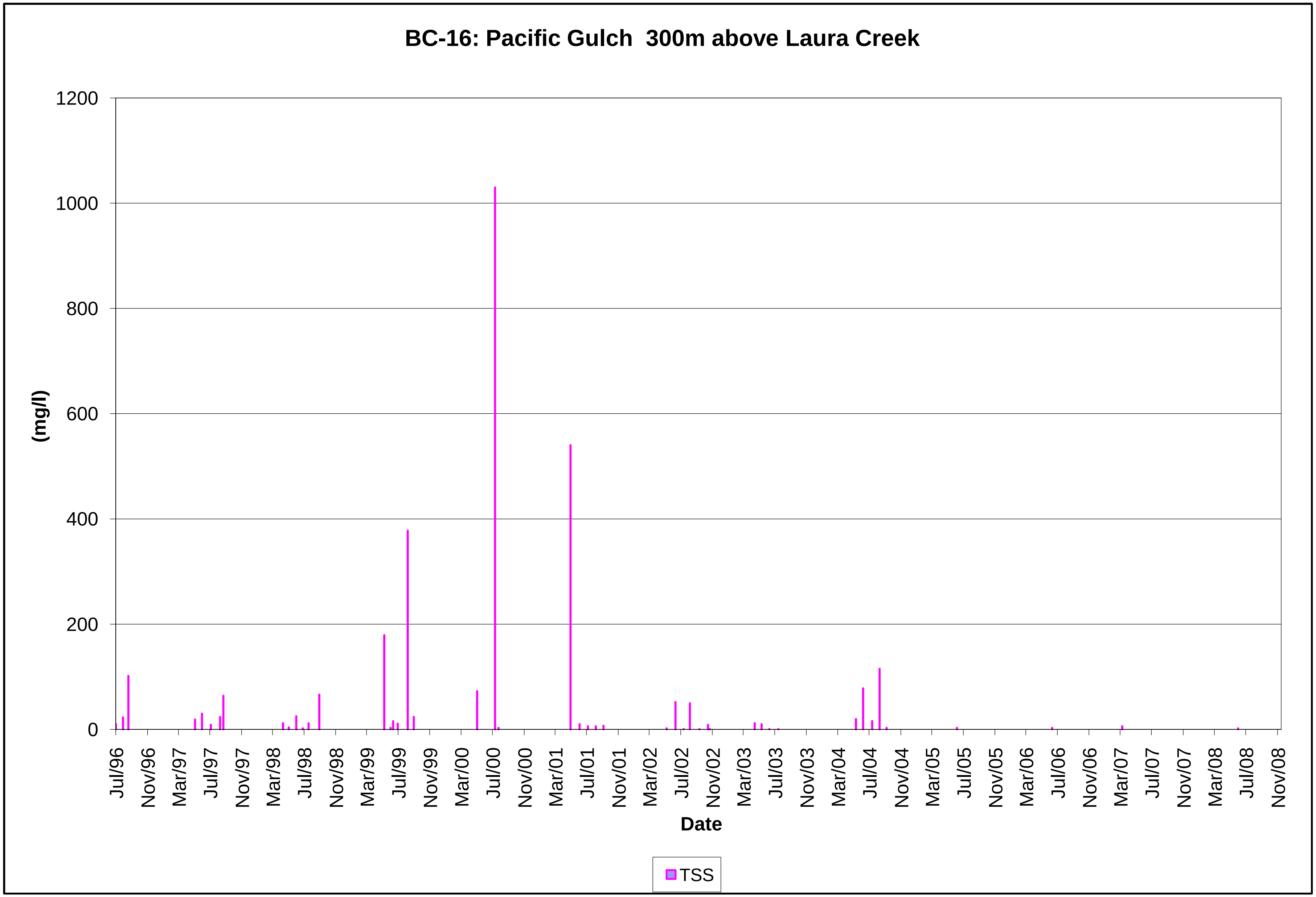
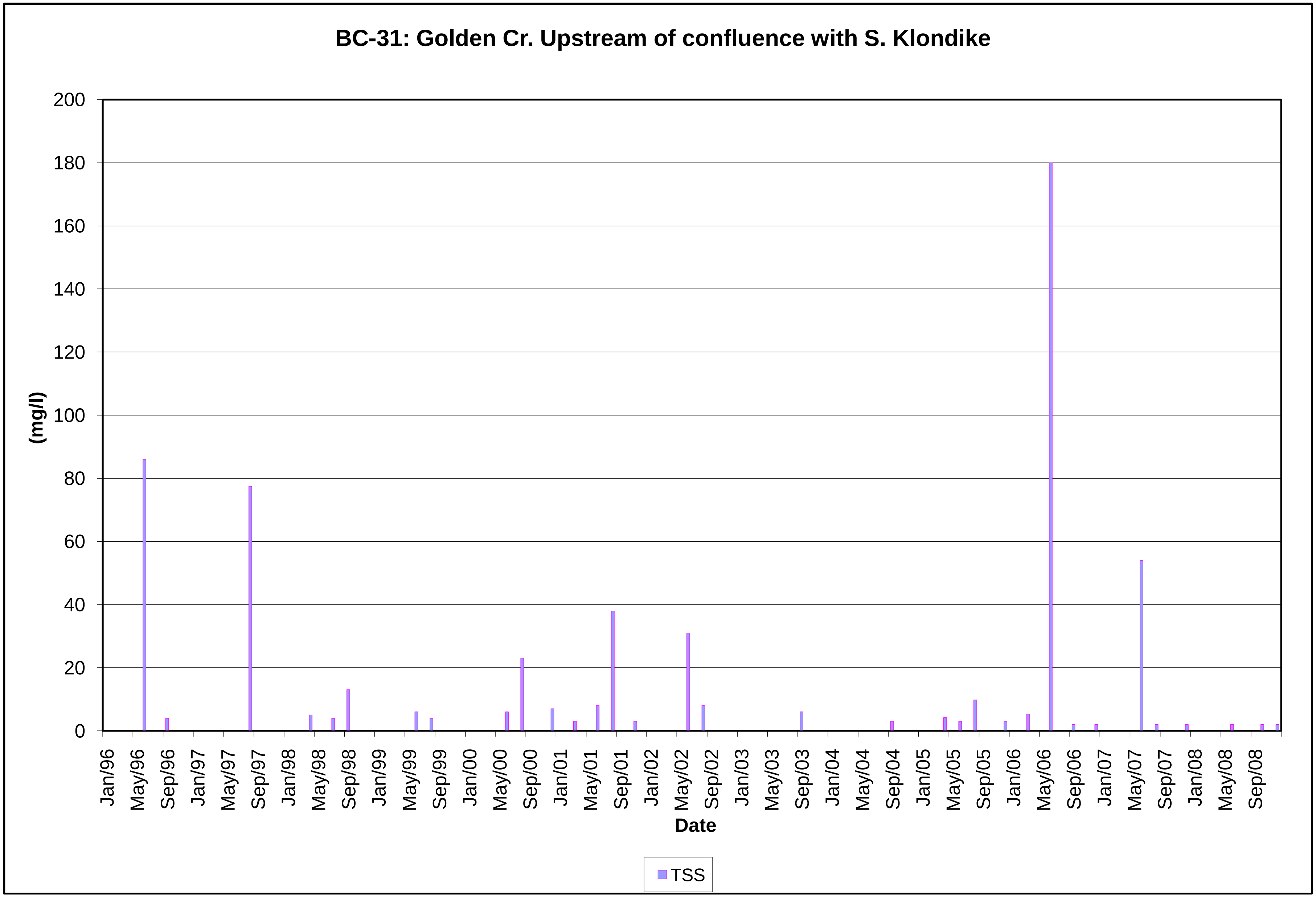
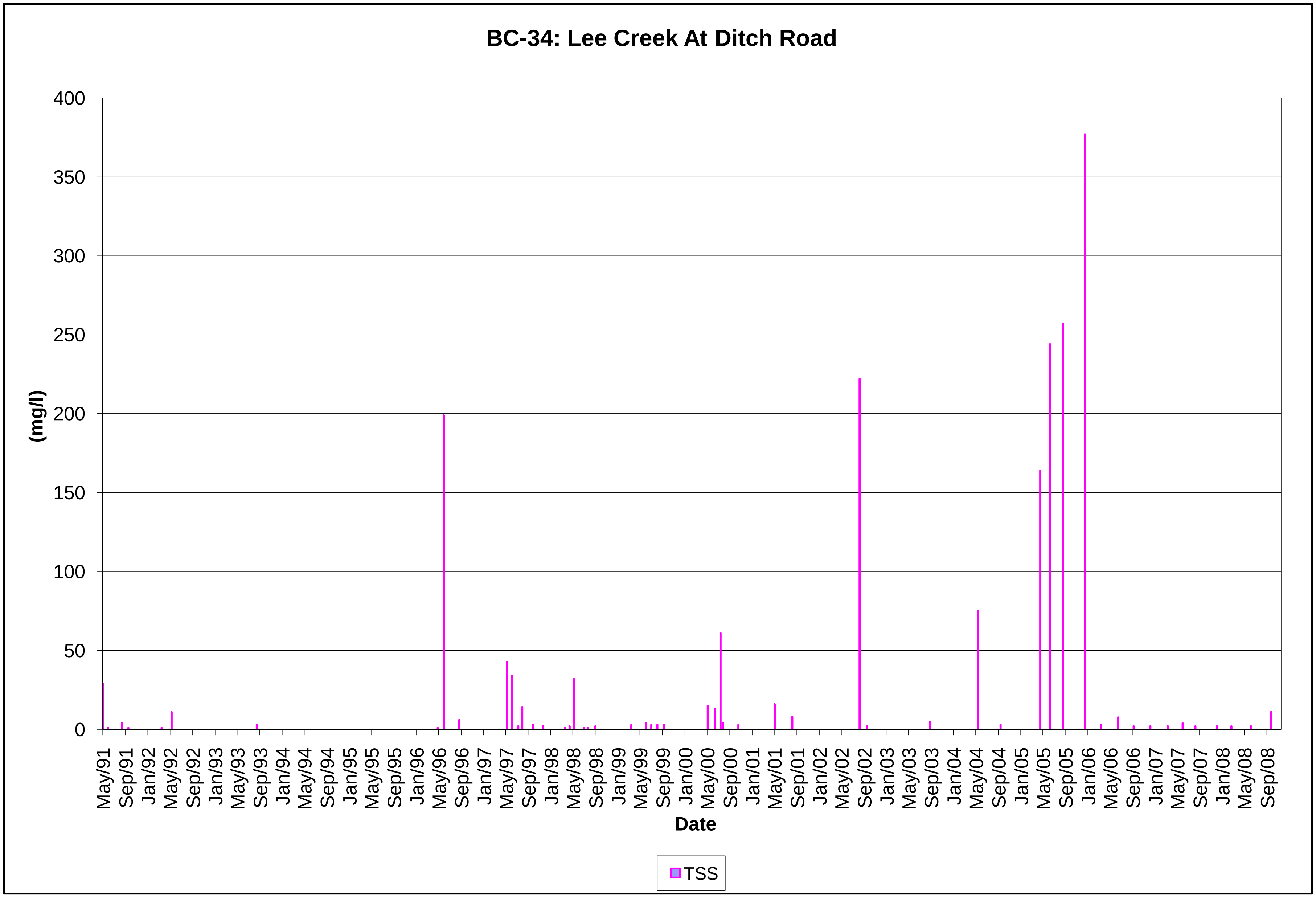
May/08
Sep/08
Date
TSS

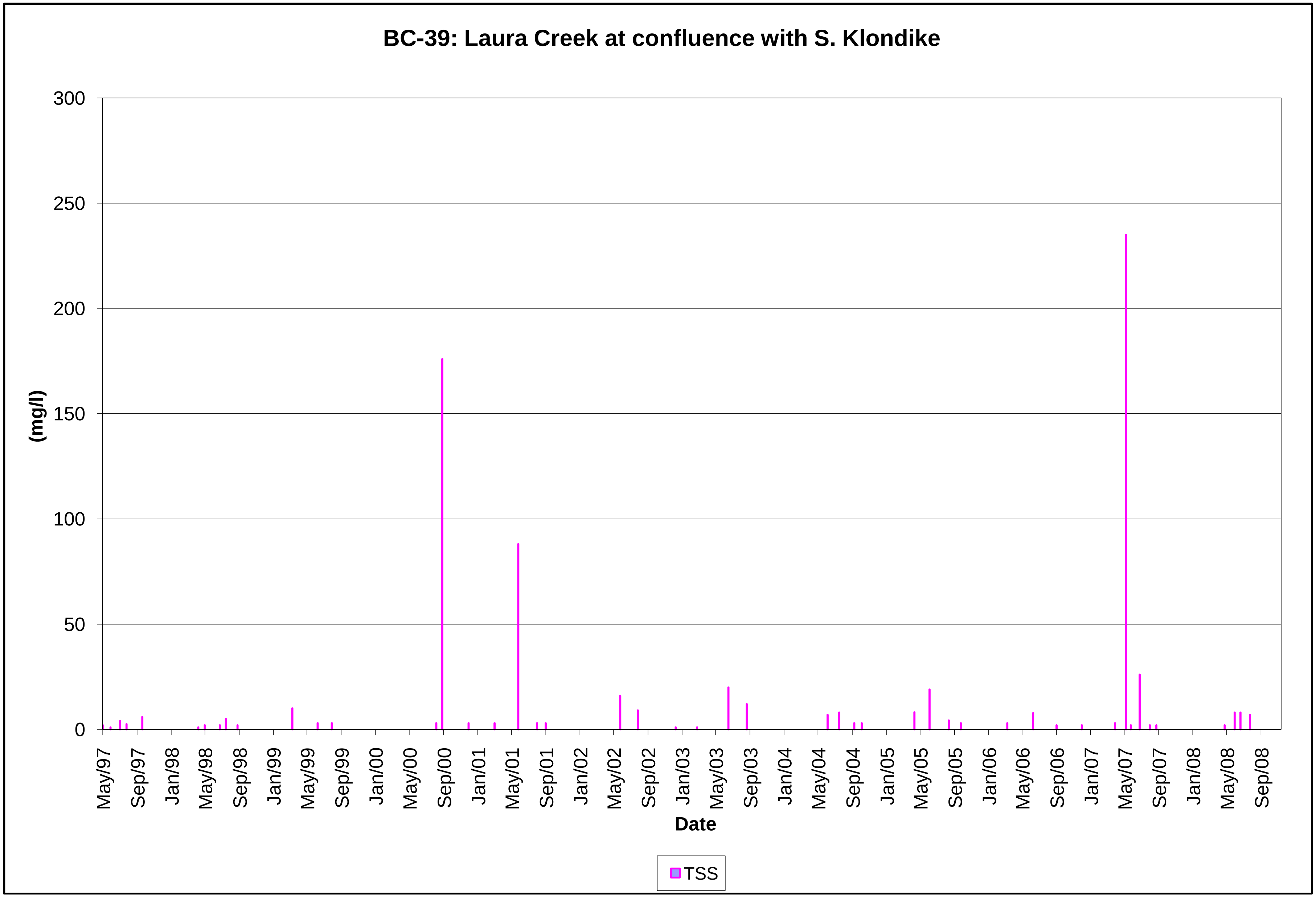


BC-16: Pacific Gulch 300m above Laura Creek
(mg/l)
1200
1000
800
600
400
200
0
Jul/96
Nov/96
Mar/97
Jul/97
Nov/97
Mar/98
Jul/98
Nov/98
Mar/99
Jul/99
Nov/99
Mar/00
Jul/00
Nov/00
Mar/01
Jul/01
Nov/01
Mar/02
Jul/02
Nov/02
Mar/03
Jul/03
Nov/03
Mar/04
Jul/04
Nov/04
Mar/05
Jul/05
Nov/05
Mar/06
Jul/06
Nov/06
Mar/07
Jul/07
Nov/07
Mar/08
Jul/08
Nov/08
Date
TSS

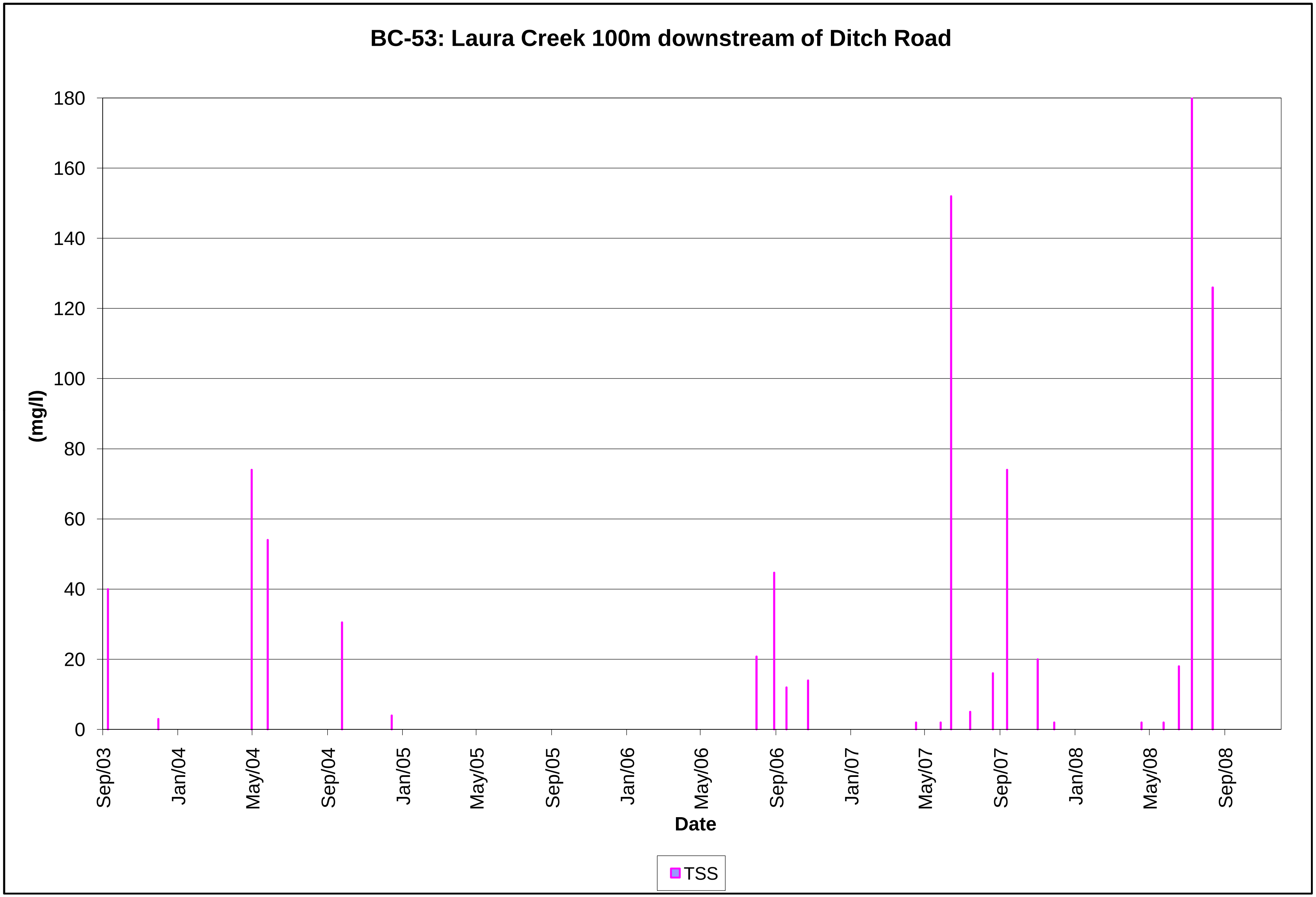

BC-31: Golden Cr. Upstream of confluence with S. Klondike
(mg/l)
200
180
160
140
120
100
80
60
40
20
0
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
TSS



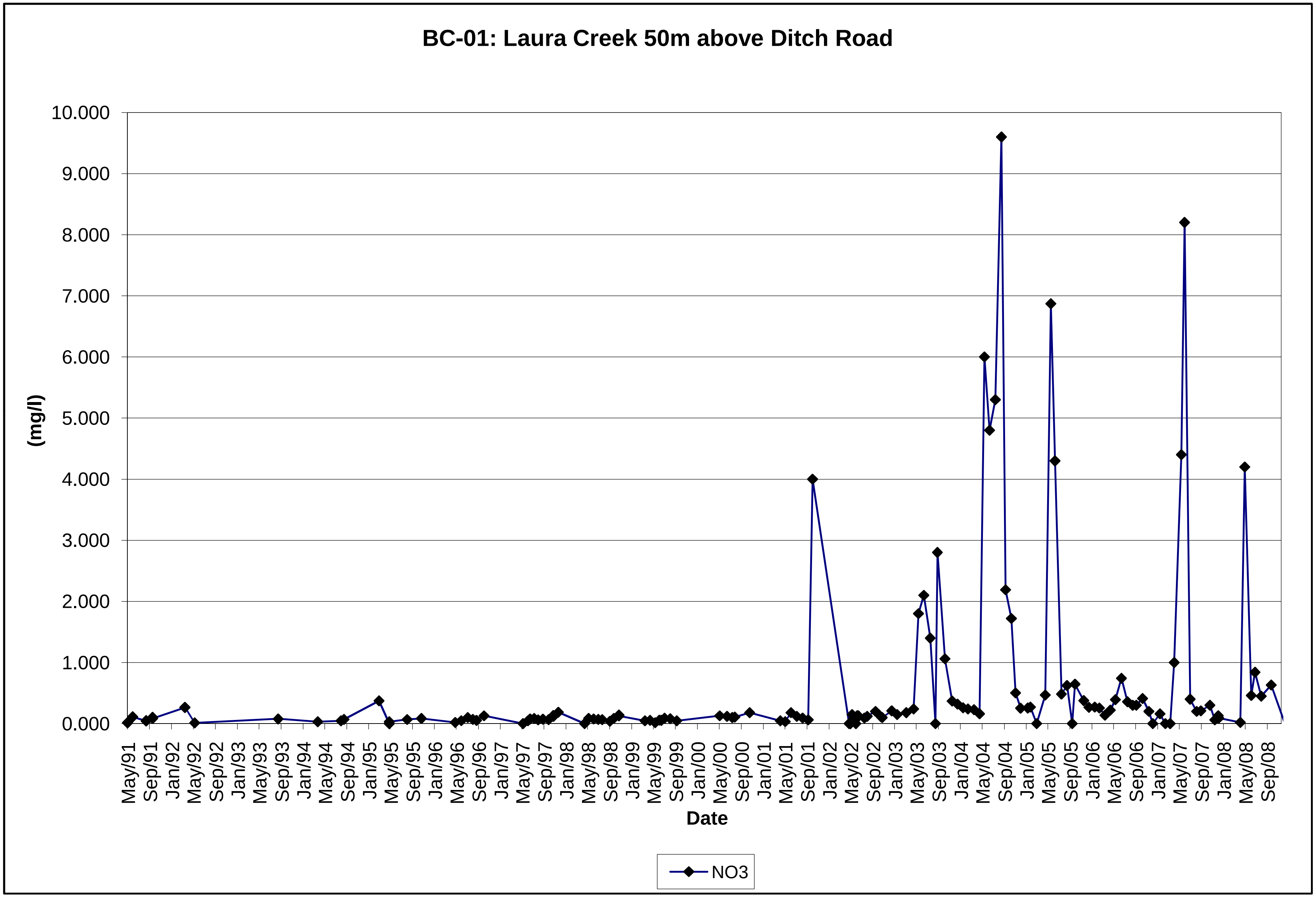
BC-34: Lee Creek At Ditch Road
(mg/l)
400
350
300
250
200
150
100
50
0
May/91 Sep/91 Jan/92 May/92 Sep/92 Jan/93 May/93 Sep/93 Jan/94 May/94 Sep/94 Jan/95 May/95 Sep/95 Jan/96 May/96 Sep/96 Jan/97 May/97 Sep/97 Jan/98 May/98 Sep/98 Jan/99 May/99 Sep/99 Jan/00 May/00 Sep/00 Jan/01 May/01 Sep/01 Jan/02 May/02 Sep/02 Jan/03 May/03 Sep/03 Jan/04 May/04 Sep/04 Jan/05 May/05 Sep/05 Jan/06 May/06 Sep/06 Jan/07 May/07 Sep/07 Jan/08 May/08 Sep/08
Date
TSS

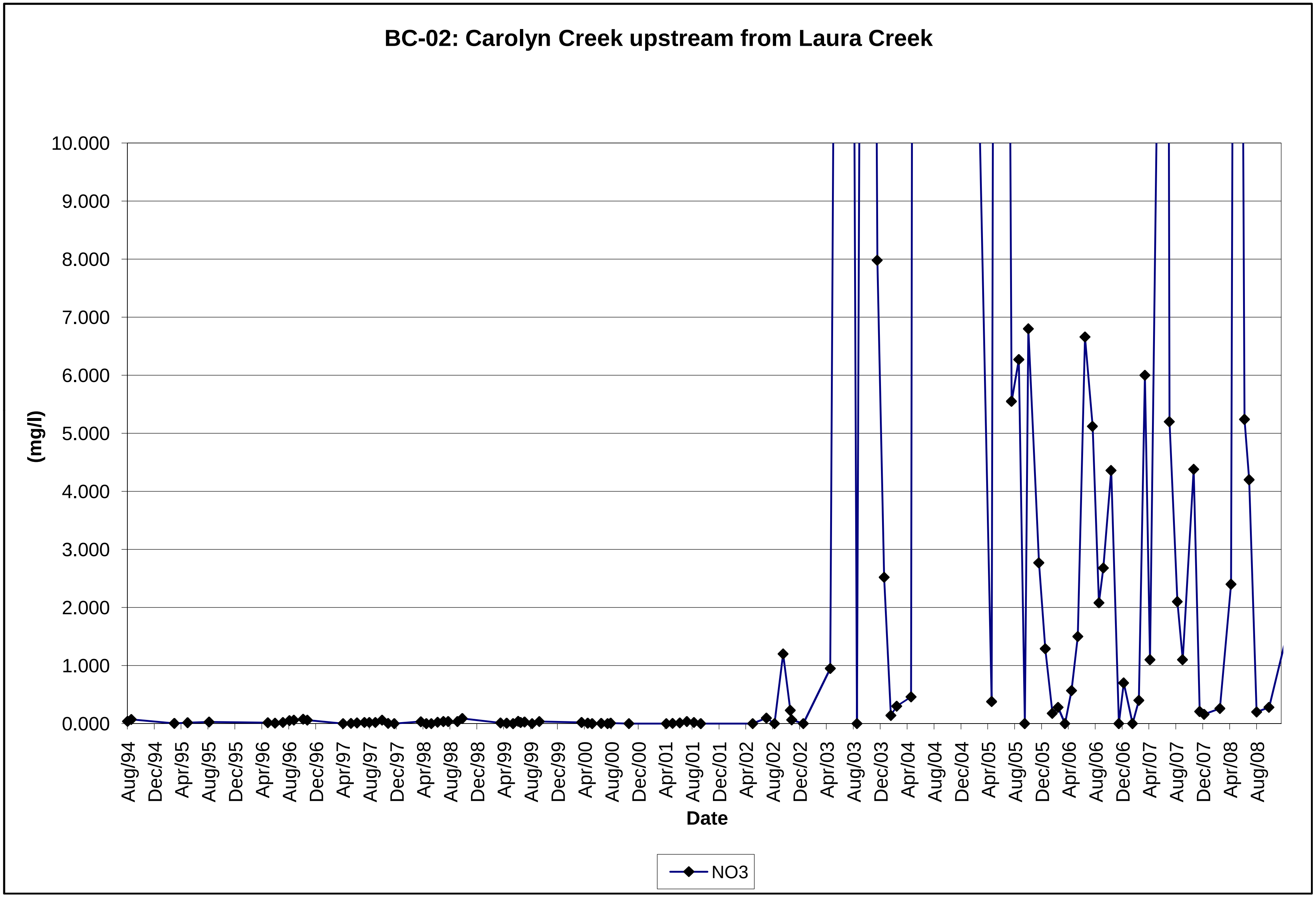


BC-39: Laura Creek at confluence with S. Klondike
(mg/l)
300
250
200
150
100
50
0
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
TSS

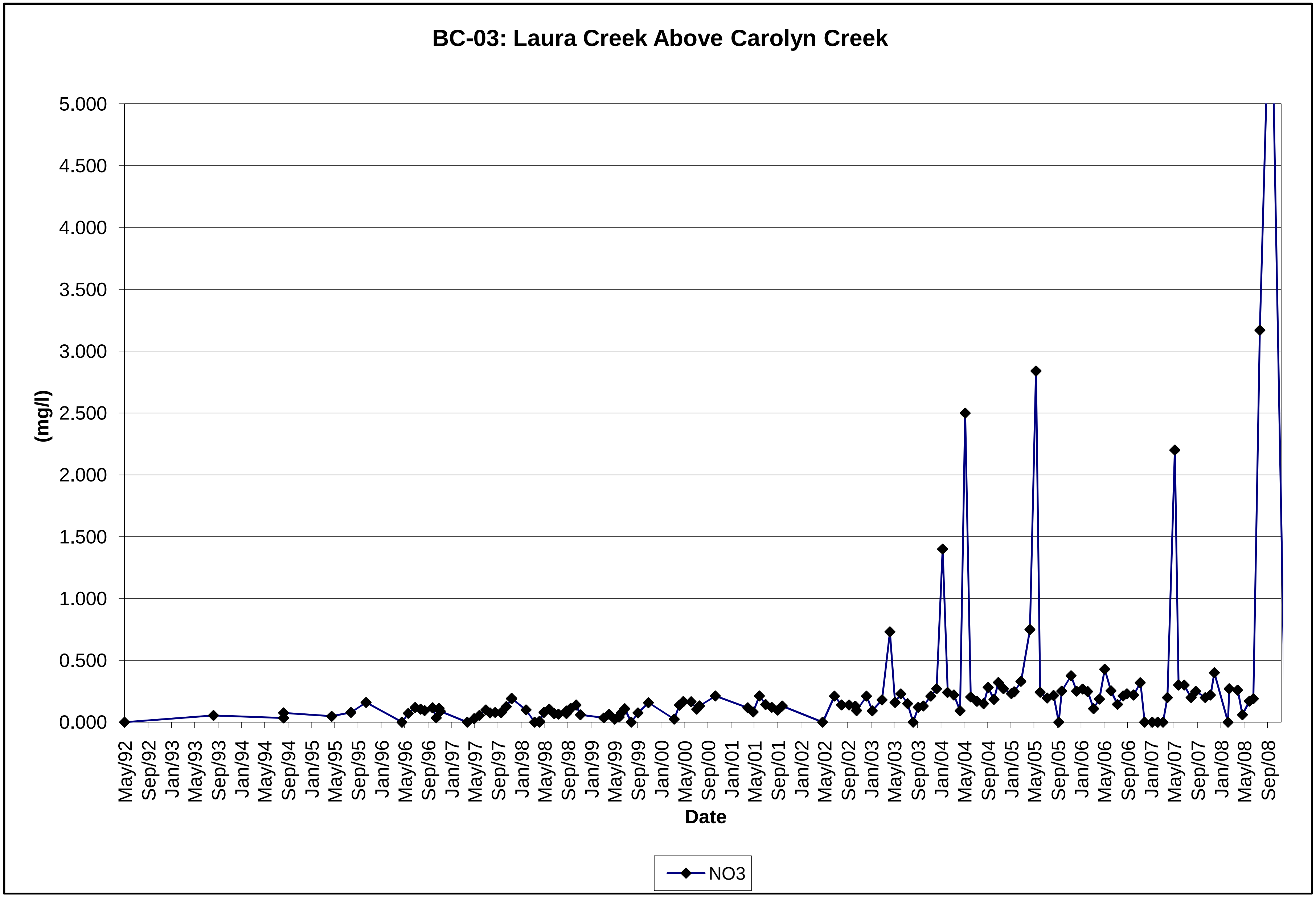


BC-53: Laura Creek 100m downstream of Ditch Road
(mg/l)
0
20
40
60
80
100
120
140
160
180
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
TSS

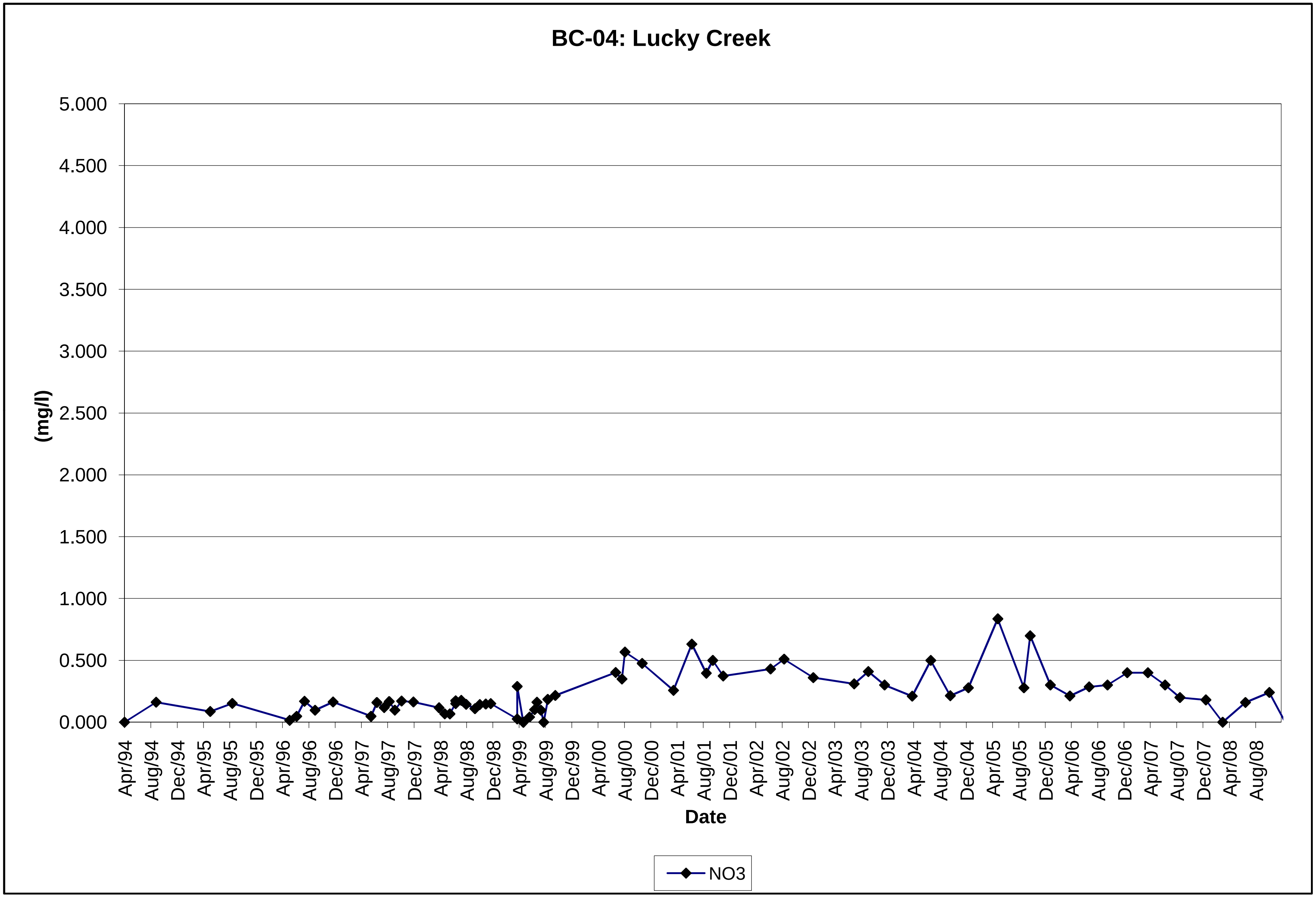

BC-01: Laura Creek 50m above Ditch Road
(mg/l)
10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
May/91 Sep/91 Jan/92 May/92 Sep/92 Jan/93 May/93 Sep/93 Jan/94 May/94 Sep/94 Jan/95 May/95 Sep/95 Jan/96 May/96 Sep/96 Jan/97 May/97 Sep/97 Jan/98 May/98 Sep/98 Jan/99 May/99 Sep/99 Jan/00 May/00 Sep/00 Jan/01 May/01 Sep/01 Jan/02 May/02 Sep/02 Jan/03 May/03 Sep/03 Jan/04 May/04 Sep/04 Jan/05 May/05 Sep/05 Jan/06 May/06 Sep/06 Jan/07 May/07 Sep/07 Jan/08 May/08 Sep/08
Date
NO3



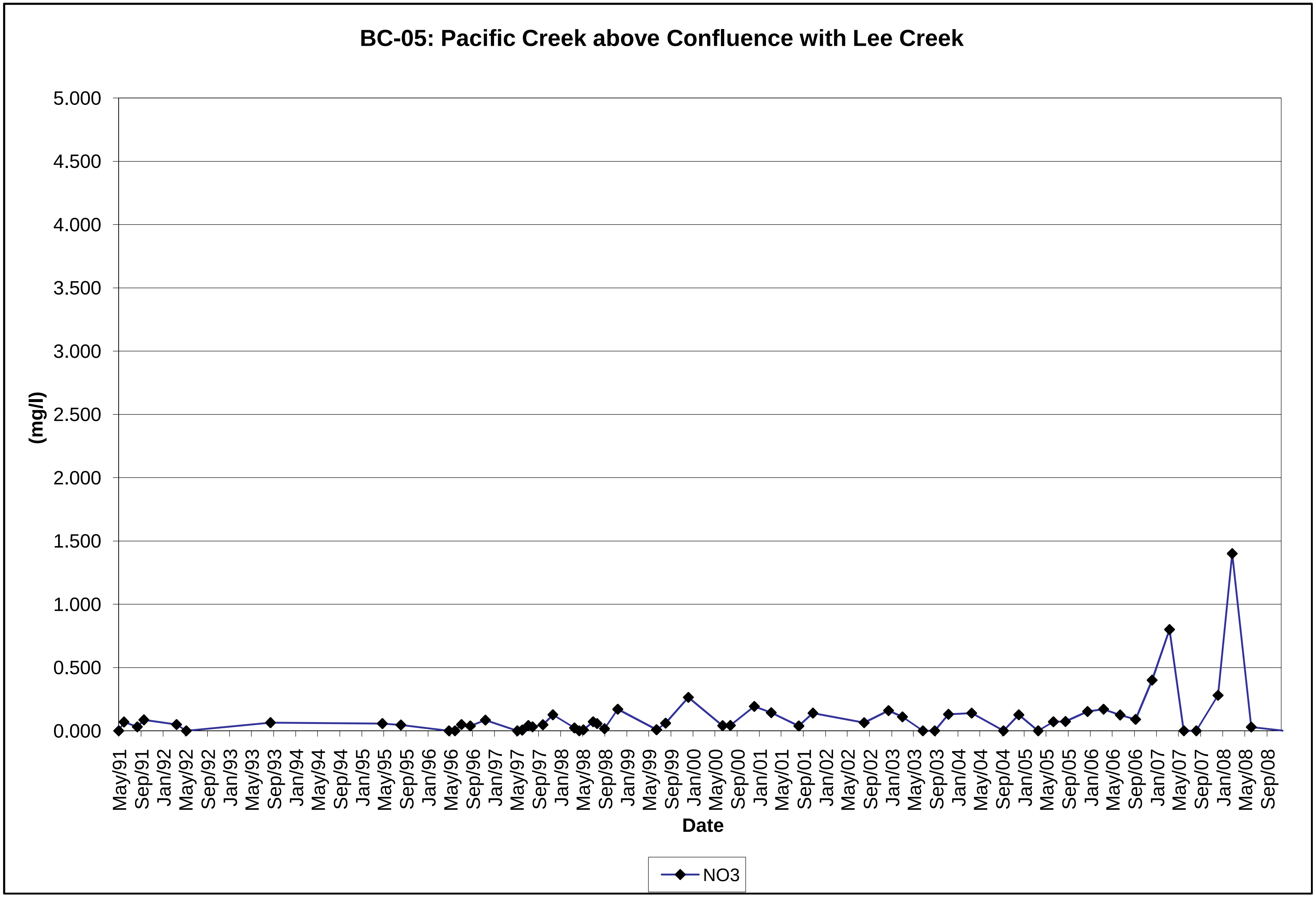
BC-02: Carolyn Creek upstream from Laura Creek
(mg/l)
10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
Aug/94
Dec/94
Apr/95
Aug/95
Dec/95
Apr/96
Aug/96
Dec/96
Apr/97
Aug/97
Dec/97
Apr/98
Aug/98
Dec/98
Apr/99
Aug/99
Dec/99
Apr/00
Aug/00
Dec/00
Apr/01
Aug/01
Dec/01
Apr/02
Aug/02
Dec/02
Apr/03
Aug/03
Dec/03
Apr/04
Aug/04
Dec/04
Apr/05
Aug/05
Dec/05
Apr/06
Aug/06
Dec/06
Apr/07
Aug/07
Dec/07
Apr/08
Aug/08
Date
NO3



BC-03: Laura Creek Above Carolyn Creek
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
NO3



BC-04: Lucky Creek
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
Apr/94
Aug/94
Dec/94
Apr/95
Aug/95
Dec/95
Apr/96
Aug/96
Dec/96
Apr/97
Aug/97
Dec/97
Apr/98
Aug/98
Dec/98
Apr/99
Aug/99
Dec/99
Apr/00
Aug/00
Dec/00
Apr/01
Aug/01
Dec/01
Apr/02
Aug/02
Dec/02
Apr/03
Aug/03
Dec/03
Apr/04
Aug/04
Dec/04
Apr/05
Aug/05
Dec/05
Apr/06
Aug/06
Dec/06
Apr/07
Aug/07
Dec/07
Apr/08
Aug/08
Date
NO3



BC-05: Pacific Creek above Confluence with Lee Creek
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
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Jan/00
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May/02
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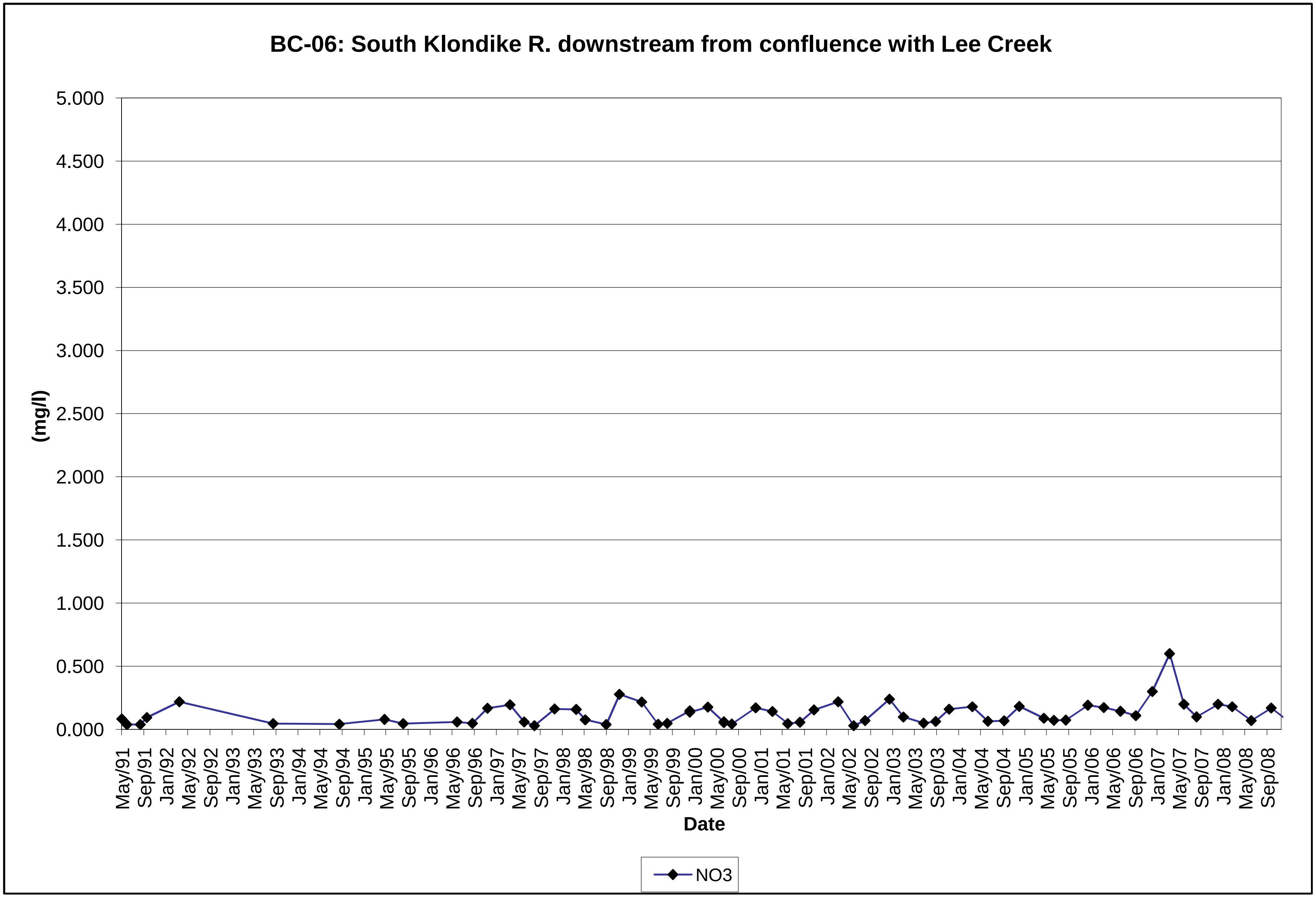
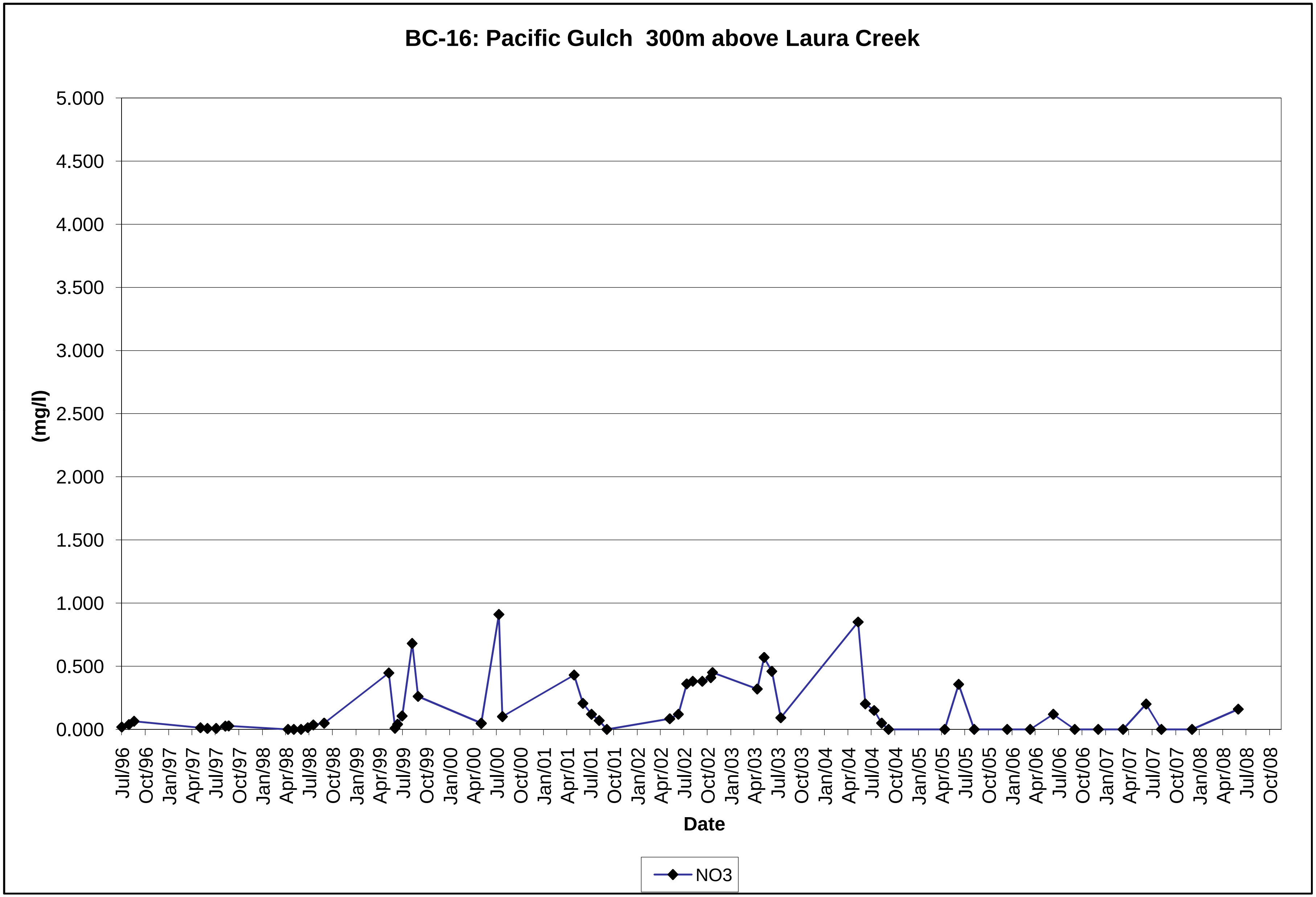
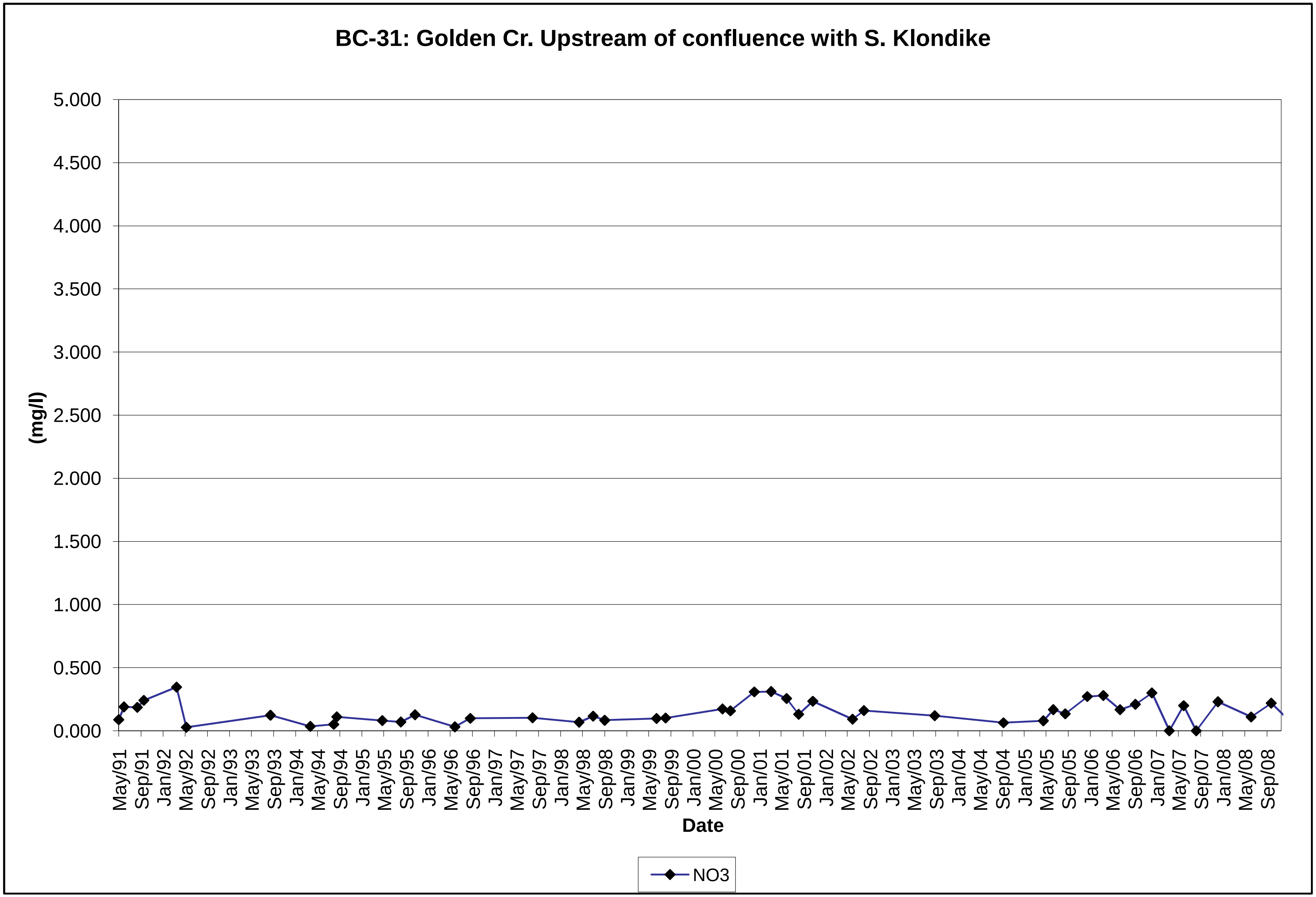
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
NO3



BC-06: South Klondike R. downstream from confluence with Lee Creek
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
NO3



BC-16: Pacific Gulch 300m above Laura Creek
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
Jul/96
Oct/96
Jan/97
Apr/97
Jul/97
Oct/97
Jan/98
Apr/98
Jul/98
Oct/98
Jan/99
Apr/99
Jul/99
Oct/99
Jan/00
Apr/00
Jul/00
Oct/00
Jan/01
Apr/01
Jul/01
Oct/01
Jan/02
Apr/02
Jul/02
Oct/02
Jan/03
Apr/03
Jul/03
Oct/03
Jan/04
Apr/04
Jul/04
Oct/04
Jan/05
Apr/05
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
Jan/07
Apr/07
Jul/07
Oct/07
Jan/08
Apr/08
Jul/08
Oct/08
Date
NO3


BC-31: Golden Cr. Upstream of confluence with S. Klondike
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
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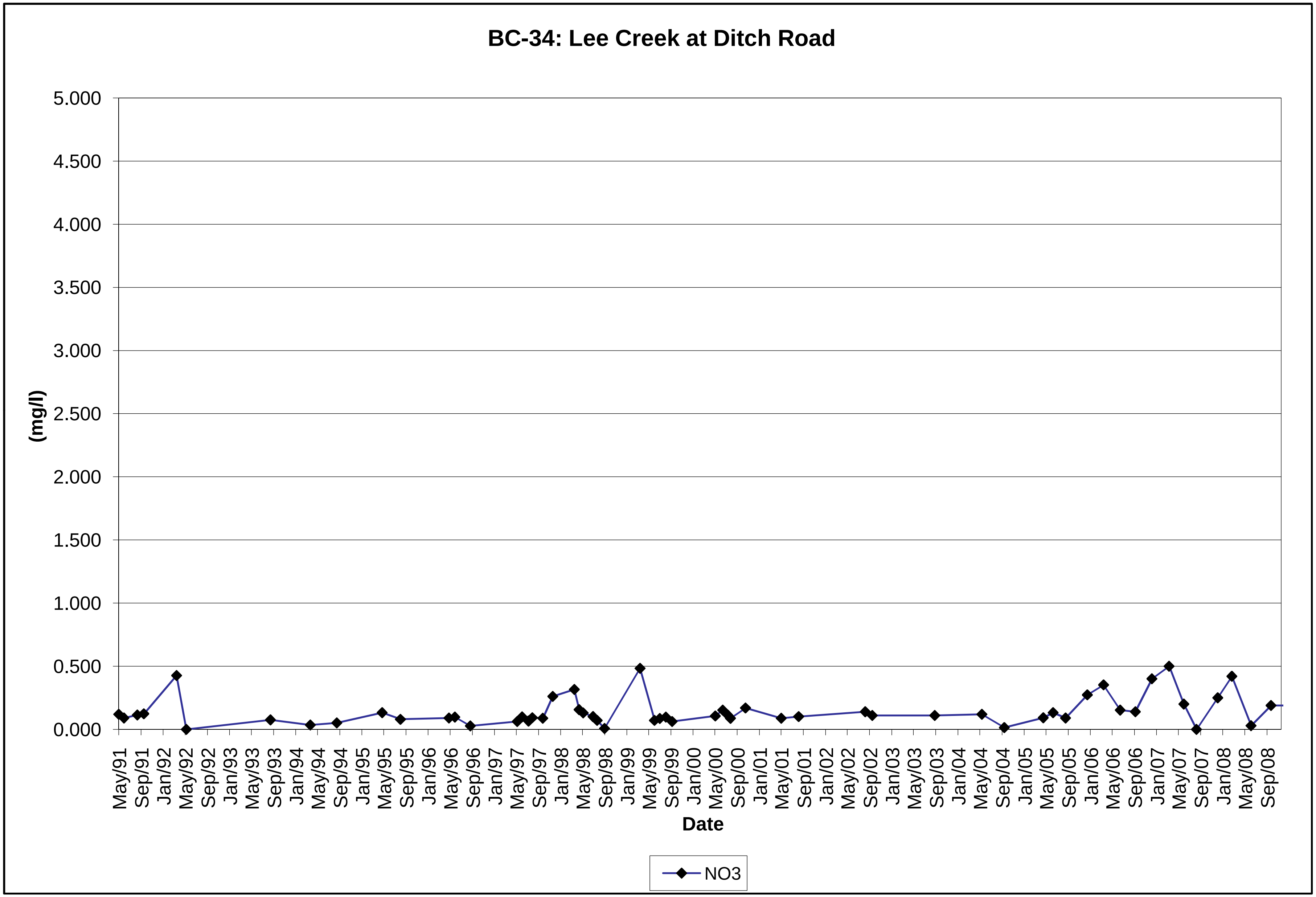
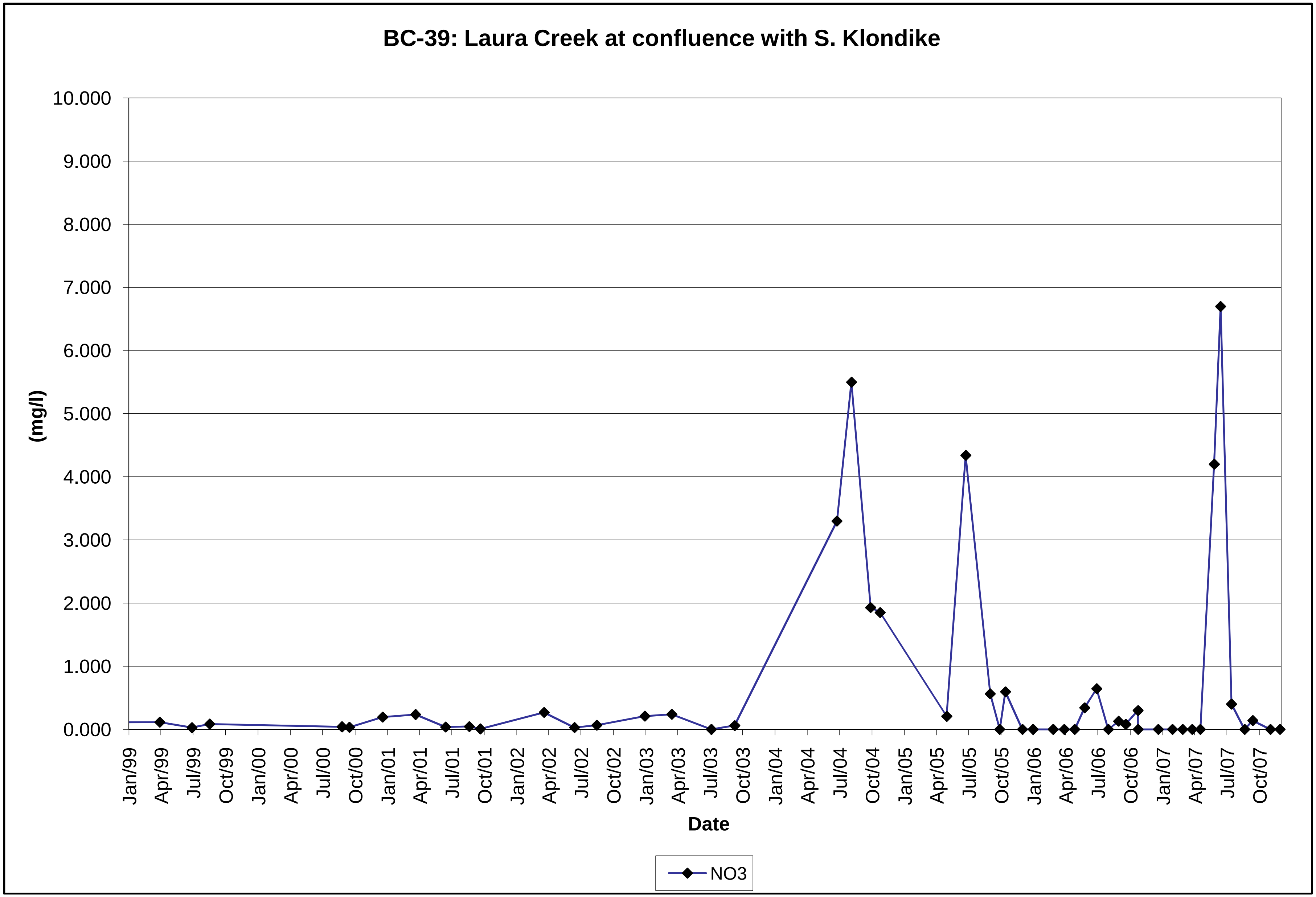
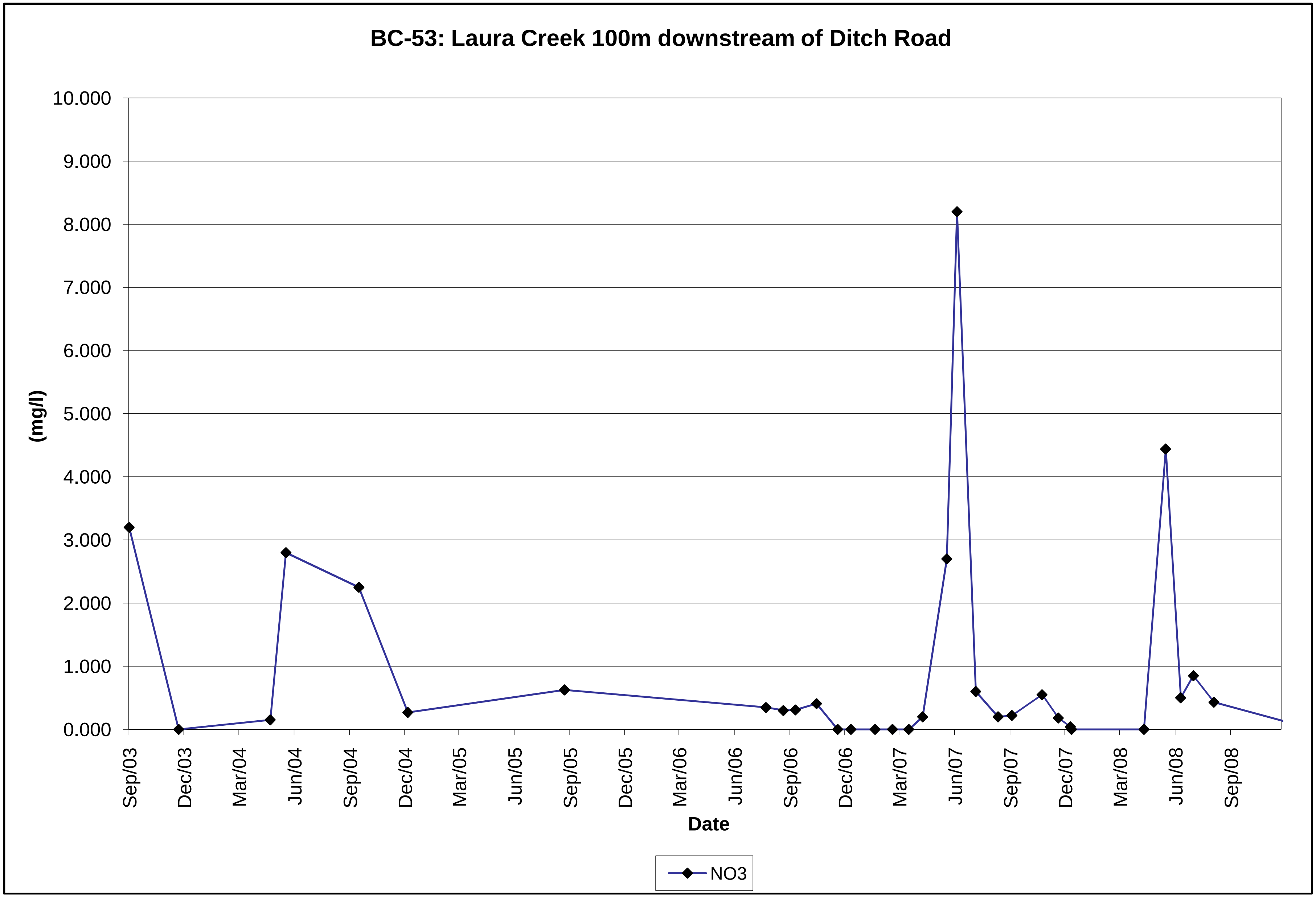
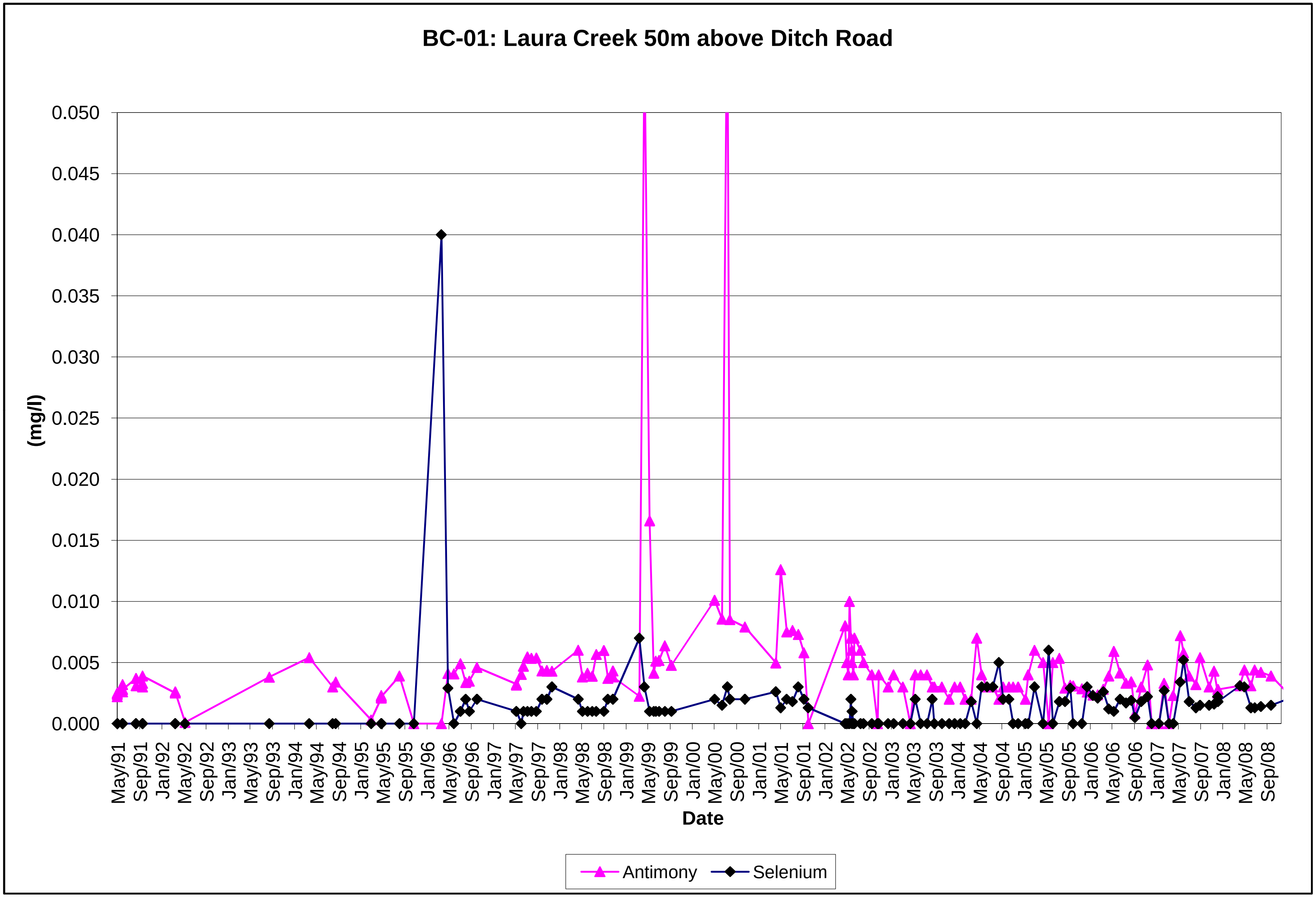
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
NO3


BC-34: Lee Creek at Ditch Road
(mg/l)
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
NO3



BC-39: Laura Creek at confluence with S. Klondike
(mg/l)
10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
Jan/99
Apr/99
Jul/99
Oct/99
Jan/00
Apr/00
Jul/00
Oct/00
Jan/01
Apr/01
Jul/01
Oct/01
Jan/02
Apr/02
Jul/02
Oct/02
Jan/03
Apr/03
Jul/03
Oct/03
Jan/04
Apr/04
Jul/04
Oct/04
Jan/05
Apr/05
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
Jan/07
Apr/07
Jul/07
Oct/07
Date
NO3


BC-53: Laura Creek 100m downstream of Ditch Road
(mg/l)
10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
Sep/03
Dec/03
Mar/04
Jun/04
Sep/04
Dec/04
Mar/05
Jun/05
Sep/05
Dec/05
Mar/06
Jun/06
Sep/06
Dec/06
Mar/07
Jun/07
Sep/07
Dec/07
Mar/08
Jun/08
Sep/08
Date
NO3


BC-01: Laura Creek 50m above Ditch Road
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
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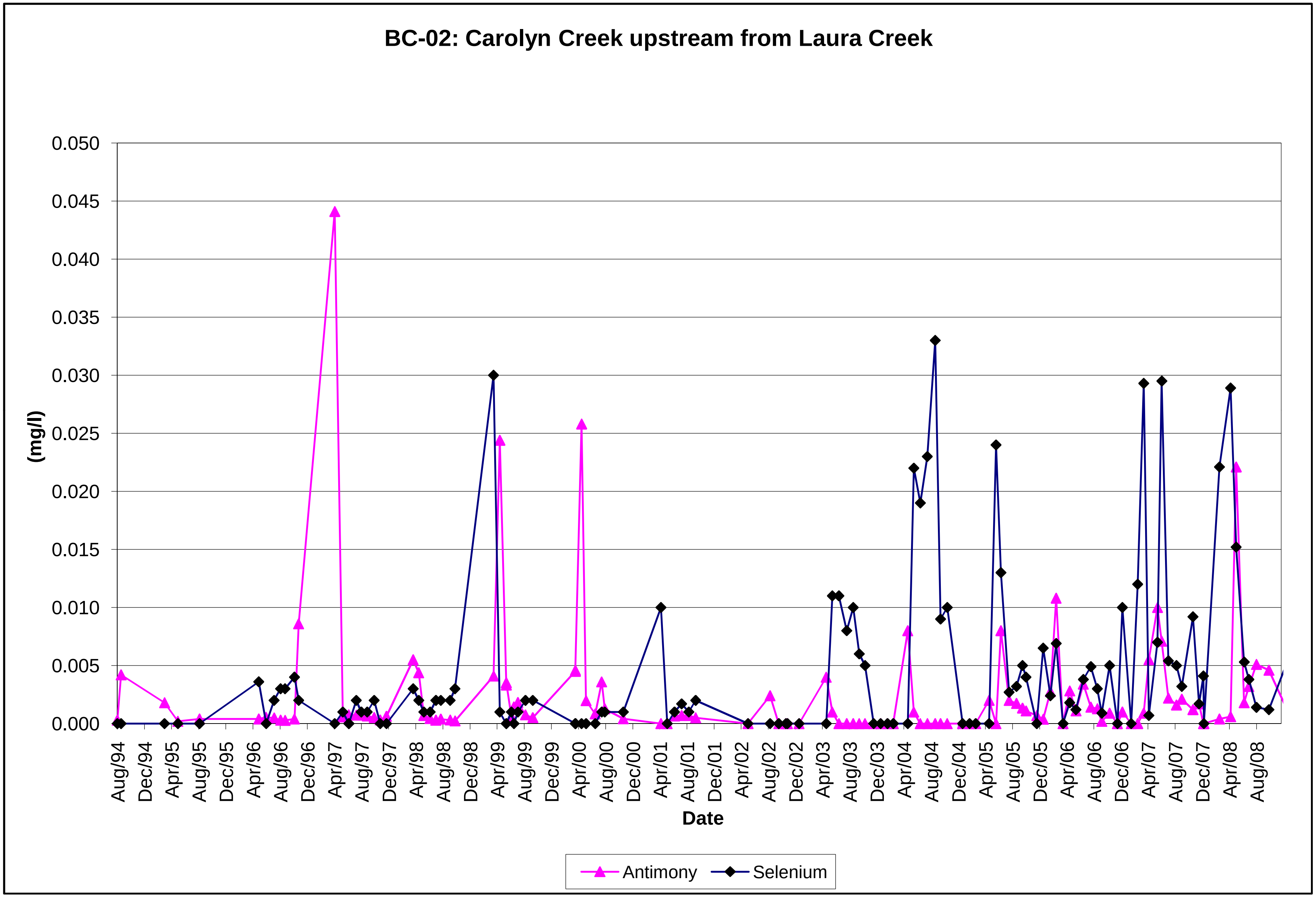
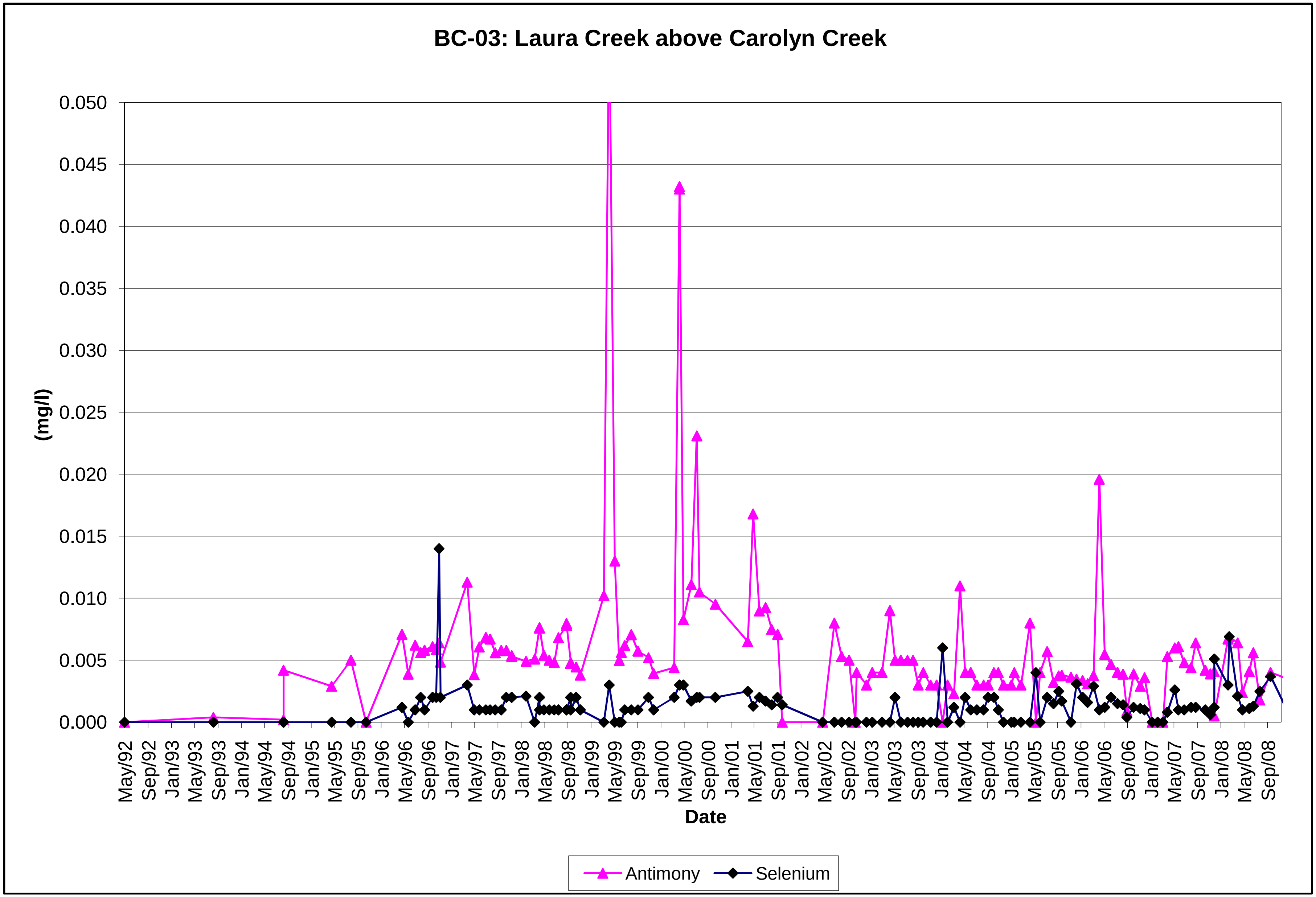
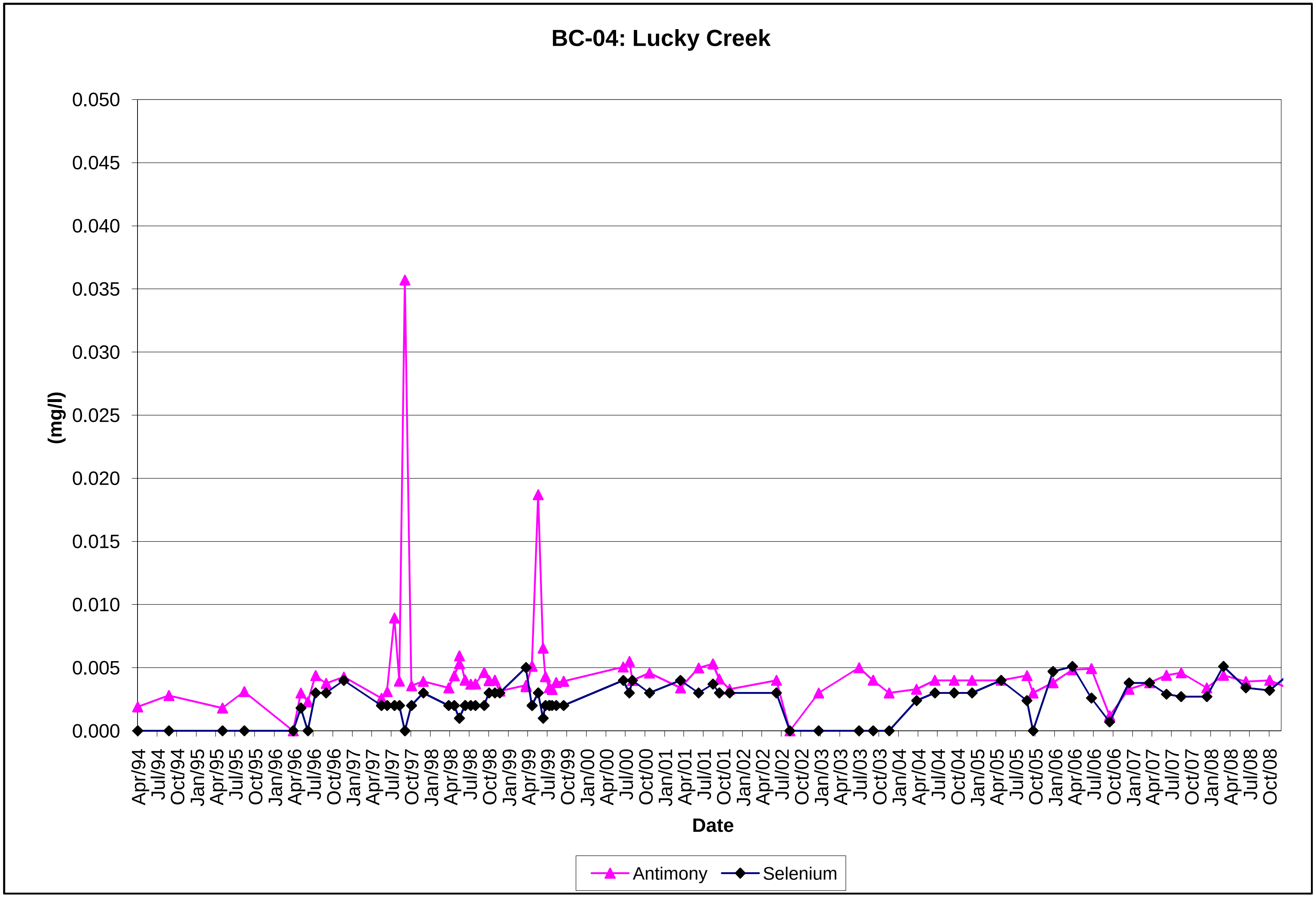
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Antimony
Selenium


BC-02: Carolyn Creek upstream from Laura Creek
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Aug/94
Dec/94
Apr/95
Aug/95
Dec/95
Apr/96
Aug/96
Dec/96
Apr/97
Aug/97
Dec/97
Apr/98
Aug/98
Dec/98
Apr/99
Aug/99
Dec/99
Apr/00
Aug/00
Dec/00
Apr/01
Aug/01
Dec/01
Apr/02
Aug/02
Dec/02
Apr/03
Aug/03
Dec/03
Apr/04
Aug/04
Dec/04
Apr/05
Aug/05
Dec/05
Apr/06
Aug/06
Dec/06
Apr/07
Aug/07
Dec/07
Apr/08
Aug/08
Date
Antimony
Selenium



BC-03: Laura Creek above Carolyn Creek
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/92 Sep/92 Jan/93 May/93 Sep/93 Jan/94 May/94 Sep/94 Jan/95 May/95 Sep/95 Jan/96 May/96 Sep/96 Jan/97 May/97 Sep/97 Jan/98 May/98 Sep/98 Jan/99 May/99 Sep/99 Jan/00 May/00 Sep/00 Jan/01 May/01 Sep/01 Jan/02 May/02 Sep/02 Jan/03 May/03 Sep/03 Jan/04 May/04 Sep/04 Jan/05 May/05 Sep/05 Jan/06 May/06 Sep/06 Jan/07 May/07 Sep/07 Jan/08 May/08 Sep/08
Date
Antimony
Selenium


BC-04: Lucky Creek
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Apr/94
Jul/94
Oct/94
Jan/95
Apr/95
Jul/95
Oct/95
Jan/96
Apr/96
Jul/96
Oct/96
Jan/97
Apr/97
Jul/97
Oct/97
Jan/98
Apr/98
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Oct/98
Jan/99
Apr/99
Jul/99
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Jan/01
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Jul/01
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Jan/02
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Jan/05
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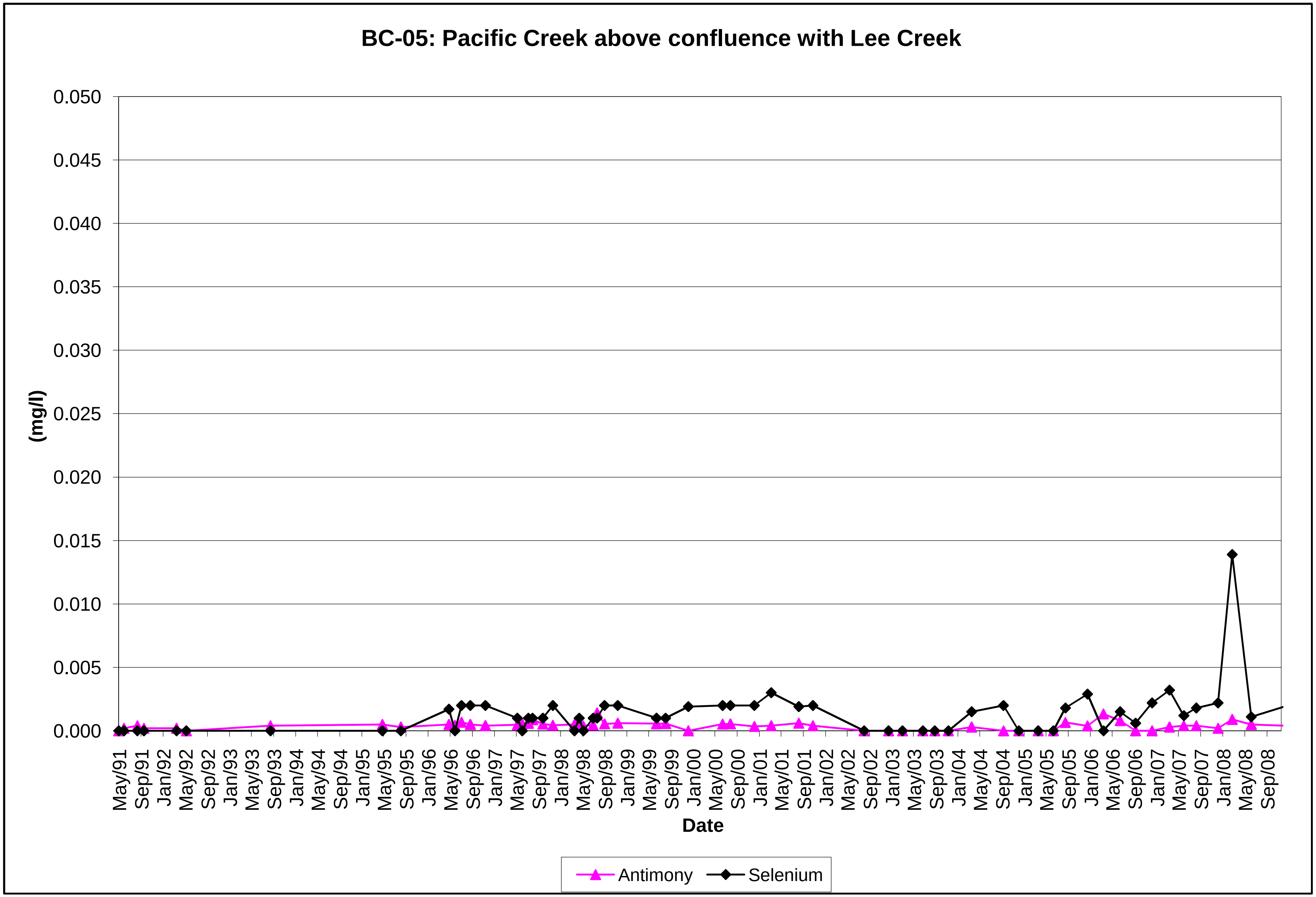
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
Jan/07
Apr/07
Jul/07
Oct/07
Jan/08
Apr/08
Jul/08
Oct/08
Date
Antimony
Selenium


BC-05: Pacific Creek above confluence with Lee Creek
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
(mg/l)
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
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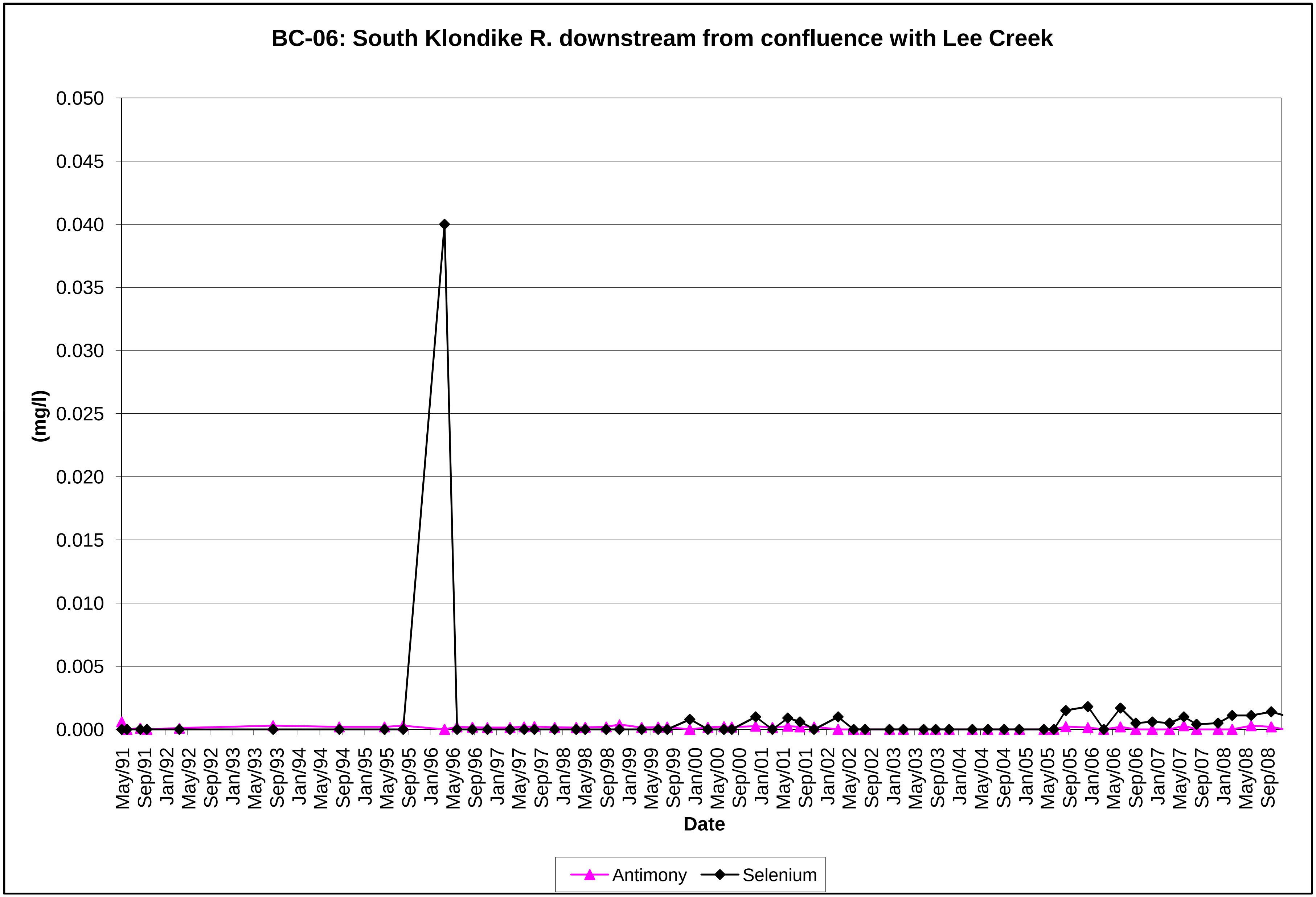
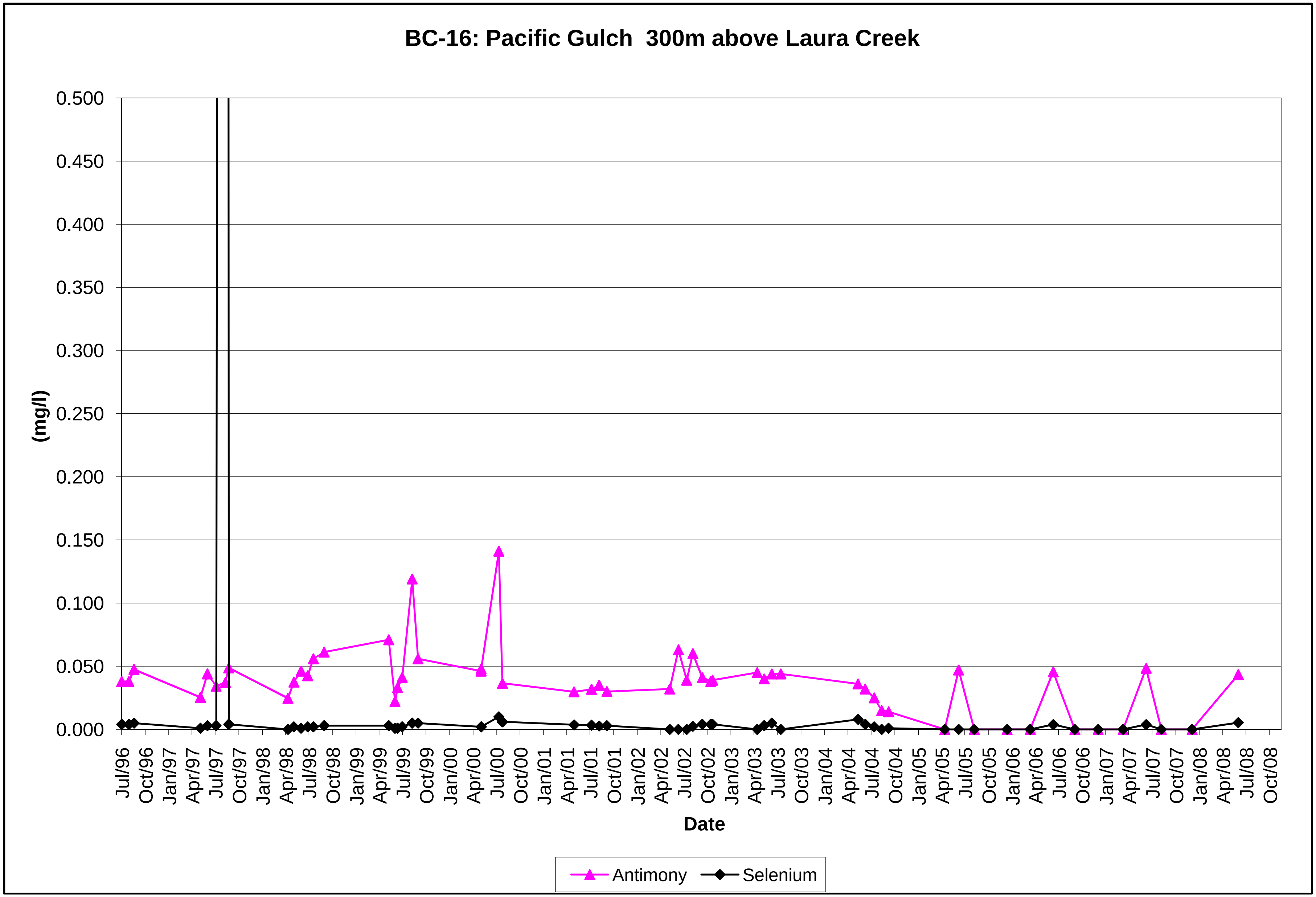
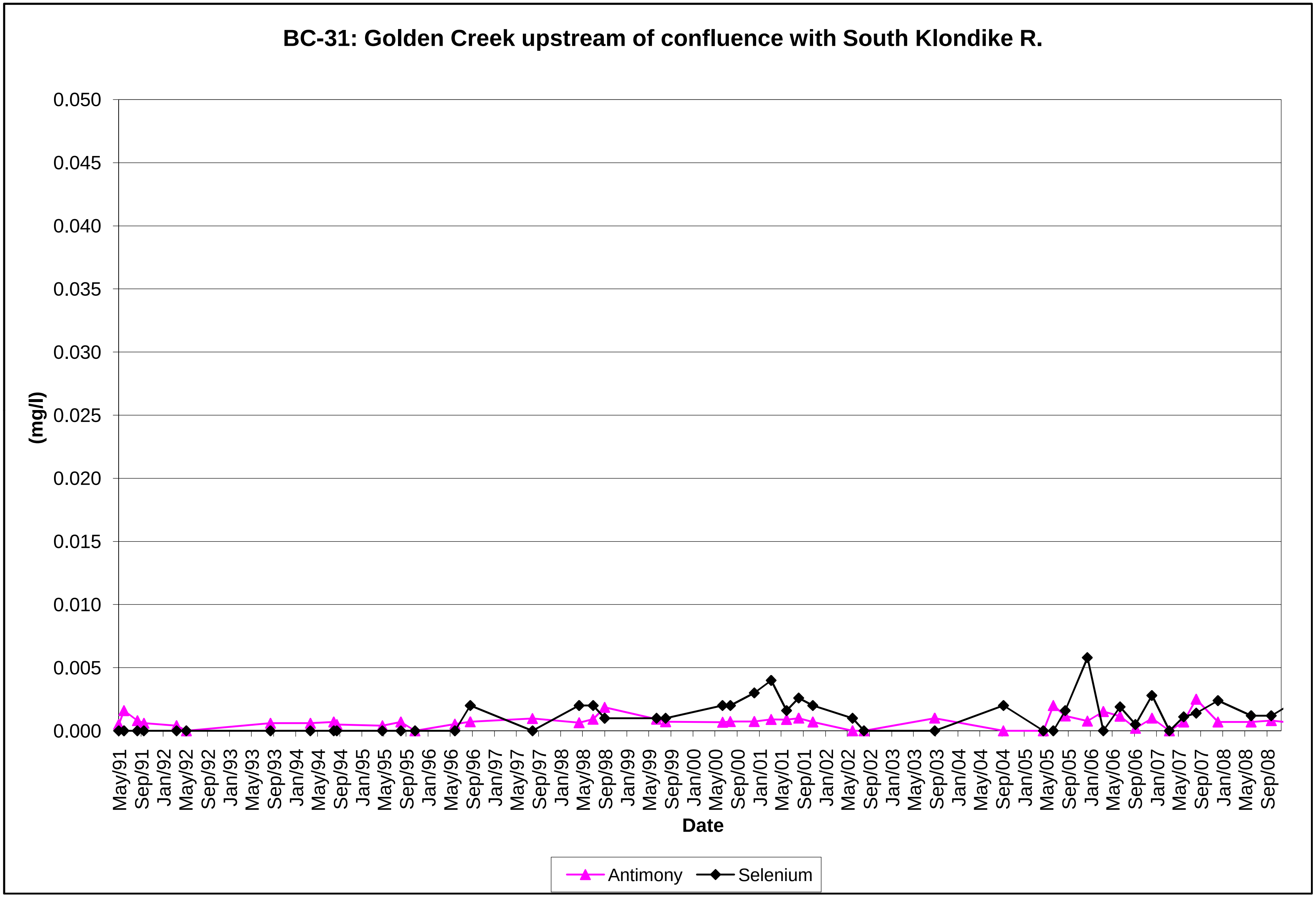
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Antimony
Selenium

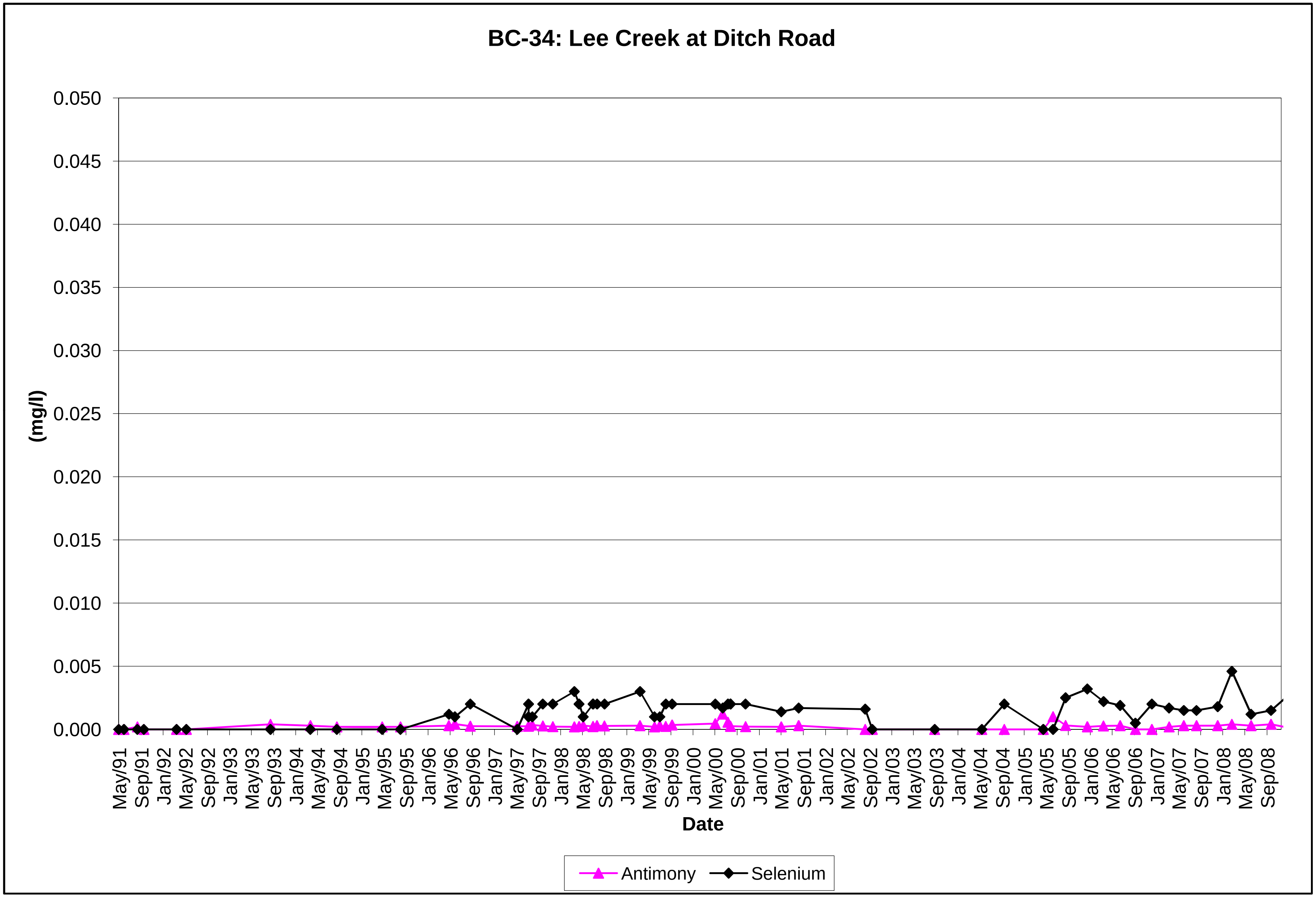


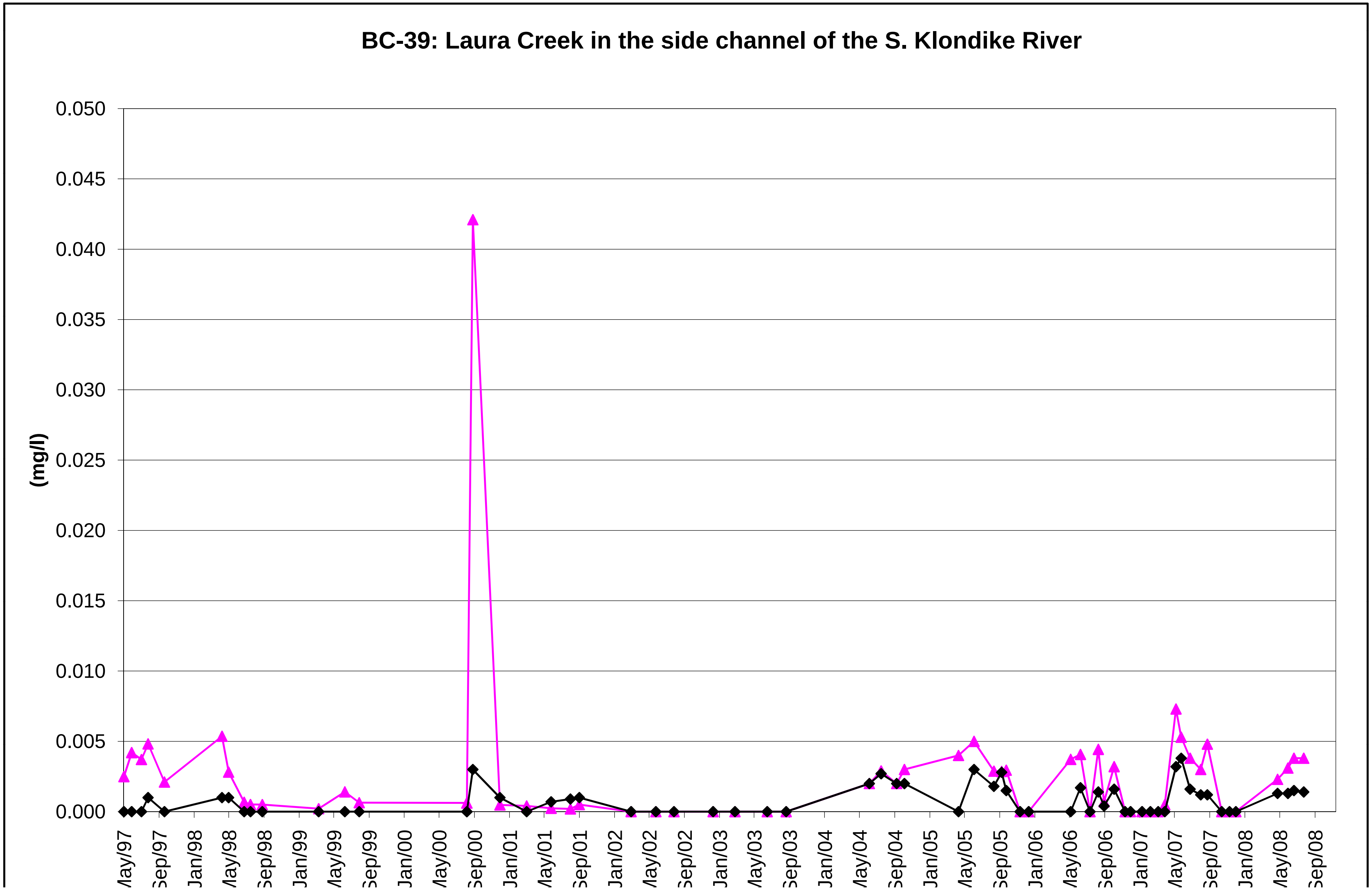
BC-06: South Klondike R. downstream from confluence with Lee Creek
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
(mg/l)
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Antimony
Selenium



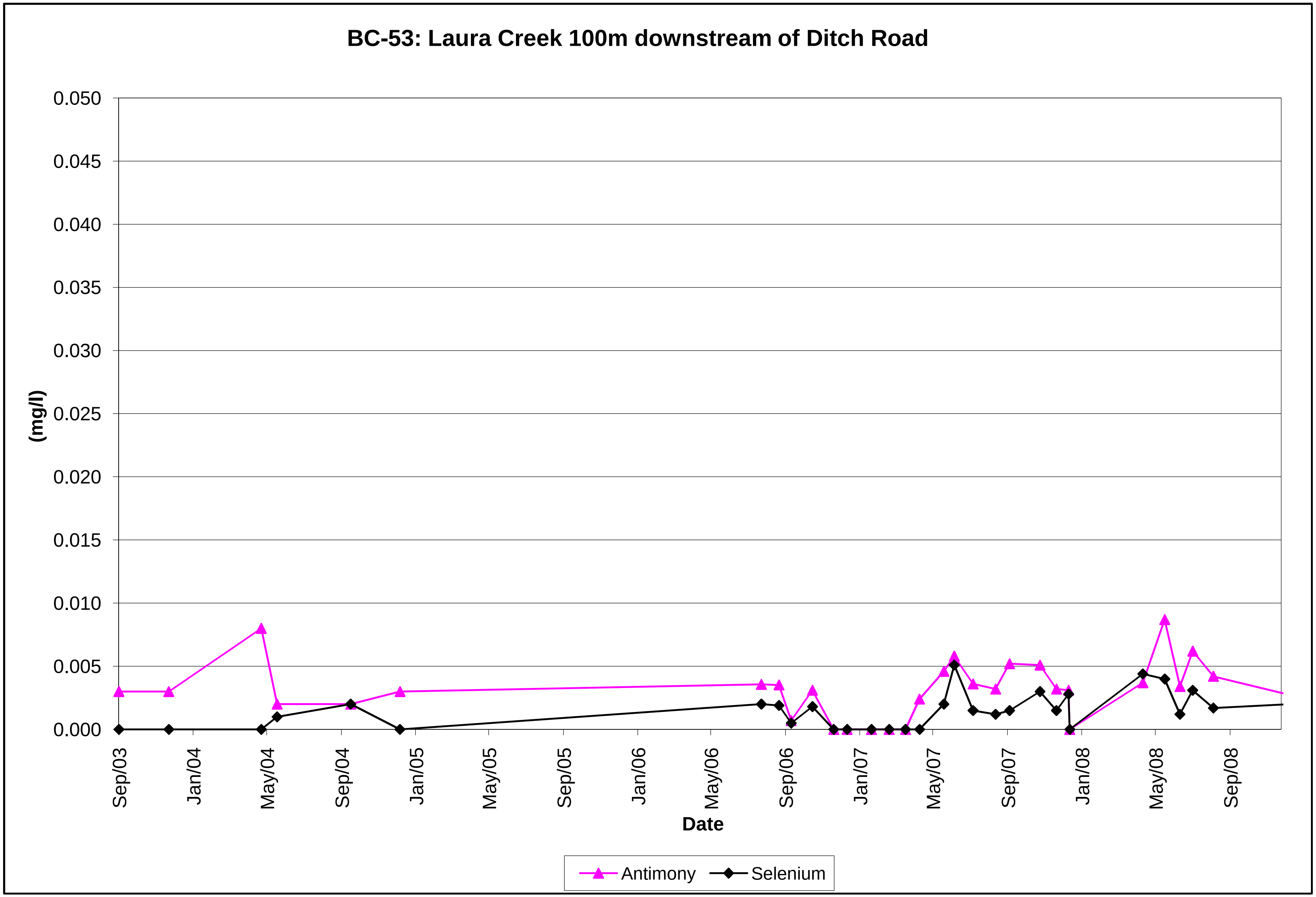
BC-16: Pacific Gulch 300m above Laura Creek
(mg/l)
0.500
0.450
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
Jul/96
Oct/96
Jan/97
Apr/97
Jul/97
Oct/97
Jan/98
Apr/98
Jul/98
Oct/98
Jan/99
Apr/99
Jul/99
Oct/99
Jan/00
Apr/00
Jul/00
Oct/00
Jan/01
Apr/01
Jul/01
Oct/01
Jan/02
Apr/02
Jul/02
Oct/02
Jan/03
Apr/03
Jul/03
Oct/03
Jan/04
Apr/04
Jul/04
Oct/04
Jan/05
Apr/05
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
Jan/07
Apr/07
Jul/07
Oct/07
Jan/08
Apr/08
Jul/08
Oct/08
Date
Antimony
Selenium

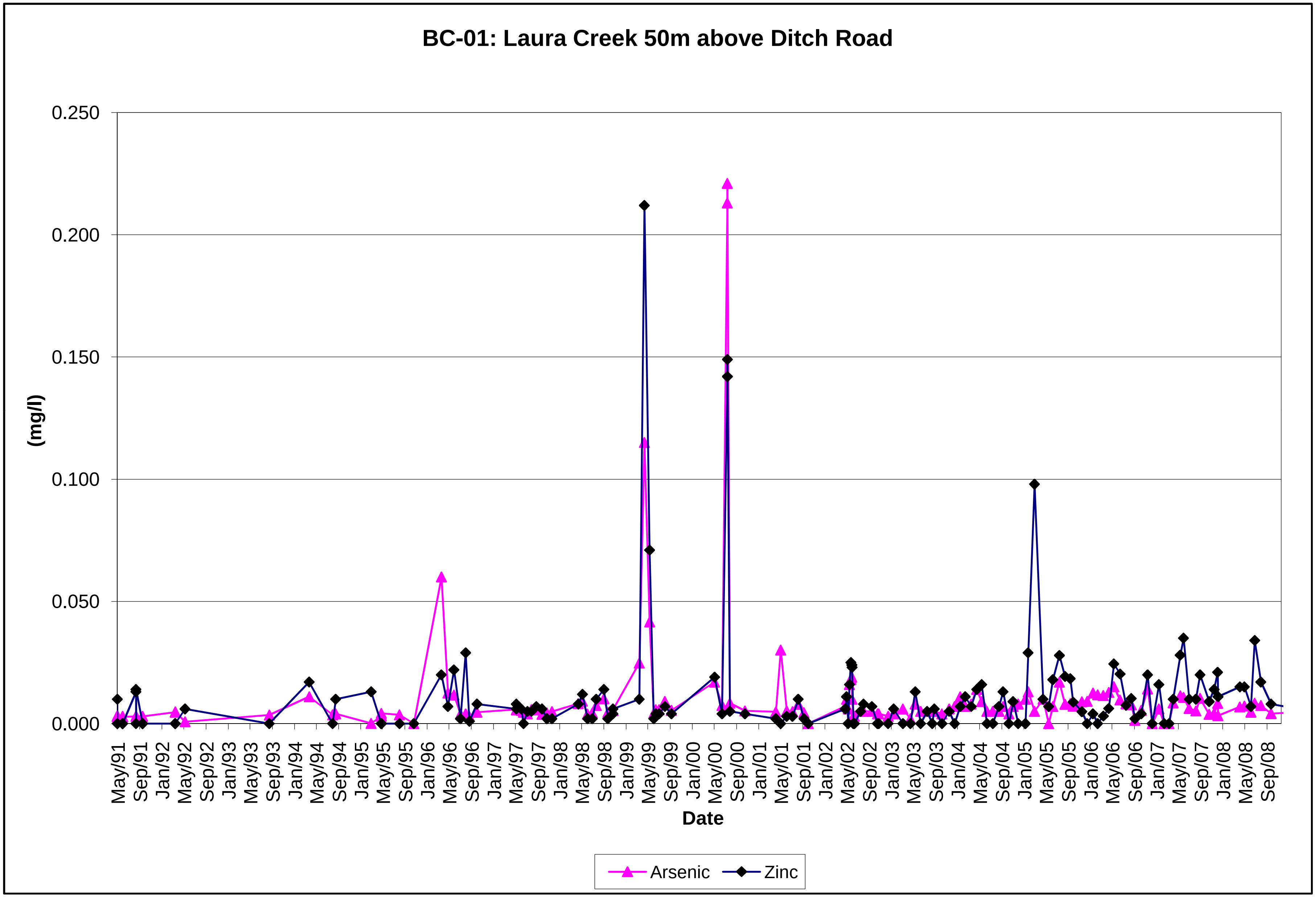

BC-31: Golden Creek upstream of confluence with South Klondike R.
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Antimony
Selenium


BC-34: Lee Creek at Ditch Road
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
(mg/l)
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Antimony
Selenium

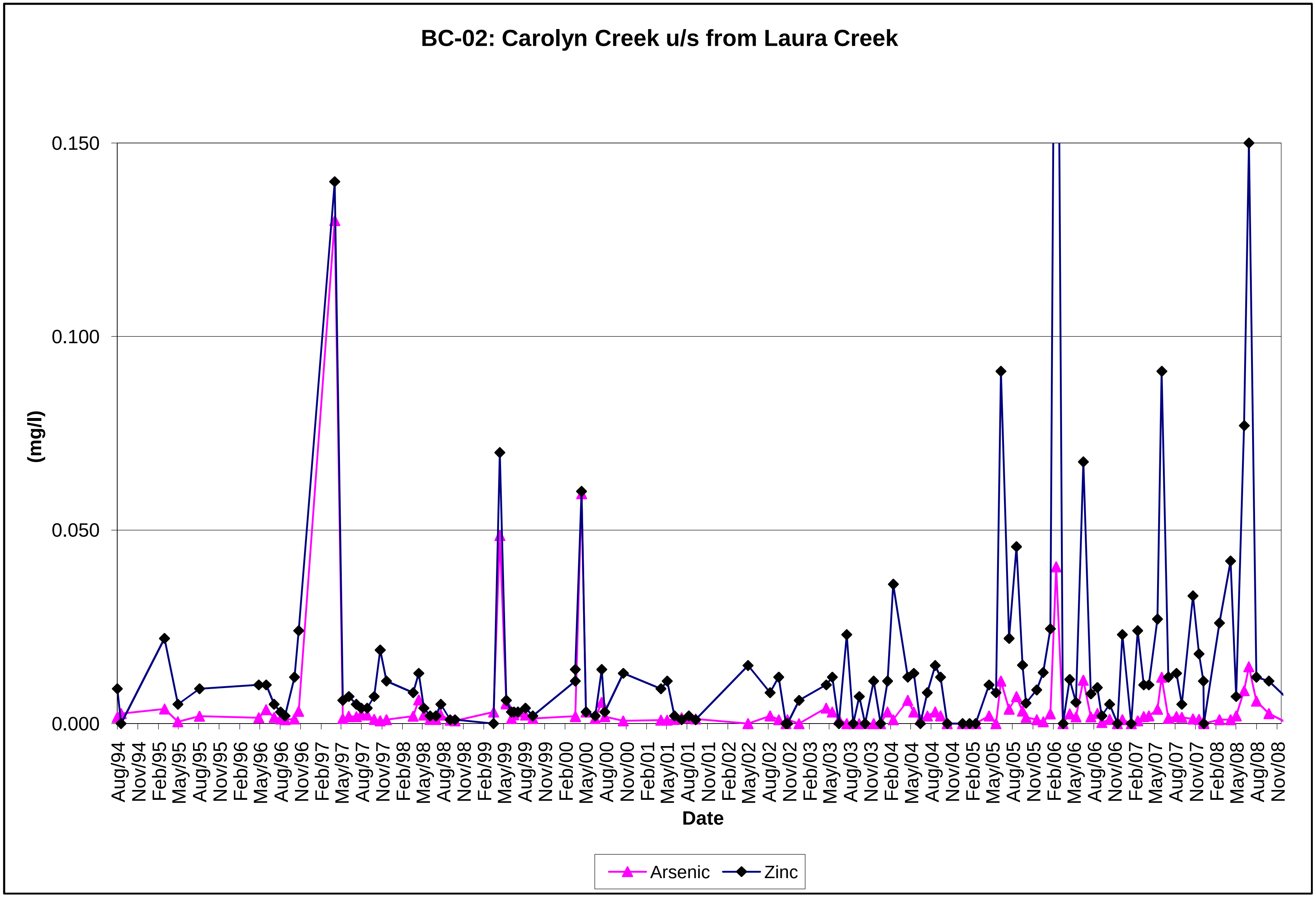


BC-39: Laura Creek in the side channel of the S. Klondike River
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08


BC-53: Laura Creek 100m downstream of Ditch Road
(mg/l)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Antimony
Selenium



BC-01: Laura Creek 50m above Ditch Road
(mg/l)
0.250
0.200
0.150
0.100
0.050
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc



BC-02: Carolyn Creek u/s from Laura Creek
(mg/l)
0.150
0.100
0.050
0.000
Aug/94
Nov/94
Feb/95
May/95
Aug/95
Nov/95
Feb/96
May/96
Aug/96
Nov/96
Feb/97
May/97
Aug/97
Nov/97
Feb/98
May/98
Aug/98
Nov/98
Feb/99
May/99
Aug/99
Nov/99
Feb/00
May/00
Aug/00
Nov/00
Feb/01
May/01
Aug/01
Nov/01
Feb/02
May/02
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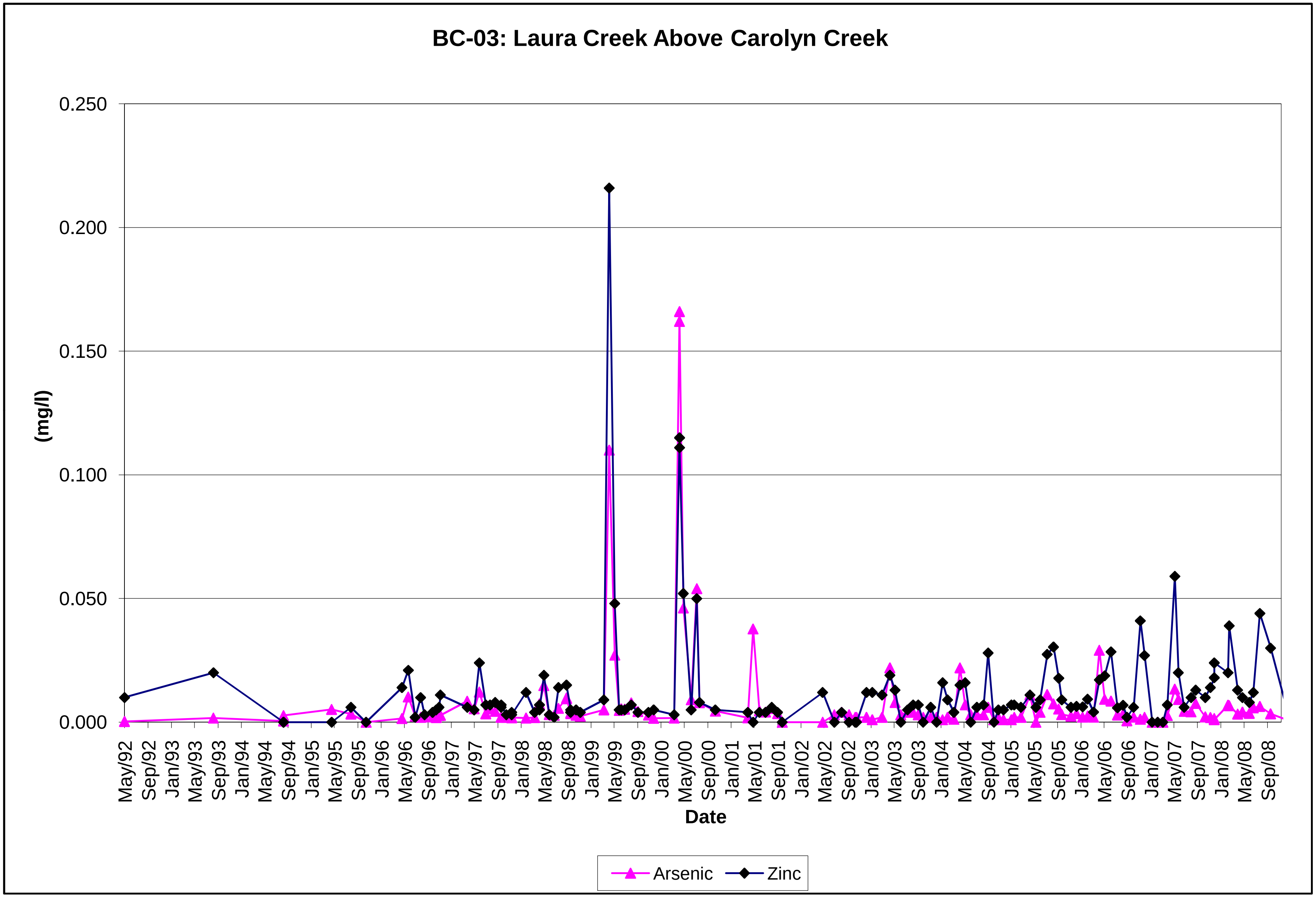
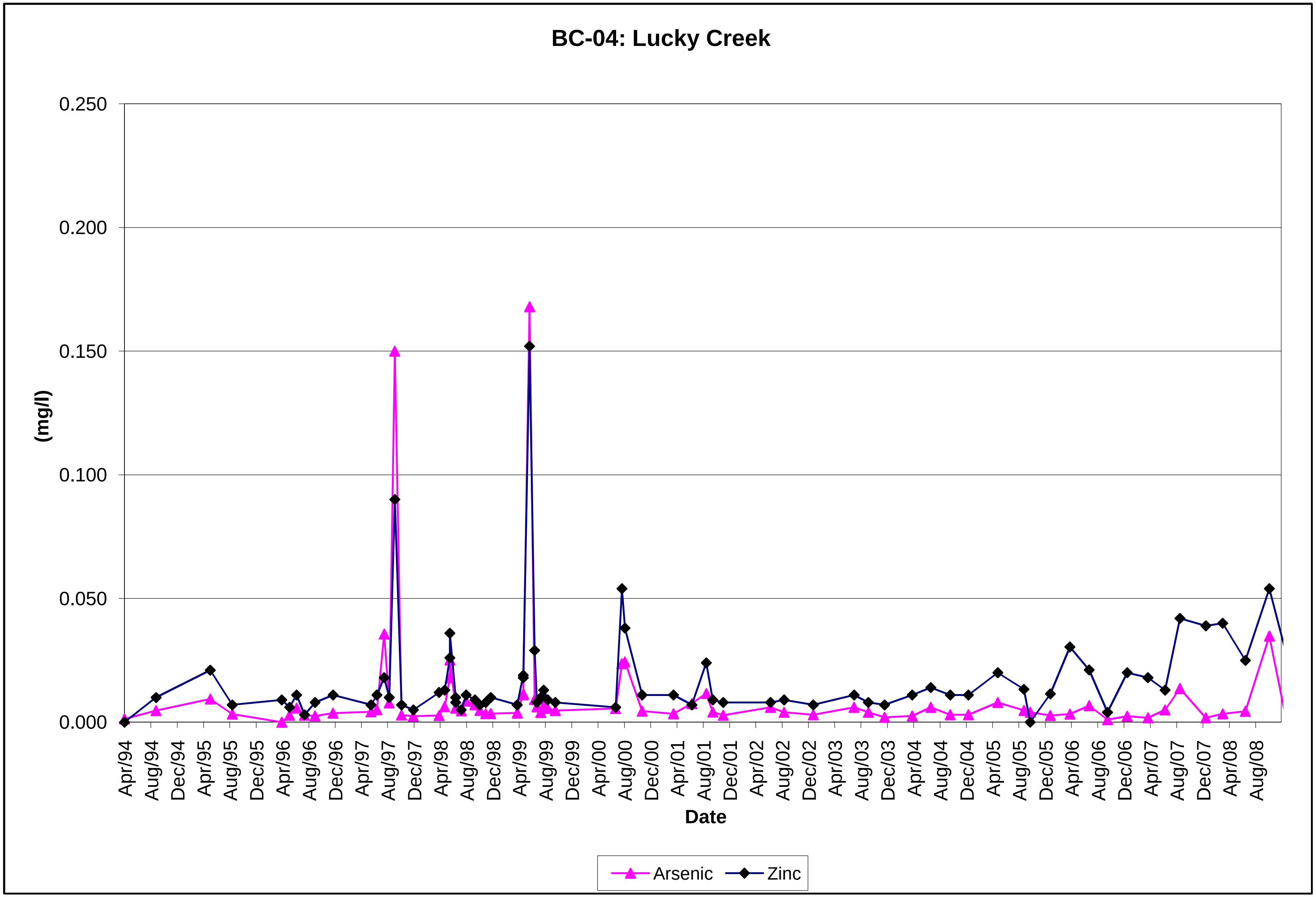
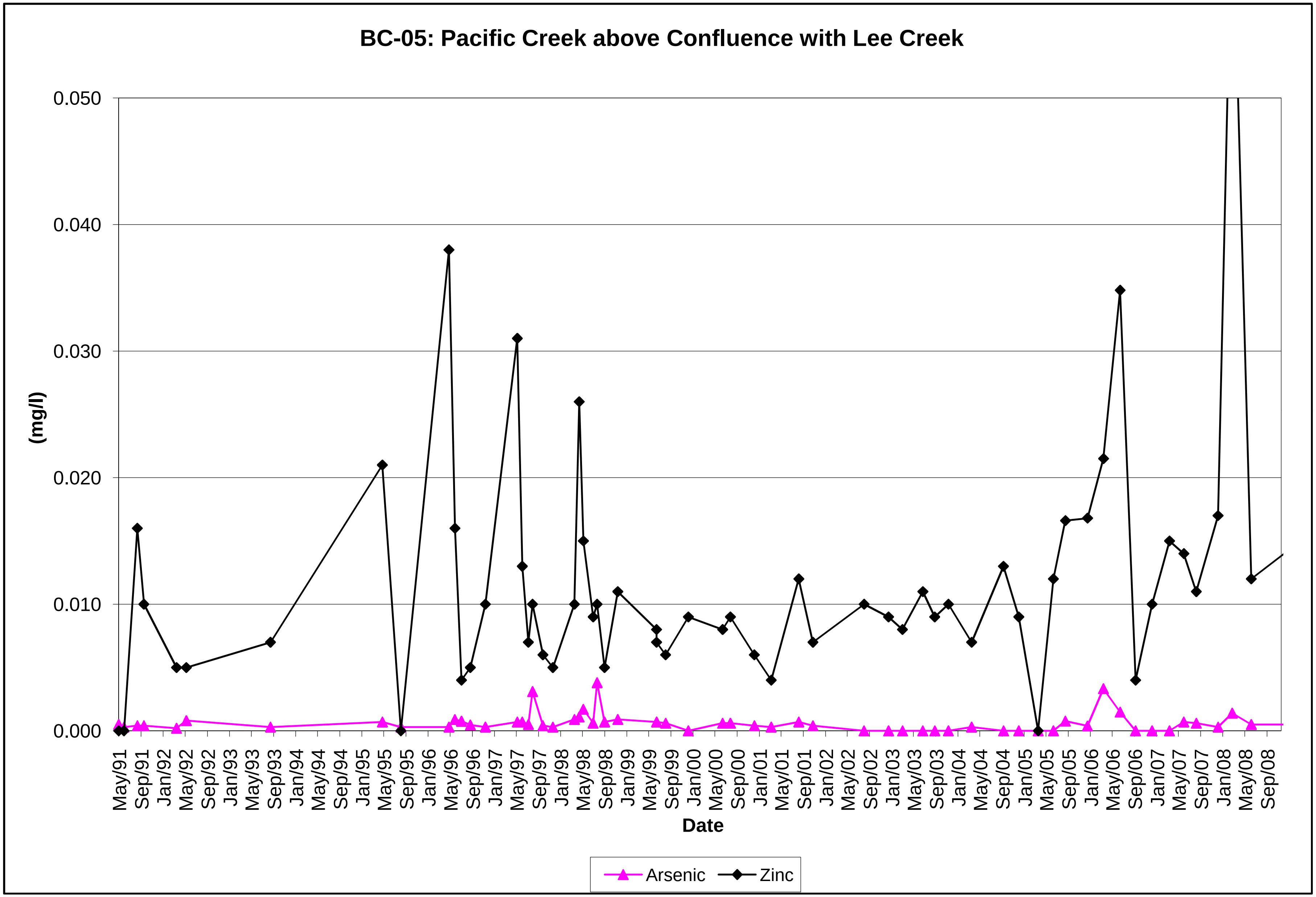
Nov/02
Feb/03
May/03
Aug/03
Nov/03
Feb/04
May/04
Aug/04
Nov/04
Feb/05
May/05
Aug/05
Nov/05
Feb/06
May/06
Aug/06
Nov/06
Feb/07
May/07
Aug/07
Nov/07
Feb/08
May/08
Aug/08
Nov/08
Date
Arsenic
Zinc

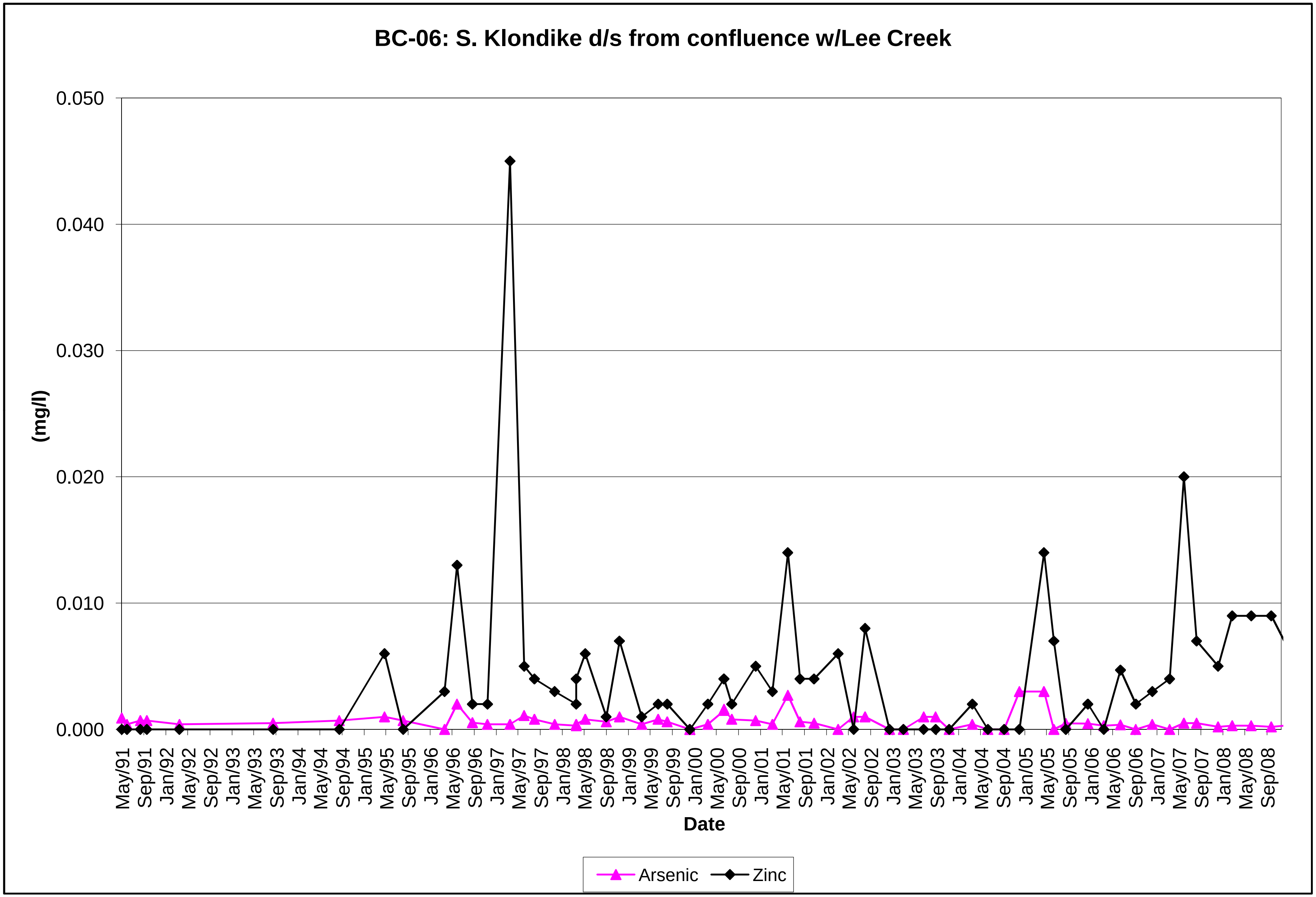


BC-03: Laura Creek Above Carolyn Creek
0.250
0.200
0.150
0.100
0.050
0.000
(mg/l)
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc


BC-04: Lucky Creek
(mg/l)
0.250
0.200
0.150
0.100
0.050
0.000
Apr/94
Aug/94
Dec/94
Apr/95
Aug/95
Dec/95
Apr/96
Aug/96
Dec/96
Apr/97
Aug/97
Dec/97
Apr/98
Aug/98
Dec/98
Apr/99
Aug/99
Dec/99
Apr/00
Aug/00
Dec/00
Apr/01
Aug/01
Dec/01
Apr/02
Aug/02
Dec/02
Apr/03
Aug/03
Dec/03
Apr/04
Aug/04
Dec/04
Apr/05
Aug/05
Dec/05
Apr/06
Aug/06
Dec/06
Apr/07
Aug/07
Dec/07
Apr/08
Aug/08
Date
Arsenic
Zinc



BC-05: Pacific Creek above Confluence with Lee Creek
(mg/l)
0.050
0.040
0.030
0.020
0.010
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc


BC-06: S. Klondike d/s from confluence w/Lee Creek
(mg/l)
0.050
0.040
0.030
0.020
0.010
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
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Jan/99
May/99
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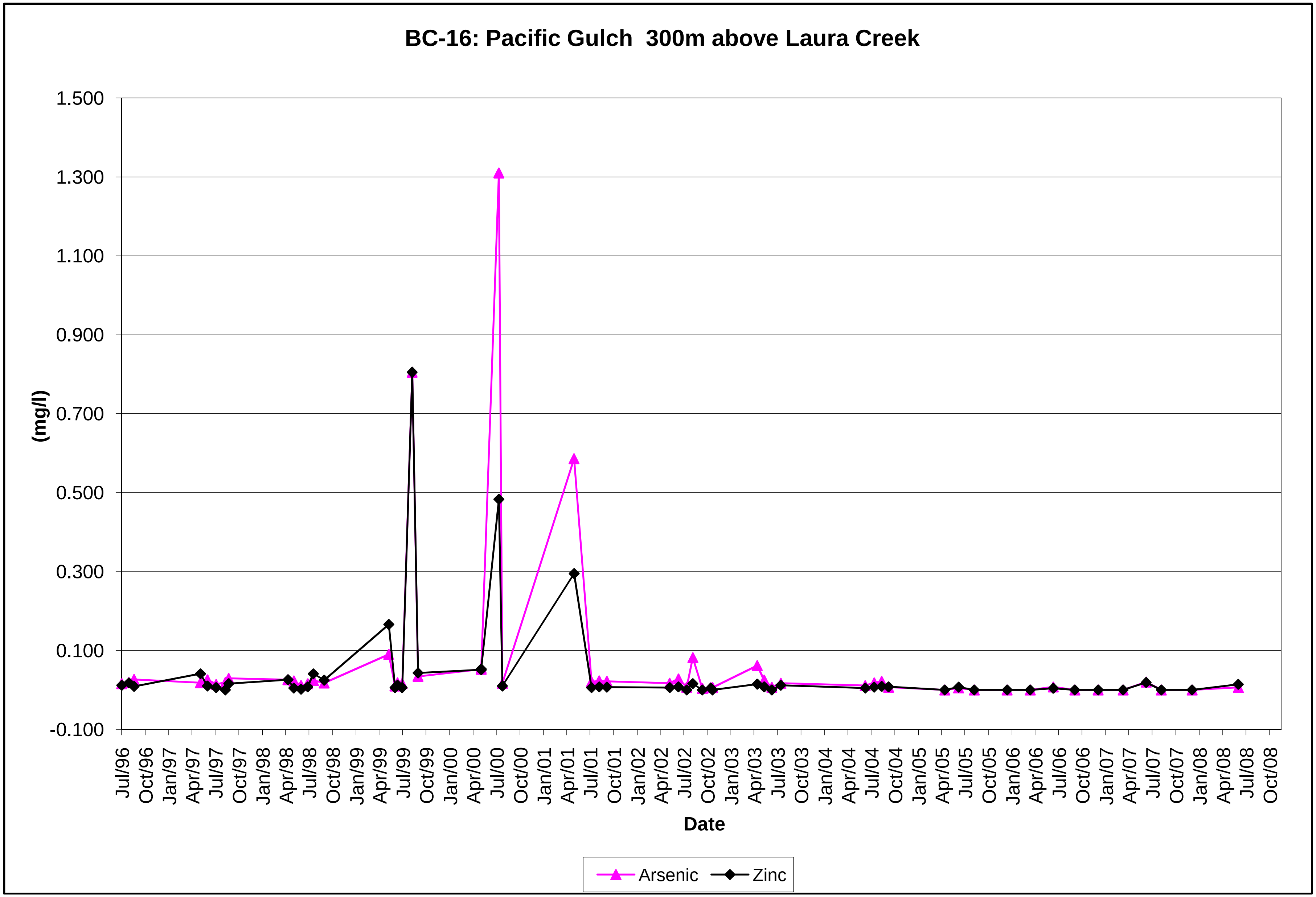
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc


BC-16: Pacific Gulch 300m above Laura Creek
(mg/l)
1.500
1.300
1.100
0.900
0.700
0.500
0.300
0.100
-0.100
Jul/96
Oct/96
Jan/97
Apr/97
Jul/97
Oct/97
Jan/98
Apr/98
Jul/98
Oct/98
Jan/99
Apr/99
Jul/99
Oct/99
Jan/00
Apr/00
Jul/00
Oct/00
Jan/01
Apr/01
Jul/01
Oct/01
Jan/02
Apr/02
Jul/02
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Jan/03
Apr/03
Jul/03
Oct/03
Jan/04
Apr/04
Jul/04
Oct/04
Jan/05
Apr/05
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
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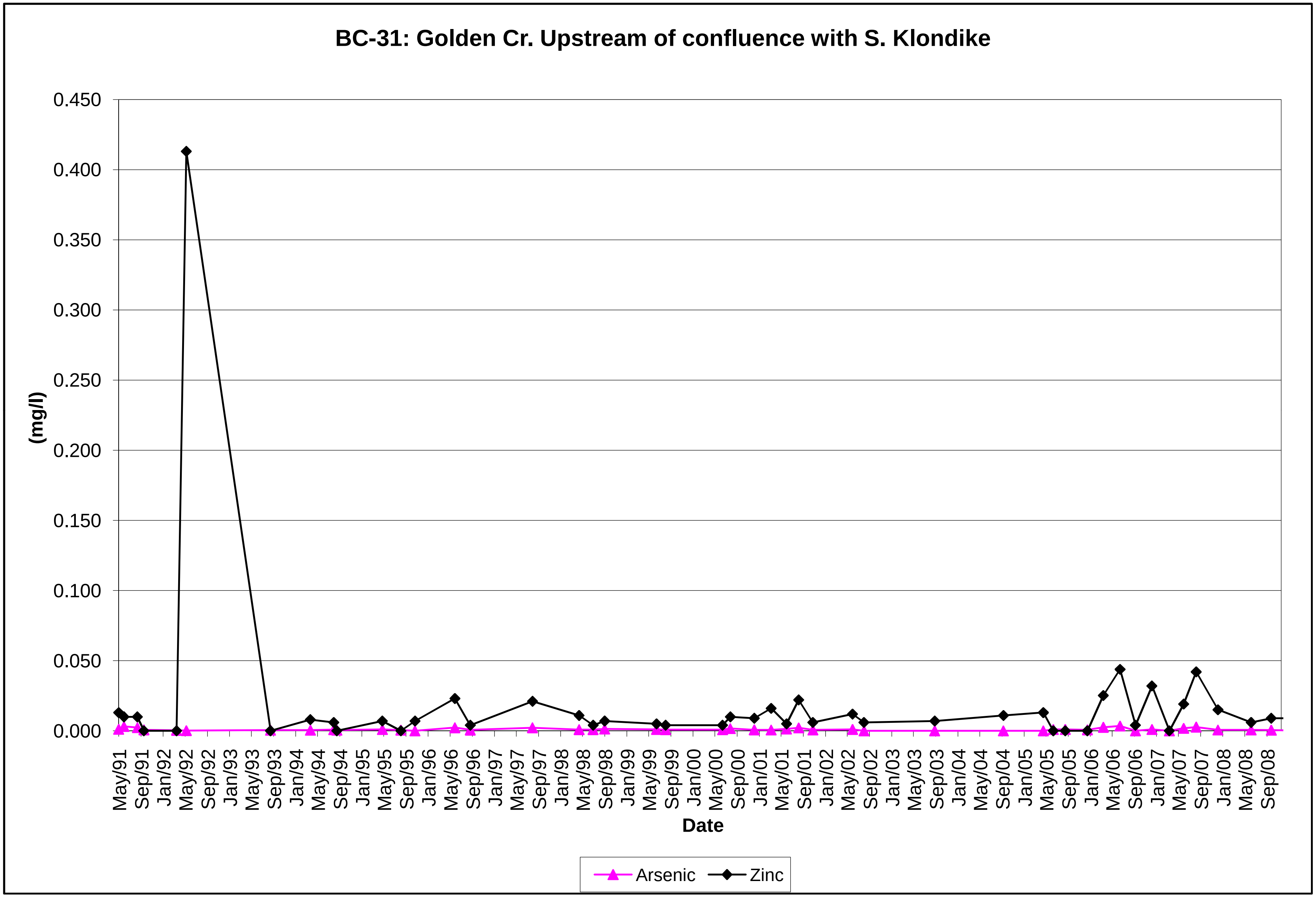
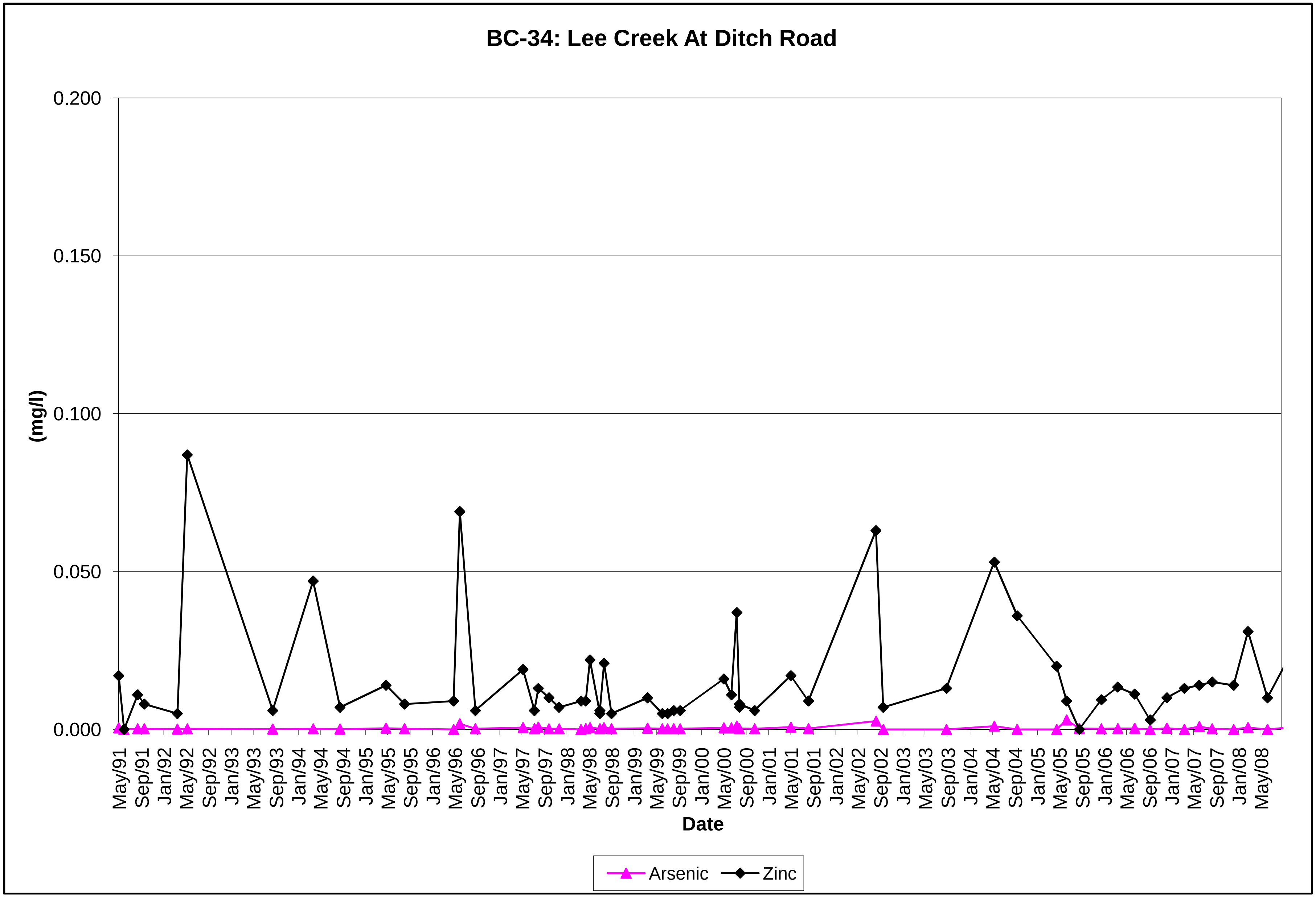
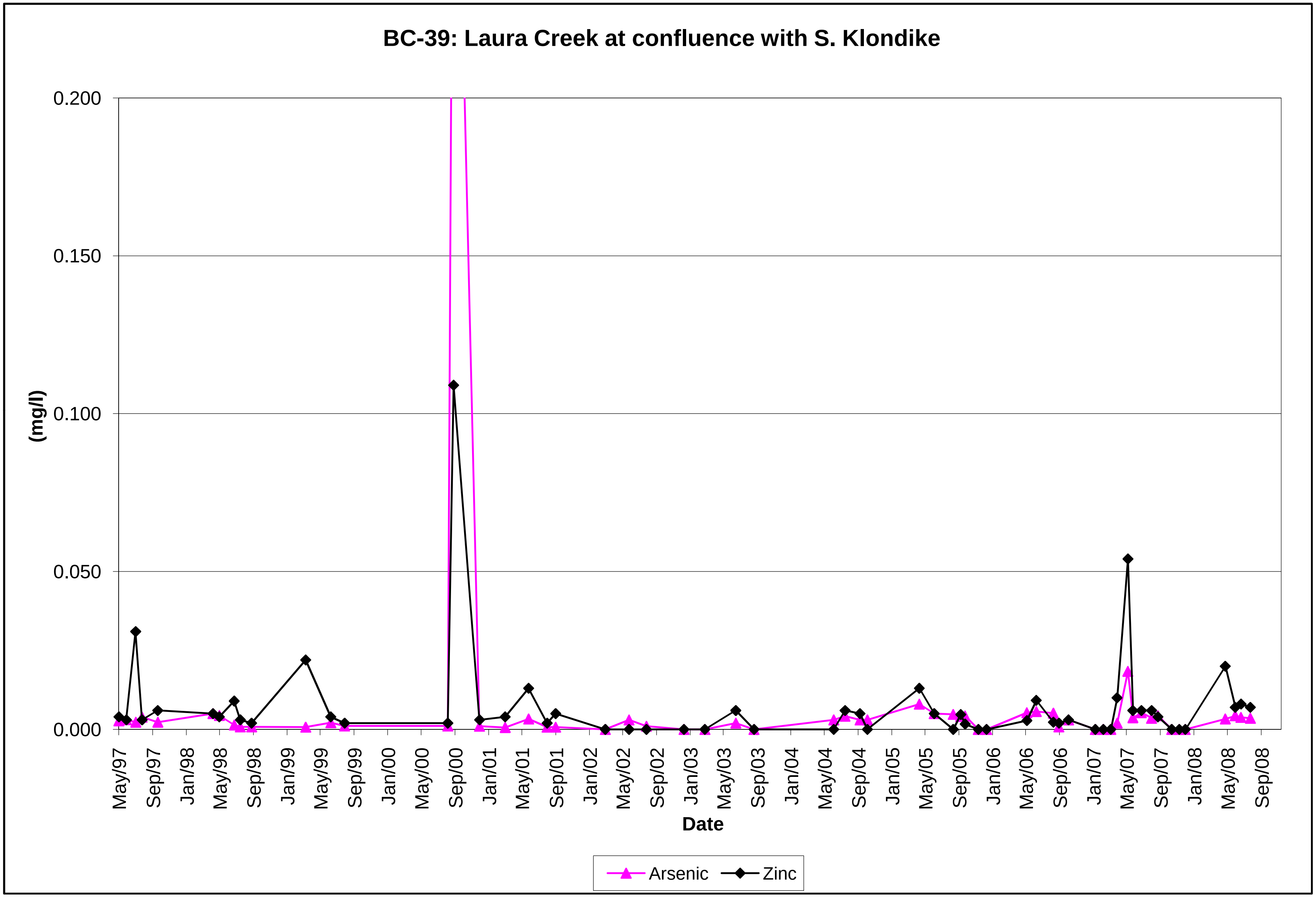
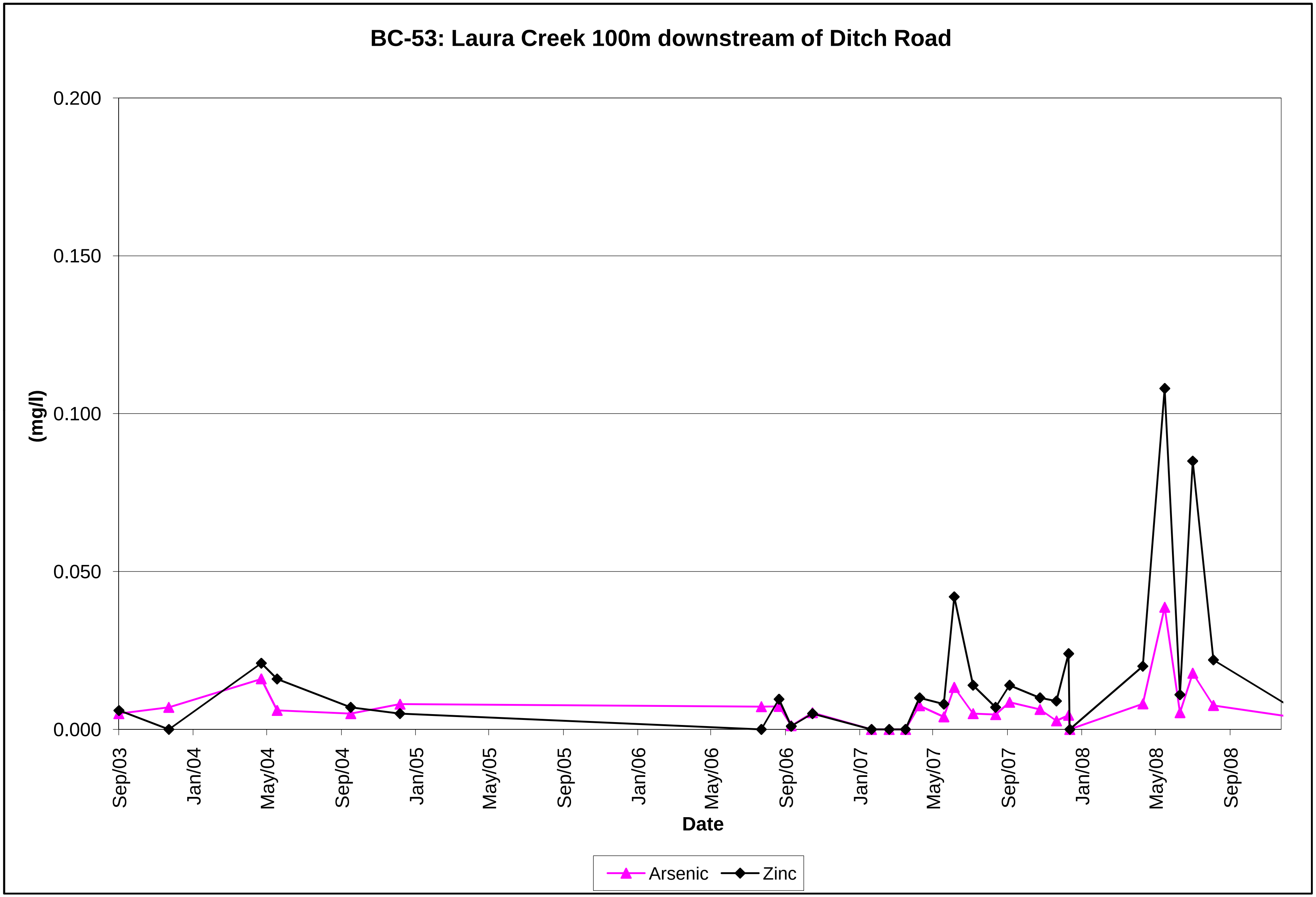
Apr/07
Jul/07
Oct/07
Jan/08
Apr/08
Jul/08
Oct/08
Date
Arsenic
Zinc

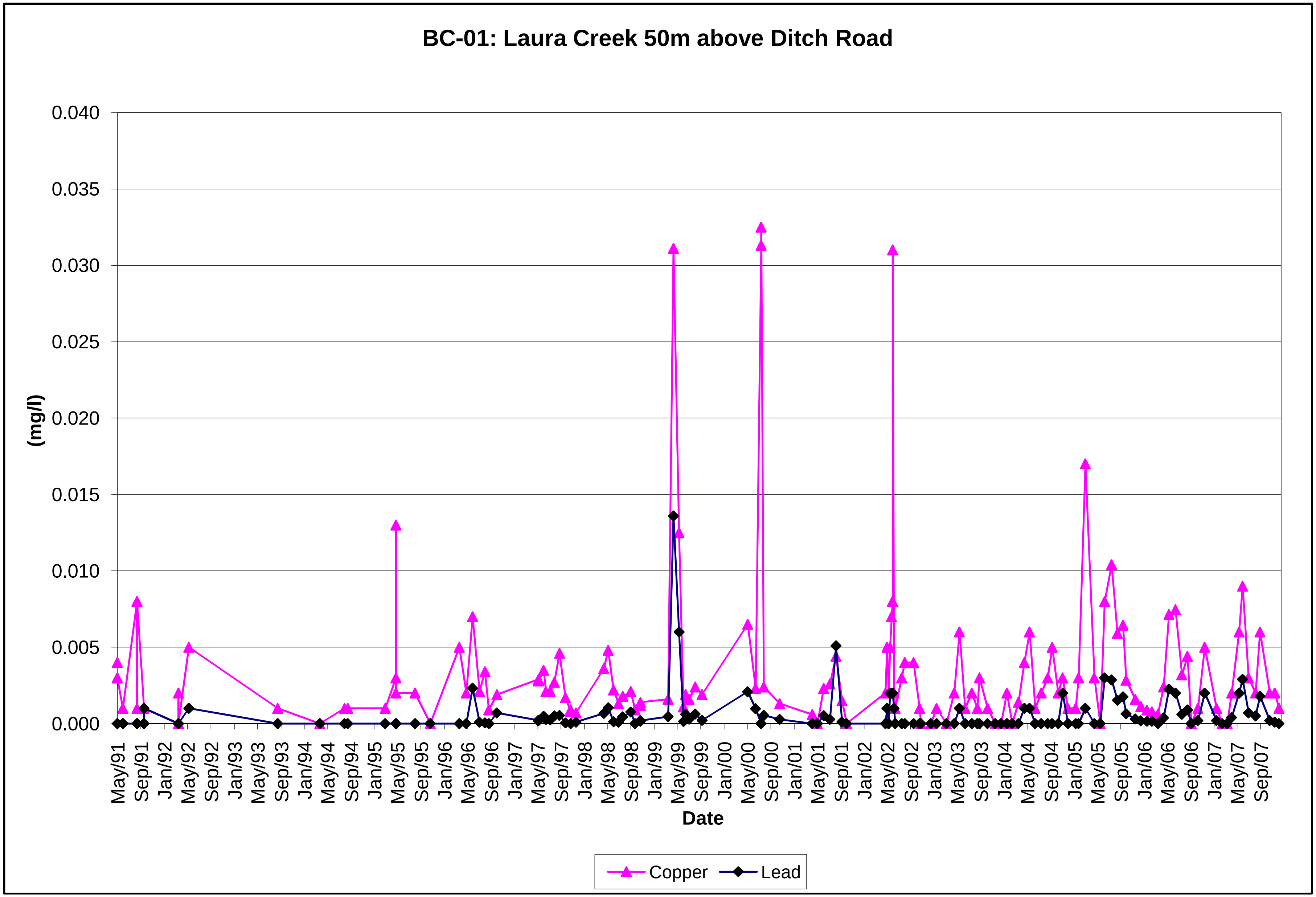

BC-31: Golden Cr. Upstream of confluence with S. Klondike
(mg/l)
0.450
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc


BC-34: Lee Creek At Ditch Road
(mg/l)
0.200
0.150
0.100
0.050
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Date
Arsenic
Zinc



BC-39: Laura Creek at confluence with S. Klondike
0.200
0.150
0.100
0.050
0.000
(mg/l)
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc


BC-53: Laura Creek 100m downstream of Ditch Road
0.200
0.150
0.100
0.050
0.000
(mg/l)
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Arsenic
Zinc


BC-01: Laura Creek 50m above Ditch Road
(mg/l)
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
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May/99
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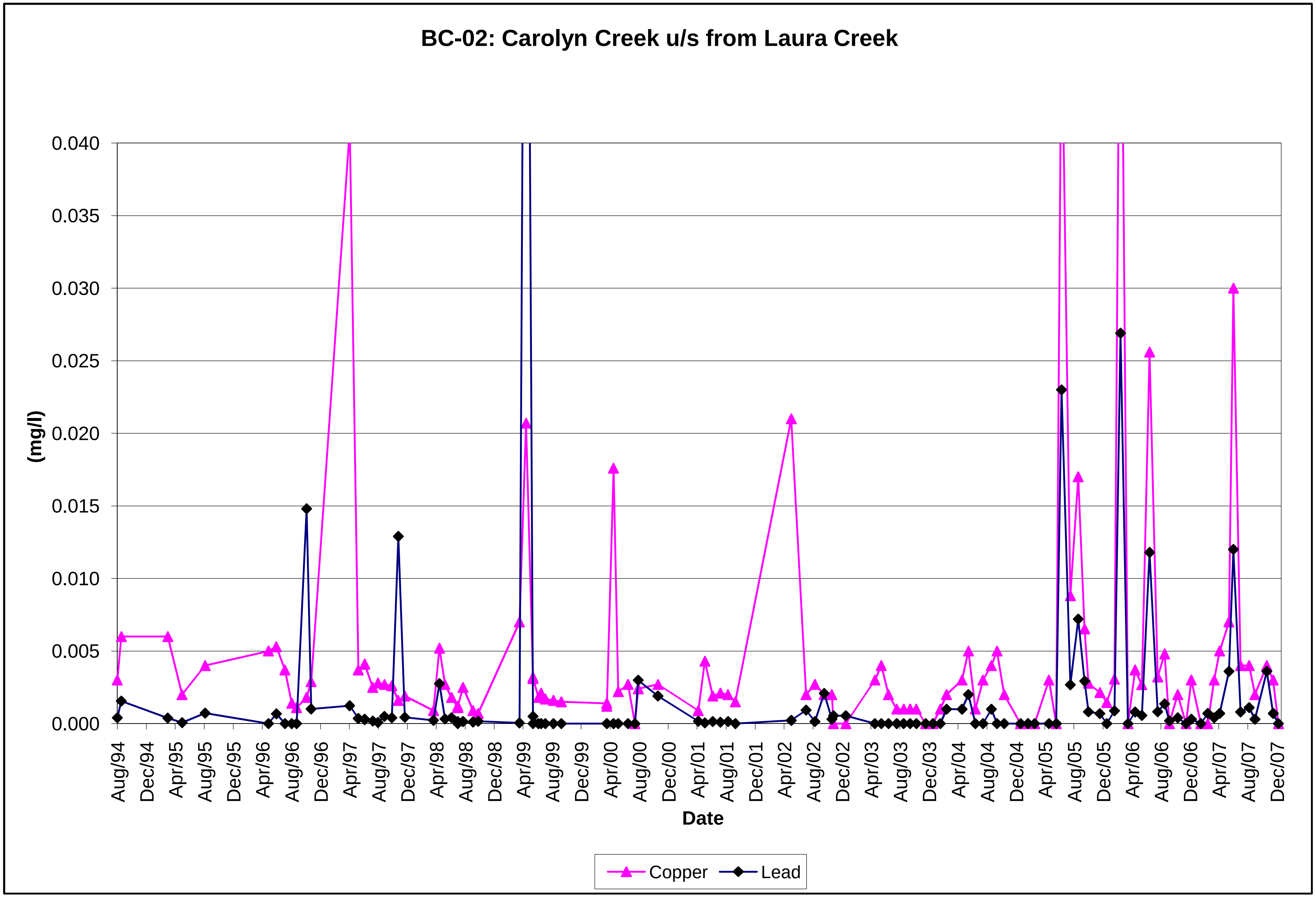
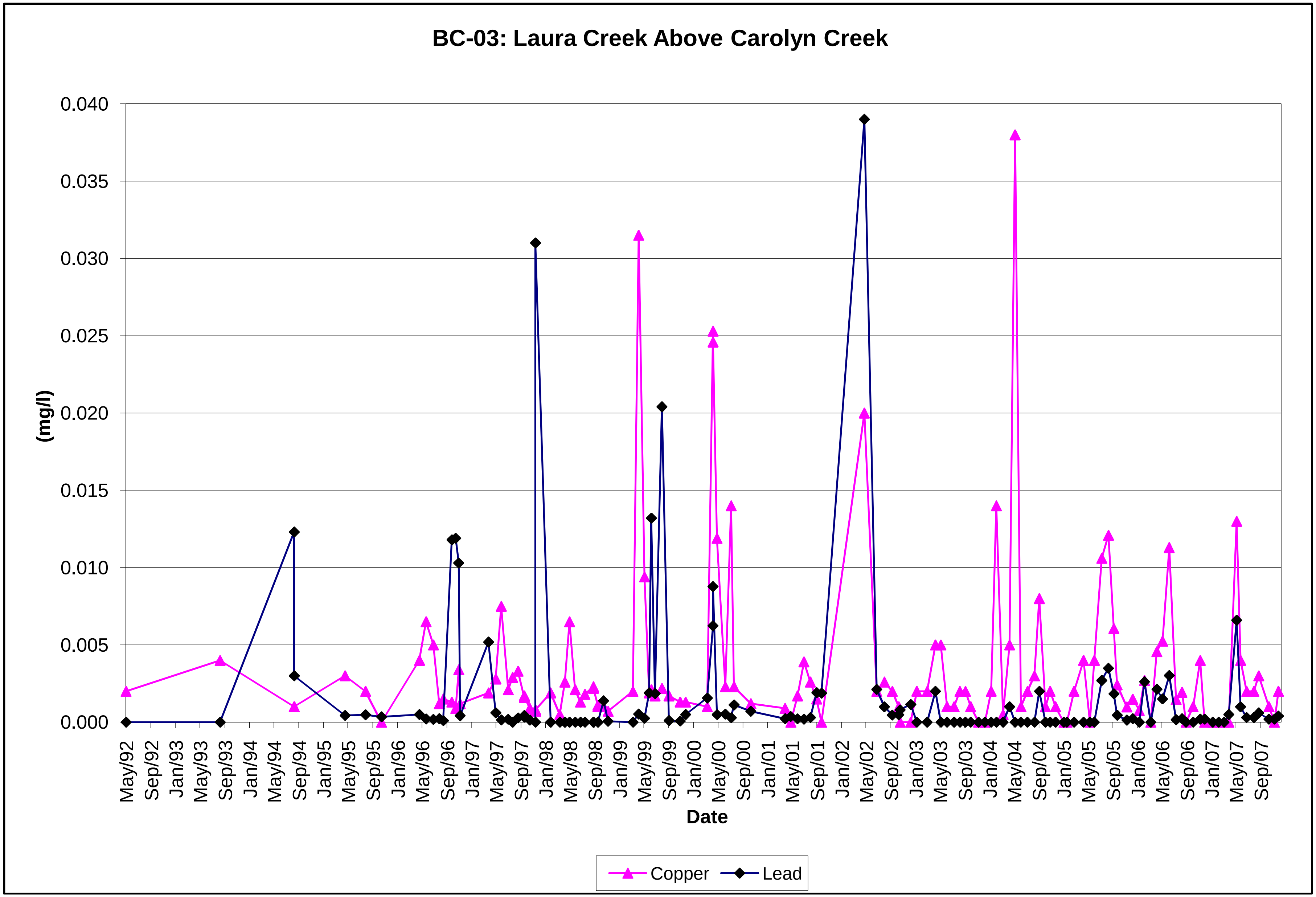
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Date
Copper
Lead


BC-02: Carolyn Creek u/s from Laura Creek
(mg/l)
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Aug/94
Dec/94
Apr/95
Aug/95
Dec/95
Apr/96
Aug/96
Dec/96
Apr/97
Aug/97
Dec/97
Apr/98
Aug/98
Dec/98
Apr/99
Aug/99
Dec/99
Apr/00
Aug/00
Dec/00
Apr/01
Aug/01
Dec/01
Apr/02
Aug/02
Dec/02
Apr/03
Aug/03
Dec/03
Apr/04
Aug/04
Dec/04
Apr/05
Aug/05
Dec/05
Apr/06
Aug/06
Dec/06
Apr/07
Aug/07
Dec/07
Date
Copper
Lead



BC-03: Laura Creek Above Carolyn Creek
(mg/l)
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
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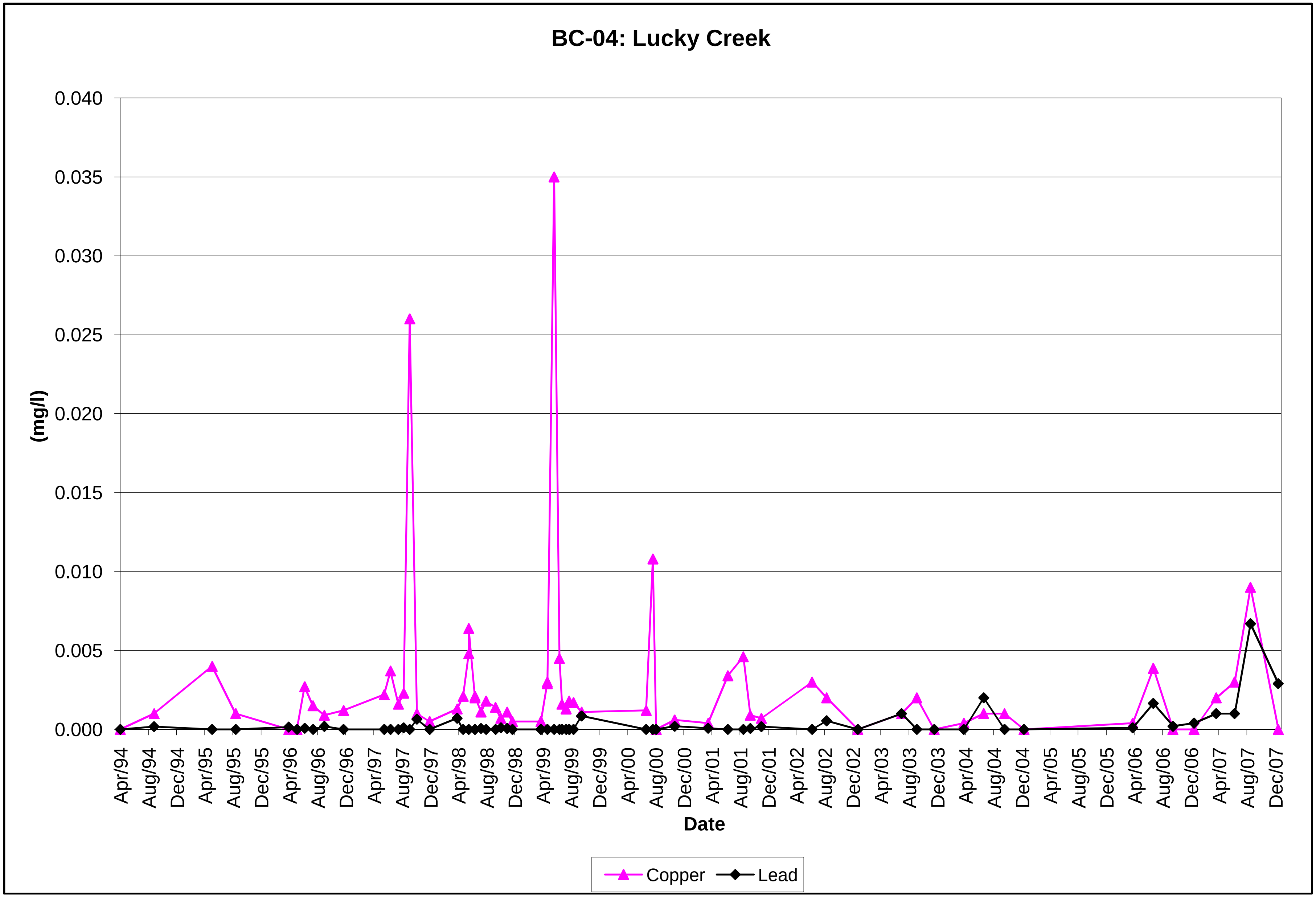
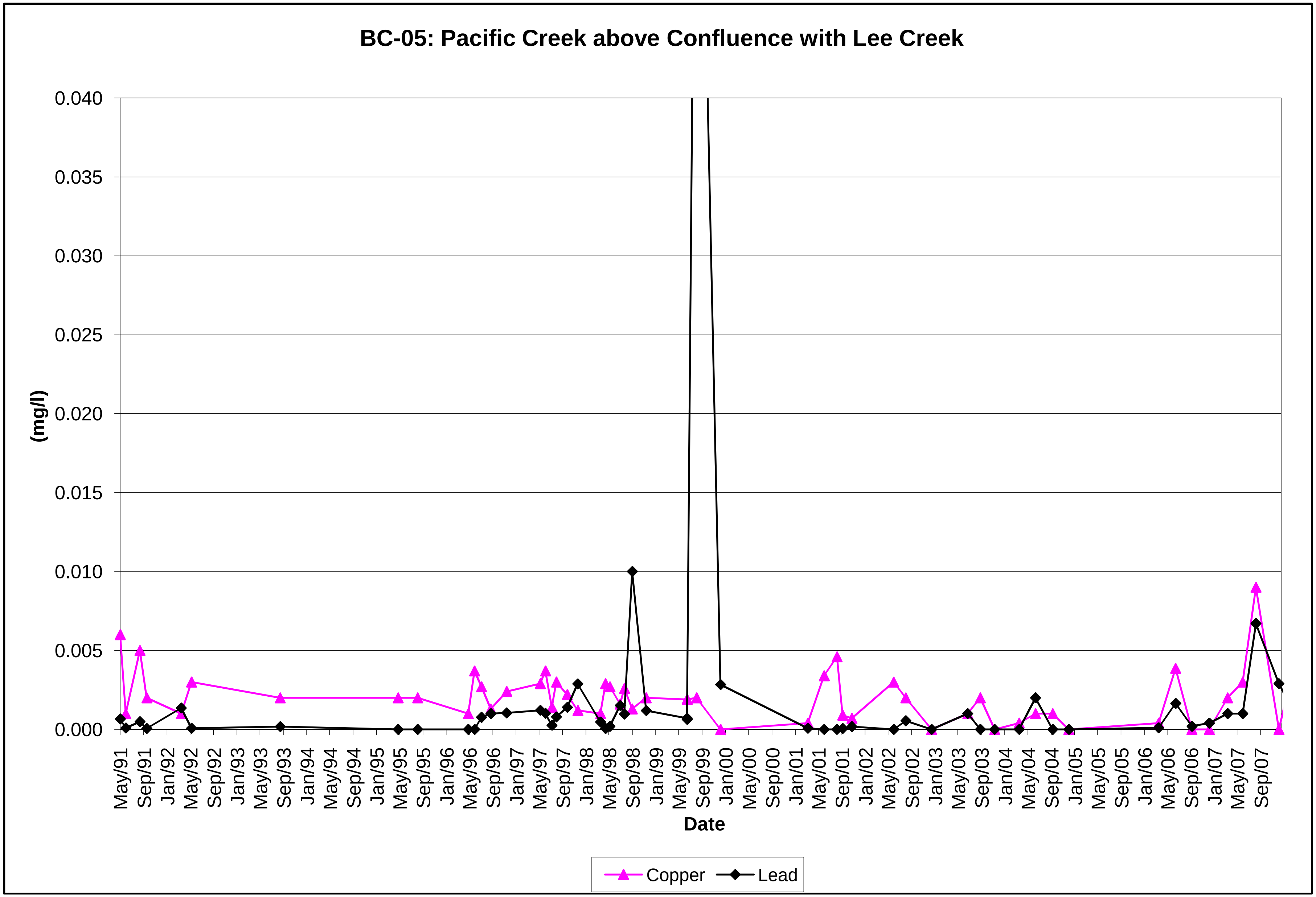
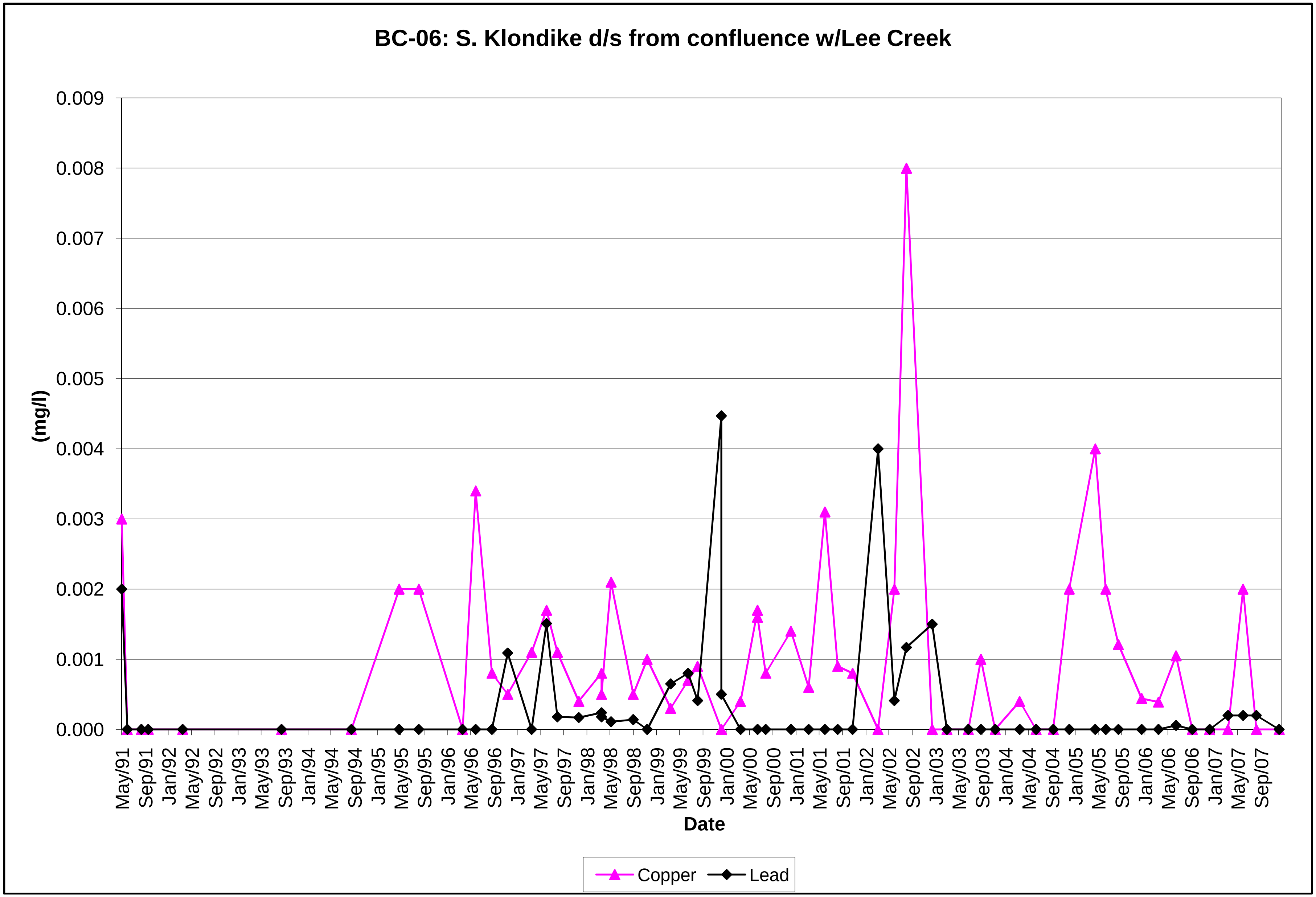
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Date
Copper
Lead

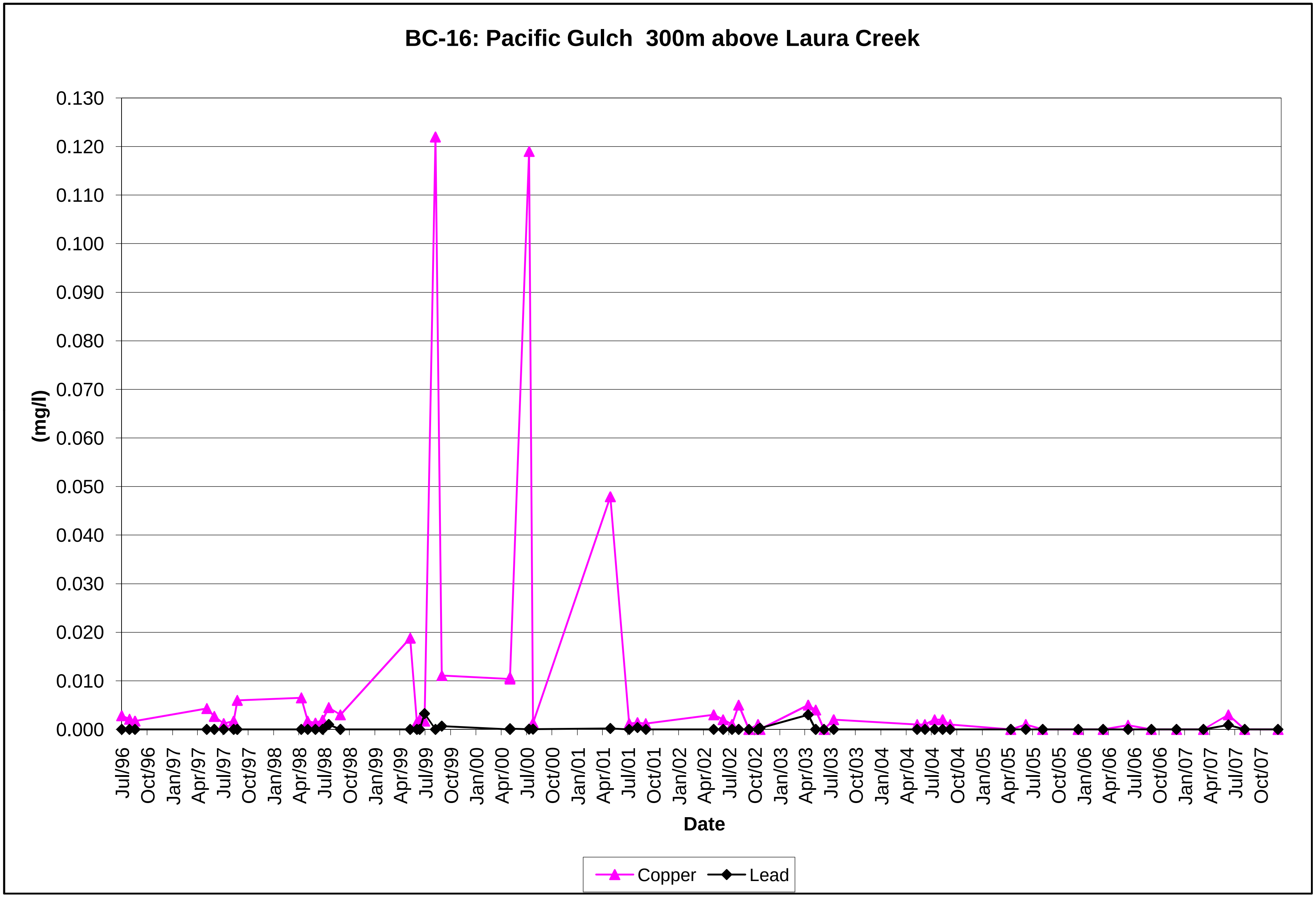

BC-04: Lucky Creek
(mg/l)
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Apr/94
Aug/94
Dec/94
Apr/95
Aug/95
Dec/95
Apr/96
Aug/96
Dec/96
Apr/97
Aug/97
Dec/97
Apr/98
Aug/98
Dec/98
Apr/99
Aug/99
Dec/99
Apr/00
Aug/00
Dec/00
Apr/01
Aug/01
Dec/01
Apr/02
Aug/02
Dec/02
Apr/03
Aug/03
Dec/03
Apr/04
Aug/04
Dec/04
Apr/05
Aug/05
Dec/05
Apr/06
Aug/06
Dec/06
Apr/07
Aug/07
Dec/07
Date
Copper
Lead



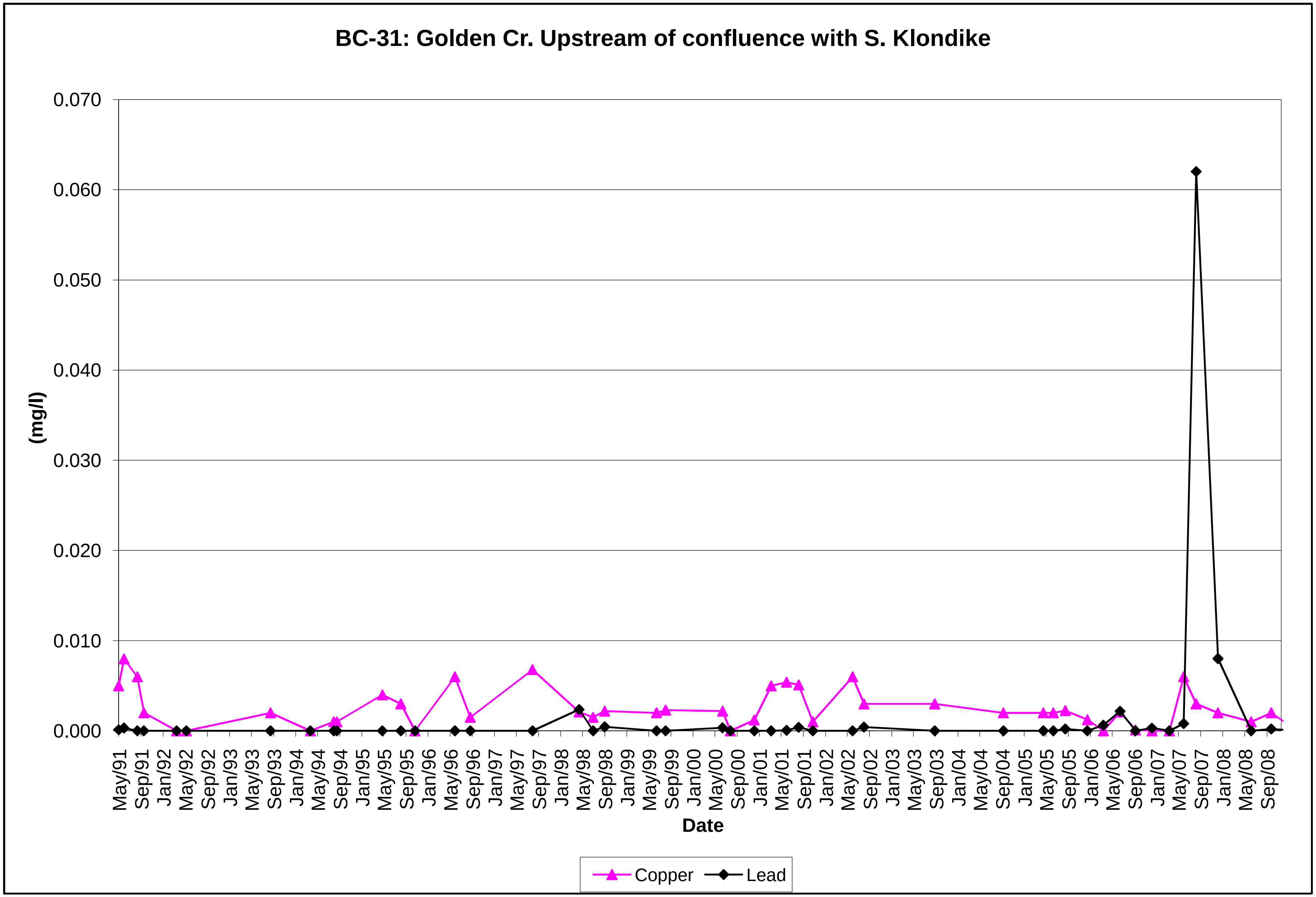
BC-05: Pacific Creek above Confluence with Lee Creek
(mg/l)
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Date
Copper
Lead

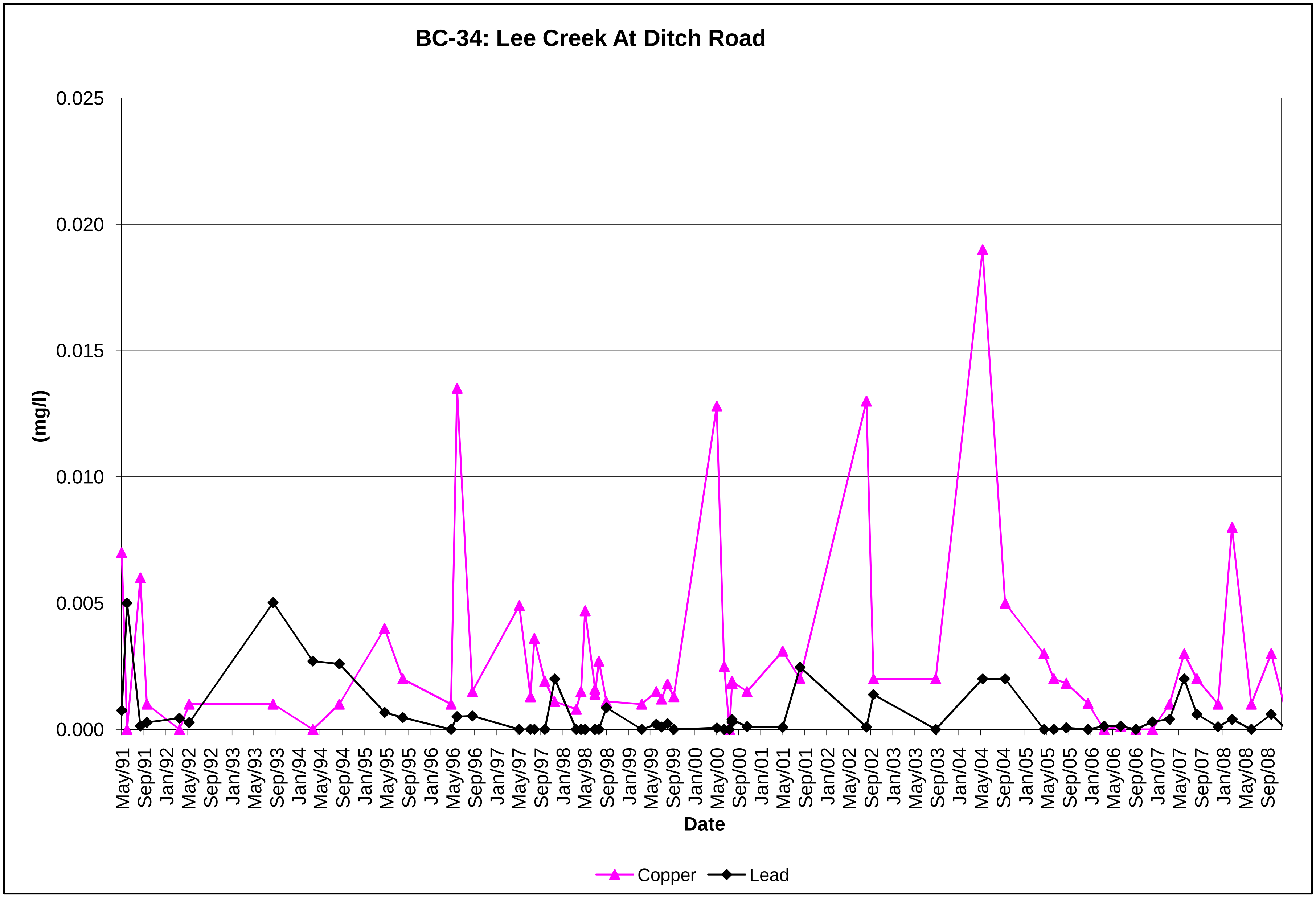


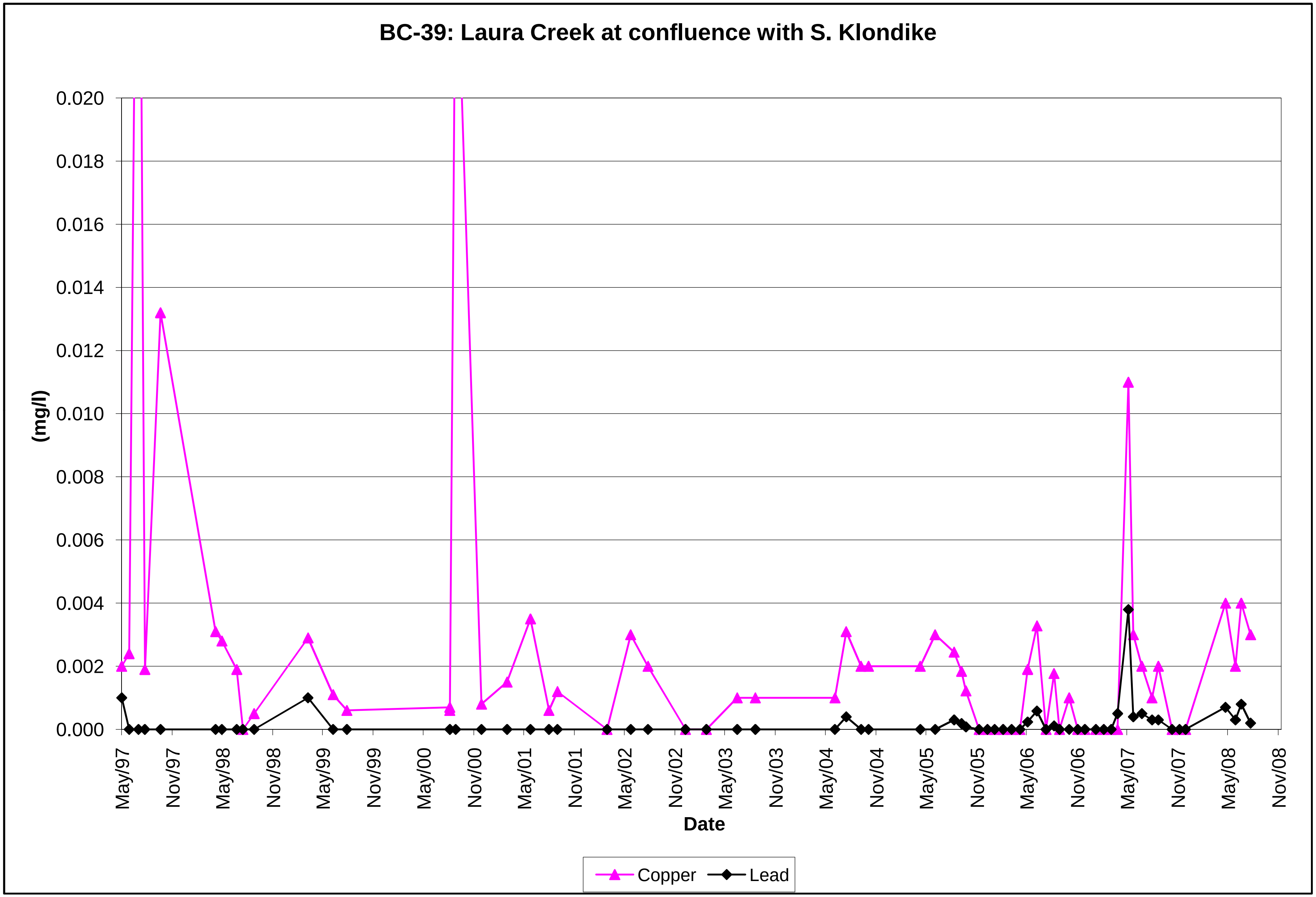
BC-06: S. Klondike d/s from confluence w/Lee Creek
(mg/l)
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Date
Copper
Lead

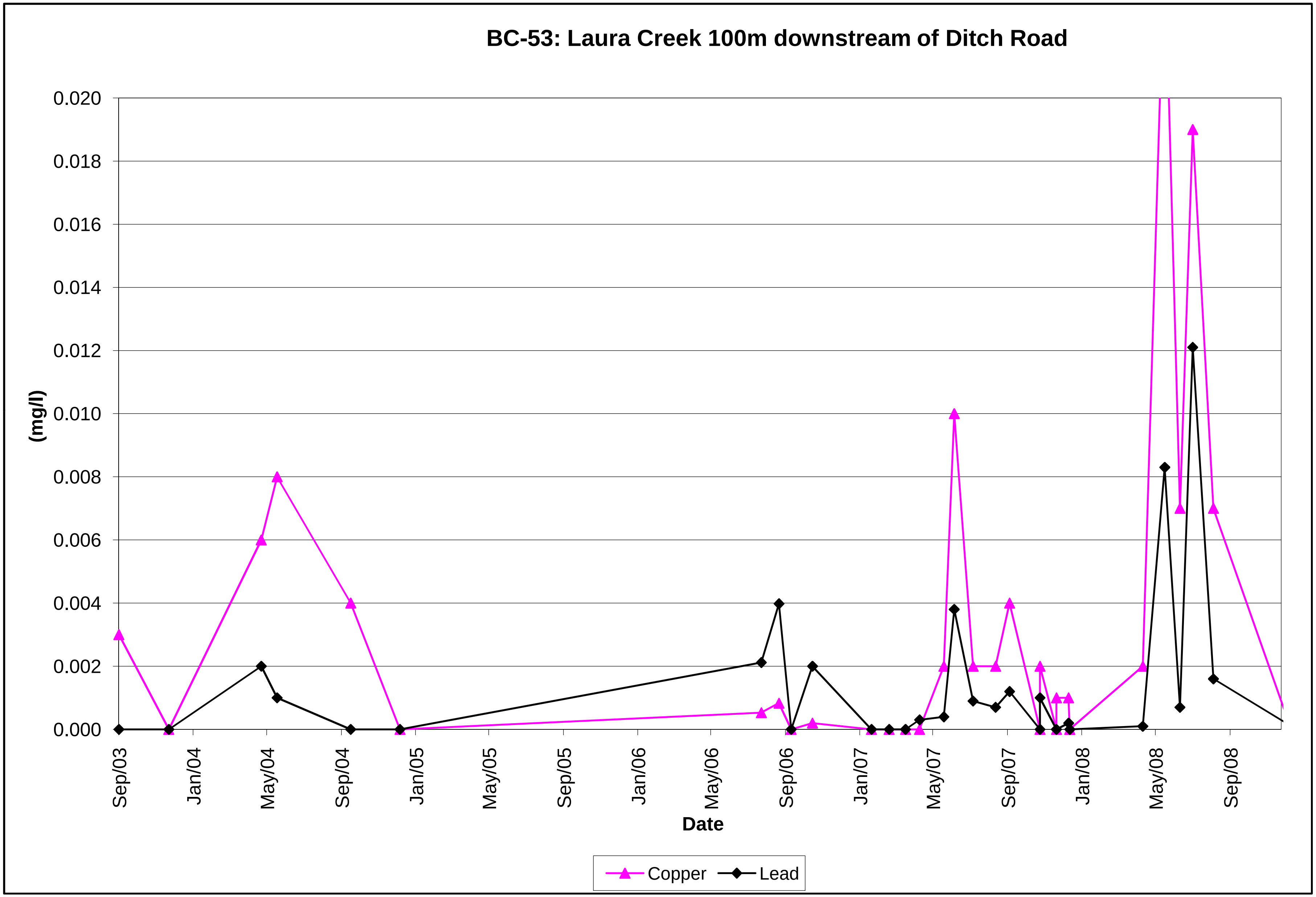


BC-16: Pacific Gulch 300m above Laura Creek
(mg/l)
0.130
0.120
0.110
0.100
0.090
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
Jul/96
Oct/96
Jan/97
Apr/97
Jul/97
Oct/97
Jan/98
Apr/98
Jul/98
Oct/98
Jan/99
Apr/99
Jul/99
Oct/99
Jan/00
Apr/00
Jul/00
Oct/00
Jan/01
Apr/01
Jul/01
Oct/01
Jan/02
Apr/02
Jul/02
Oct/02
Jan/03
Apr/03
Jul/03
Oct/03
Jan/04
Apr/04
Jul/04
Oct/04
Jan/05
Apr/05
Jul/05
Oct/05
Jan/06
Apr/06
Jul/06
Oct/06
Jan/07
Apr/07
Jul/07
Oct/07
Date
Copper
Lead

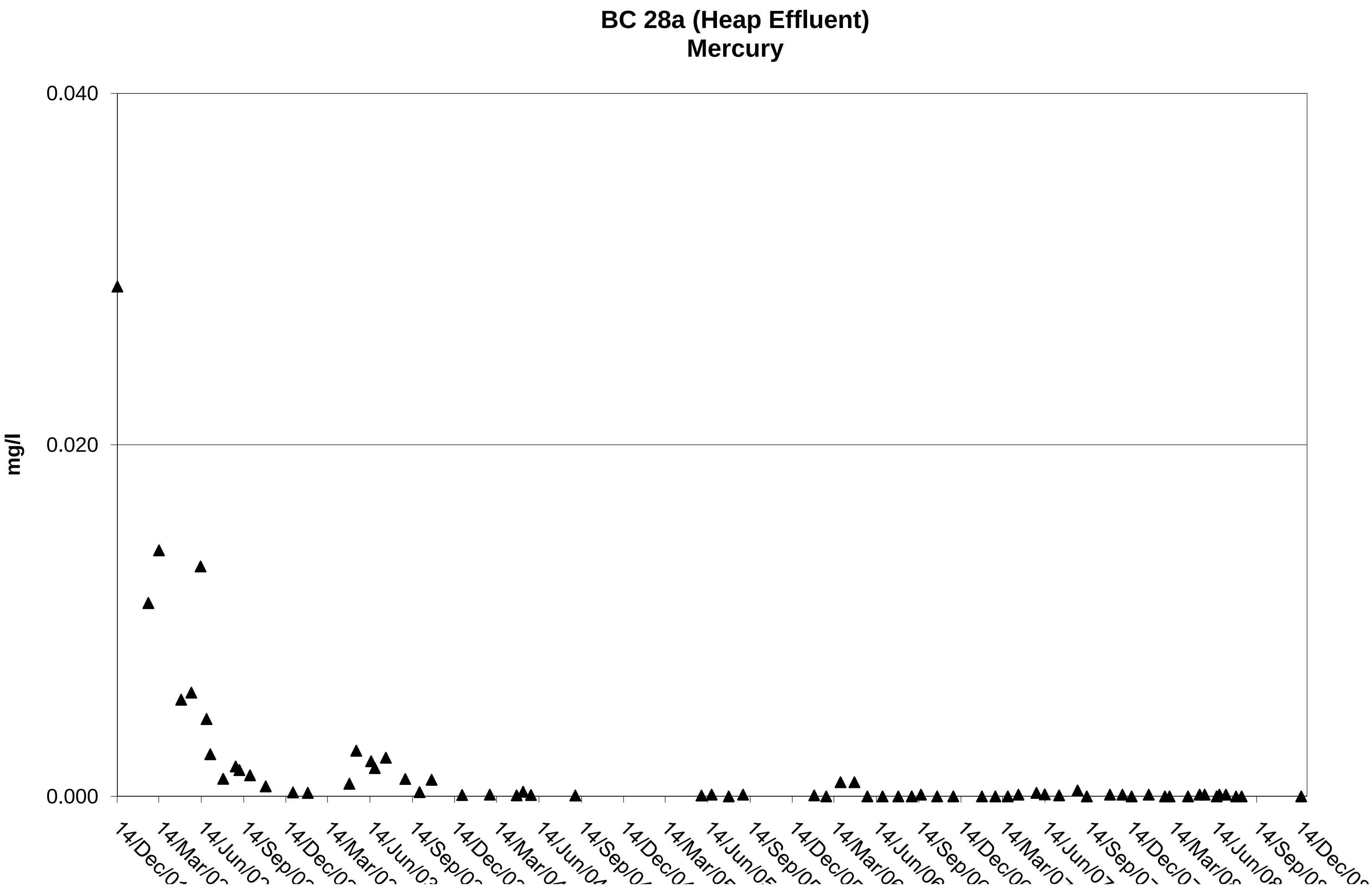

BC-31: Golden Cr. Upstream of confluence with S. Klondike
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
(mg/l)
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Copper
Lead


BC-34: Lee Creek At Ditch Road
(mg/l)
0.025
0.020
0.015
0.010
0.005
0.000
May/91
Sep/91
Jan/92
May/92
Sep/92
Jan/93
May/93
Sep/93
Jan/94
May/94
Sep/94
Jan/95
May/95
Sep/95
Jan/96
May/96
Sep/96
Jan/97
May/97
Sep/97
Jan/98
May/98
Sep/98
Jan/99
May/99
Sep/99
Jan/00
May/00
Sep/00
Jan/01
May/01
Sep/01
Jan/02
May/02
Sep/02
Jan/03
May/03
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Copper
Lead


BC-39: Laura Creek at confluence with S. Klondike
(mg/l)
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
May/97
Nov/97
May/98
Nov/98
May/99
Nov/99
May/00
Nov/00
May/01
Nov/01
May/02
Nov/02
May/03
Nov/03
May/04
Nov/04
May/05
Nov/05
May/06
Nov/06
May/07
Nov/07
May/08
Nov/08
Date
Copper
Lead

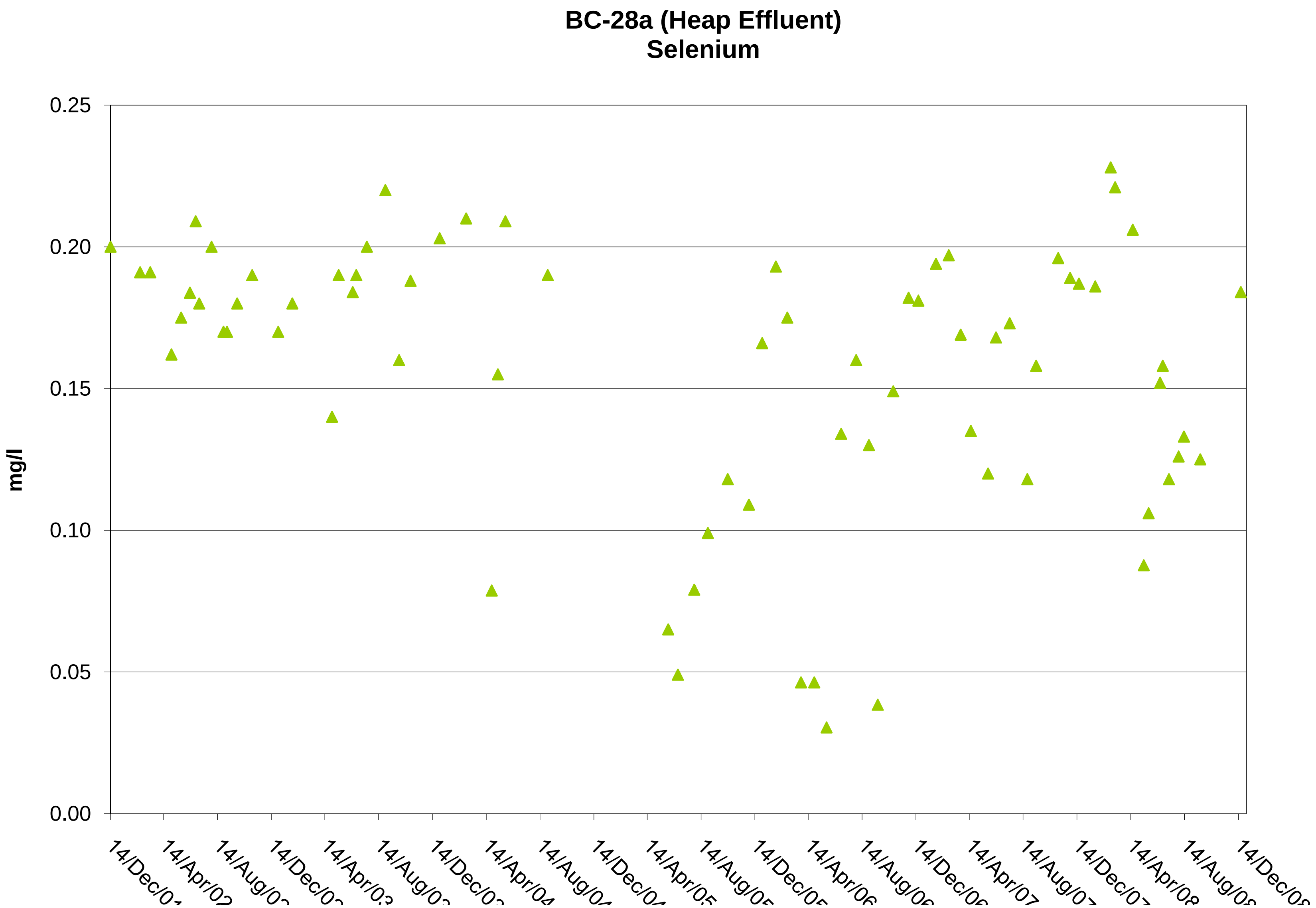


BC-53: Laura Creek 100m downstream of Ditch Road
(mg/l)
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
Sep/03
Jan/04
May/04
Sep/04
Jan/05
May/05
Sep/05
Jan/06
May/06
Sep/06
Jan/07
May/07
Sep/07
Jan/08
May/08
Sep/08
Date
Copper
Lead

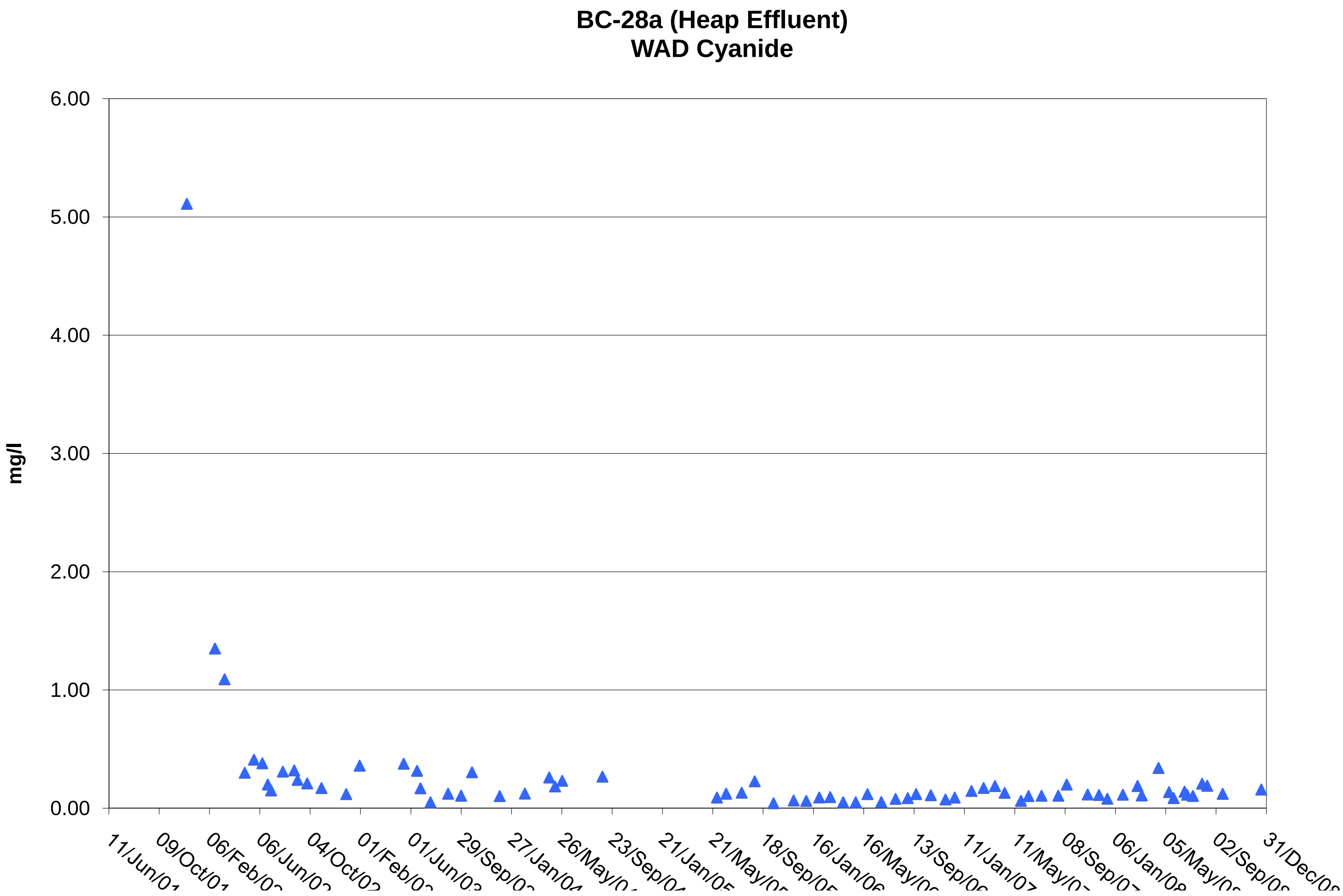


BC 28a (Heap Effluent)
Mercury
0.040
0.020
0.000
mg/l

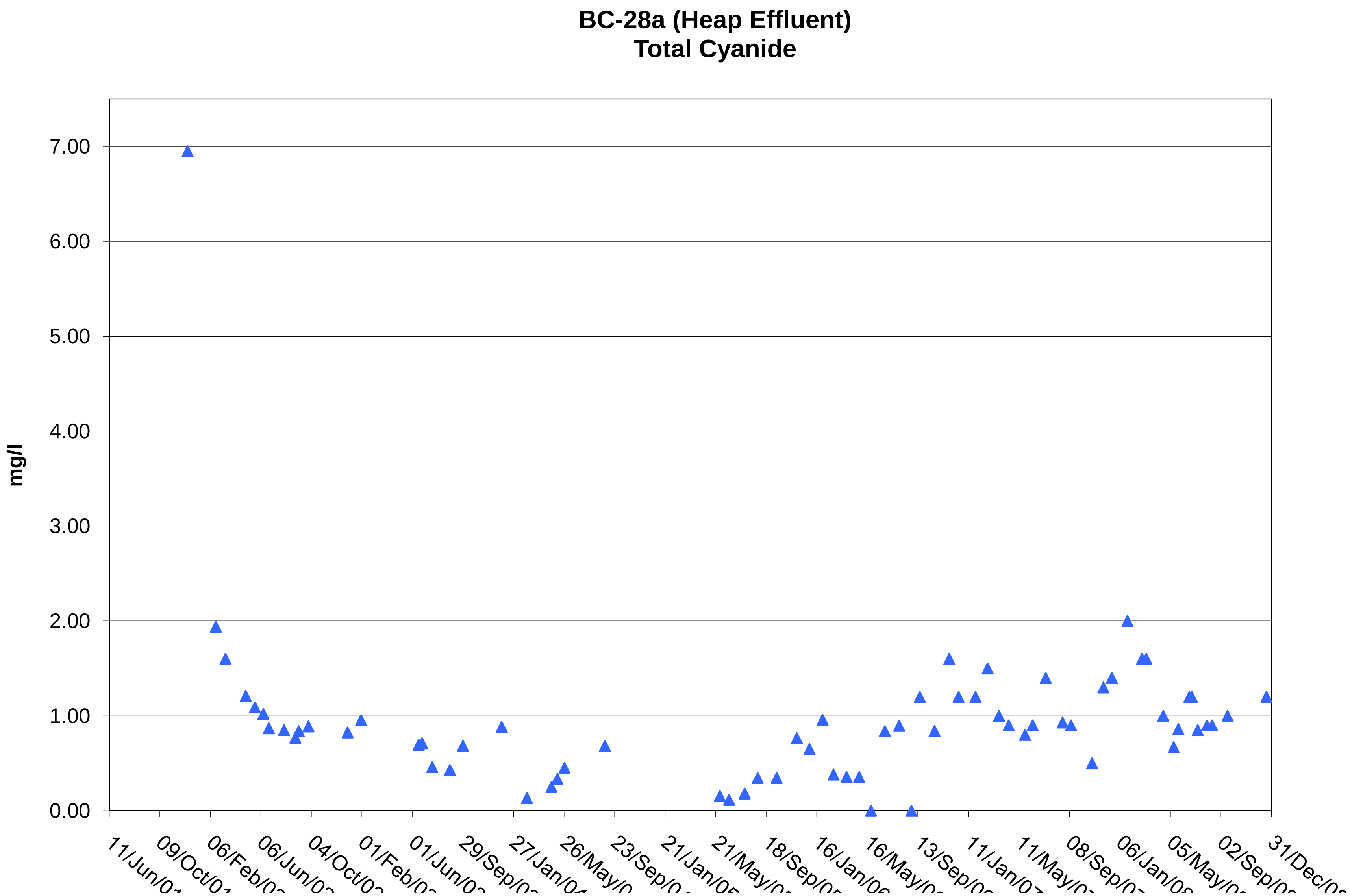
Brewery Creek Mine



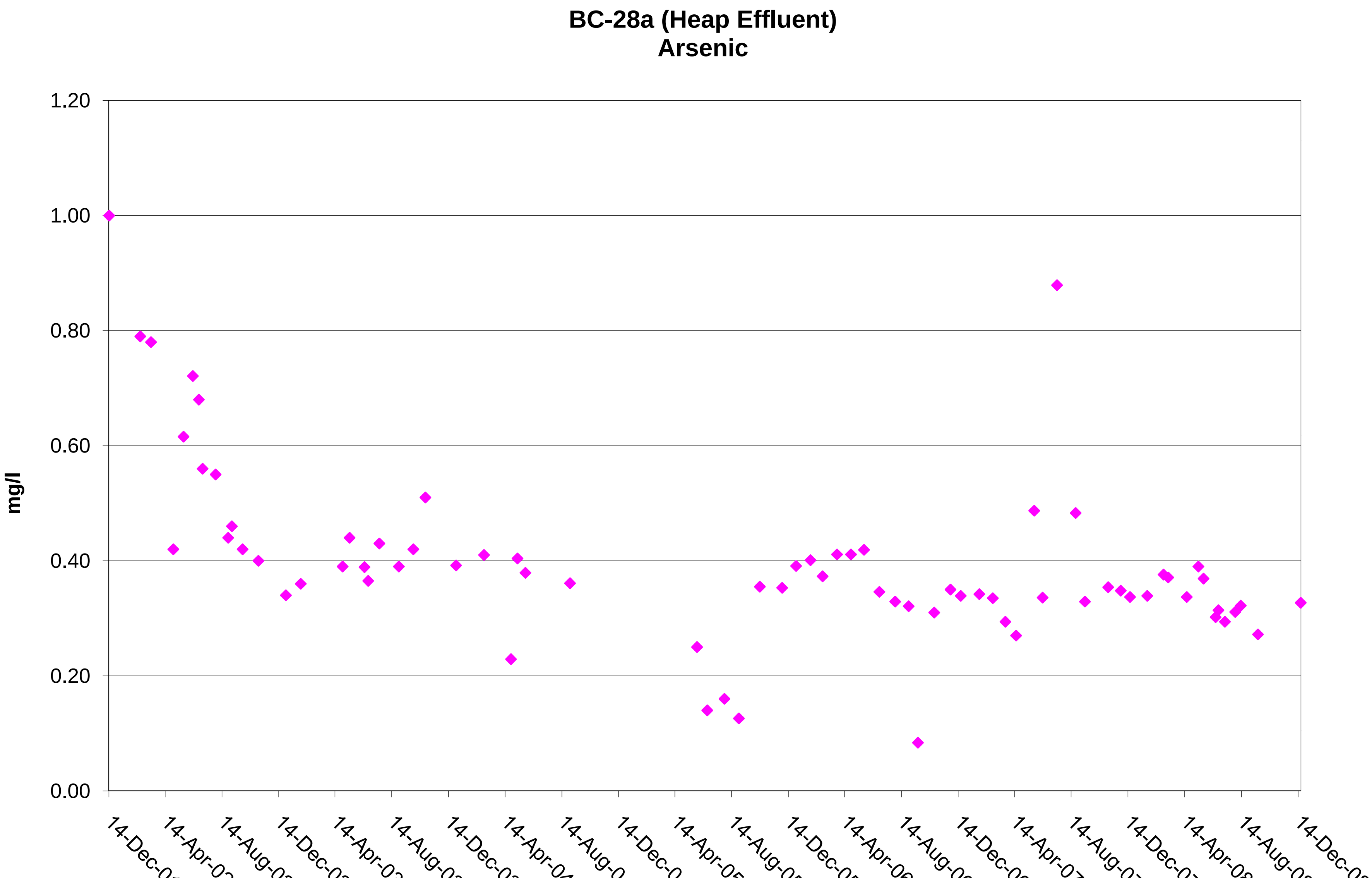
Brewery Creek Mine



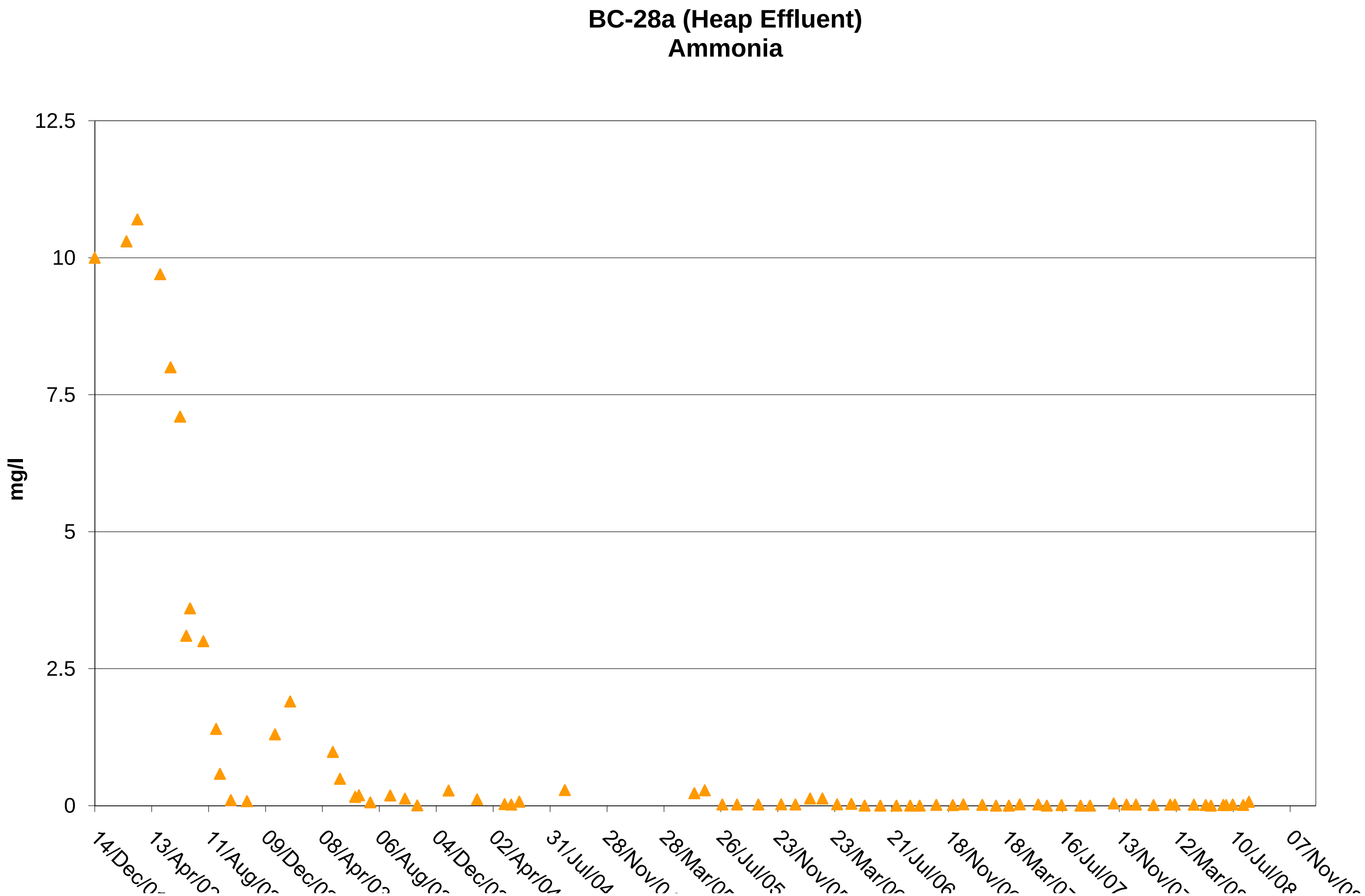
Brewery Creek Mine

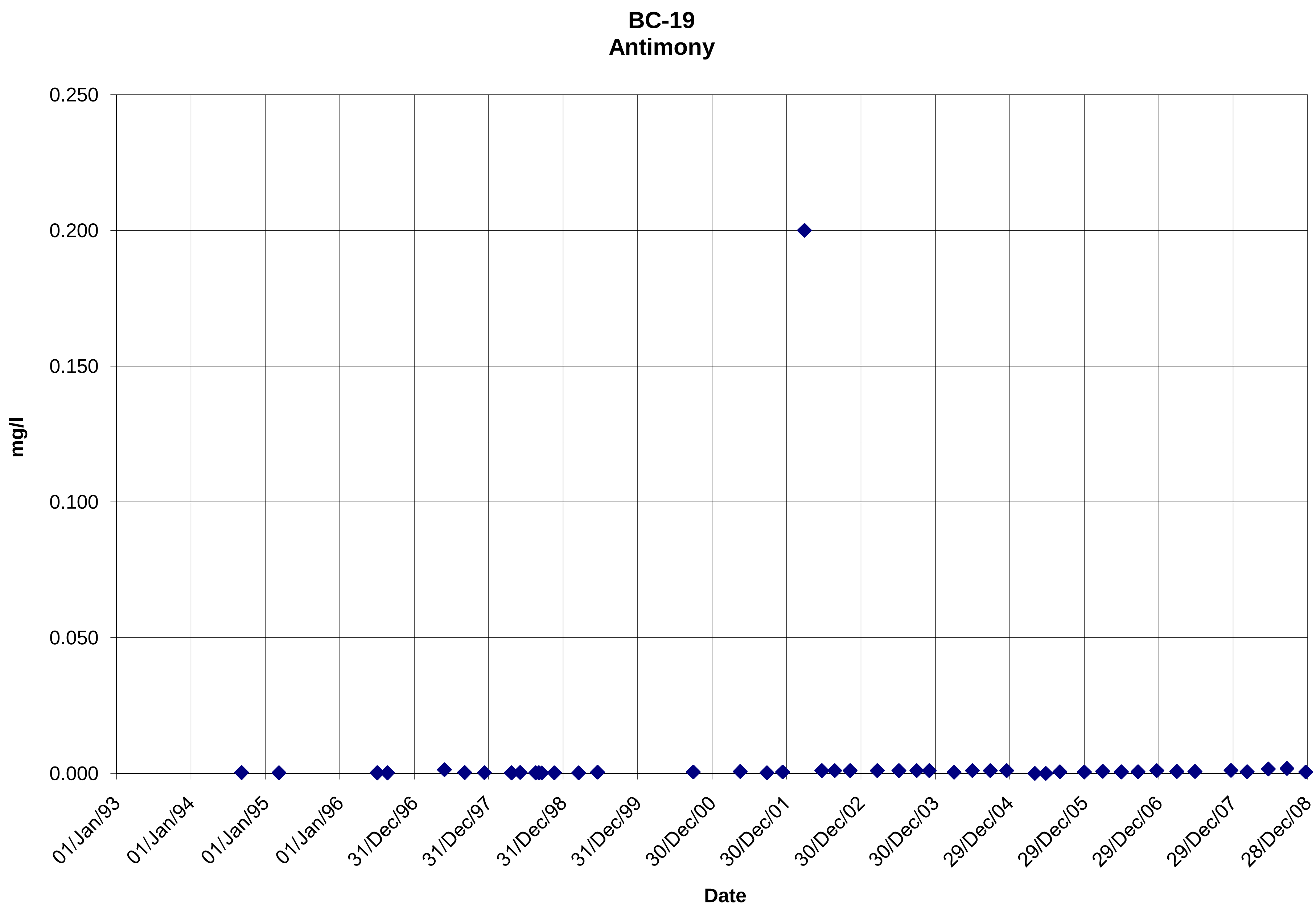


Brewery Creek Mine

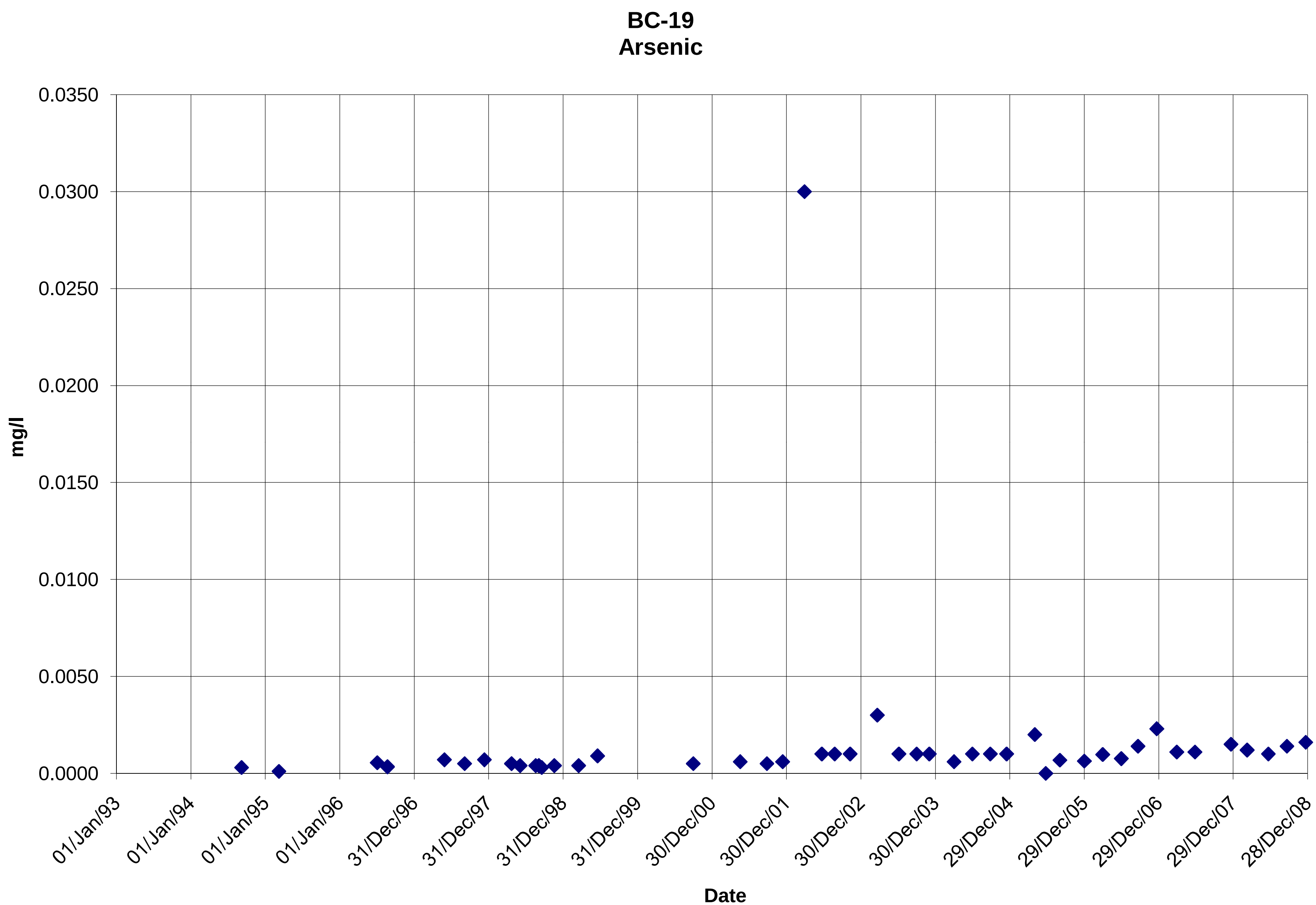


Brewery Creek Mine

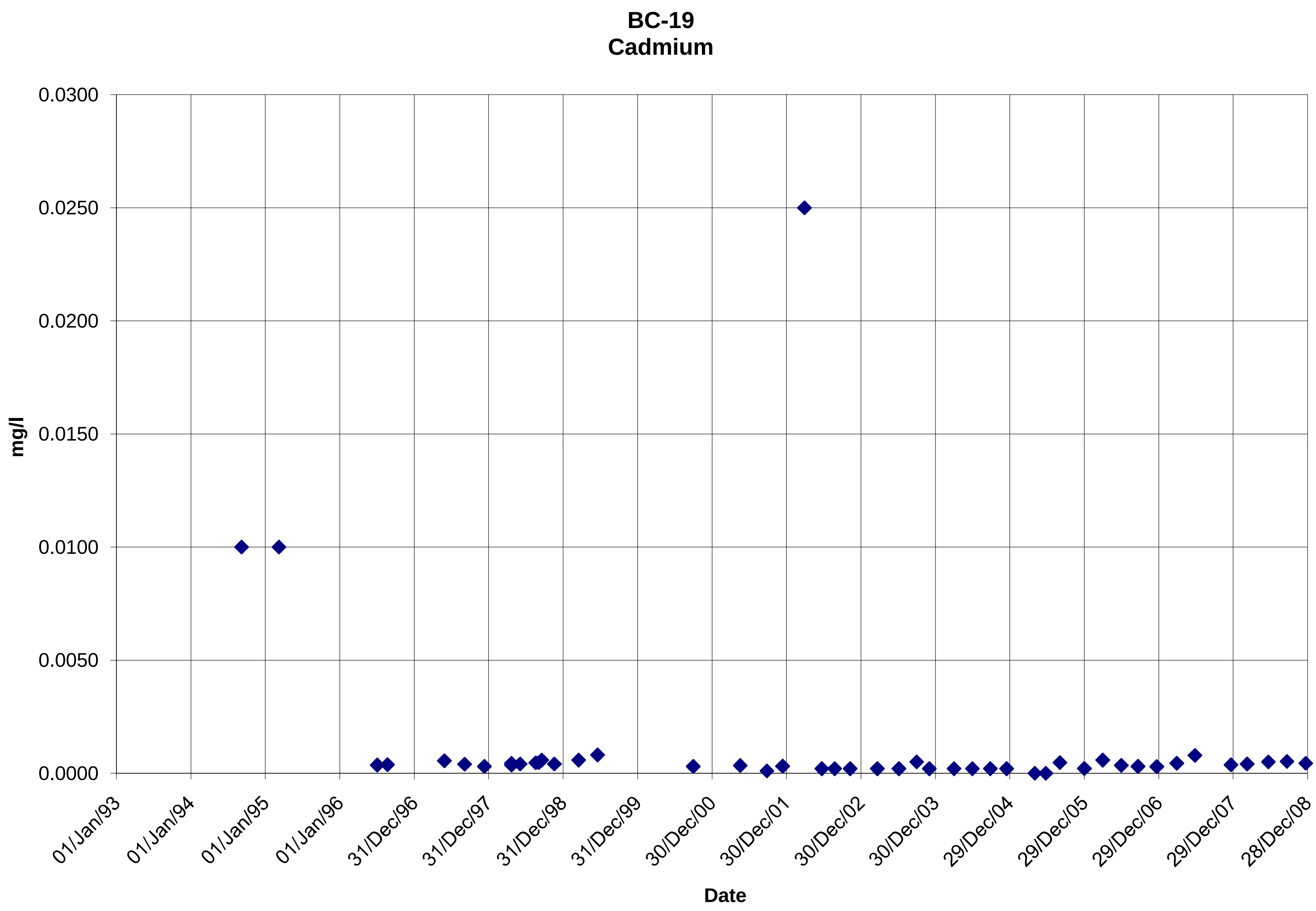


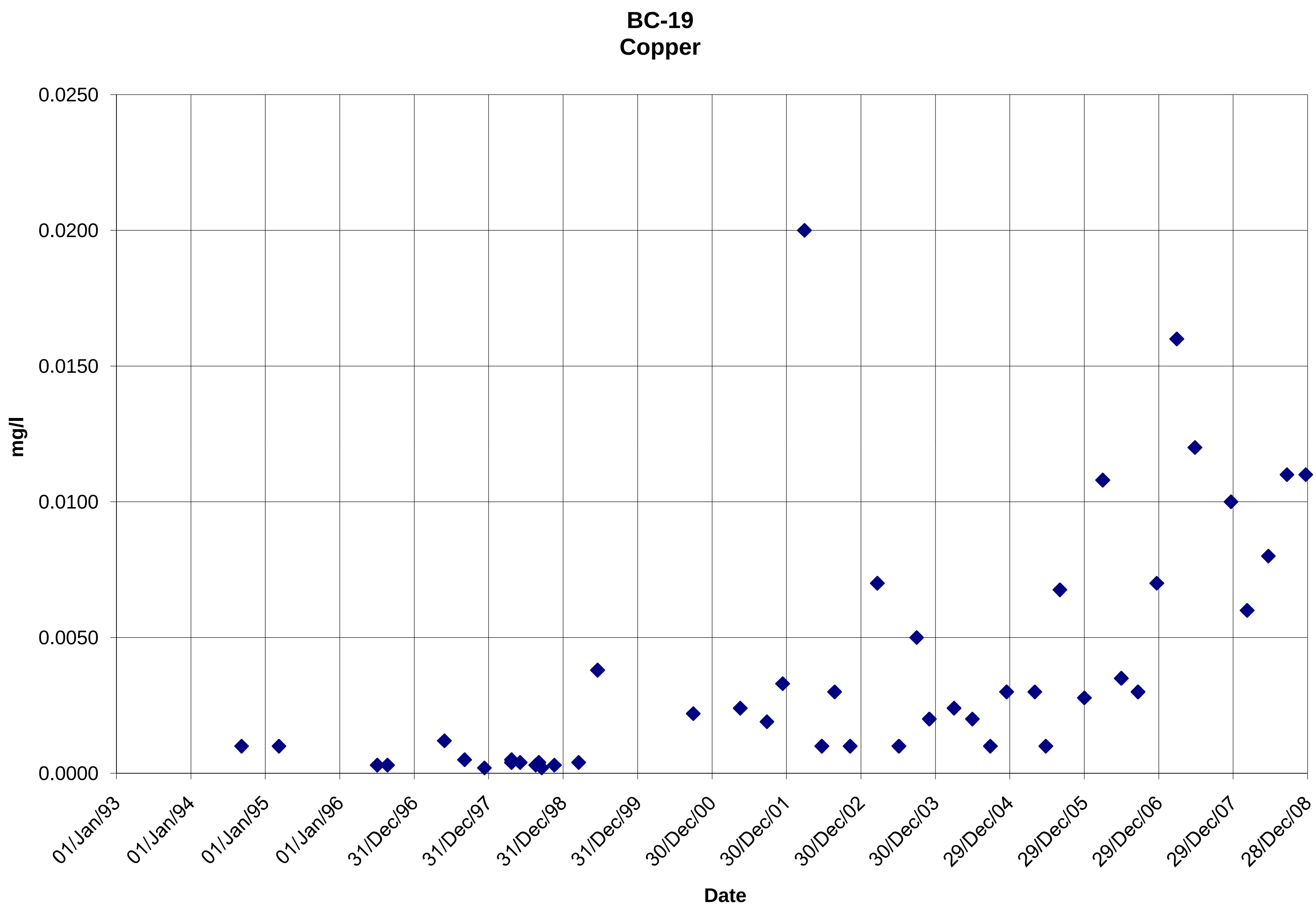


BC-19
Antimony
mg/l
0.250
0.200
0.150
0.100
0.050
0.000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

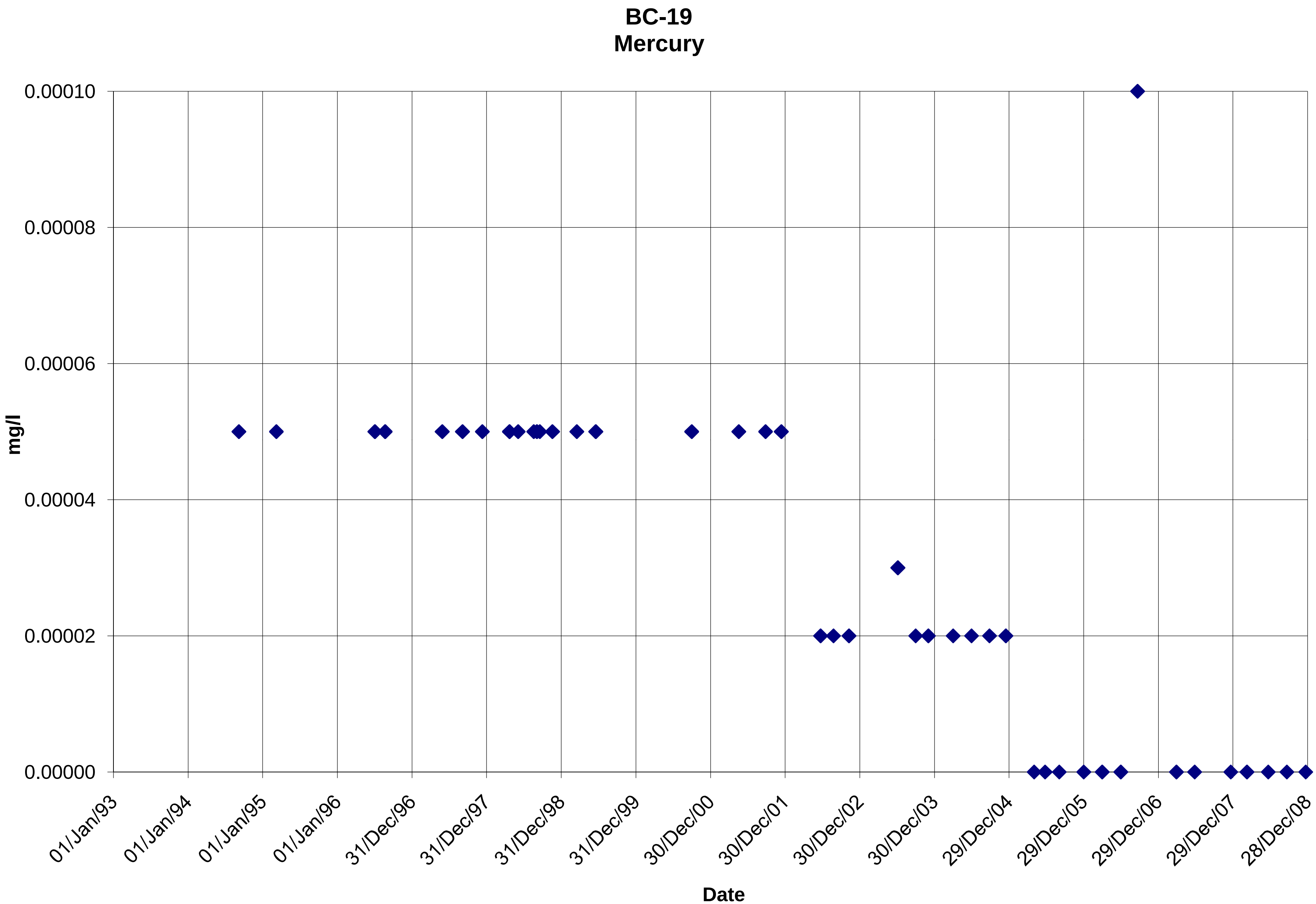


BC-19
Arsenic
mg/l
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

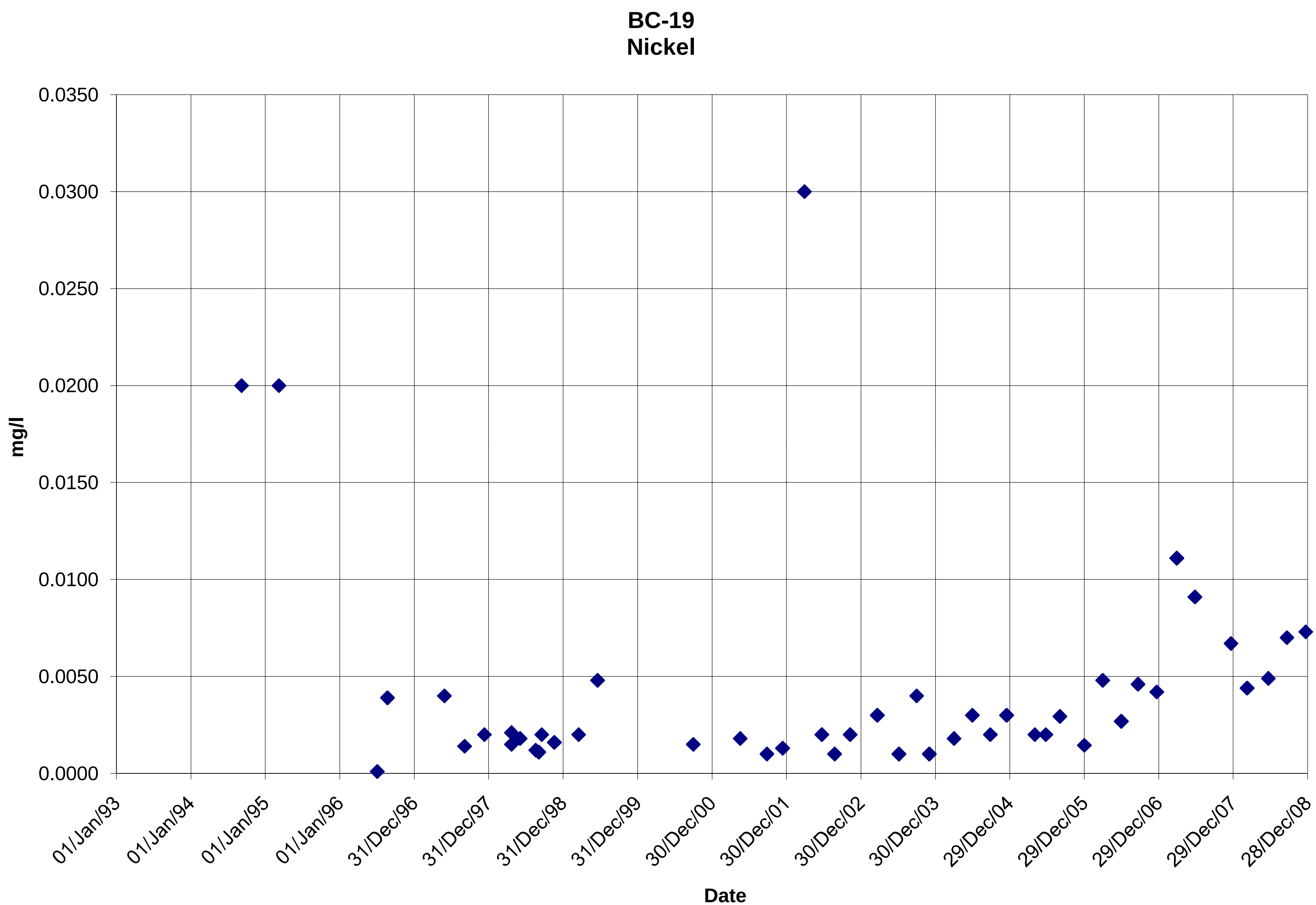

BC-19
Cadmium
mg/l
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



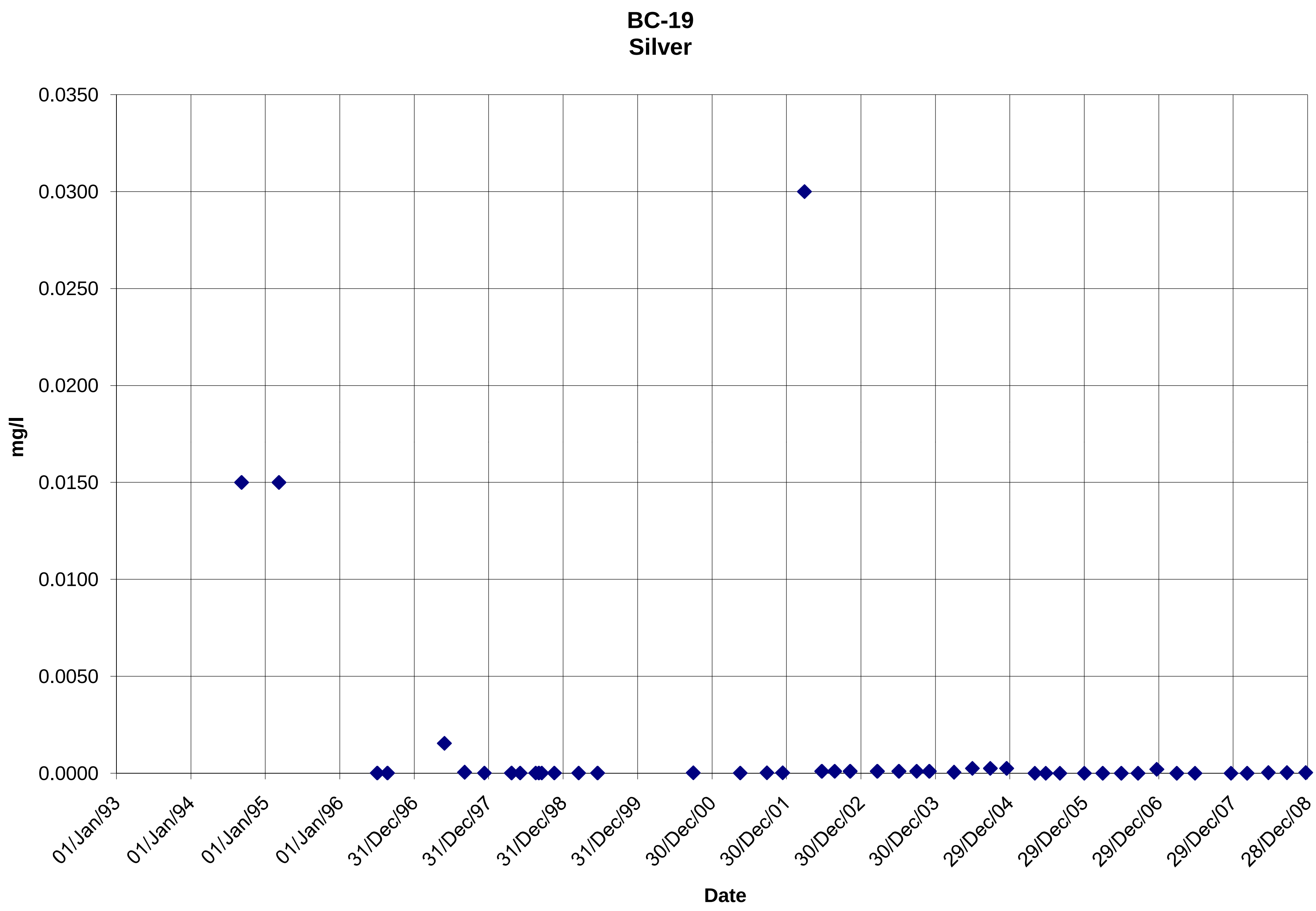
BC-19
Copper
mg/l
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



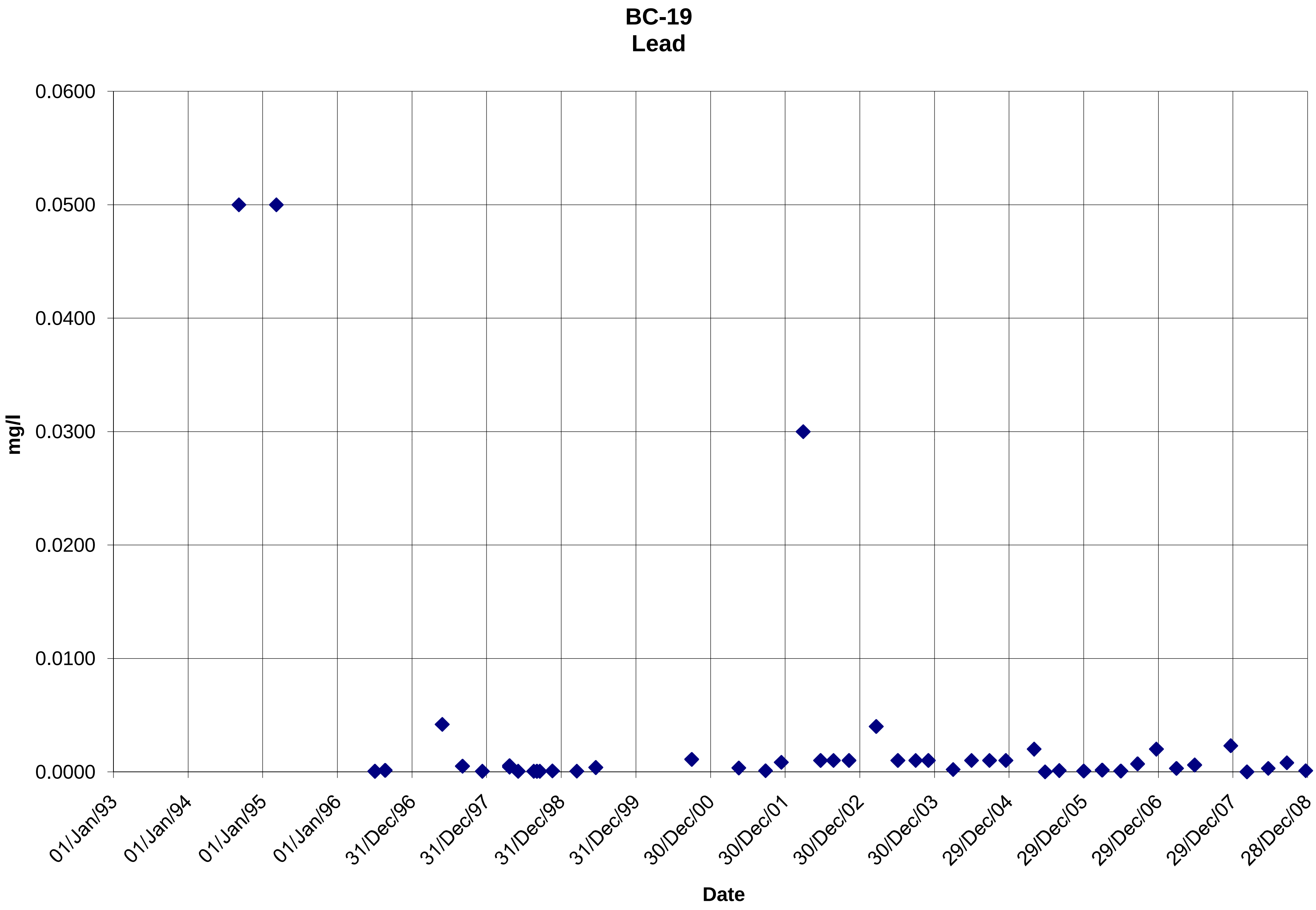
BC-19
Mercury
0.00010
0.00008
0.00006
0.00004
0.00002
0.00000
mg/l
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

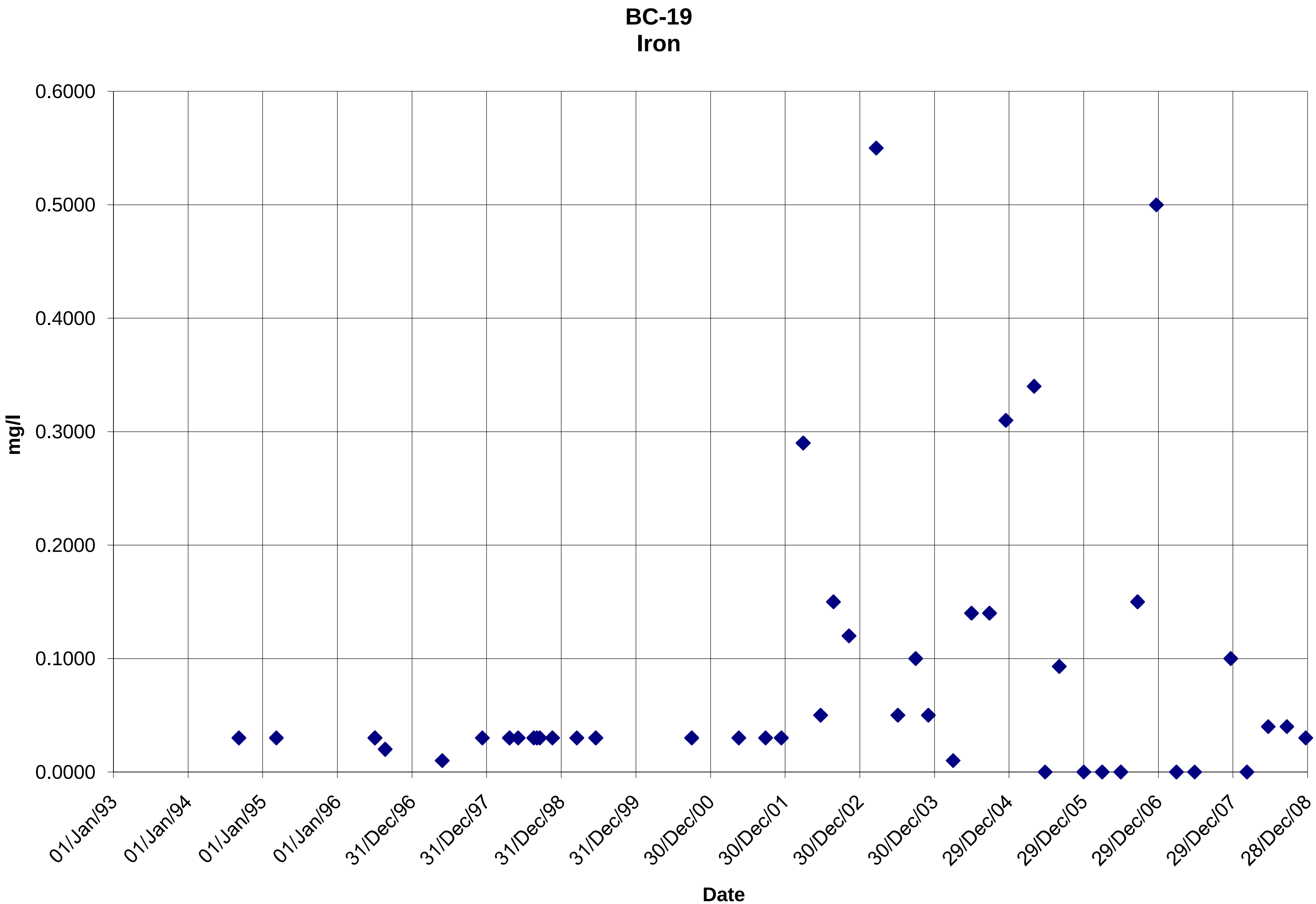


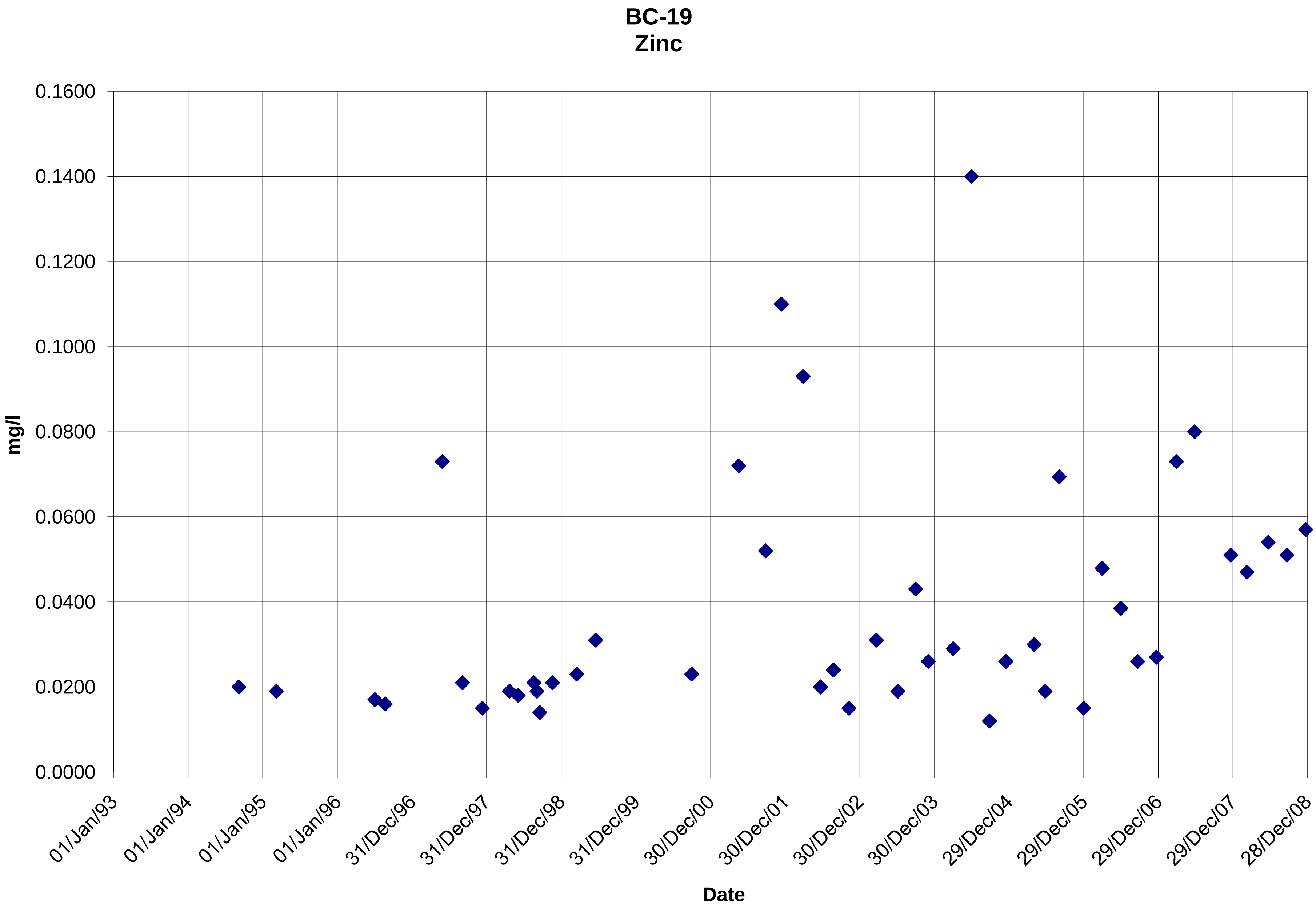
BC-19
Nickel
mg/l
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

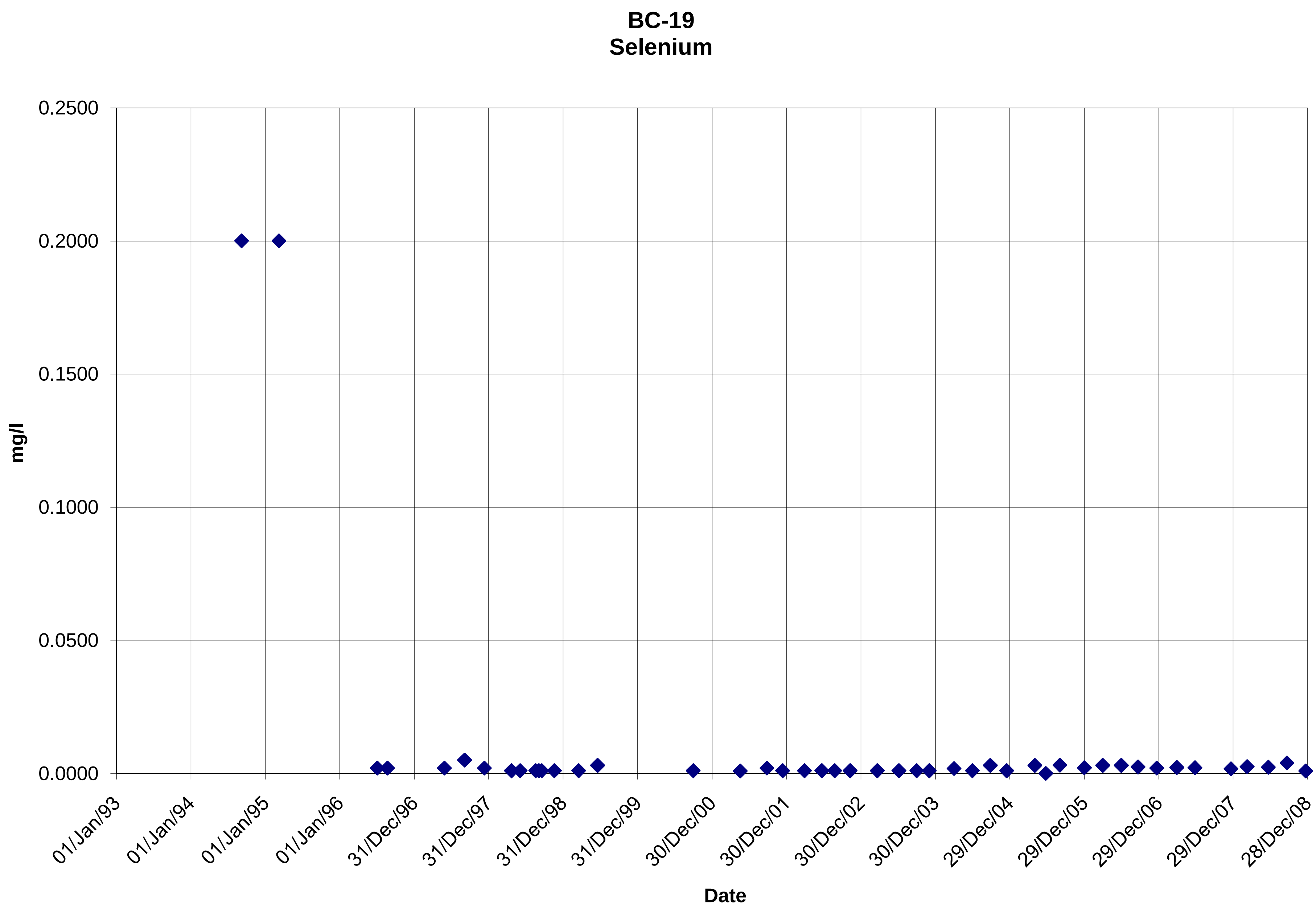


BC-19
Silver
mg/l
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

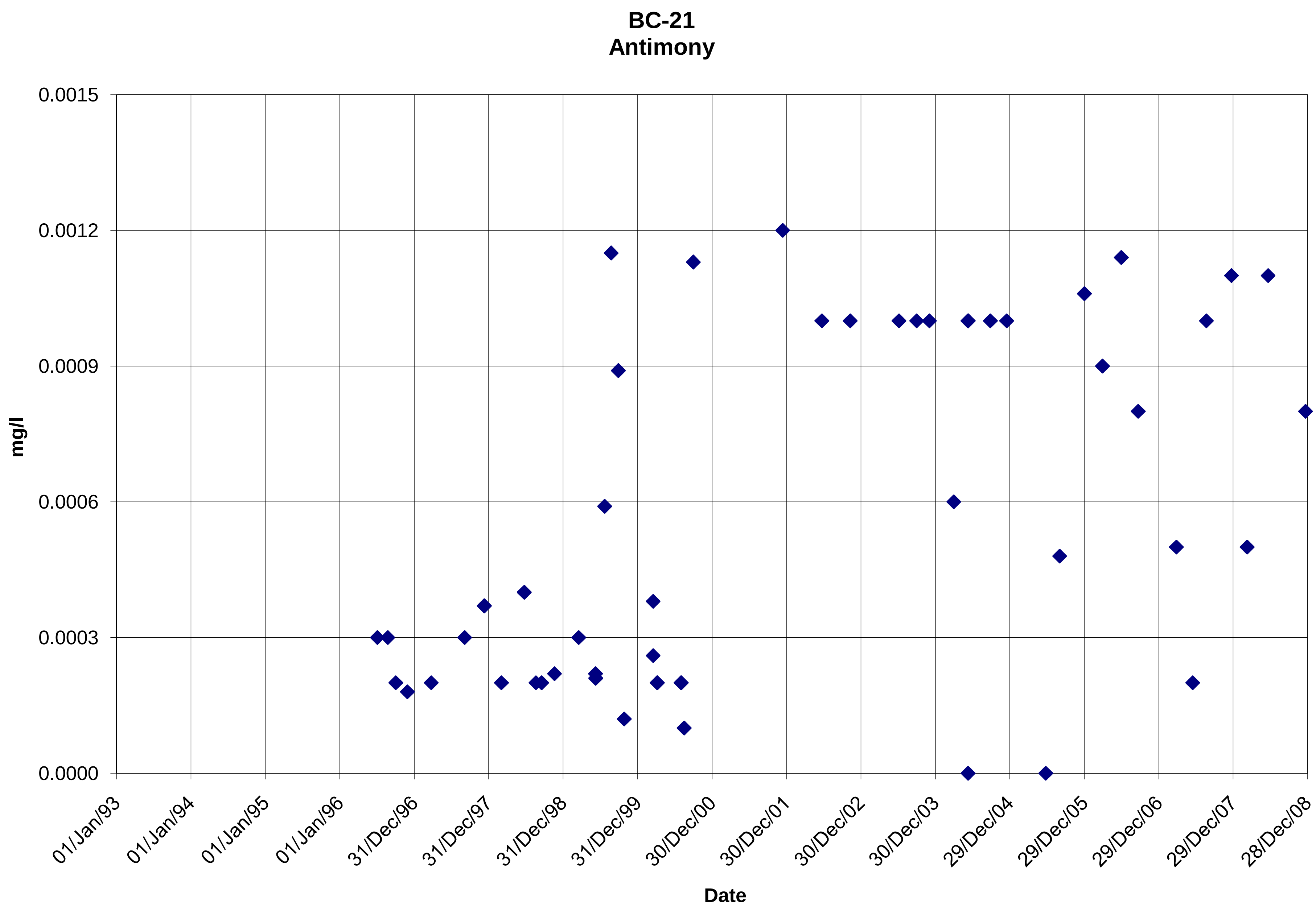

BC-19
Lead
mg/l
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

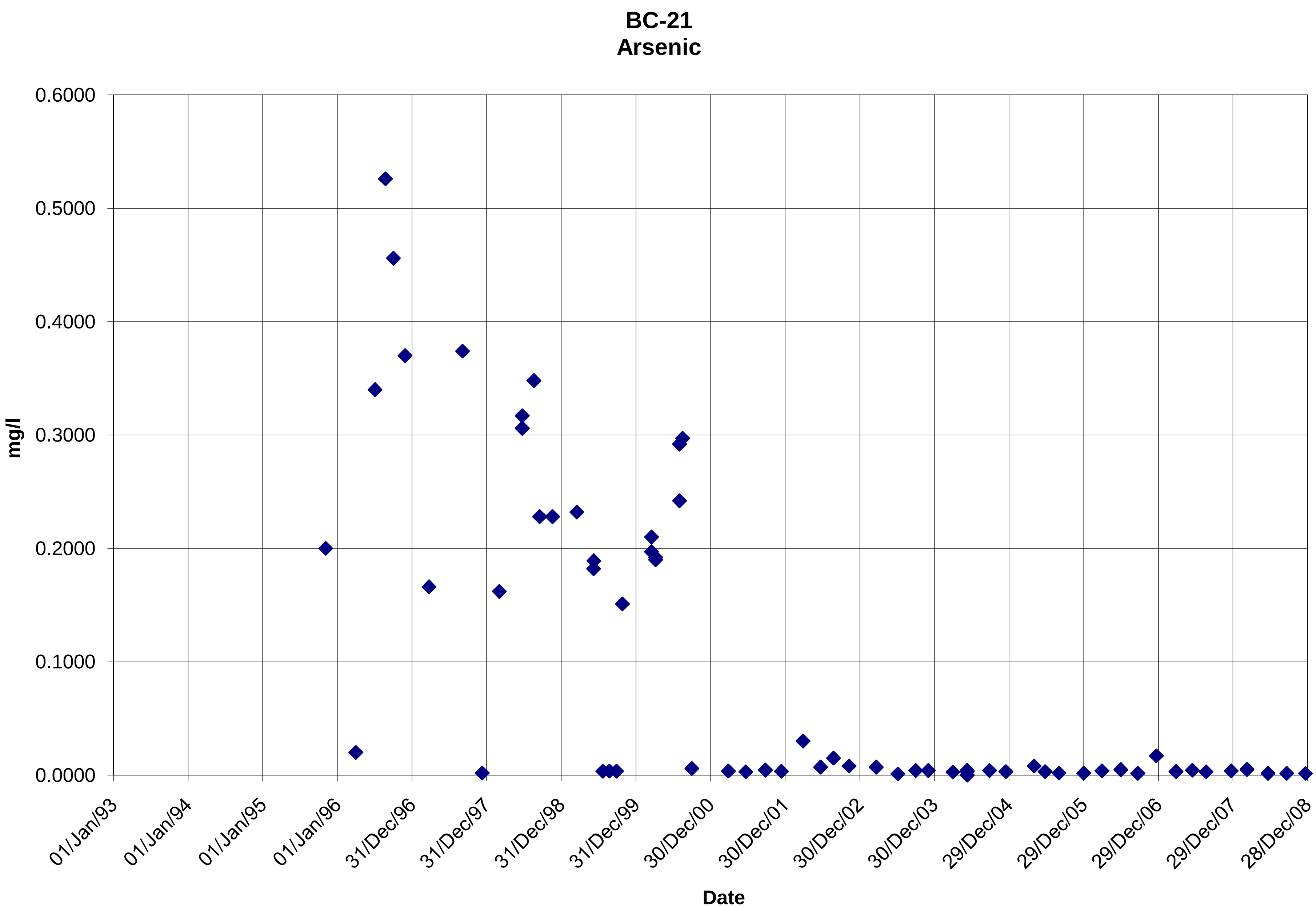

BC-19
Iron
mg/l
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

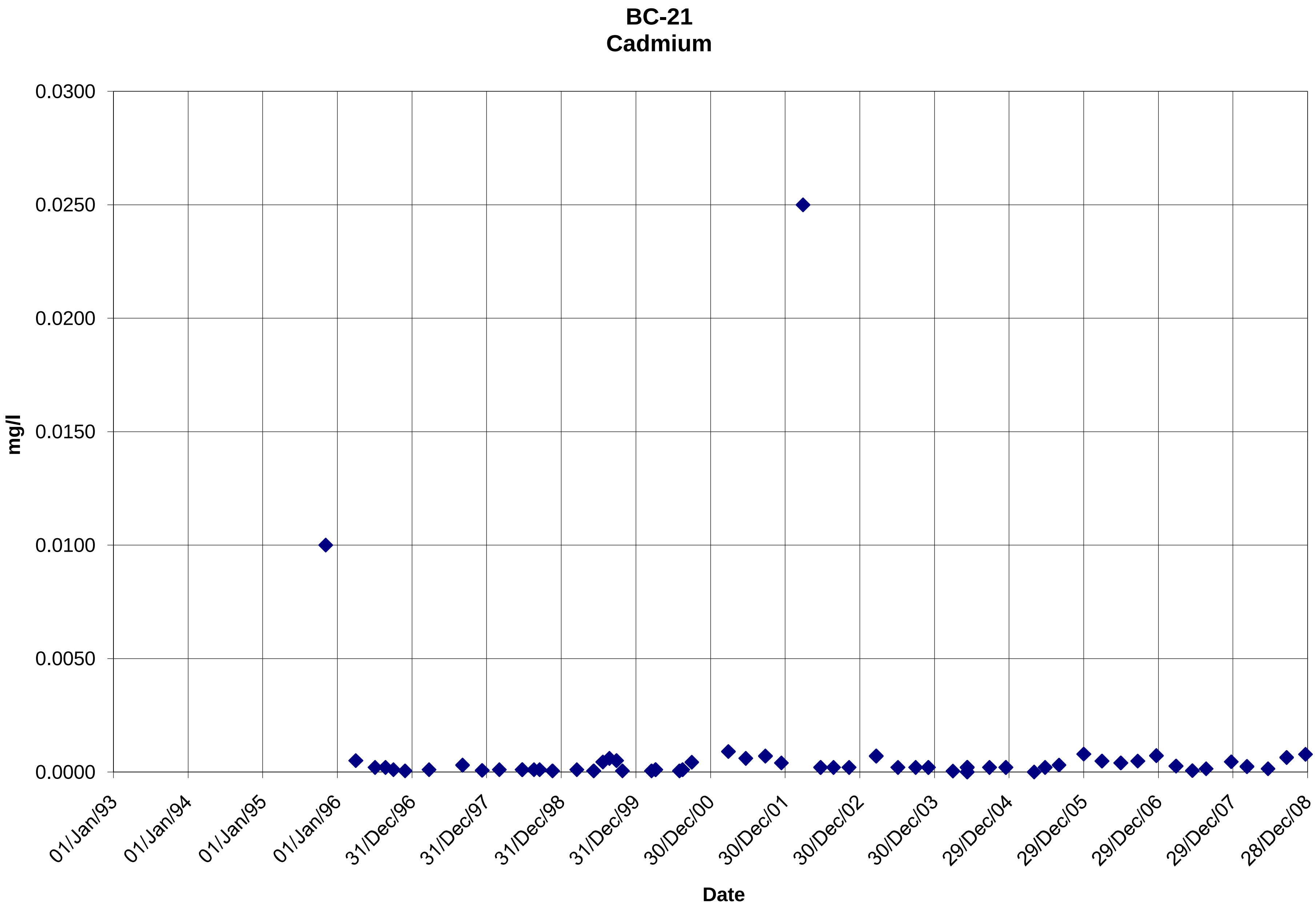

BC-19
Zinc
mg/l
0.1600
0.1400
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



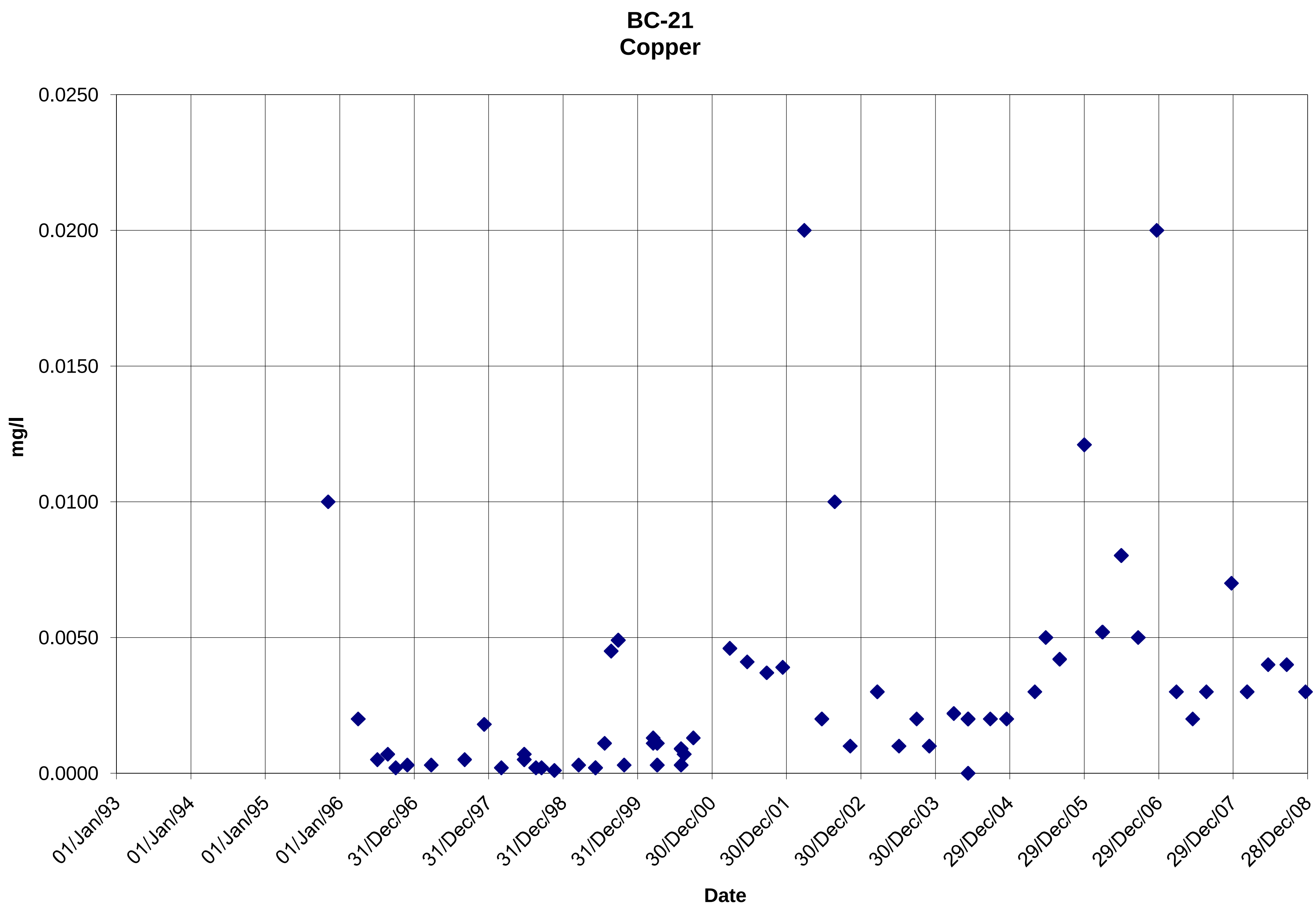
BC-19
Selenium
mg/l
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date


BC-21
Antimony
mg/l
0.0015
0.0012
0.0009
0.0006
0.0003
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

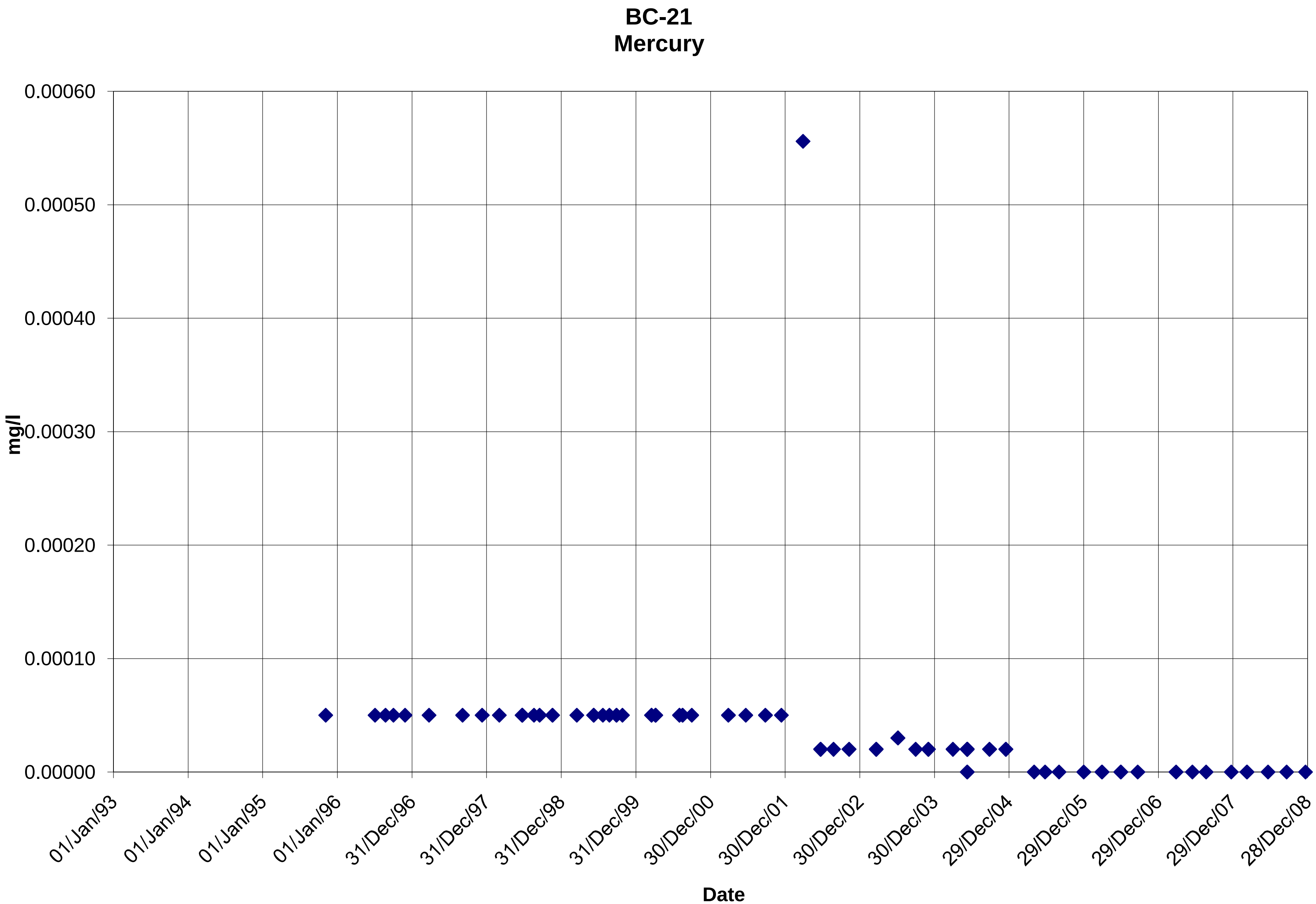

BC-21
Arsenic
mg/l
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

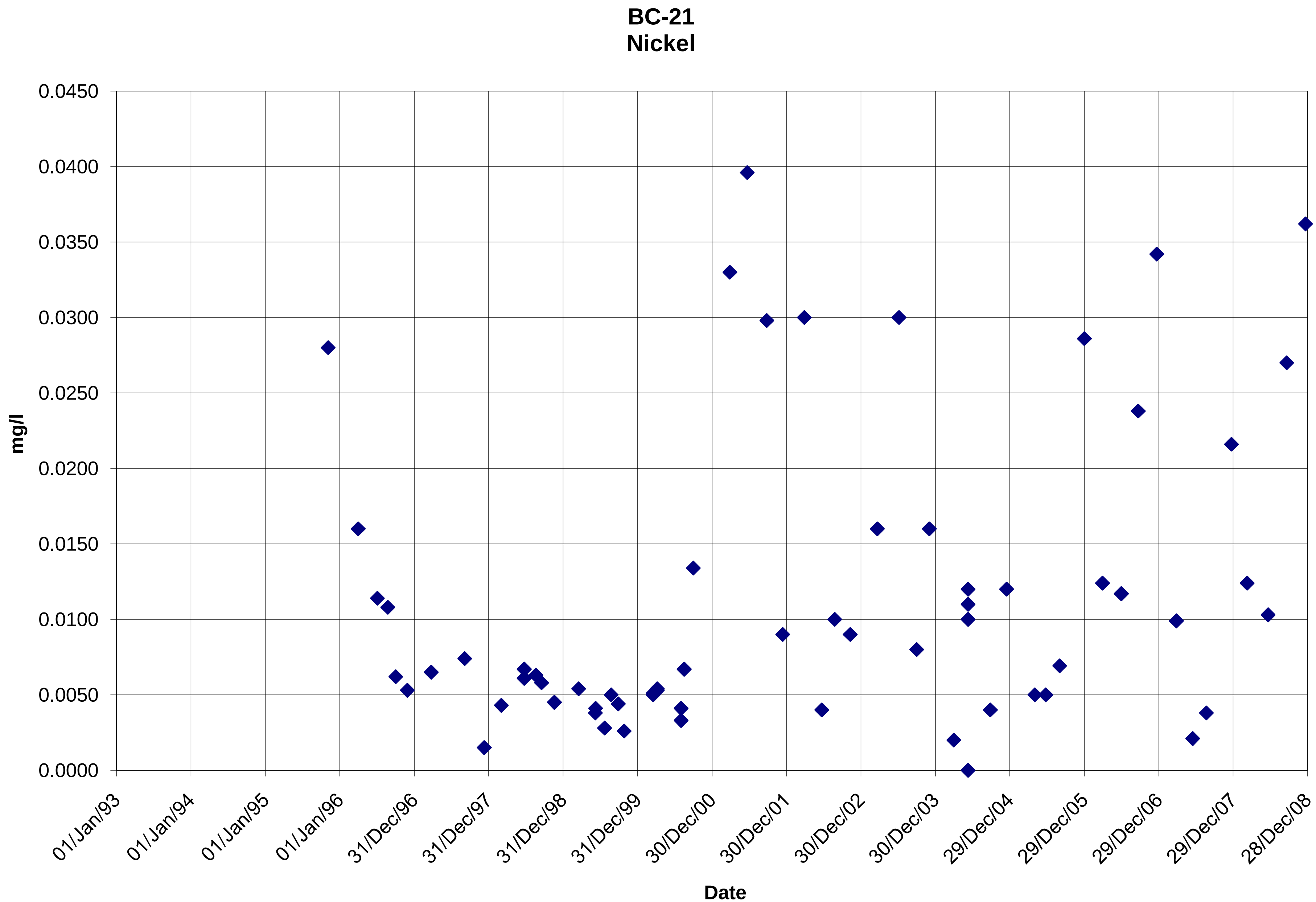


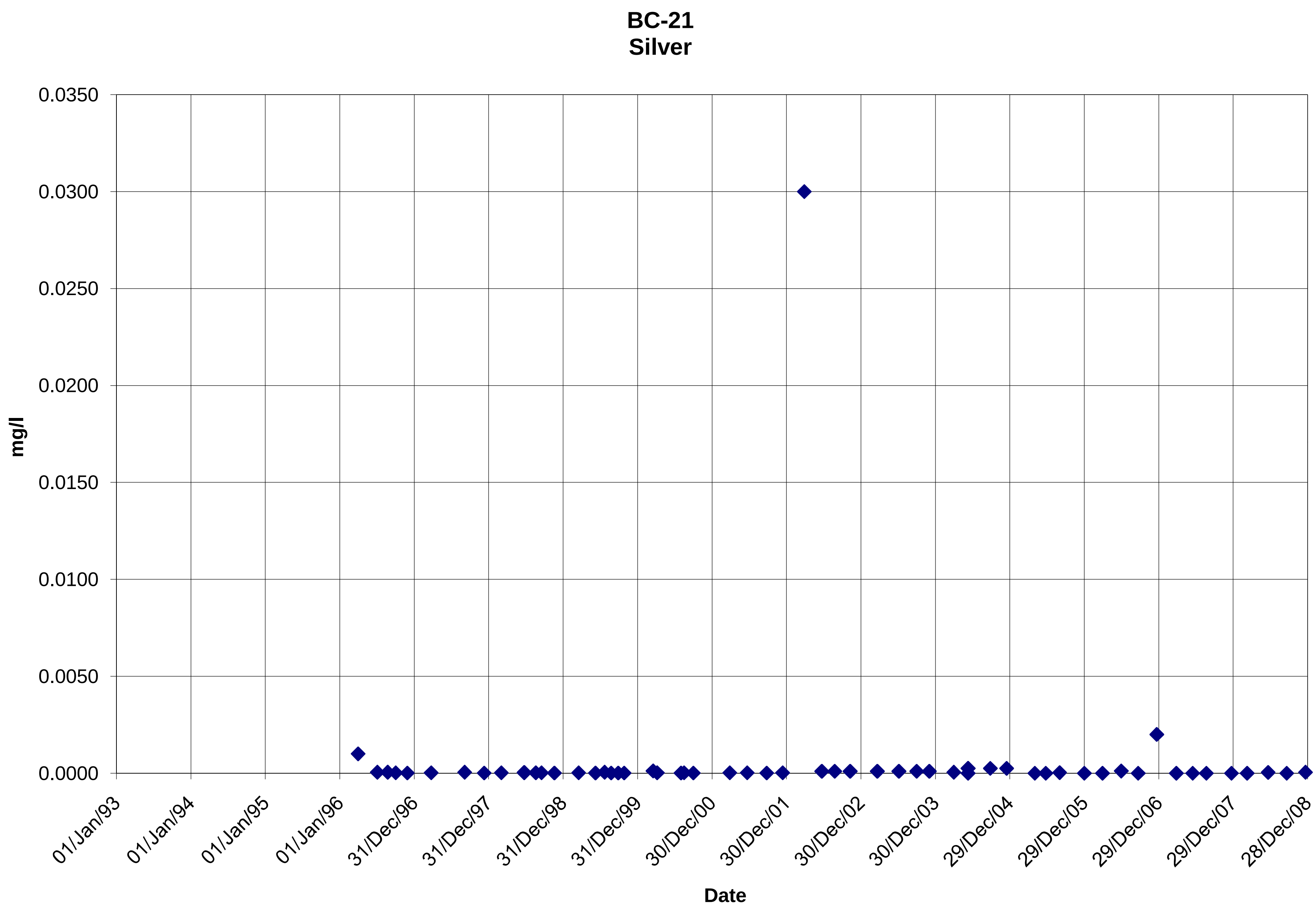
BC-21
Cadmium
mg/l
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

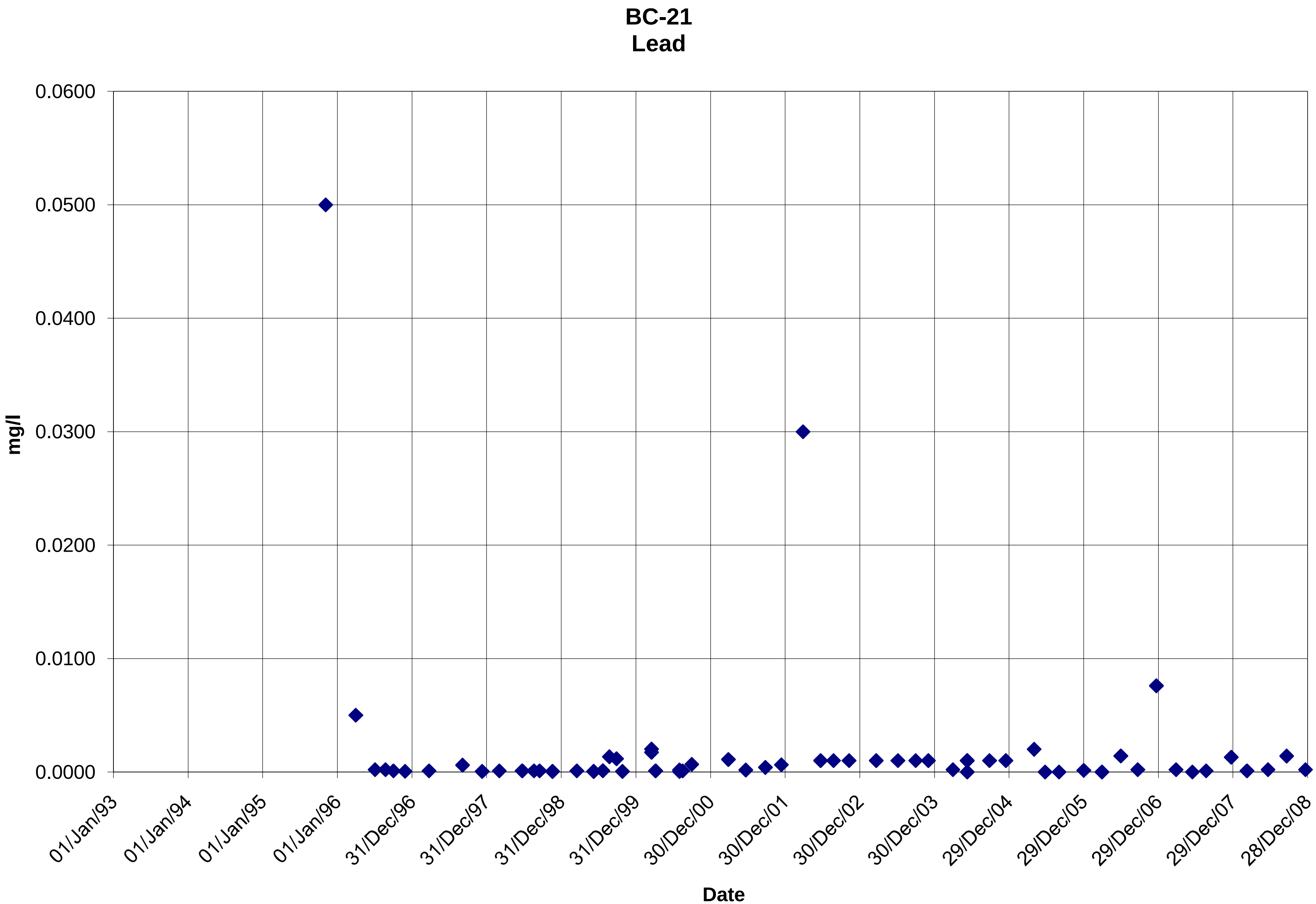


BC-21
Copper
mg/l
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

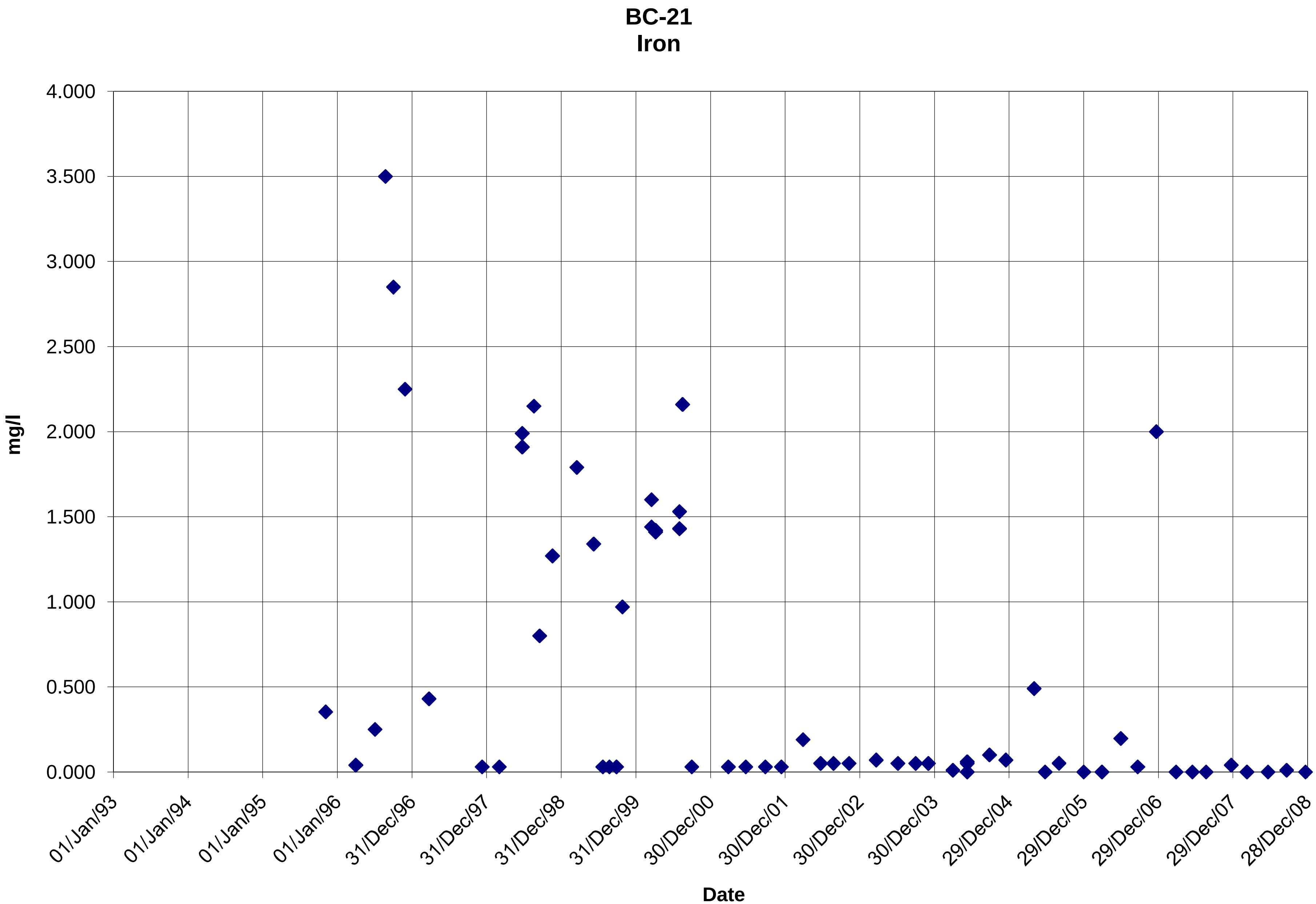

BC-21
Mercury
mg/l
0.00060
0.00050
0.00040
0.00030
0.00020
0.00010
0.00000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date


BC-21
Nickel
mg/l
0.0450
0.0400
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

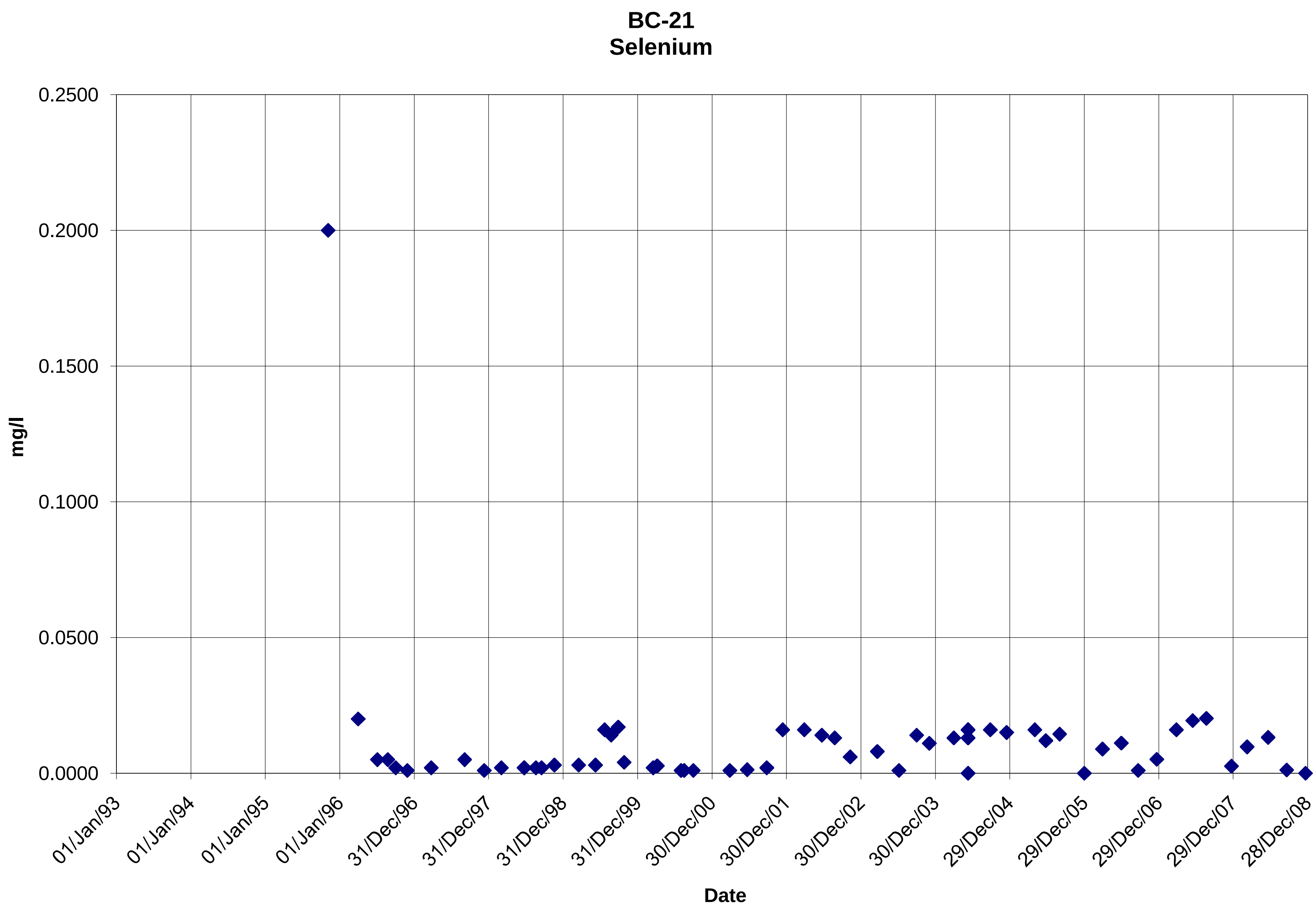

BC-21
Silver
mg/l
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

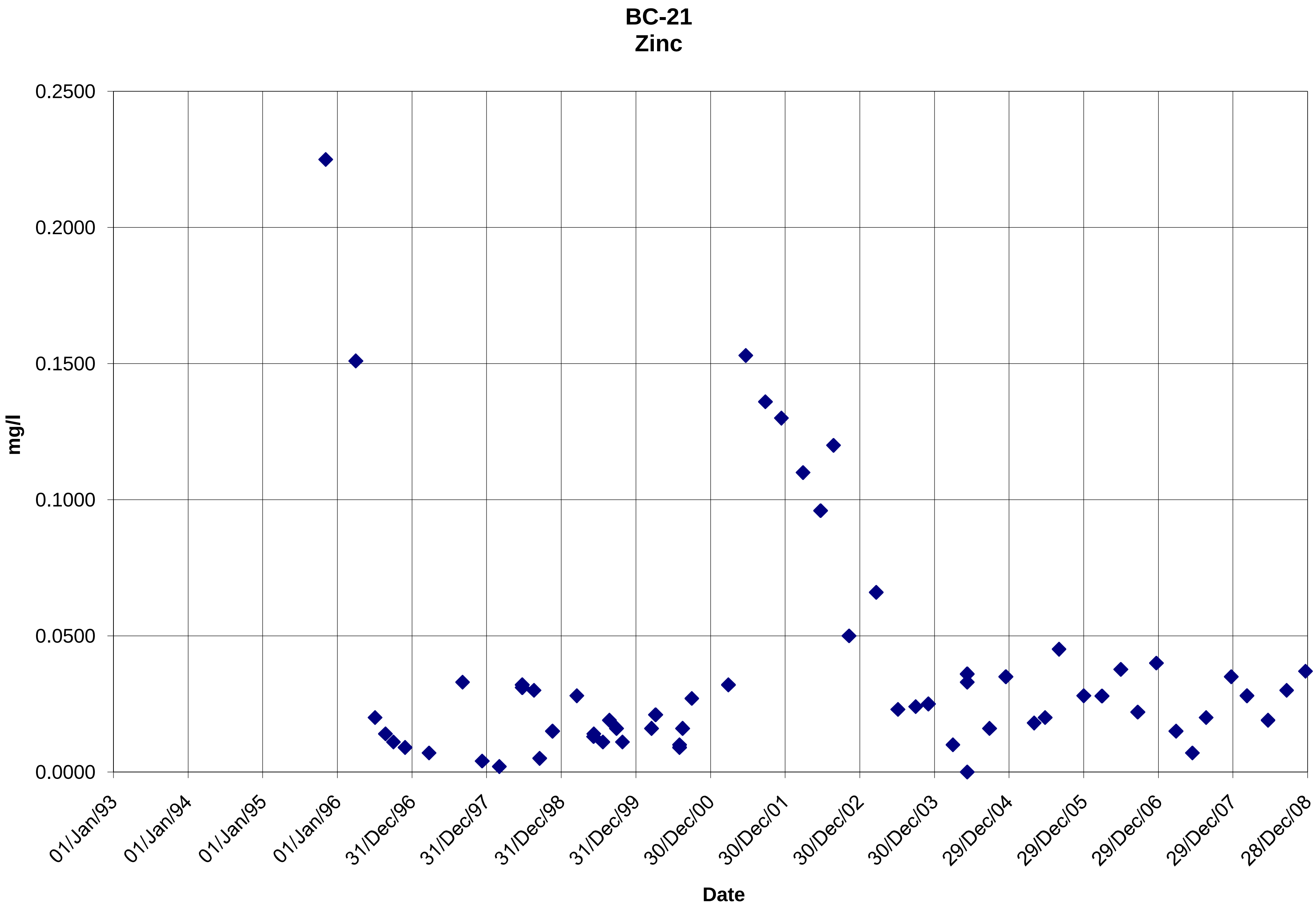


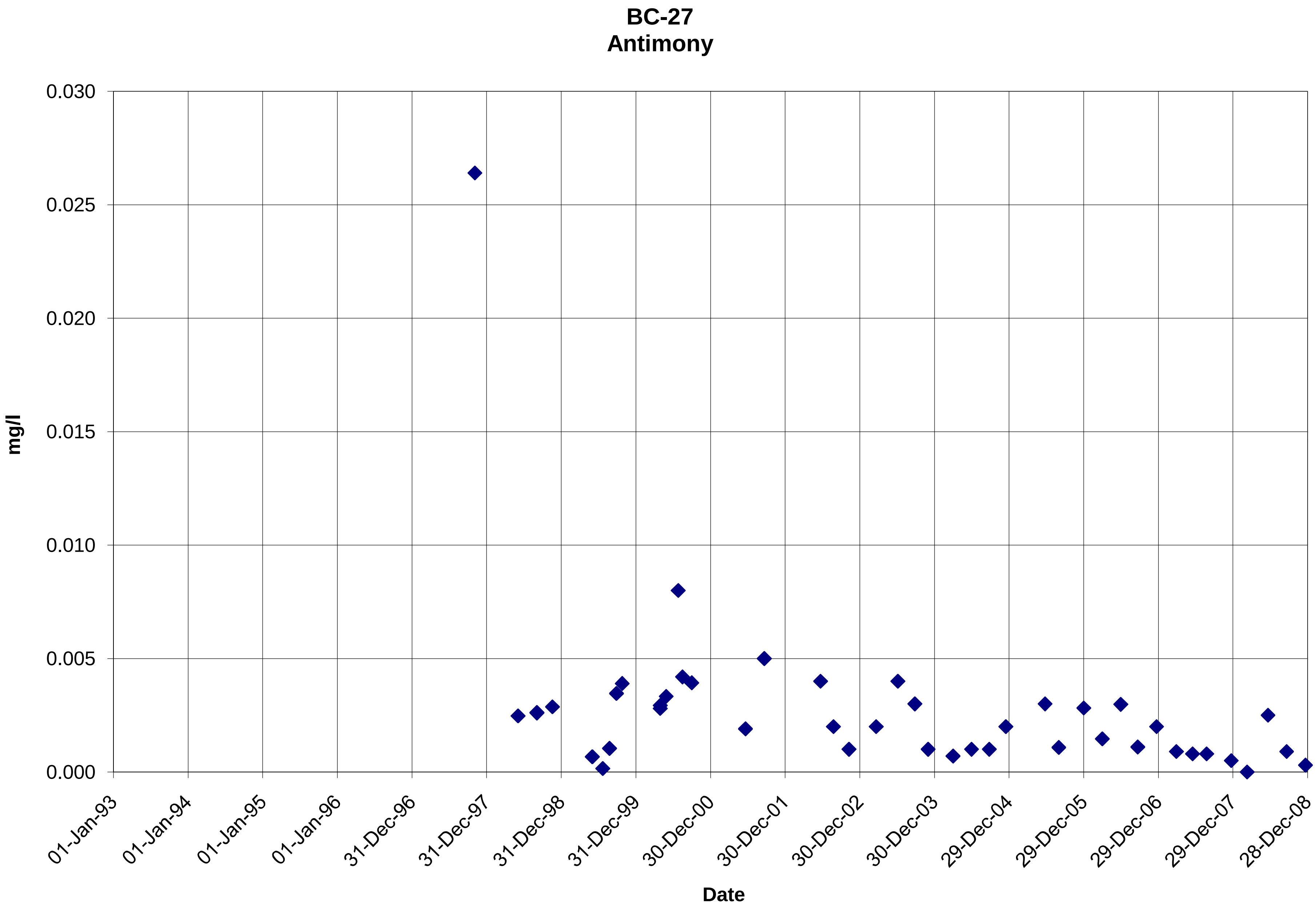
BC-21
Lead
mg/l
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



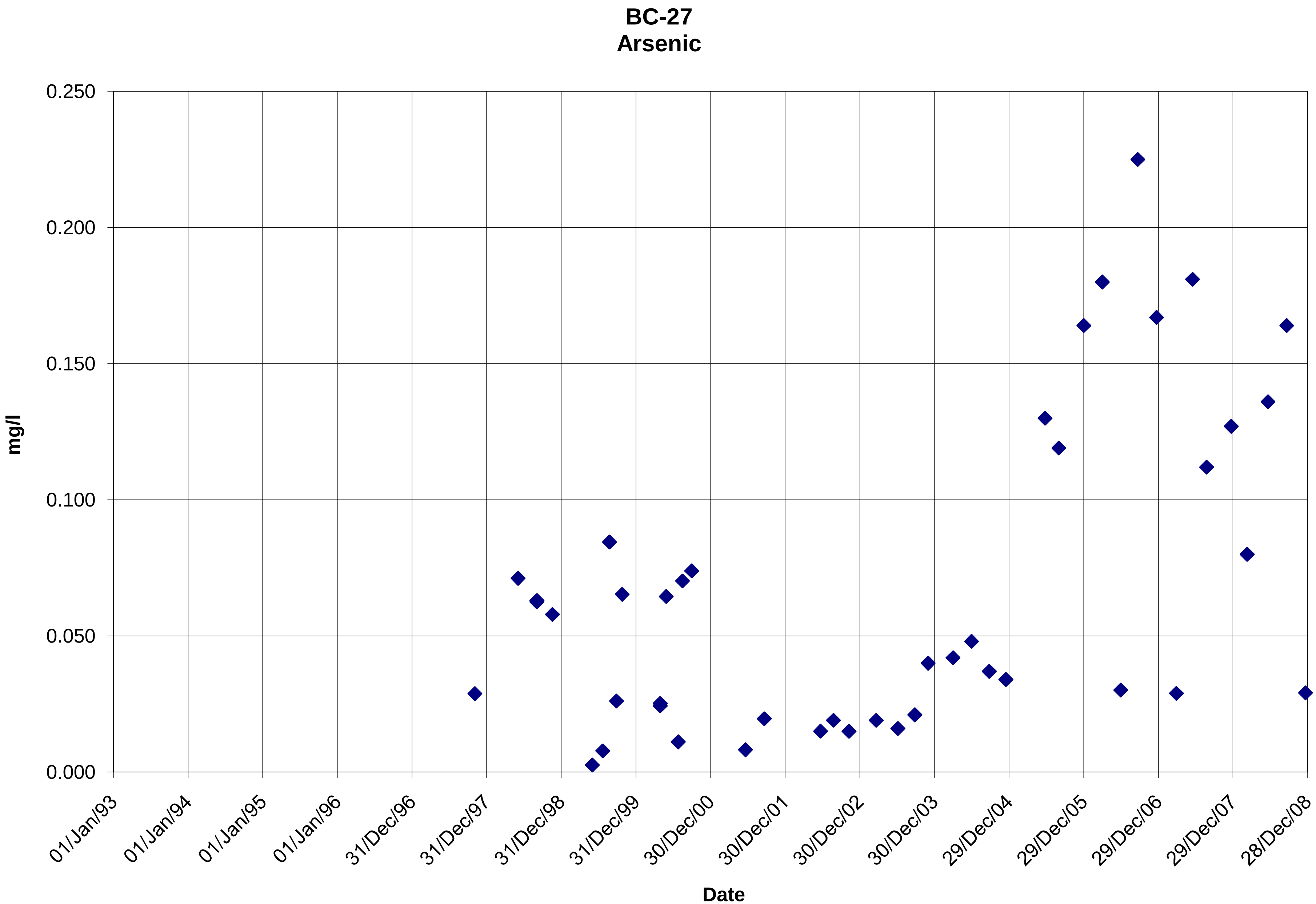
BC-21
Iron
mg/l
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date


BC-21
Selenium
mg/l
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

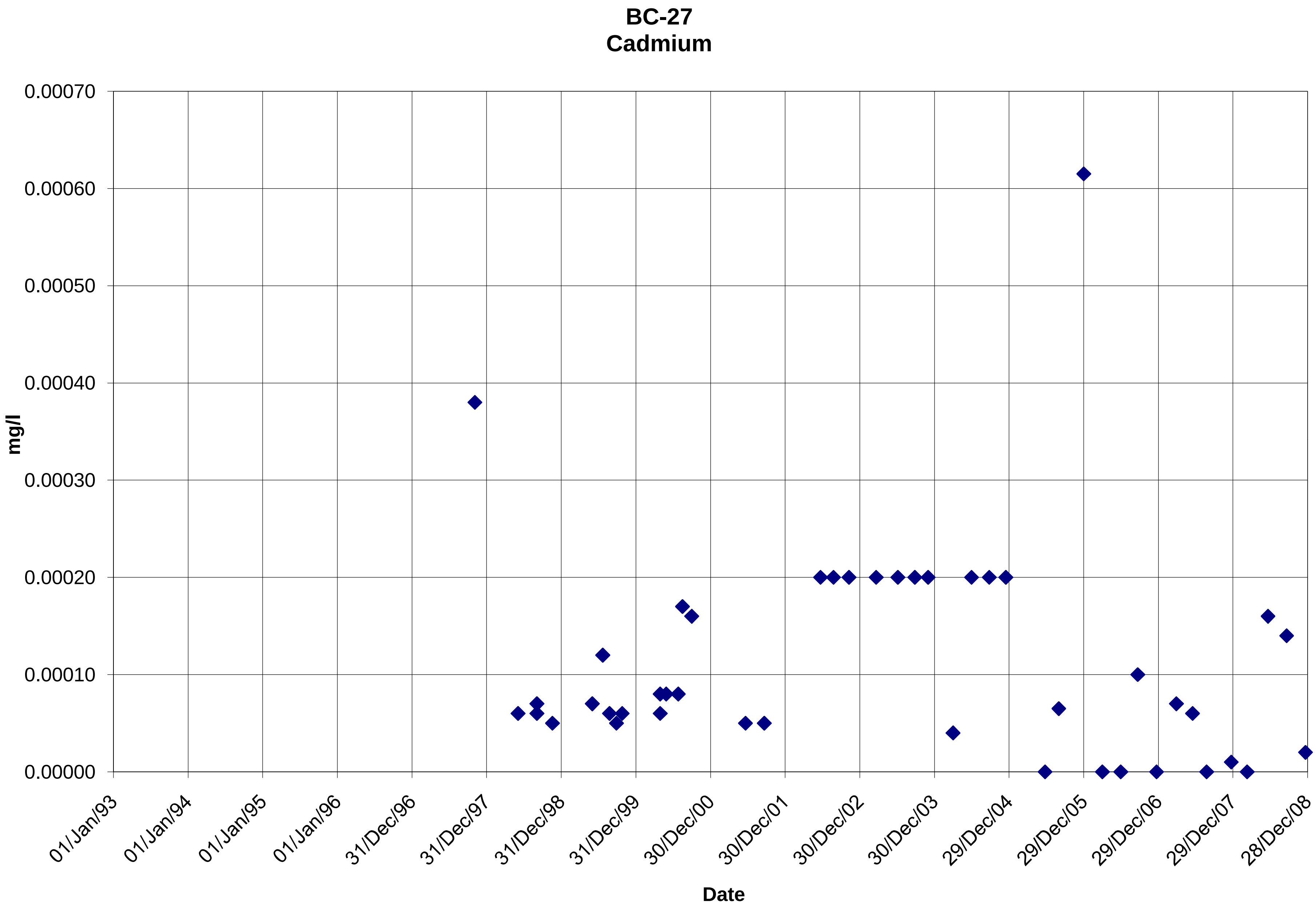

BC-21
Zinc
mg/l
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

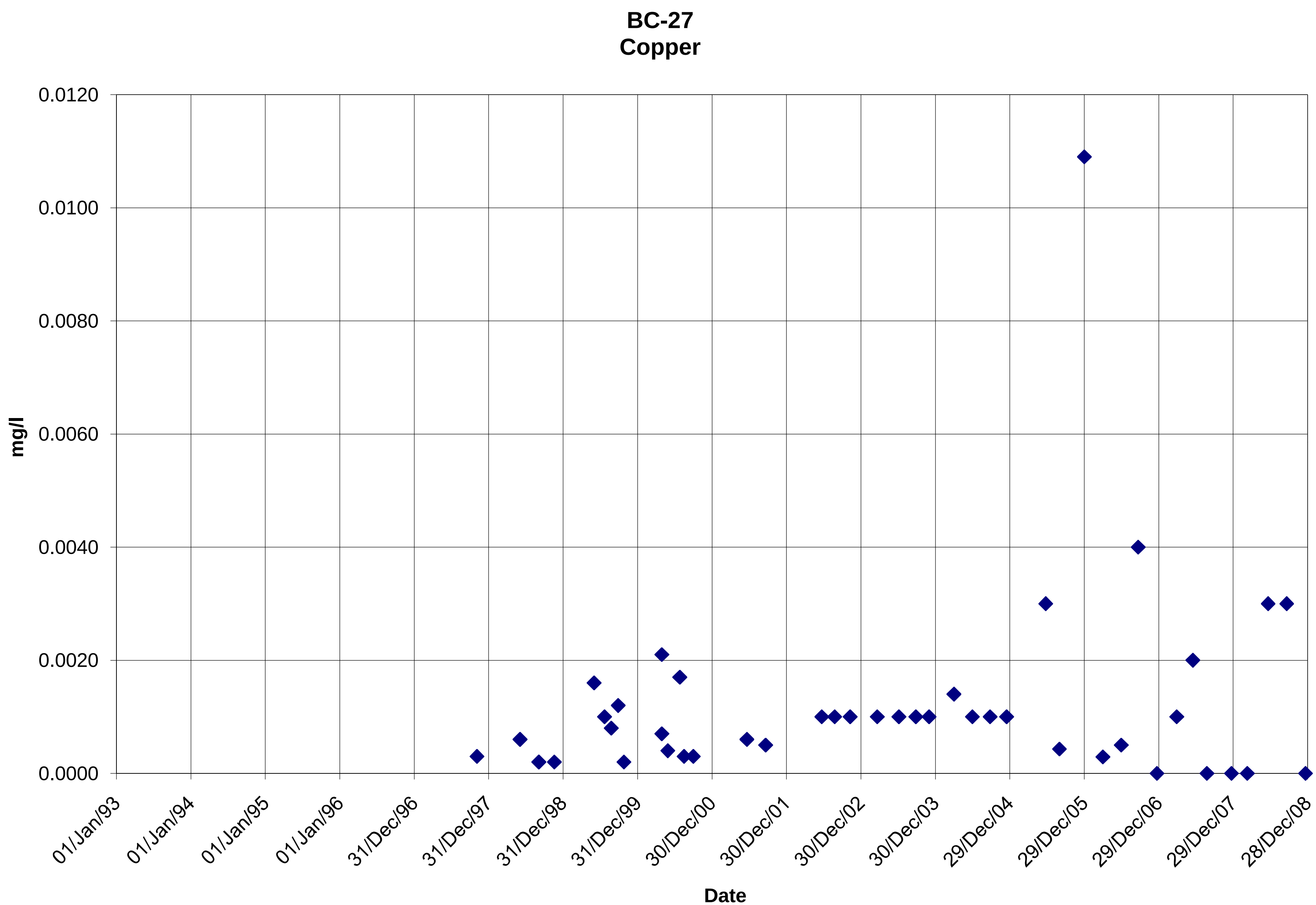


BC-27
Antimony
0.030
0.025
0.020
0.015
0.010
0.005
0.000
mg/l
01-Jan-93
01-Jan-94
01-Jan-95
01-Jan-96
31-Dec-96
31-Dec-97
31-Dec-98
31-Dec-99
30-Dec-00
30-Dec-01
30-Dec-02
30-Dec-03
29-Dec-04
29-Dec-05
29-Dec-06
29-Dec-07
28-Dec-08
Date

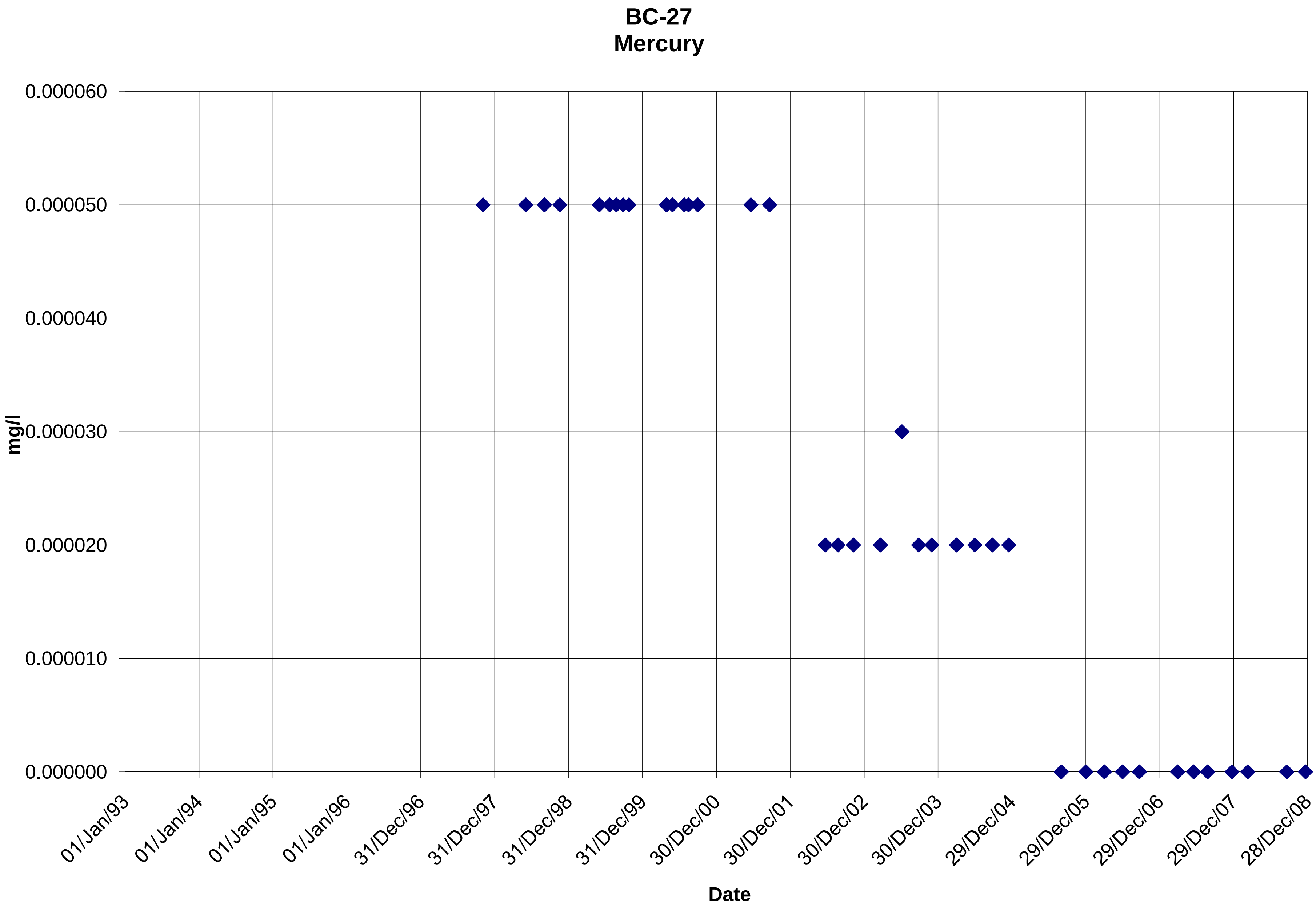


BC-27
Arsenic
mg/l
0.250
0.200
0.150
0.100
0.050
0.000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date


BC-27
Cadmium
mg/l
0.00070
0.00060
0.00050
0.00040
0.00030
0.00020
0.00010
0.00000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



BC-27
Copper
mg/l
0.0120
0.0100
0.0080
0.0060
0.0040
0.0020
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



BC-27
Mercury
mg/l
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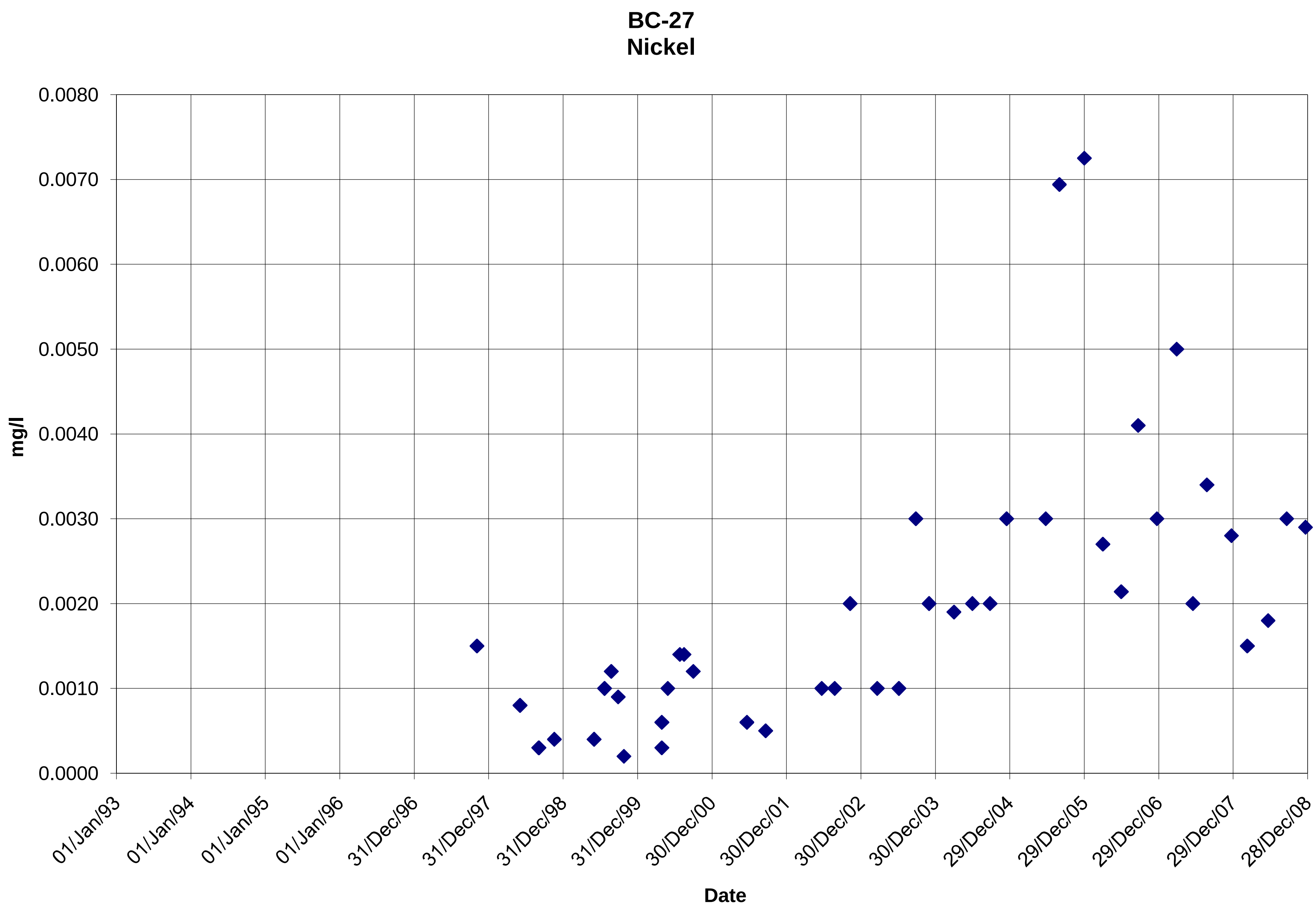
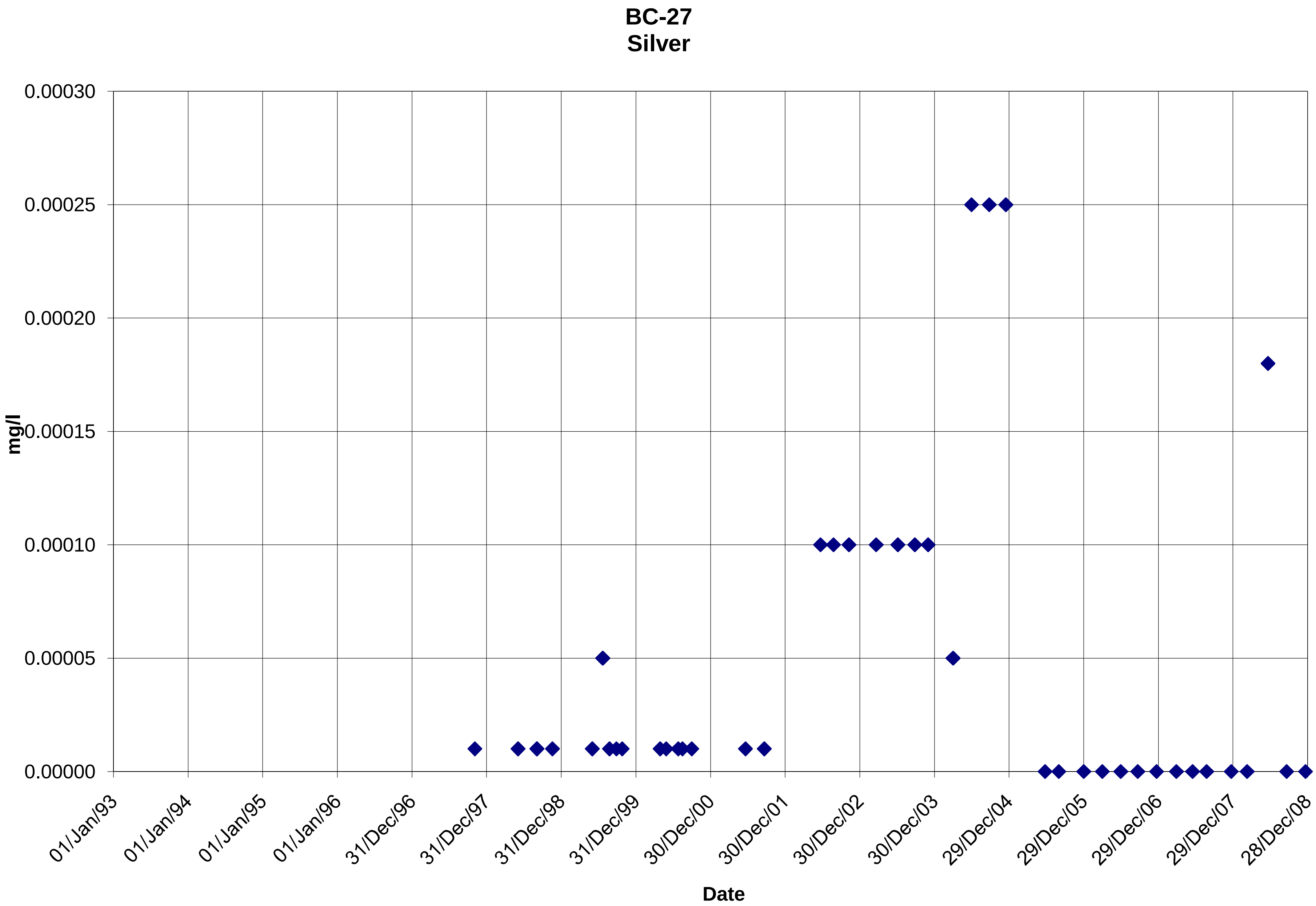
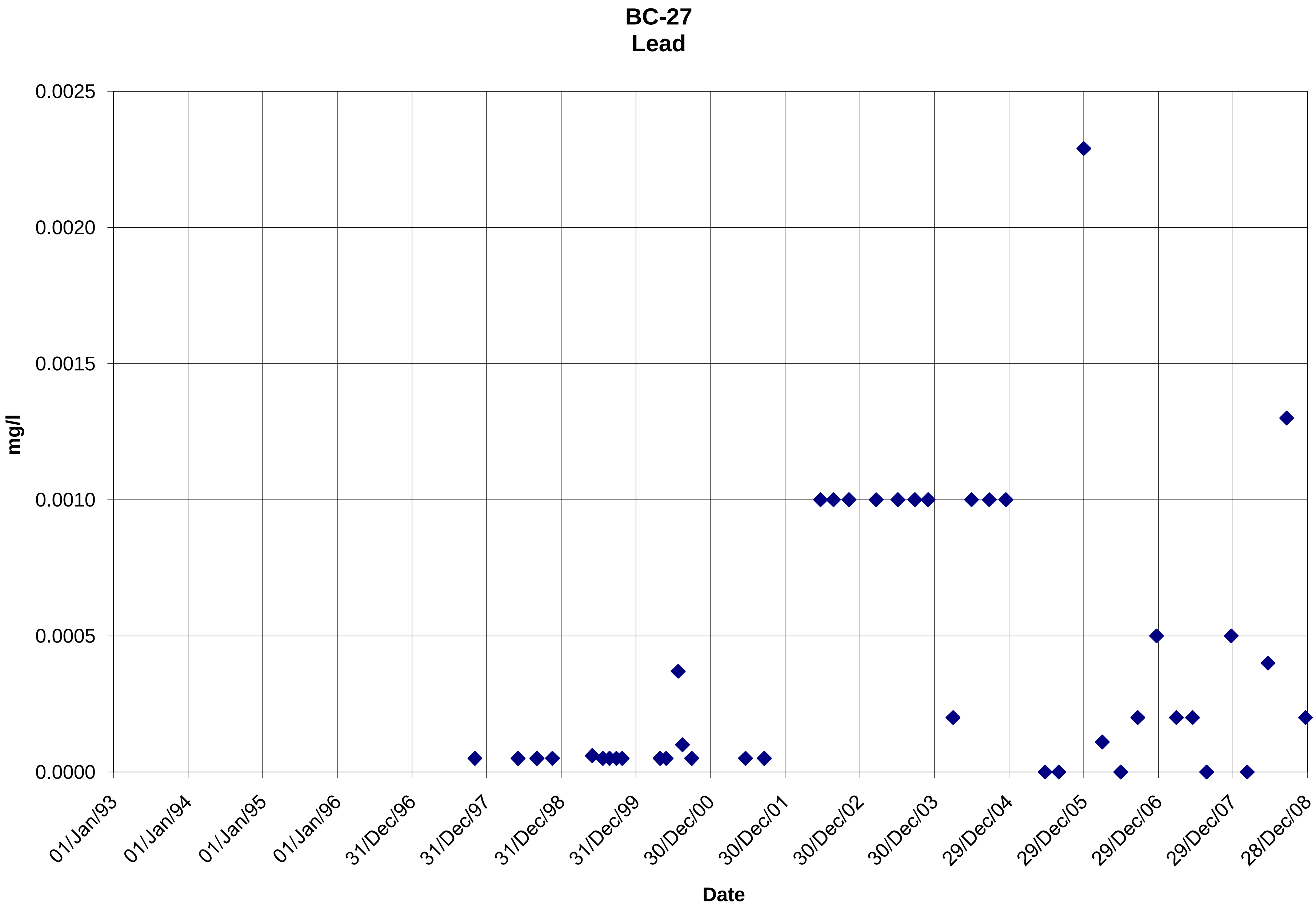
0.000050
0.000040
0.000030
0.000020
0.000010
0.000000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

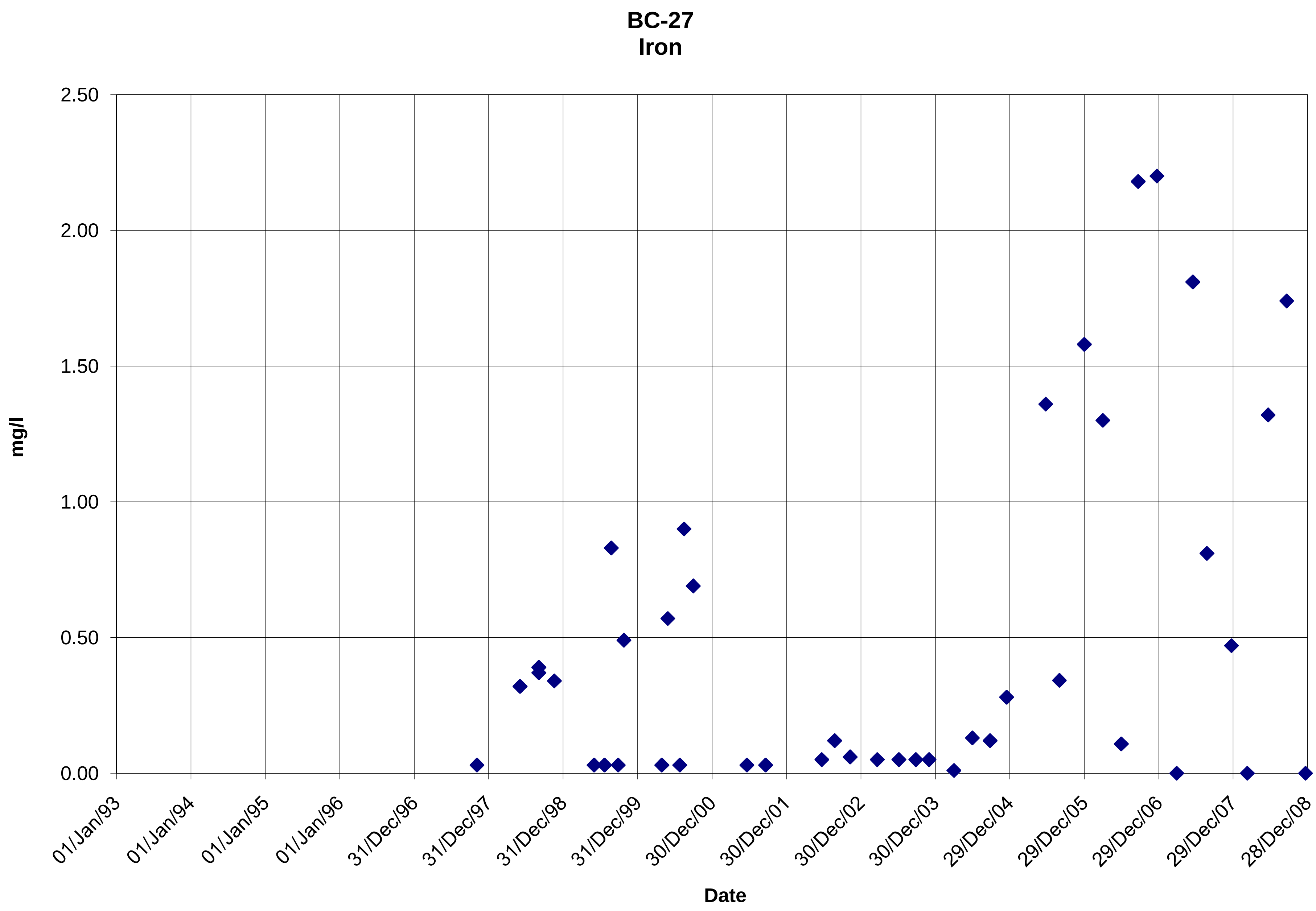

BC-27
Nickel
mg/l
0.0080
0.0070
0.0060
0.0050
0.0040
0.0030
0.0020
0.0010
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

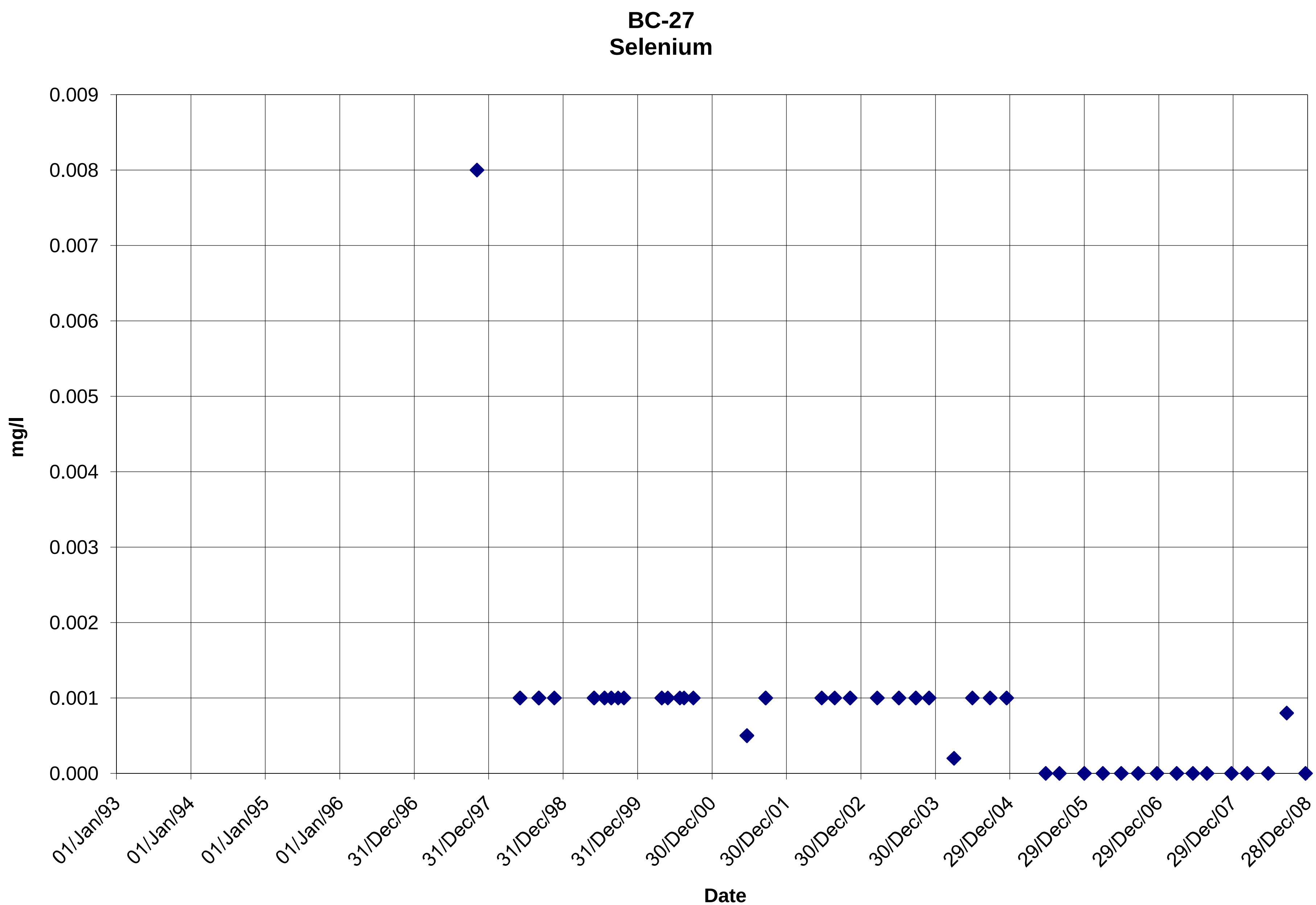


BC-27
Silver
0.00030
0.00025
0.00020
0.00015
0.00010
0.00005
0.00000
mg/l
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

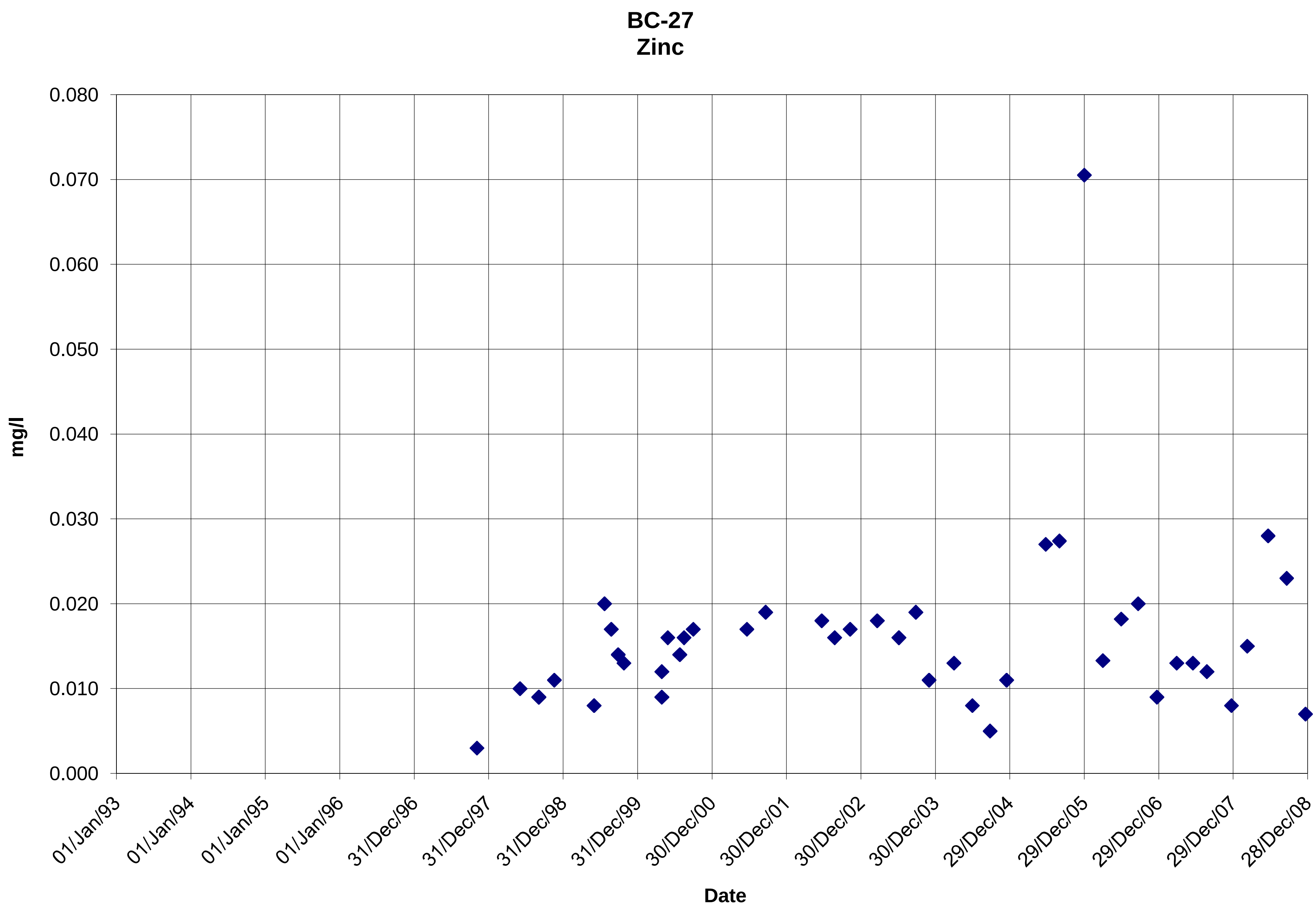


BC-27
Lead
mg/l
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date


BC-27
Iron
mg/l
2.50
2.00
1.50
1.00
0.50
0.00
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date



BC-27
Selenium
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0.000
mg/l
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date


BC-27
Zinc
mg/l
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
01/Jan/93
01/Jan/94
01/Jan/95
01/Jan/96
31/Dec/96
31/Dec/97
31/Dec/98
31/Dec/99
30/Dec/00
30/Dec/01
30/Dec/02
30/Dec/03
29/Dec/04
29/Dec/05
29/Dec/06
29/Dec/07
28/Dec/08
Date

Appendix C

2008 Hydrology

Brewery Creek Mine
June 2008 Discharge Monitoring

BC-3 June 18 , 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	0.48					
	0.55	0.21	0.13	0.06	0.0126	0.001638
	0.60	0.21	0.23	0.075	0.01575	0.0036225
	0.70	0.21	0.28	0.075	0.01575	0.00441
	0.75	0.25	0.29	0.05	0.0125	0.003625
	0.80	0.24	0.29	0.075	0.018	0.00522
	0.90	0.24	0.28	0.095	0.0228	0.006384
	0.99	0.21	0.18	0.06	0.0126	0.002268
	1.02	0.25	0.12	0.04	0.01	0.0012
LHB (m)	1.07					
					Total Discharge =	0.0283675 m^3/sec

BC-2 June 18, 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	0					
	0.01	0.19	0	0.025	0.00475	0
	0.05	0.18	0.14	0.045	0.0081	0.001134
	0.1	0.17	0.17	0.05	0.0085	0.001445
	0.15	0.14	0.06	0.04	0.0056	0.000336
	0.18	0.11	0	0.025	0.00275	0
LHB (m)	0.2					
					Total Discharge =	0.002915 m^3/sec

BC-1 June 18 ,2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	0.2					
	0.2	0.07	0.52	0.1	0.007	0.00364
	0.4	0.04	0.53	0.175	0.007	0.00371
	0.55	0.04	0.3	0.15	0.006	0.0018
	0.7	0.07	0.65	0.15	0.0105	0.006825
	0.85	0.12	0.59	0.15	0.018	0.01062
	1	0.09	0.57	0.15	0.0135	0.007695
	1.15	0.12	0.55	0.175	0.021	0.01155
	1.35	0.12	0.38	0.2	0.024	0.00912
	1.55	0.09	0	0.2	0.018	0
	1.75	0.1	0.15	0.225	0.0225	0.003375
	2	0.12	0.06	0.225	0.027	0.00162
	2.2	0.15	0.27	0.15	0.0225	0.006075
	2.3	0.15	0.02	0.075	0.01125	0.000225
LHB (m)	2.35					
					Total Discharge =	0.066255 m^3/sec

Brewery Creek Mine
June 2008 Discharge Monitoring

BC-39 June 18, 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
LHB (m)	0.18					
	0.2	0.08	0	0.06	0.0048	0
	0.3	0.12	0	0.1	0.012	0
	0.4	0.16	0	0.1	0.016	0
	0.5	0.17	0	0.1	0.017	0
	0.6	0.16	0.14	0.1	0.016	0.00224
	0.7	0.15	0	0.1	0.015	0
	0.8	0.11	0	0.1	0.011	0
	0.9	0.09	0	0.1	0.009	0
	1	0.06		0.1	0.006	0
RHB (m)	1.1					
				Total Discharge =		0.00224 m^3/sec

BC-31 June 19 ,2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	1.2					
	1.3	0.05	0	0.2	0.01	0
	1.6	0.03	0	0.3	0.009	0
	1.9	0.03	0.17	0.3	0.009	0.00153
	2.2	0.02	0.16	0.3	0.006	0.00096
	2.5	0.04	0.22	0.3	0.012	0.00264
	2.8	0.08	0.33	0.3	0.024	0.00792
	3.1	0.11	0.45	0.3	0.033	0.01485
	3.4	0.14	0.42	0.35	0.049	0.02058
	3.8	0.24	0.43	0.35	0.084	0.03612
	4.1	0.25	0.31	0.3	0.075	0.02325
	4.4	0.32	0.35	0.3	0.096	0.0336
	4.7	0.35	0.56	0.25	0.0875	0.049
LHB (m)	4.9					
				Total Discharge =		0.19045 m^3/sec

BC-4June 18, 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	0.18					
	1.1	0.02	0	0.51	0.0102	0
	1.2	0.02	0	0.15	0.003	0
	1.4	0.06	0.19	0.15	0.009	0.00171
	1.5	0.07	0.46	0.1	0.007	0.00322
	1.6	0.06	0.58	0.1	0.006	0.00348
	1.7	0.06	0.06	0.15	0.009	0.00054
	1.9	0.04	0	-0.3	-0.012	0
LHB (m)	1.1					
				Total Discharge =		0.00895 m^3/sec

Brewery Creek Mine
June 2008 Discharge Monitoring

BC-5 June 19, 2008							
Bank	**Distance (m)**	**Depth of Channel (m)**	**Velocity (m/s)**	**Section Width (m)**	**Area (m^2)**	**Q (m^3/sec)**	
RHB (m)	0.65						
	0.7	0.1	0.26	0.1	0.01	0.0026	
	0.85	0.09	0.38	0.15	0.0135	0.00513	
	1	0.07	0.78	0.175	0.01225	0.009555	
	1.2	0.12	0.83	0.2	0.024	0.01992	
	1.4	0.13	0.65	0.2	0.026	0.0169	
	1.6	0.13	0.65	0.2	0.026	0.0169	
	1.8	0.09	0.75	0.2	0.018	0.0135	
	2	0.07	0.37	0.2	0.014	0.00518	
	2.2	0.06	0.2	0.175	0.0105	0.0021	
	2.35	0.02	0	0.1	0.002	0	
LHB (m)	2.4						
					Total Discharge =	0.091785	m^3/sec

BC-34 June 19, 2008							
Bank	**Distance (m)**	**Depth of Channel (m)**	**Velocity (m/s)**	**Section Width (m)**	**Area (m^2)**	**Q (m^3/sec)**	
LHB (m)	1.5						
	1.8	0.14	0	0.55	0.077	0	
	2.6	0.19	0	0.8	0.152	0	
	3.4	0.35	0	0.7	0.245	0	
	4	0.51	0.08	0.7	0.357	0.02856	
	4.8	0.57	0.23	0.8	0.456	0.10488	
	5.6	0.57	0.31	0.8	0.456	0.14136	
	6.4	0.66	0.34	0.7	0.462	0.15708	
	7	0.69	0.37	0.7	0.483	0.17871	
	7.8	0.58	0.43	0.8	0.464	0.19952	
	8.6	0.55	0.38	0.7	0.385	0.1463	
	9.2	0.4	0.02	0.9	0.36	0.0072	
RHB (m)	10.4						
					Total Discharge =	0.96361	m^3/sec

Brewery Creek Mine
July 2008 Discharge Monitoring

BC-1 July 9 , 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)	
LHB (m)	1.80						
	2.00	0.25	0.12	0.2	0.05	0.006	
	2.20	0.25	0.08	0.2	0.05	0.004	
	2.40	0.26	0.23	0.2	0.052	0.01196	
	2.60	0.26	0.26	0.2	0.052	0.01352	
	2.80	0.27	0.31	0.2	0.054	0.01674	
	3.00	0.28	0.27	0.2	0.056	0.01512	
	3.20	0.27	0.23	0.2	0.054	0.01242	
	3.40	0.3	0.24	0.2	0.06	0.0144	
	3.60	0.26	0.4	0.2	0.052	0.0208	
	3.80	0.2	0.22	0.2	0.04	0.0088	
RHB (m)	4.00						
				Total Discharge =		0.12376	m^3/sec

BC-3 July 9 , 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)	
RHB (m)	0.75						
	0.80	0.04	0.47	0.075	0.003	0.00141	
	0.90	0.2	0.67	0.1	0.02	0.0134	
	1.00	0.22	0.61	0.075	0.0165	0.010065	
	1.05	0.25	0.4	0.05	0.0125	0.005	
	1.10	0.21	0.62	0.05	0.0105	0.00651	
	1.15	0.24	0.62	0.05	0.012	0.00744	
	1.20	0.25	0.57	0.075	0.01875	0.0106875	
	1.30	0.25	0.69	0.075	0.01875	0.0129375	
	1.35	0.22	0.71	0.05	0.011	0.00781	
	1.40	0.22	0.74	0.075	0.0165	0.01221	
	1.50	0.21	0.5	0.1	0.021	0.0105	
LHB (m)	1.60						
				Total Discharge =		0.09797	m^3/sec

Brewery Creek Mine
August 2008 Discharge Monitoring

BC-1 August 12, 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	1.70					
	1.80	0.2	0.44	0.15	0.03	0.0132
	2.00	0.22	0.57	0.2	0.044	0.02508
	2.20	0.25	0.64	0.2	0.05	0.032
	2.40	0.27	0.23	0.2	0.054	0.01242
	2.60	0.26	0.54	0.2	0.052	0.02808
	2.80	0.24	0.36	0.2	0.048	0.01728
	3.00	0.22	0.39	0.2	0.044	0.01716
	3.20	0.27	0.31	0.2	0.054	0.01674
	3.40	0.28	0.3	0.2	0.056	0.0168
	3.60	0.3	0.09	0.175	0.0525	0.004725
	3.75	0.26	0.01	0.1	0.026	0.00026
LHB (m)	3.80					
				Total Discharge =		0.183745 m^3/sec

BC-39 12-Aug-08, 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	1					
	1.1	0.03	0	0.125	0.00375	0
	1.25	0.08	0.2	0.15	0.012	0.0024
	1.4	0.14	0.66	0.15	0.021	0.01386
	1.55	0.18	0.71	0.15	0.027	0.01917
	1.7	0.2	0.61	0.15	0.03	0.0183
	1.85	0.18	0.55	0.15	0.027	0.01485
	2	0.14	0.16	0.15	0.021	0.00336
	2.15	0.04	0.42	0.15	0.006	0.00252
	2.3	0.03	0.41	0.15	0.0045	0.001845
	2.45	0.02	0.62	0.125	0.0025	0.00155
	2.55	0.02	0.55	0.1	0.002	0.0011
LHB (m)	2.65					
				Total Discharge =		0.078955 m^3/sec

BC-2 12-Aug-08, 2008

Bank	Distance (m)	Depth of Channel (m)	Velocity (m/s)	Section Width (m)	Area (m^2)	Q (m^3/sec)
RHB (m)	0.65					
	0.75	0.44	0.44	0.1	0.044	0.01936
	0.85	0.44	0.15	0.1	0.044	0.0066
	0.95	0.43	0.79	0.1	0.043	0.03397
	1.05	0.42	0.47	0.1	0.042	0.01974
	1.15	0.44	0.49	0.1	0.044	0.02156
	1.25	0.45	0.37	0.075	0.03375	0.0124875
LHB (m)	1.3					
				Total Discharge =		0.1137175 m^3/sec

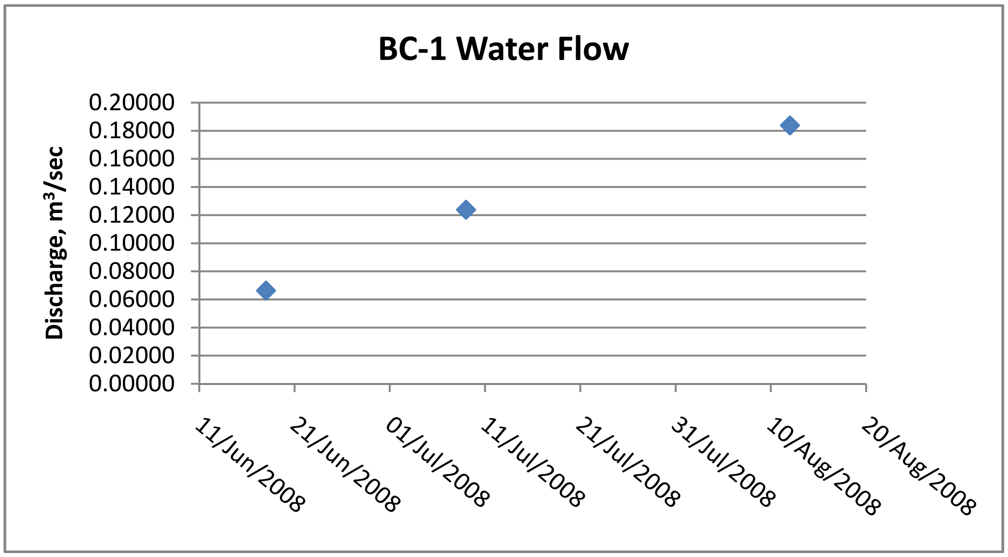
Brewery Creek Mine
September 2008 Discharge Monitoring

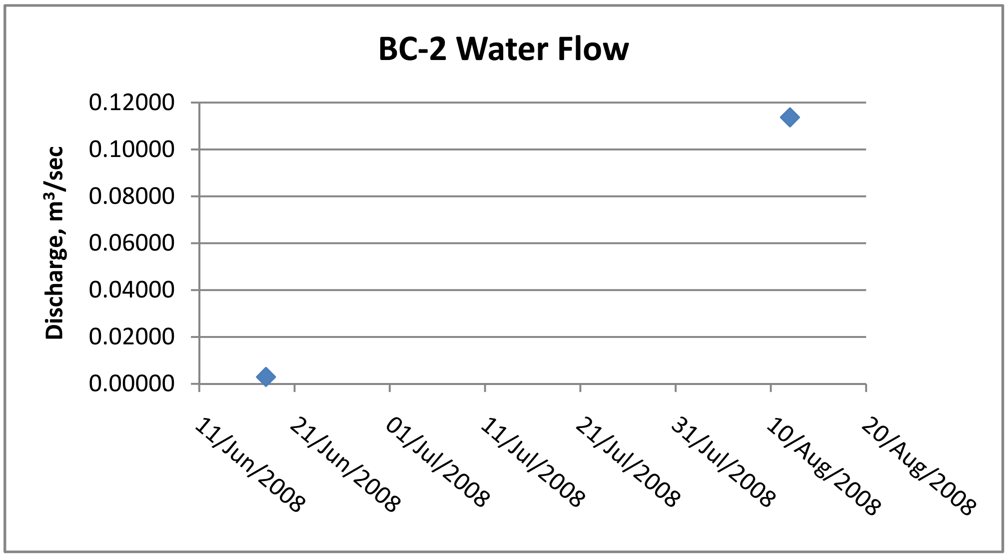
BC-37 September , 2008							
Bank	**Distance (m)**	**Depth of Channel (m)**	**Velocity (m/s)**	**Section Width (m)**	**Area (m^2)**	**Q (m^3/sec)**	
RHB (m)	1.90						
	2.00	0.11	0.03	0.15	0.0165	0.000495	
	2.20	0.17	0.47	0.2	0.034	0.01598	
	2.40	0.15	0.11	0.2	0.03	0.0033	
	2.60	0.11	0.31	0.2	0.022	0.00682	
	2.80	0.11	0.06	0.2	0.022	0.00132	
	3.00	0.1	0.33	0.2	0.02	0.0066	
	3.20	0.05	0.23	0.2	0.01	0.0023	
	3.40	0.11	0.26	0.2	0.022	0.00572	
	3.60	0.12	0.2	0.2	0.024	0.0048	
	3.80	0.13	0.38	0.2	0.026	0.00988	
	4.00	0.1	0.23	0.2	0.02	0.0046	
	4.20	0.08	0.48	0.3	0.024	0.01152	
LHB (m)	4.60						
				Total Discharge =		0.073335	m^3/sec

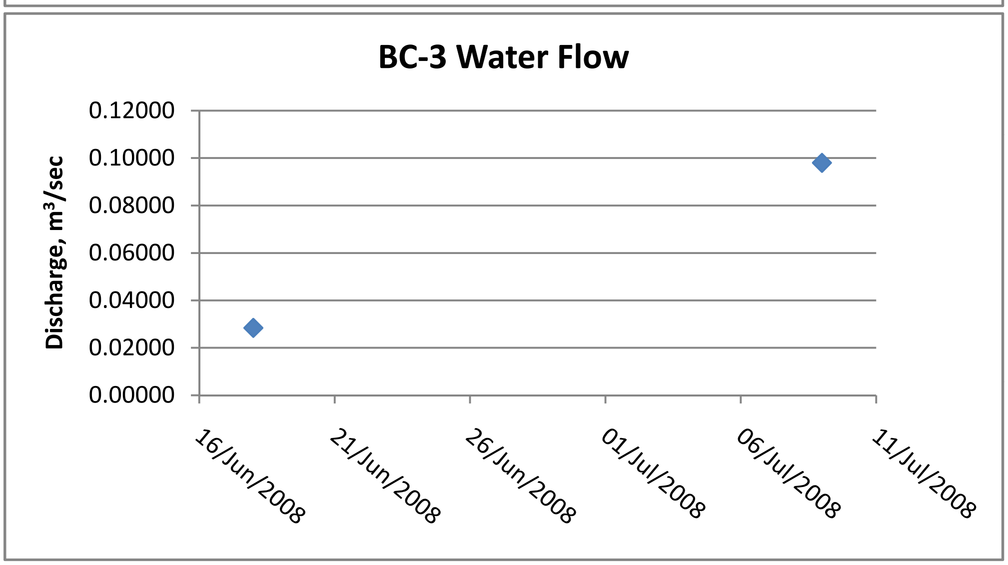
BC- 31 September 18, 2008							
Bank	**Distance (m)**	**Depth of Channel (m)**	**Velocity (m/s)**	**Section Width (m)**	**Area (m^2)**	**Q (m^3/sec)**	
RHB (m)	1.6						
	2	0.3	0.2	0.4	0.12	0.024	
	2.4	0.46	0.49	0.4	0.184	0.09016	
	2.8	0.55	0.46	0.4	0.22	0.1012	
	3.2	0.6	0.5	0.4	0.24	0.12	
	3.6	0.65	0.59	0.4	0.26	0.1534	
	4	0.69	0.68	0.4	0.276	0.18768	
	4.4	0.74	0.67	0.4	0.296	0.19832	
	4.8	0.85	0.82	0.4	0.34	0.2788	
	5.2	0.88	0.79	0.4	0.352	0.27808	
	5.6	0.88	0.55	0.4	0.352	0.1936	
LHB (m)	6						
				Total Discharge =		1.62524	m^3/sec

Brewery Creek Mine

Discharge Monitoring Graphs

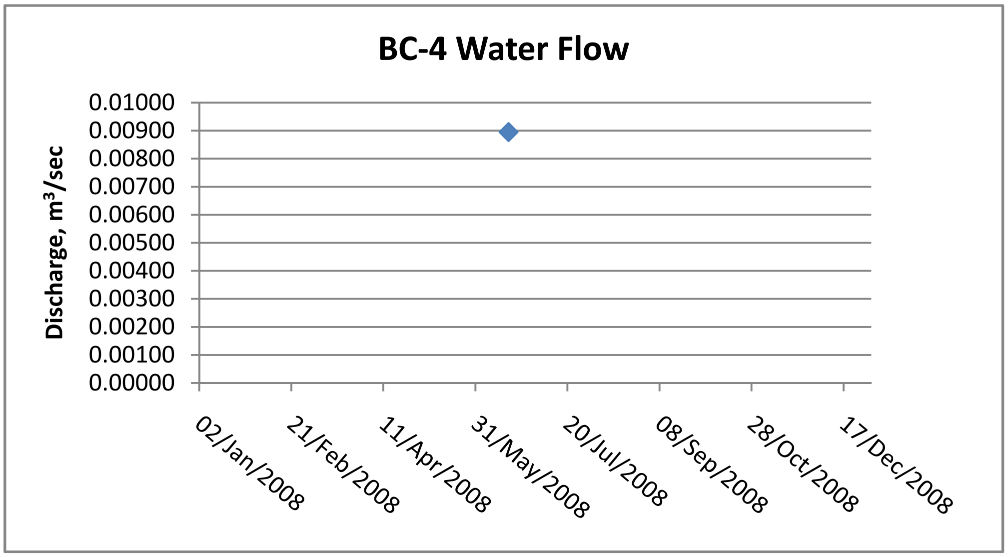


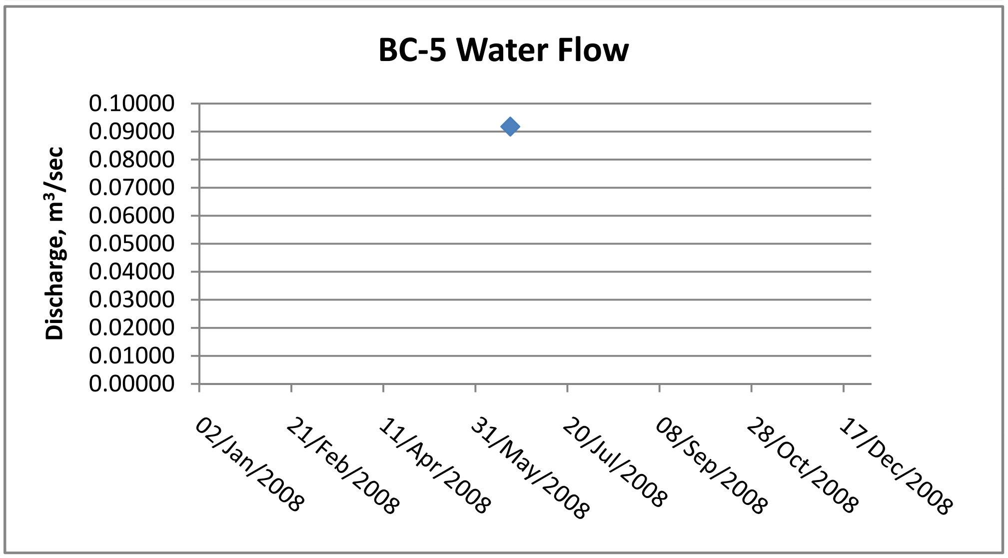


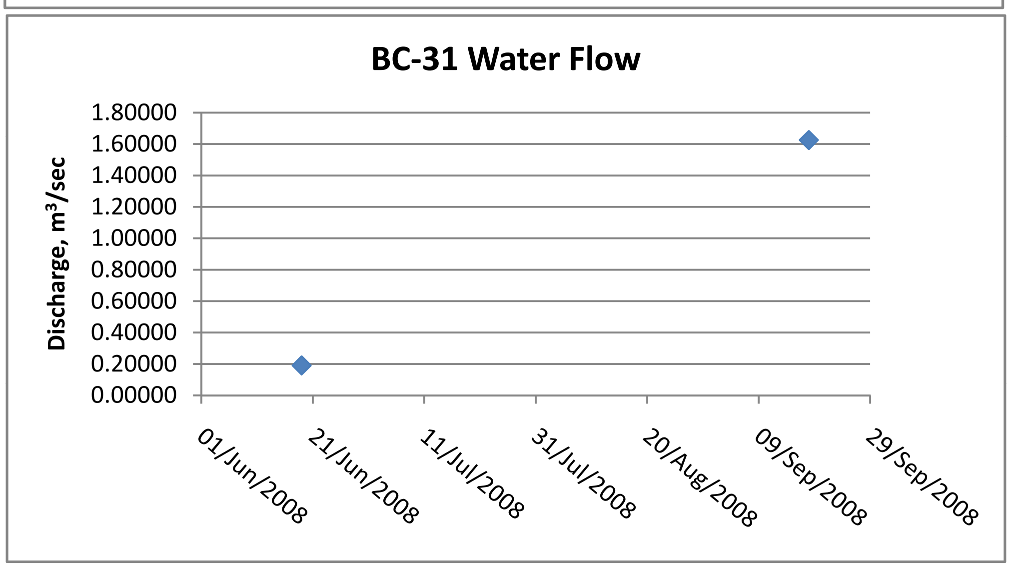


Brewery Creek Mine

Discharge Monitoring Graphs

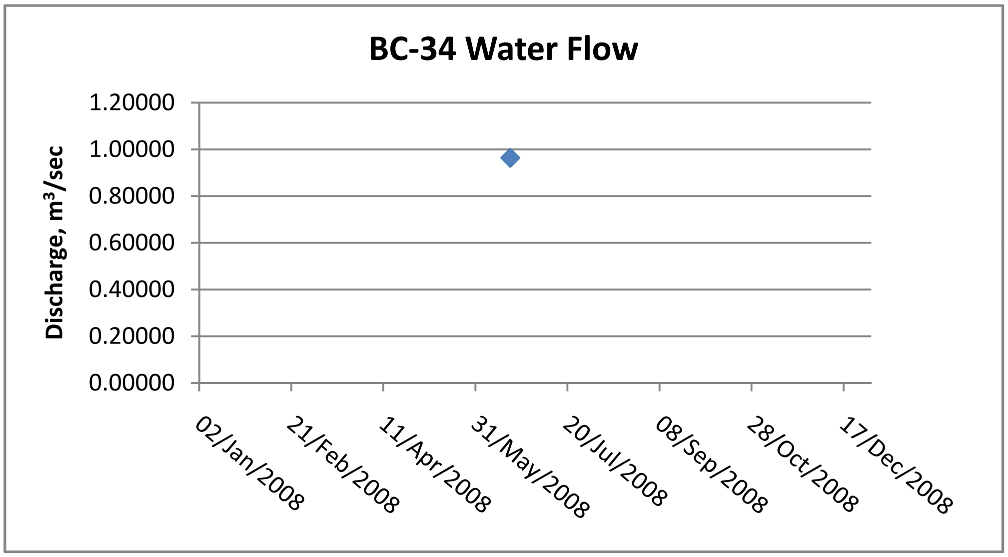


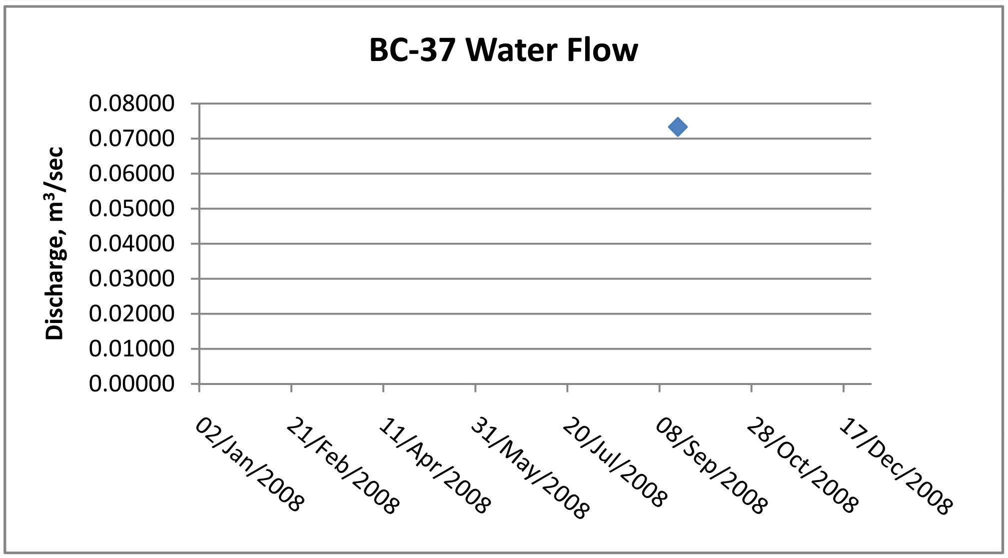


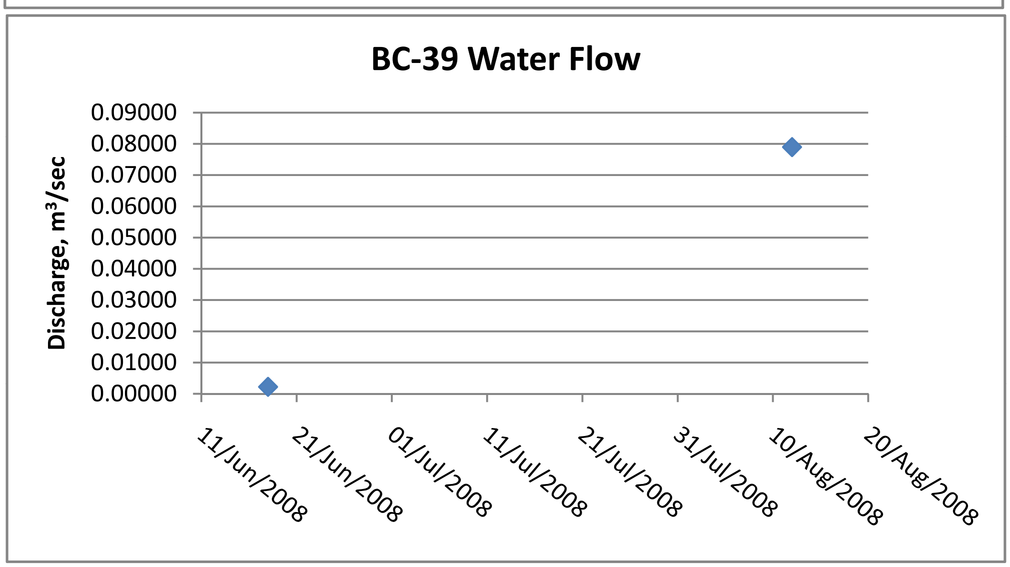


Brewery Creek Mine

Discharge Monitoring Graphs

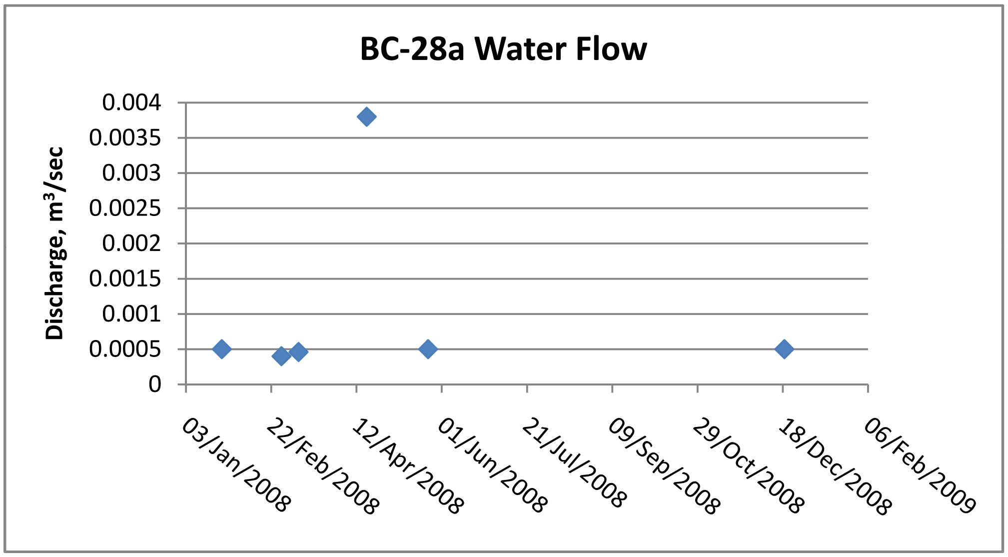






Brewery Creek Mine

Discharge Monitoring Graphs



<u>Appendix D</u>

2008 Sediment Monitoring Program

Results

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Stream Sediment Analysis: 33 Element Ultratrace ICP Scan, October 2008

	Sediment Station	W5	W15	W4B	W13	W9	W2	W3	W6A
	Surface Water Station	BC-01	BC-02	BC-03	BC-04	BC-06	BC-31	BC-32	BC-33
	Collect Date/Time	07-Oct-2008	07-Oct-2008	07-Oct-2008	08-Oct-2008	08-Oct-2008	08-Oct-2008	07-Oct-2008	08-Oct-2008
	Lab Report No.	1159713	1159713	1159713	1159713	1159713	1159713	1159713	1159713
pH, laboratory	pH	7.3	7.4	6.4	7.1	7.4	7.6	7.2	7.4
Loss on ignition	%	4.744	4.63	6.278	6.3	6.114	6.198	7.6	10.46
Carbon, total inorganic	%DW	0.06	0.09	0.06	<0.05	<0.05	0.06	<0.05	0.08
Carbon, total organic	%DW	1.54	1.4	9.7	0.88	0.43	1.91	1.2	2.16
Aluminum, strong acid leachable	µg/g	9290	9180	9260	9150	10200	10200	6930	11500
Antimony, strong acid leachable	µg/g	4.4	9.4	2.2	11	1.8	6	62.4	2.1
Arsenic, strong acid leachable	µg/g	16.4	28.4	7.2	223	15.4	20.5	612	6.5
Barium, strong acid leachable	µg/g	412	441	389	668	694	663	753	673
Beryllium, strong acid leachable	µg/g	0.39	0.5	0.38	0.44	0.56	0.52	0.52	0.6
Bismuth, strong acid leachable	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium, strong acid leachable	µg/g	0.5	0.74	0.3	2.8	1.4	1.2	5	2.9
Calcium, strong acid leachable	µg/g	5550	6580	4810	4310	5870	6810	5280	8990
Chromium, strong acid leachable	µg/g	18.8	20.1	17.8	18	23.3	23.1	14.9	27.6
Cobalt, strong acid leachable	µg/g	7.46	9.59	7.4	12	10.6	9.79	10.8	11.6
Copper, strong acid leachable	µg/g	17.9	23.6	20	37	88.9	33	43.6	62.9
Iron, strong acid leachable	µg/g	21100	23700	20400	39100	30900	27300	45500	30700
Lead, strong acid leachable	µg/g	6.8	7.8	8.8	12.2	10.3	10.3	15.3	8.4
Lithium, strong acid leachable	µg/g	13.4	15	12.1	18.6	20.6	17.5	10	16
Magnesium, strong acid leachable	µg/g	4030	4730	3290	3340	5280	4860	2410	5930
Manganese, strong acid leachable	µg/g	287	446	181	543	506	492	780	678
Mercury, strong acid leachable	µg/g	0.062	0.096	0.047	0.338	0.138	0.194	0.47	0.242
Molybdenum, strong acid leachable	µg/g	0.74	1	0.4	2.8	2.3	2.2	5.17	3.9
Nickel, strong acid leachable	µg/g	21.4	27.8	17.6	39.1	41.1	38.6	41.1	56.7
Phosphorous, strong acid leachable	µg/g	690	723	641	736	1270	1010	879	1320
Potassium, strong acid leachable	µg/g	687	862	649	746	1030	980	964	1280
Selenium, strong acid leachable	µg/g	0.5	0.7	0.5	2	1.7	1.3	2.9	2.8
Silicon, strong acid leachable	µg/g	234	314	151	260	244	206	287	230
Silver, strong acid leachable	µg/g	<0.2	<0.2	<0.2	0.2	<0.2	0.2	0.4	0.5
Sodium, strong acid leachable	µg/g	146	136	129	79	108	107	73	108
Strontium, strong acid leachable	µg/g	41.6	47.3	31.8	69.8	53.2	61.8	71.4	72.8
Thallium, strong acid leachable	µg/g	<0.3	<0.3	<0.3	0.4	0.3	<0.3	0.3	0.5
Tin, strong acid leachable	µg/g	0.5	0.4	0.6	2.3	4.6	0.6	1.6	1
Titanium, strong acid leachable	µg/g	303	320	250	98.3	257	185	83.3	329
Vanadium, strong acid leachable	µg/g	35.1	37.7	32.6	55.5	64	64.3	48.1	99.2
Zinc, strong acid leachable	µg/g	74.4	101	53.2	217	203	197	193	323
Zirconium, strong acid leachable	µg/g	1.9	2	1.8	0.76	1.6	1.3	1.2	2

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Stream Sediment Analysis: 33 Element Ultratrace ICP Scan, October 2008

	Sediment Station	W7	W14	W16	W5A	W8
	Surface Water Station	BC-34	BC-35	BC-36	BC-37	BC-38
	Collect Date/Time	07-Oct-2008	08-Oct-2008	08-Oct-2008	07-Oct-2008	08-Oct-2008
	Lab Report No.	1159713	1159713	1159713	1159713	1159713
pH, laboratory	pH	7.7	7.7	7.9	7.1	6.6
Loss on ignition	%	7.071	6.001	8.437	3.848	7.068
Carbon, total inorganic	%DW	<0.05	<0.05	0.06	0.05	<0.05
Carbon, total organic	%DW	0.89	1.41	1.19	1.69	1.22
Aluminum, strong acid leachable	µg/g	11100	13000	8740	8980	9980
Antimony, strong acid leachable	µg/g	3.1	0.5	2.5	3.1	1.2
Arsenic, strong acid leachable	µg/g	8	5.5	9.1	12.3	13.2
Barium, strong acid leachable	µg/g	729	1170	568	338	436
Beryllium, strong acid leachable	µg/g	0.67	0.45	0.56	0.35	0.48
Bismuth, strong acid leachable	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium, strong acid leachable	µg/g	2.2	0.96	1.8	0.4	1.2
Calcium, strong acid leachable	µg/g	8600	7060	8650	5000	4410
Chromium, strong acid leachable	µg/g	30.2	33.6	21	17.1	18.6
Cobalt, strong acid leachable	µg/g	11.8	13.6	9.43	7.05	10
Copper, strong acid leachable	µg/g	71.5	34.9	106	15.3	28.4
Iron, strong acid leachable	µg/g	33400	35100	28300	19800	25700
Lead, strong acid leachable	µg/g	9.3	5.6	10.8	6.3	9.9
Lithium, strong acid leachable	µg/g	16.4	29.9	13	12.6	21.3
Magnesium, strong acid leachable	µg/g	6190	6080	4350	4010	4460
Manganese, strong acid leachable	µg/g	444	373	644	220	537
Mercury, strong acid leachable	µg/g	0.236	0.248	0.154	0.045	0.099
Molybdenum, strong acid leachable	µg/g	4	2.1	4.1	0.61	0.99
Nickel, strong acid leachable	µg/g	60.5	48.5	42.2	19.8	30.8
Phosphorous, strong acid leachable	µg/g	1940	1400	1280	621	740
Potassium, strong acid leachable	µg/g	1380	1150	1130	610	835
Selenium, strong acid leachable	µg/g	2.3	1.2	1.9	0.4	0.7
Silicon, strong acid leachable	µg/g	189	151	275	143	190
Silver, strong acid leachable	µg/g	0.2	0.2	0.3	<0.2	<0.2
Sodium, strong acid leachable	µg/g	78	78	97	147	103
Strontium, strong acid leachable	µg/g	80.5	59.1	75.9	36.7	40.9
Thallium, strong acid leachable	µg/g	<0.3	<0.3	0.7	<0.3	0.3
Tin, strong acid leachable	µg/g	1.8	0.8	5	0.4	0.6
Titanium, strong acid leachable	µg/g	372	80.3	146	290	162
Vanadium, strong acid leachable	µg/g	112	89.6	84.4	31.6	34.6
Zinc, strong acid leachable	µg/g	346	223	238	69.6	149
Zirconium, strong acid leachable	µg/g	2.2	1.4	1.6	1.8	1.2

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Sediment Monitoring Program Water Quality Results, October 2008

		Sediment Station	W5	W15	W4B	W13	W9	W2	W3	W6A
		Surface Water Station	BC-1	BC-02	BC-03	BC-04	BC-06	BC-31	BC-32	BC-33
		Sample Date	07-Oct-2008	07-Oct-2008	07-Oct-2008	08-Oct-2008	08-Oct-2008	08-Oct-2008	07-Oct-2008	08-Oct-2008
		Lab Report No	1159370	1159370	1159370	1159370	1159370	1159370	1159370	1159370
Parameter	**Standard**	**Units**								
pH, Laboratory		pH units	8.04	7.96	7.69	7.95	7.88	8.1	7.96	8.05
Conductivity - Lab		µS/cm	393	435	489	512	391	428	461	399
Hardness calculated from total metal scan		mgCaCO3/L	221	246	250	299	226	249	268	249
Alkalinity, Total		mgCaCO3/L	112	118	88	125	121	139	155	123
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	140	140	100	150	150	170	190	150
Total Suspended Solids		mg/L	8	6	280	190	3	<2	3	2
Total Dissolved Solids		mg/L	316	372	392	390	284	316	346	312
Chloride		mg/L	0.45	0.37	1.9	0.32	0.19	0.15	0.3	0.14
Sulphate, Dissolved		mg/L	97.3	115	141	153	90.6	96.3	99.7	93.7
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate Nitrogen, NO_3^-	15	mg/L	0.63	0.28	6.33	0.24	0.17	0.22	0.1	0.2
Cyanide, Total		mg/L	0.001	<0.001	0.009	<0.001	<0.001	<0.001	<0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	0.002	<0.002	0.014	<0.002	<0.002	<0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	54.5	59.8	59.3	68.6	57.3	59.9	65.9	62.1
Magnesium, total		mg/L	20.5	23.5	24.7	31	20	24.2	25.2	22.9
Sodium, total		mg/L	5	4.57	20.6	3.42	2.56	2.84	2.41	2.03
Potassium, total		mg/L	1	1.2	1.7	1.3	0.6	0.8	1.6	1.2
Copper, total		mg/L	0.003	0.002	0.008	0.004	0.002	0.002	0.001	0.016
Arsenic, total	0.5	mg/L	0.0041	0.0026	0.0034	0.0348	0.0002	0.0005	0.0019	0.0023
Antimony, total	0.5	mg/L	0.0039	0.0046	0.004	0.004	0.0002	0.0008	0.01	0.0008
Zinc, total	0.005	mg/L	0.008	0.011	0.03	0.054	0.009	0.009	0.007	0.107
Selenium, total	0.5	mg/L	0.0015	0.0012	0.0037	0.0032	0.0014	0.0012	0.0016	0.0021
Lead, total	0.75	mg/L	0.0003	0.0002	0.0047	0.002	0.0002	0.0002	0.0001	0.0043
Aluminum, total	0.2	mg/L	0.397	0.188	5.1	1.57	0.026	0.03	0.037	3.91
Bismuth, total	1	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium, total	0.5	mg/L	0.00004	0.00005	0.00014	0.00046	0.00005	0.00003	0.00007	0.00104
Chromium, total	0.1	mg/L	0.0013	0.0005	0.0077	0.0026	<0.0004	<0.0004	<0.0004	0.0072
Iron, total	0.5	mg/L	0.68	0.28	8.36	4.96	0.06	0.07	0.17	7.16
Manganese, total	1	mg/L	0.055	0.071	0.234	0.21	0.006	0.008	0.056	0.239
Molybdenum, total	2	mg/L	0.00251	0.0018	0.00059	0.00246	0.00115	0.00131	0.00177	0.00176
Nickel, total	0.5	mg/L	0.003	0.004	0.008	0.01	0.002	0.002	0.003	0.015
Silver, total	0.8	mg/L	0.00004	0.00002	0.00006	0.00002	<0.00001	<0.00001	<0.00001	0.00015

Brewery Creek Mine
Monitoring Pursuant to Water Licence QZ96-007
Sediment Monitoring Program Water Quality Results, October 2008

		Sediment Station	W7	W14	W16	W5A	W8
		Surface Water Station	BC-34	BC-35	BC-36	BC-37	BC-38
		Sample Date	07-Oct-2008	08-Oct-2008	08-Oct-2008	07-Oct-2008	08-Oct-2008
		Lab Report No	1159370	1159370	1159370	1159370	1159370
Parameter	**Standard**	**Units**					
pH, Laboratory		pH units	8.07	8.06	8.12	8.06	7.67
Conductivity - Lab		µS/cm	395	434	422	393	241
Hardness calculated from total metal scan		mgCaCO3/L	233	257	244	218	130
Alkalinity, Total		mgCaCO3/L	122	142	149	112	75
Alkalinity, Hydroxide OH		mgCaCO3/L	<5	<5	<5	<5	<5
Alaklinity, Carbonate CO_3		mgCaCO3/L	<6	<6	<6	<6	<6
Alkalinity, Bicarbonate HCO_3		mgCaCO3/L	150	170	180	140	90
Total Suspended Solids		mg/L	11	3	3	232	6
Total Dissolved Solids		mg/L	296	336	294	306	184
Chloride		mg/L	0.15	0.35	0.11	0.51	0.21
Sulphate, Dissolved		mg/L	93.4	96	84.4	94.5	49.2
Ammonium Nitrogen (NH_3, NH_4^+), as N		mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate Nitrogen, NO_3^-	15	mg/L	0.19	0.15	0.26	0.63	0.08
Cyanide, Total		mg/L	<0.001	<0.001	<0.001	0.001	<0.001
Cyanide, Weak Acid Dissociable.	2	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Calcium, total	0.25	mg/L	58.4	65.5	60.1	54.1	35.9
Magnesium, total		mg/L	21.2	22.6	22.9	20.2	9.87
Sodium, total		mg/L	2.5	2.17	1.99	5.96	3
Potassium, total		mg/L	0.7	0.7	0.6	1.1	0.5
Copper, total		mg/L	0.003	0.002	0.002	0.003	0.002
Arsenic, total	0.5	mg/L	0.0006	0.0003	0.0002	0.0037	0.0003
Antimony, total	0.5	mg/L	0.0004	<0.0002	0.0002	0.0031	<0.0002
Zinc, total	0.005	mg/L	0.022	0.008	0.011	0.006	0.006
Selenium, total	0.5	mg/L	0.0015	<0.0006	0.0013	0.001	<0.0006
Lead, total	0.75	mg/L	0.0006	0.0003	0.0001	0.0004	0.0002
Aluminum, total	0.2	mg/L	0.549	0.209	0.03	0.274	0.023
Bismuth, total	1	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium, total	0.5	mg/L	0.00017	0.00003	0.00003	0.00003	0.00002
Chromium, total	0.1	mg/L	0.0012	0.0008	<0.0004	0.0008	<0.0004
Iron, total	0.5	mg/L	1.06	0.37	0.08	0.61	0.03
Manganese, total	1	mg/L	0.038	0.014	0.01	0.048	0.008
Molybdenum, total	2	mg/L	0.00125	0.00172	0.00129	0.00224	0.00035
Nickel, total	0.5	mg/L	0.004	0.002	0.002	0.003	<0.001
Silver, total	0.8	mg/L	0.00002	<0.00001	<0.00001	0.00003	<0.00001

Stream Sediment Analysis: GRAIN SIZE DISTRIBUTION - Laura Creek & Carolyn Creek Monitoring Stations

	W03: Laura Ck. below Exploration Camp BC-32 October 7, 2008	W04B: Laura Ck. above Carolyn Ck. BC-3 October 7, 2008	W15: Carolyn Ck. above Laura Ck. BC-2 October 7, 2008
	A % Weight	A % Weight	A % Weight
2.0 mm sieve	60.8	1.8	0.7
850 micron sieve	18.5	4	2.7
425 micron sieve	11.1	6.7	11.4
250 micron sieve	4.7	7.7	18.1
150 micron sieve	2	8.5	11.3
106 micron sieve	0.7	8.8	6.4
53 micron sieve	1.1	41.8	31.2
Pan	0.9	20.7	18.1
Total Percentage	**99.8%**	**100.0%**	**99.9%**

	W05: Laura Ck. above Ditch Rd. BC-1 October 7, 2008	W05A: Laura Ck. at the Ditch Rd. BC-37 October 7, 2008
	A % Weight	A % Weight
2.0 mm sieve	9.9	11.8
850 micron sieve	10.1	3.3
425 micron sieve	13.2	3.5
250 micron sieve	7.4	2.3
150 micron sieve	4.2	2.8
106 micron sieve	3.8	3.2
53 micron sieve	20.2	40.2
Pan	31	32.1
Total Percentage	**99.8%**	**99.2%**

Stream Sediment Analysis: GRAIN SIZE DISTRIBUTION - Golden Creek, Lucky Creek & Klondike River Monitoring Stations

	W16: Golden Ck. above Lucky Ck. BC-36 October 8, 2008	W13: Lucky Ck. downstream of Lucky Pit BC-4 October 8, 2008	W02: Golden Ck. above the Klondike BC-31 October 8, 2008
	A % Weight	A % Weight	A % Weight
2.0 mm sieve	70.6	60.7	10.1
850 micron sieve	15.0	17.8	10.3
425 micron sieve	10.2	12.9	3.5
250 micron sieve	2.6	4.8	12.6
150 micron sieve	0.7	1.3	19.7
106 micron sieve	0.2	0.5	11.6
53 micron sieve	0.3	1.0	19.5
Pan	0.2	1.0	12.4
Total Percentage	**99.80%**	**100.00%**	**99.70%**

	W08: Klondike River above Golden Ck. BC-38 October 8, 2008	W09: Klondike Rive below Lee Ck. BC-6 October 8, 2008
	A % Weight	A % Weight
2.0 mm sieve	15.5	29.8
850 micron sieve	19.8	23.9
425 micron sieve	20.7	29.2
250 micron sieve	17.7	13.8
150 micron sieve	12.1	2.4
106 micron sieve	3.7	0.3
53 micron sieve	5.6	0.3
Pan	4.6	0.2
Total Percentage	**99.70%**	**99.90%**

Stream Sediment Analysis: GRAIN SIZE DISTRIBUTION - Pacific Creek Monitoring Stations

	W14: Pacific Ck. below Mine Camp BC-35 October 8, 2008
	A % Weight
2.0 mm sieve	19.5
850 micron sieve	8.1
425 micron sieve	12.1
250 micron sieve	19.1
150 micron sieve	18.0
106 micron sieve	9.9
53 micron sieve	9.2
Pan	3.9
Total Percentage	**99.8%**

Stream Sediment Analysis: GRAIN SIZE DISTRIBUTION - Lee Creek Monitoring Stations

	W06A: Lee Creek above Pacific Creek BC-33 October 8, 2008	W07: Lee Creek at the Ditch Road BC-34 October 7, 2008
	A **% Weight**	**A** **% Weight**
2.0 mm sieve	53.7	2.9
850 micron sieve	12.2	5.8
425 micron sieve	10.9	40.5
250 micron sieve	7.8	36.6
150 micron sieve	4.0	9.2
106 micron sieve	2.2	2.0
53 micron sieve	4.6	1.6
Pan	4.2	1.2
Total Percentage	**99.6%**	**99.8%**

Brewery Creek Mine

Stream Sediment Analysis: HISTORICAL COMPARISON

Laura Creek and Carolyn Creek Monitoring Stations
W03
BC-32

				1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm			108.6	47.0	61.9	104.5	263.0	103.5	100.8	79.1	128.0	216.4	157.0	292.0	104.0	612.0
Sb	ppm			94.2	43.0	61.9	83.8	162.6	47.8	61.6	41.7	31.4	59.9	42.9	47.2	51.2	62.4
Cd	ppm			2.0	1.3	1.6	2.6	1.1	2.0	2.3	1.8	2.5	2.0	1.7	0.8	2.9	5.0
Cu	ppm			32.3	23.0	31.4	32.3	51.6	35.1	36.2	27.5	36.5	34.7	48.3	34.1	37.2	43.6
Hg	ppm			0.4	0.3	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.8	0.6	0.6	0.5
Mo	ppm			4.0	3.0	4.5	6.1	9.1	5.3	5.3	4.2	5.2	6.7	6.2	5.1	4.3	5.2
Pb	ppm			15.0	12.0	21.3	22.1	19.0	17.6	21.9	16.6	22.9	16.6	22.8	14.2	15.9	15.3
Ni	ppm			33.3	34.0	42.0	45.0	48.0	35.6	45.2	34.5	48.4	55.8	36.7	28.5	38.0	41.1
Zn	ppm			199.0	204.0	224.1	278.4	203.0	177.9	248.1	202.8	281.0	224.7	184.0	140.0	178.0	193.0

Laura Creek and Carolyn Creek Monitoring Stations
W04B
BC-3

				1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm			14.5	39.0	46.8	64.4	79.3	112.1	51.6	34.7	71.8	21.5	24.3	11.6	31.0	7.2
Sb	ppm			4.3	17.0	25.1	30.5	30.5	321.3	19.9	13.1	12.8	9.4	4.9	1.3	12.1	2.2
Cd	ppm			2.0	0.6	1.0	1.1	1.1	1.7	1.0	1.0	1.1	0.5	0.7	0.2	1.3	0.3
Cu	ppm			27.4	23.0	30.8	27.3	65.7	33.3	26.1	22.0	24.9	16.3	35.8	16.0	23.9	20.0
Hg	ppm			0.0	0.1	0.1	0.2	0.3	0.5	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.0
Mo	ppm			4.0	1.0	3.0	2.9	3.3	3.3	2.0	1.8	2.1	1.3	1.5	0.7	1.1	0.4
Pb	ppm			11.0	10.0	27.1	20.1	22.0	25.8	14.0	11.6	13.8	8.4	16.6	6.0	10.1	8.8
Ni	ppm			24.5	34.0	39.0	43.0	40.0	43.3	42.5	32.0	43.7	29.6	38.2	17.9	30.9	17.6
Zn	ppm			66.8	157.0	159.7	187.0	205.0	176.5	183.9	138.3	189.1	99.9	129.0	58.3	116.3	53.2

Laura Creek and Carolyn Creek Monitoring Stations
W15
BC-2

				1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm			10.7	11.0	12.6	20.2	16.0	16.4	14.2	12.0	19.6	8.0	12.8	5.2	4.5	28.4
Sb	ppm			1.6	2.0	3.8	4.0	3.8	2.9	2.7	2.2	2.8	1.5	1.6	0.5	1.9	9.4
Cd	ppm			2.0	0.2	0.6	1.1	0.7	0.7	0.5	0.6	0.7	0.3	0.6	0.1	0.2	0.7
Cu	ppm			17.9	21.0	35.7	47.3	43.6	32.6	27.0	25.1	31.3	14.4	30.5	11.4	12.0	23.6
Hg	ppm			0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
Mo	ppm			4.0	1.0	1.8	1.8	0.9	0.9	0.8	0.7	1.0	0.5	1.2	0.4	0.3	1.0
Pb	ppm			10.0	7.0	22.2	20.2	8.0	14.8	13.1	11.9	15.5	8.7	16.2	7.5	6.6	7.8
Ni	ppm			18.2	22.0	28.0	36.0	24.0	24.9	27.6	21.8	31.7	24.2	29.3	15.1	13.8	27.8
Zn	ppm			61.3	74.0	68.6	88.2	81.0	59.9	78.9	64.6	88.8	69.0	84.4	52.0	45.2	101.0

Laura Creek and Carolyn Creek Monitoring Stations
W05
BC-1

		1991	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm	69.0	15.3	21.1	41.0	66.4	73.4	65.8	121.6	71.4	43.1	47.5	52.7	40.9	16.0	27.7	16.4
Sb	ppm	16.0	9.3	7.2	21.0	31.3	34.8	24.9	31.9	21.1	10.8	6.5	13.8	3.6	1.7	8.0	4.4
Cd	ppm	3.1	1.1	2.0	1.1	1.6	2.0	1.2	1.7	1.2	1.1	0.8	0.8	2.5	0.3	0.9	0.5
Cu	ppm	41.0	32.8	31.5	31.0	38.4	32.3	40.9	31.2	26.8	24.3	24.8	20.3	62.5	14.2	23.3	17.9
Hg	ppm	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.5	0.3	0.2	0.1	0.2	0.1	0.0	0.1	0.1
Mo	ppm	2.0	4.3	4.0	3.0	4.6	3.8	3.0	4.0	3.0	1.8	2.1	1.6	2.2	0.8	1.2	0.7
Pb	ppm	16.0	16.0	10.0	14.0	28.3	19.0	18.0	26.8	15.4	11.2	12.3	9.9	19.1	7.5	8.8	6.8
Ni	ppm	59.0	38.3	27.6	43.0	43.0	47.0	38.0	44.8	41.5	31.2	35.7	34.4	59.4	19.6	25.4	21.4
Zn	ppm	215.0	168.3	88.0	189.0	174.6	185.3	175.0	176.0	175.6	124.6	141.8	120.8	192.0	71.2	97.0	74.4

Brewery Creek Mine

Stream Sediment Analysis: HISTORICAL COMPARISON

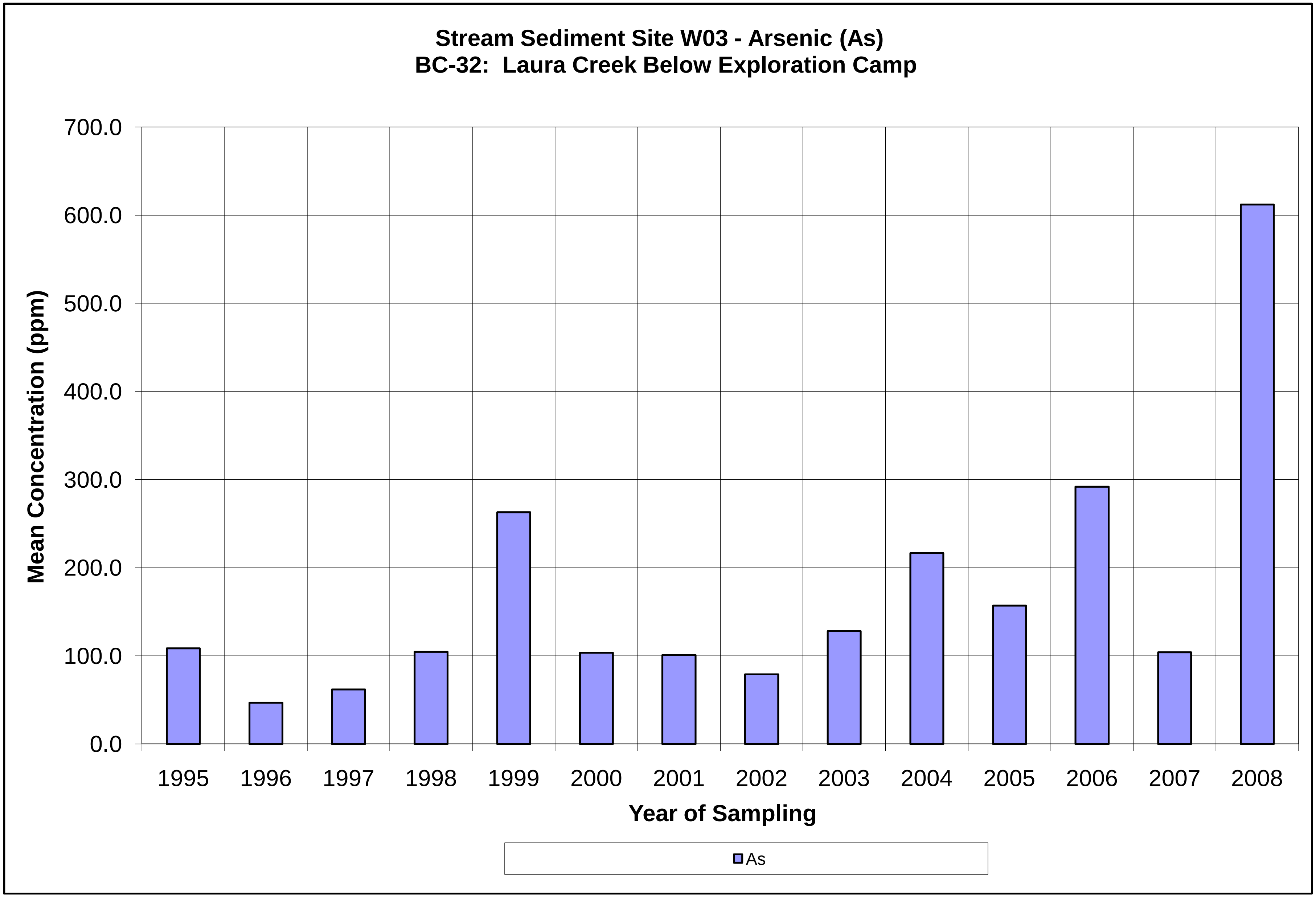
		Laura Creek and Carolyn Creek Monitoring Stations															
		W05A															
		BC-37															
				1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	ppm			28.1	46.0	77.4	70.1	80.9	70.9	99.3	41.8	61.8	39.5	42.8	24.6	23.7	12.3
Sb	ppm			12.1	19.0	36.0	30.4	32.0	19.7	24.1	11.0	9.7	7.2	4.3	2.2	7.5	3.1
Cd	ppm			2.0	0.6	1.7	1.7	1.8	1.3	2.0	1.3	1.2	1.0	1.7	0.6	1.0	0.4
Cu	ppm			36.5	34.0	49.5	43.8	87.5	32.2	45.2	27.5	34.0	29.0	50.9	25.4	25.0	15.3
Hg	ppm			0.1	0.2	0.3	0.3	0.4	0.2	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.0
Mo	ppm			4.0	2.0	4.1	3.7	3.7	2.8	2.8	1.7	2.4	1.4	2.4	1.1	1.0	0.6
Pb	ppm			10.0	14.0	20.4	17.9	13.0	15.6	16.5	13.3	15.4	10.9	20.0	8.9	9.2	6.3
Ni	ppm			30.8	38.0	51.0	48.0	45.0	39.5	49.9	33.0	41.5	49.7	55.0	28.3	27.6	19.8
Zn	ppm			108.3	166.0	179.5	192.8	222.0	150.4	191.6	137.5	171.2	161.8	188.0	91.2	103.5	69.6

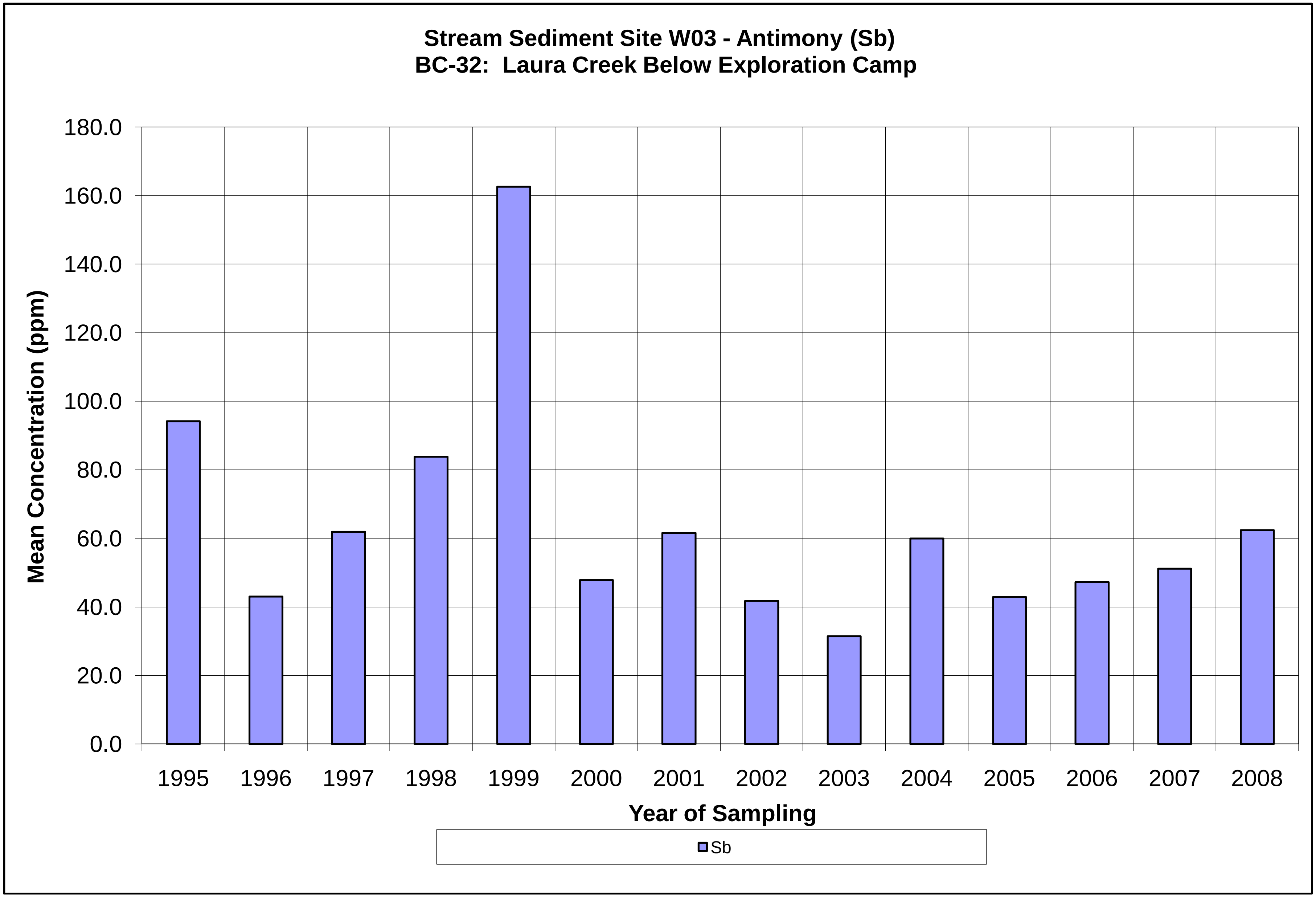
		Laura Creek and Carolyn Creek Monitoring Stations															
		W39															
		BC-39															
				1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	ppm												62.8	104.0	**	94.6	**
Sb	ppm												11.1	10.9	**	14.5	**
Cd	ppm												1.2	1.6	**	2.6	**
Cu	ppm												29.2	35.4	**	40.9	**
Hg	ppm												0.3	0.4	**	0.4	**
Mo	ppm												2.5	3.4	**	2.7	**
Pb	ppm												14.6	22.7	**	17.4	**
Ni	ppm												41.2	42.5	**	40.8	**
Zn	ppm												175.2	218.0	**	180.3	**

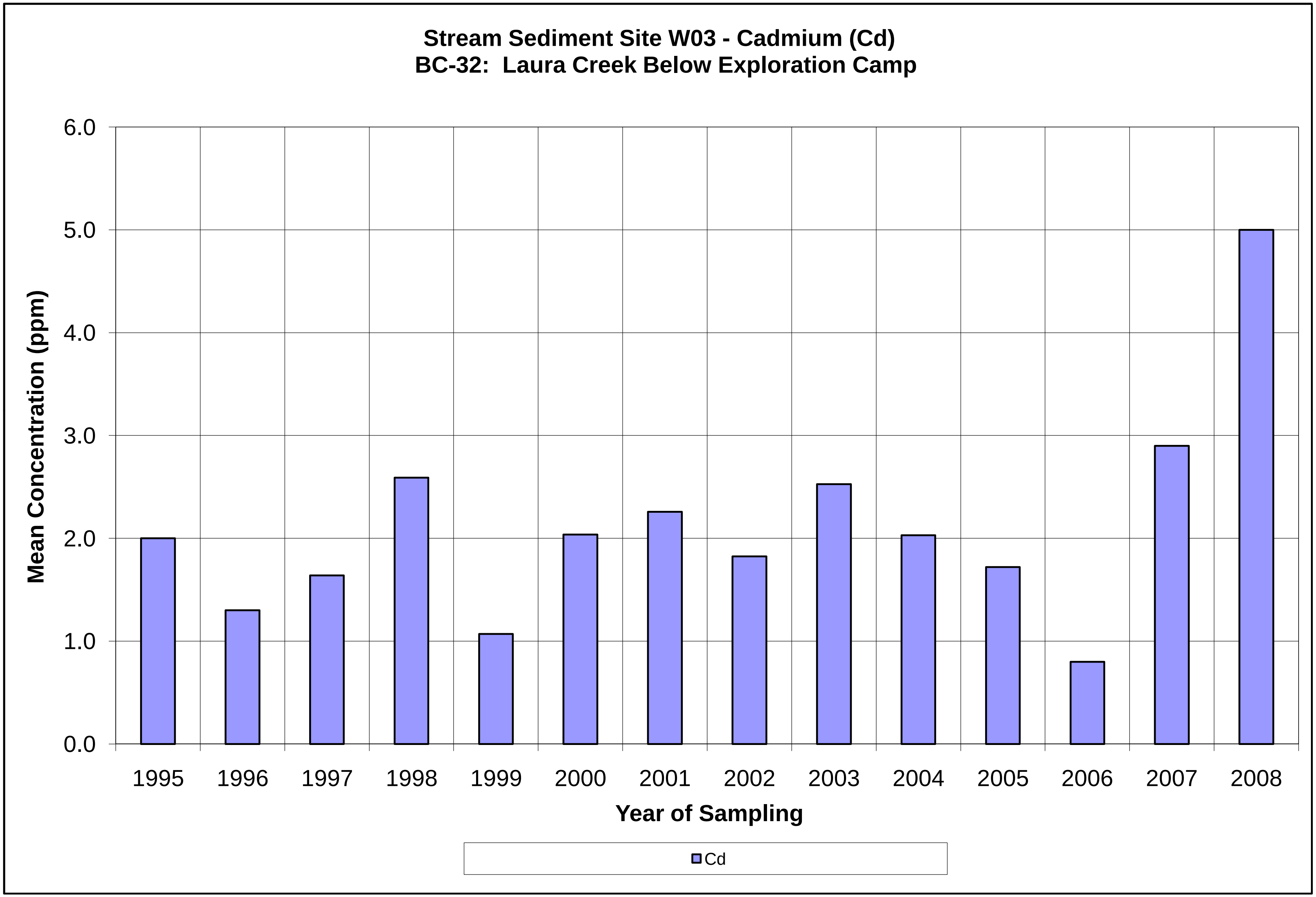
		Laura Creek and Carolyn Creek Monitoring Stations															
		W53															
		BC-53															
				1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	ppm											77.4	69.9	21.8	**	24.6	**
Sb	ppm											11.7	15.8	2.2	**	8.3	**
Cd	ppm											2.0	1.1	1.1	**	1.1	**
Cu	ppm											47.6	25.6	29.5	**	27.7	**
Hg	ppm											0.3	0.3	0.1	**	0.1	**
Mo	ppm											2.4	1.7	1.3	**	1.0	**
Pb	ppm											16.1	10.7	14.7	**	8.8	**
Ni	ppm											52.1	39.9	35.5	**	29.3	**
Zn	ppm											185.5	138.8	122.0	**	104.9	**

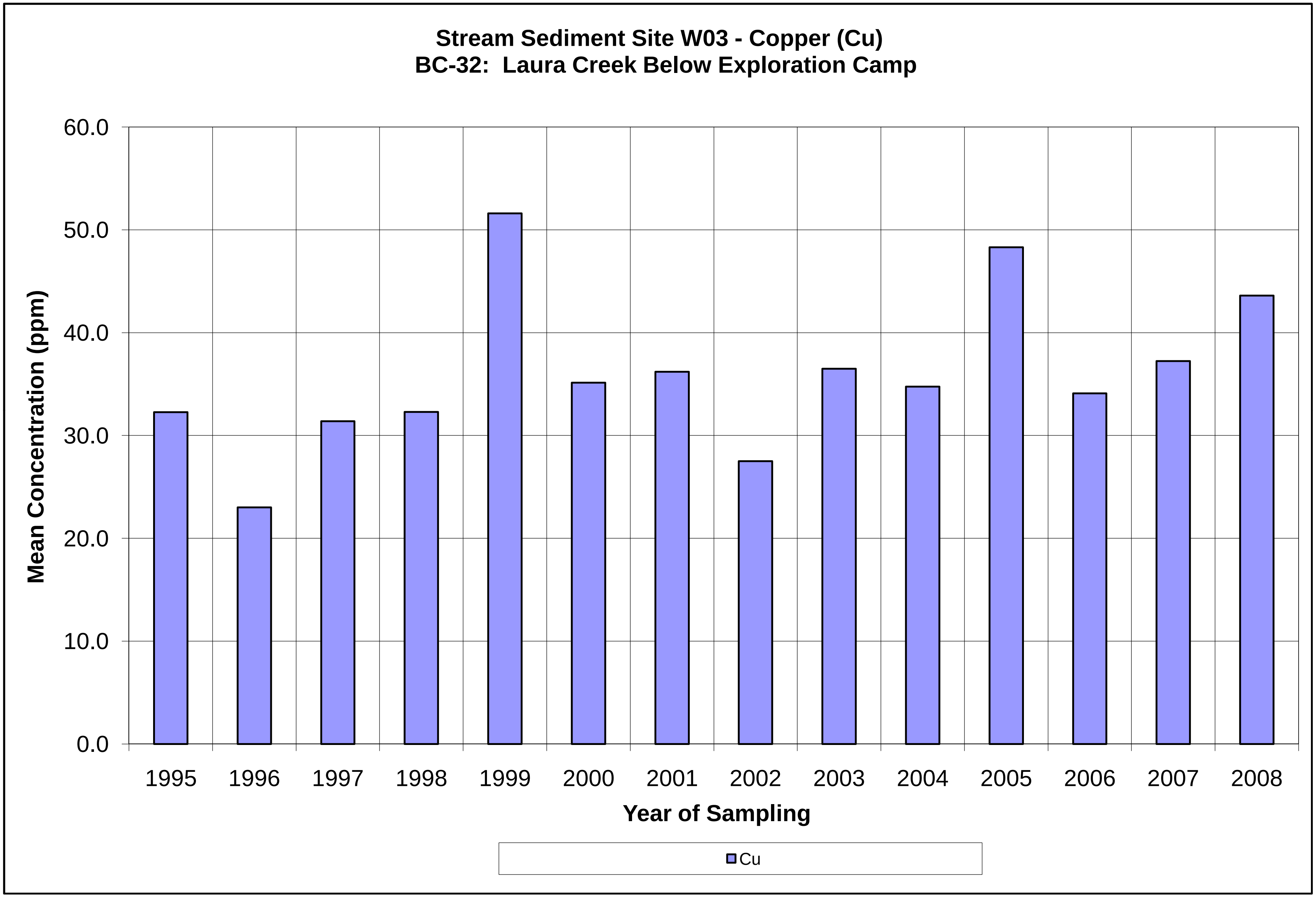
*** all values represent mean of replicate samples***

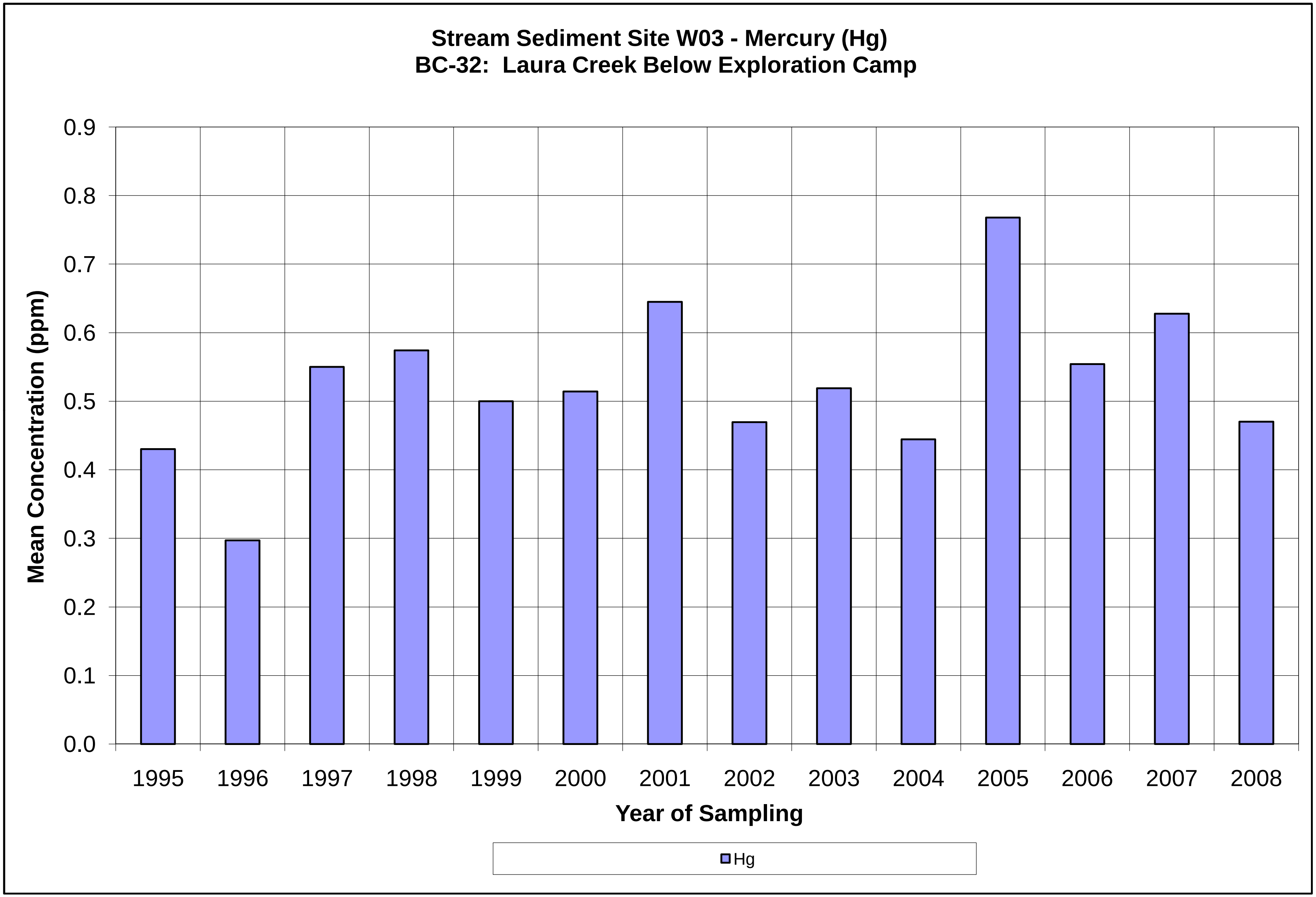
*****Sites not sampled***


Stream Sediment Site W03 - Arsenic (As)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

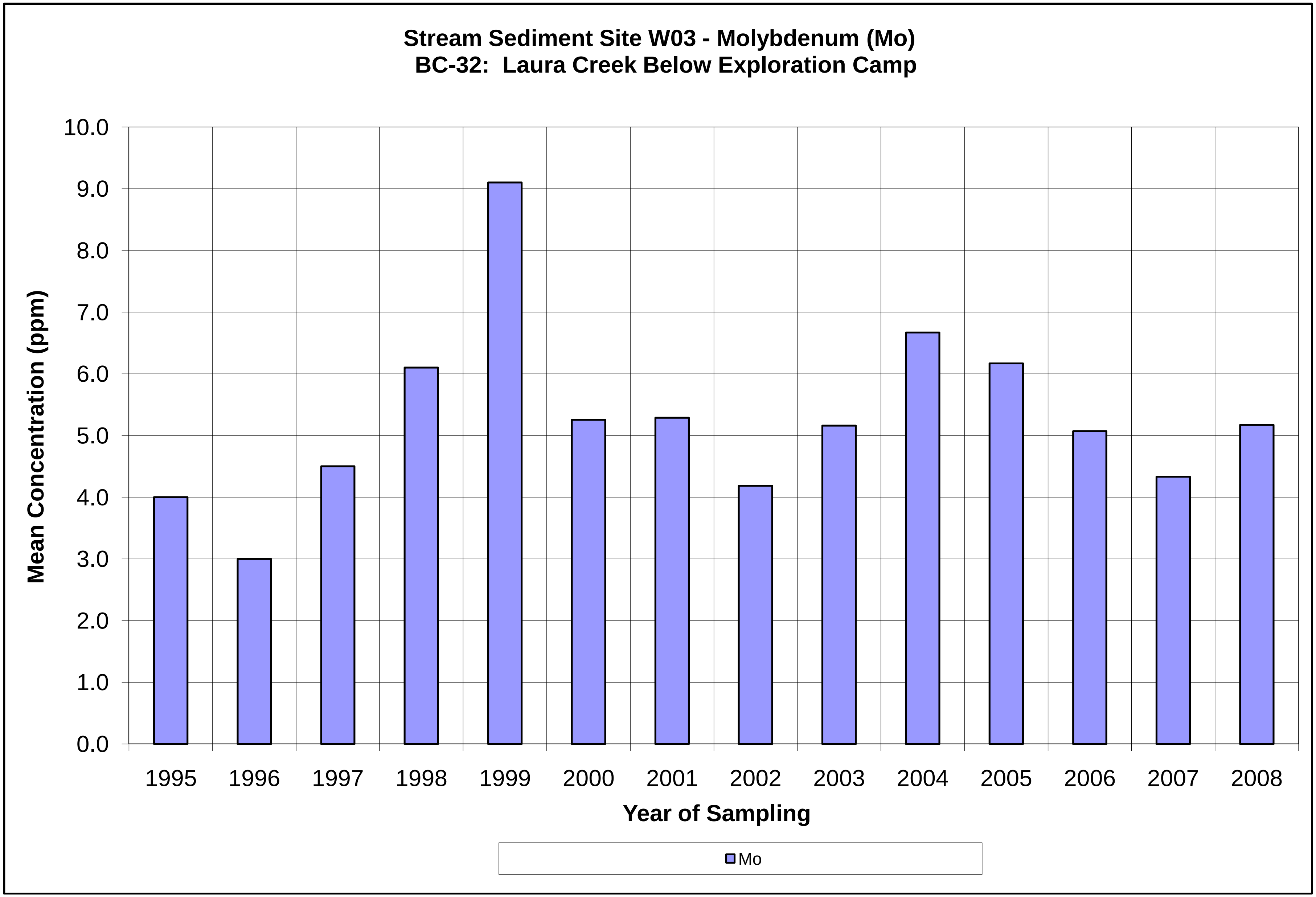

Stream Sediment Site W03 - Antimony (Sb)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

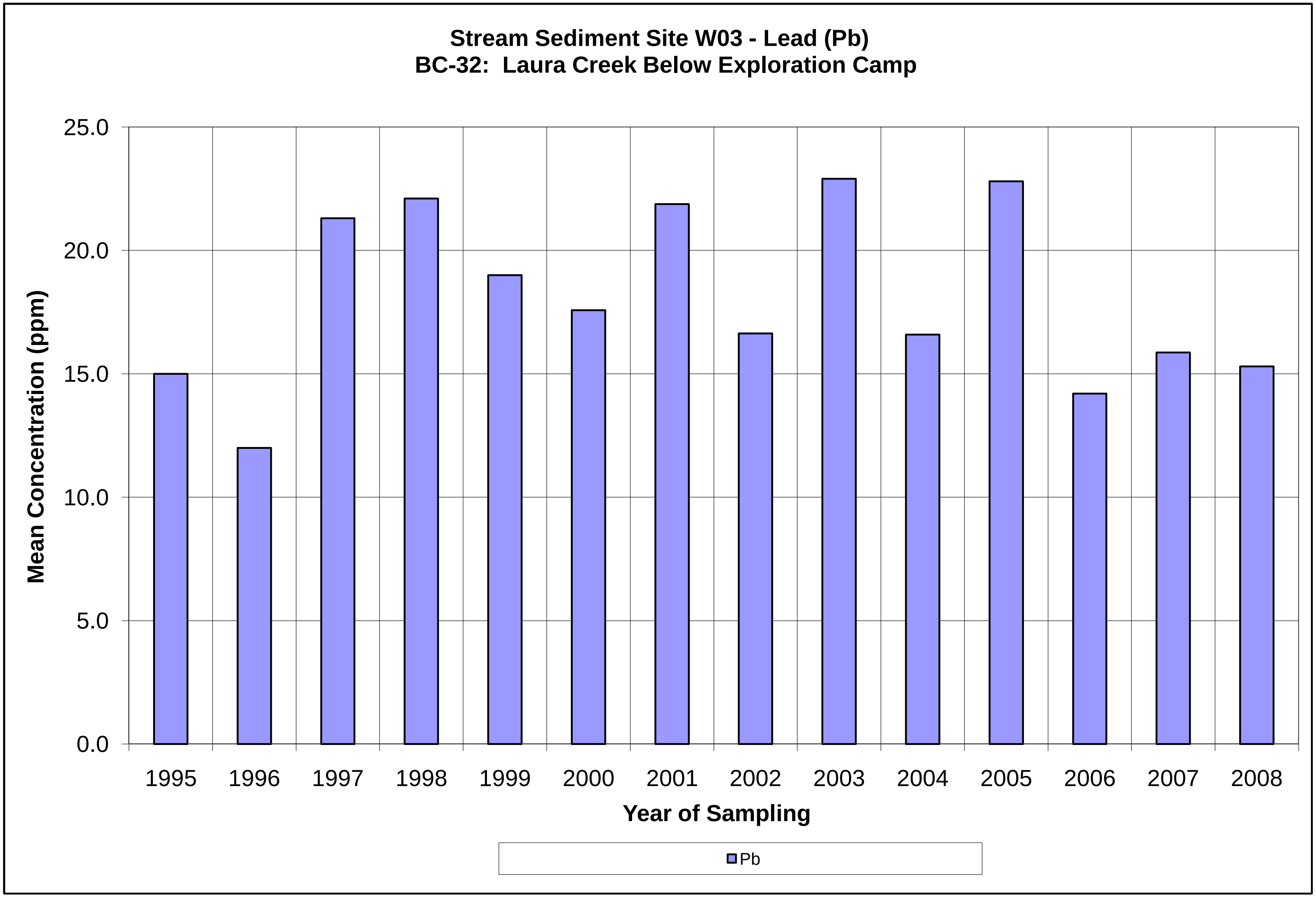

Stream Sediment Site W03 - Cadmium (Cd)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd


Stream Sediment Site W03 - Copper (Cu)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

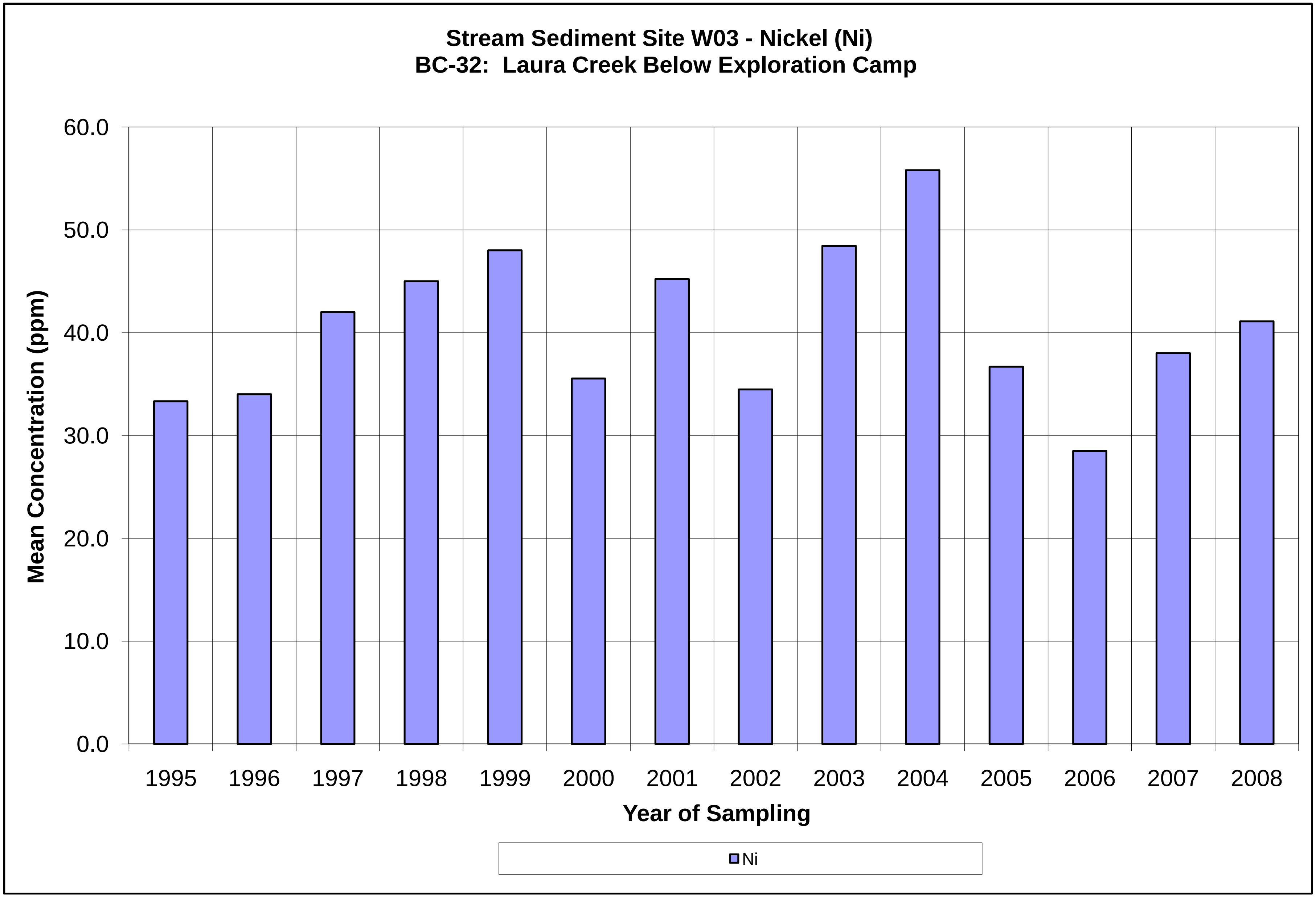


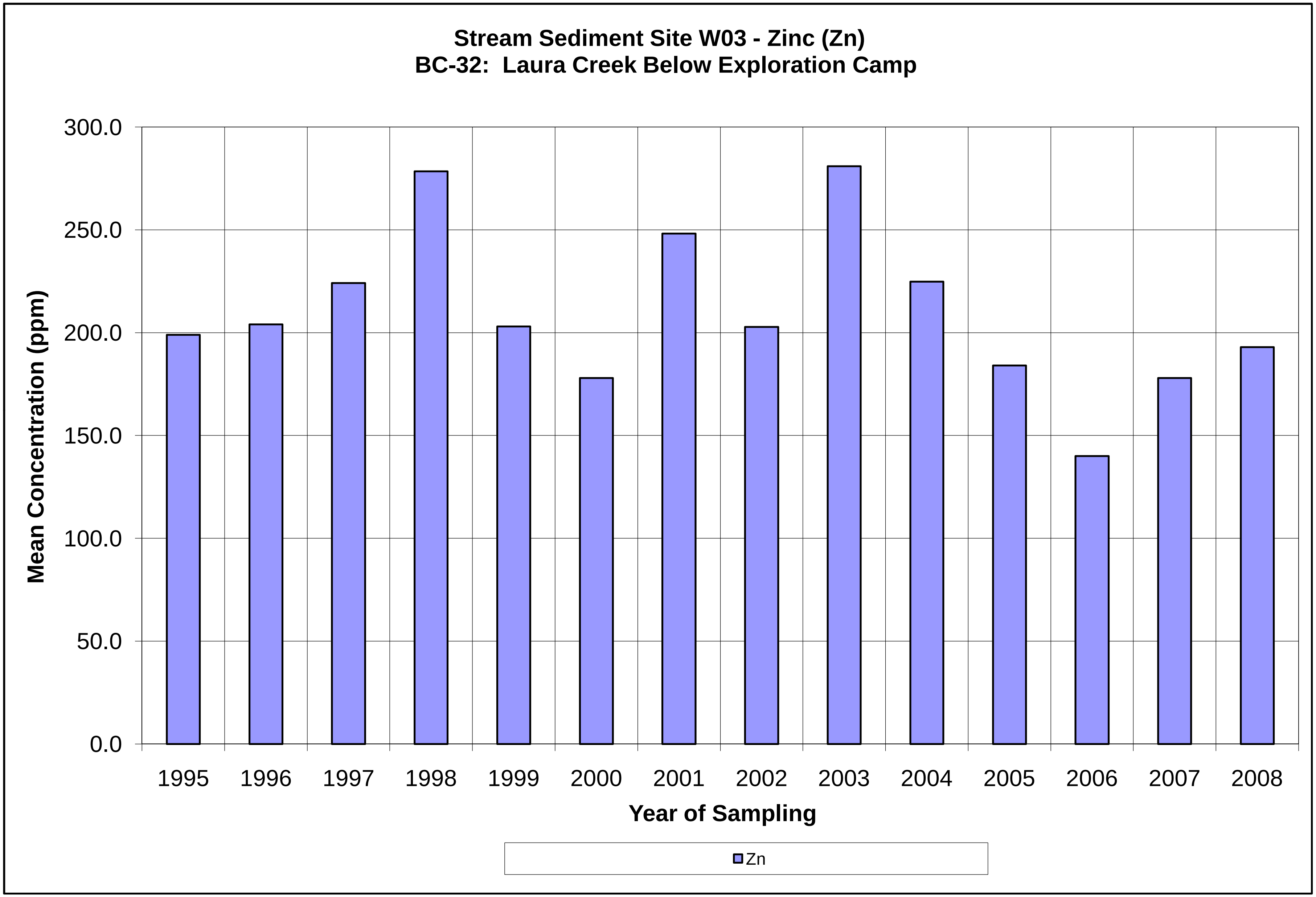
Stream Sediment Site W03 - Mercury (Hg)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg


Stream Sediment Site W03 - Molybdenum (Mo)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo

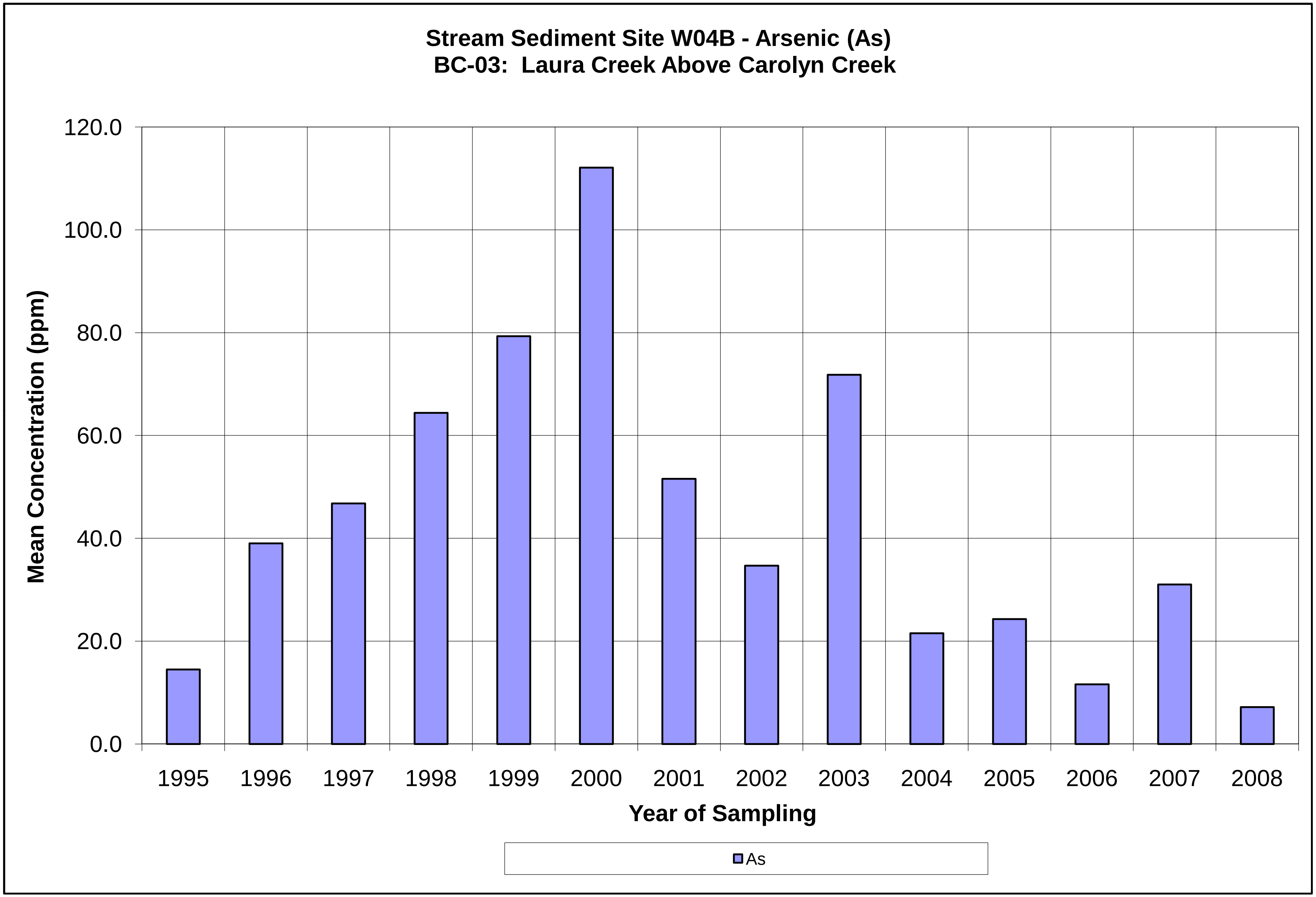


Stream Sediment Site W03 - Lead (Pb)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

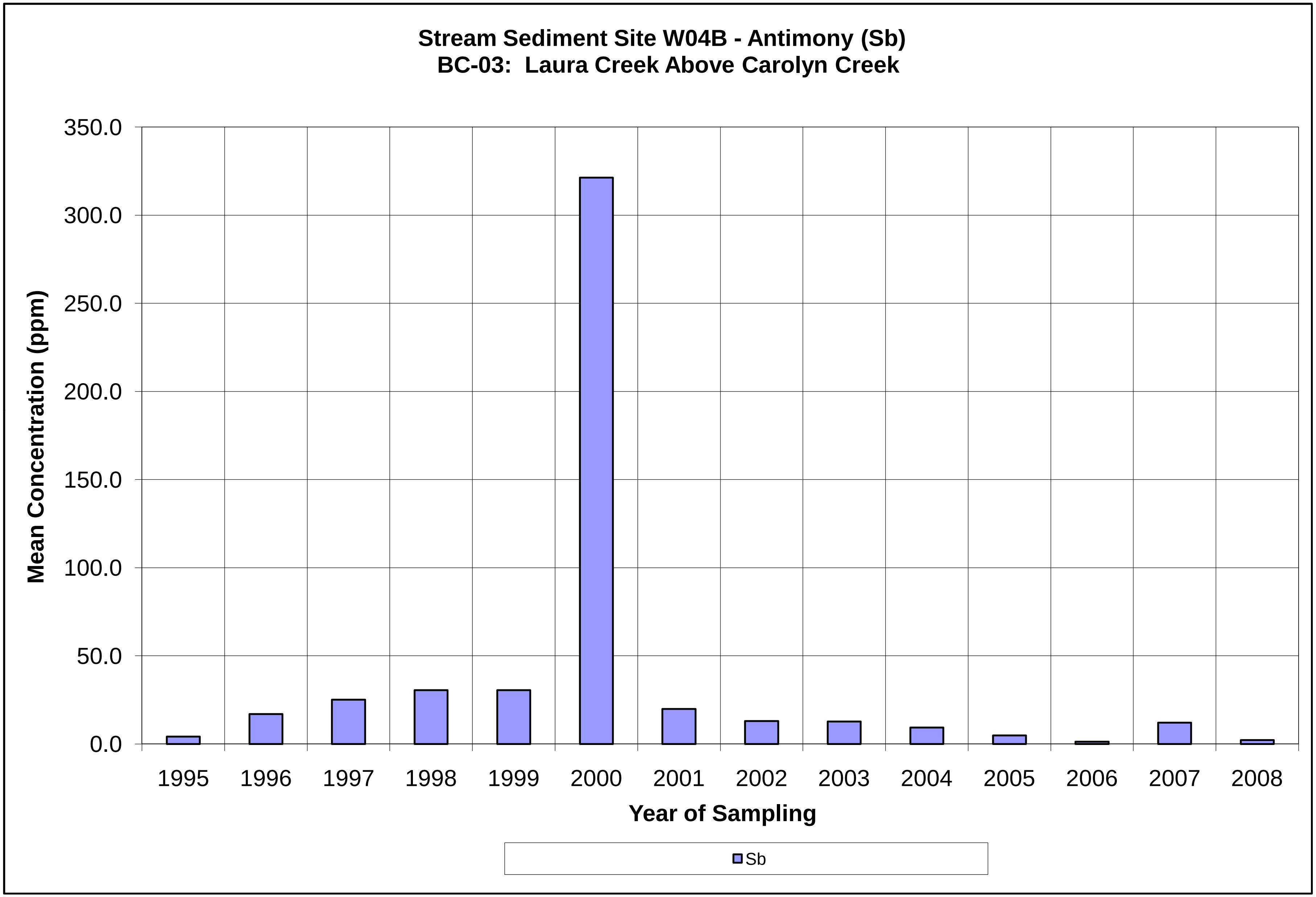

Stream Sediment Site W03 - Nickel (Ni)
BC-32: Laura Creek Below Exploration Camp
Mean Concentration (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni



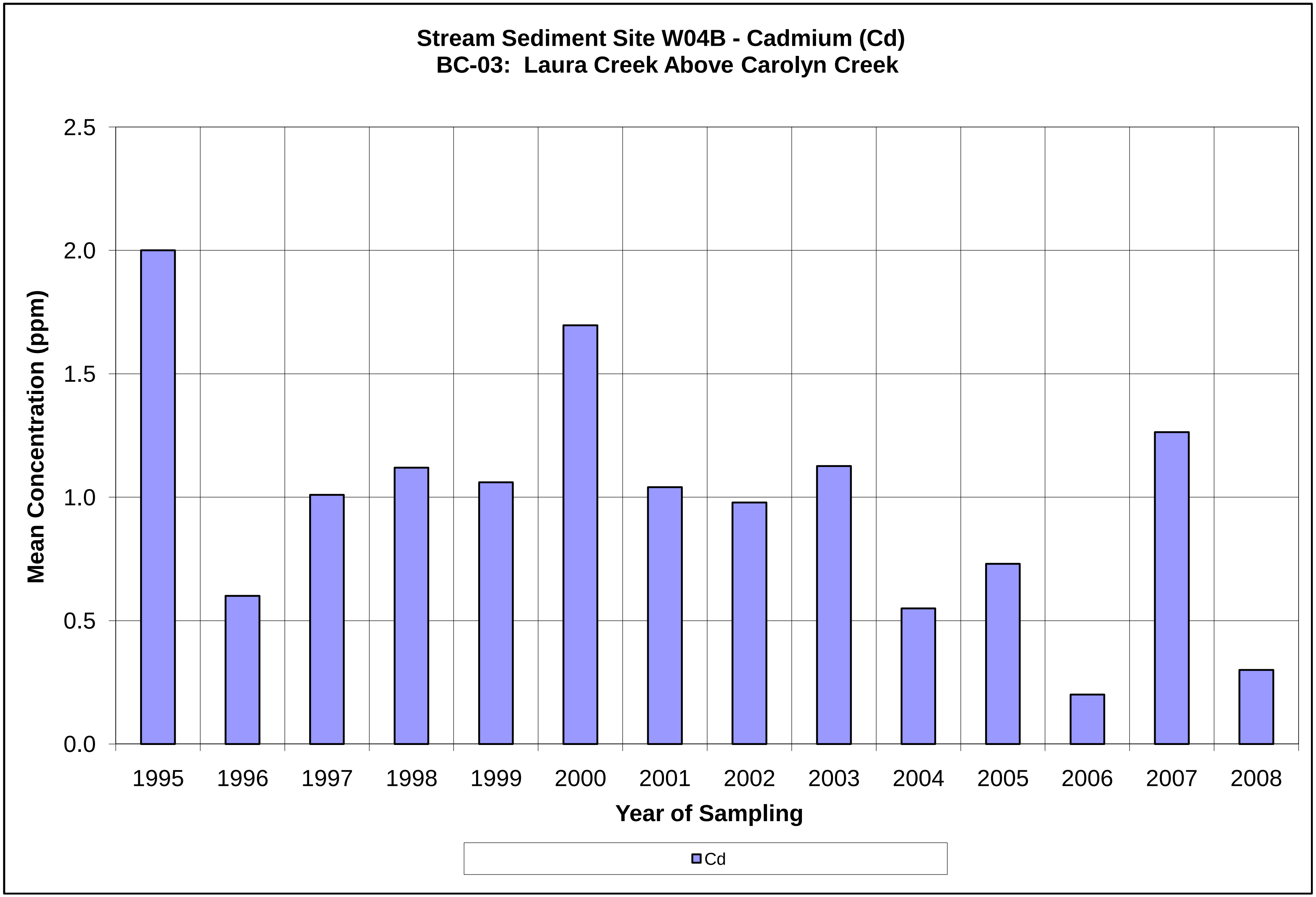
Stream Sediment Site W03 - Zinc (Zn)
BC-32: Laura Creek Below Exploration Camp
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Mean Concentration (ppm)
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

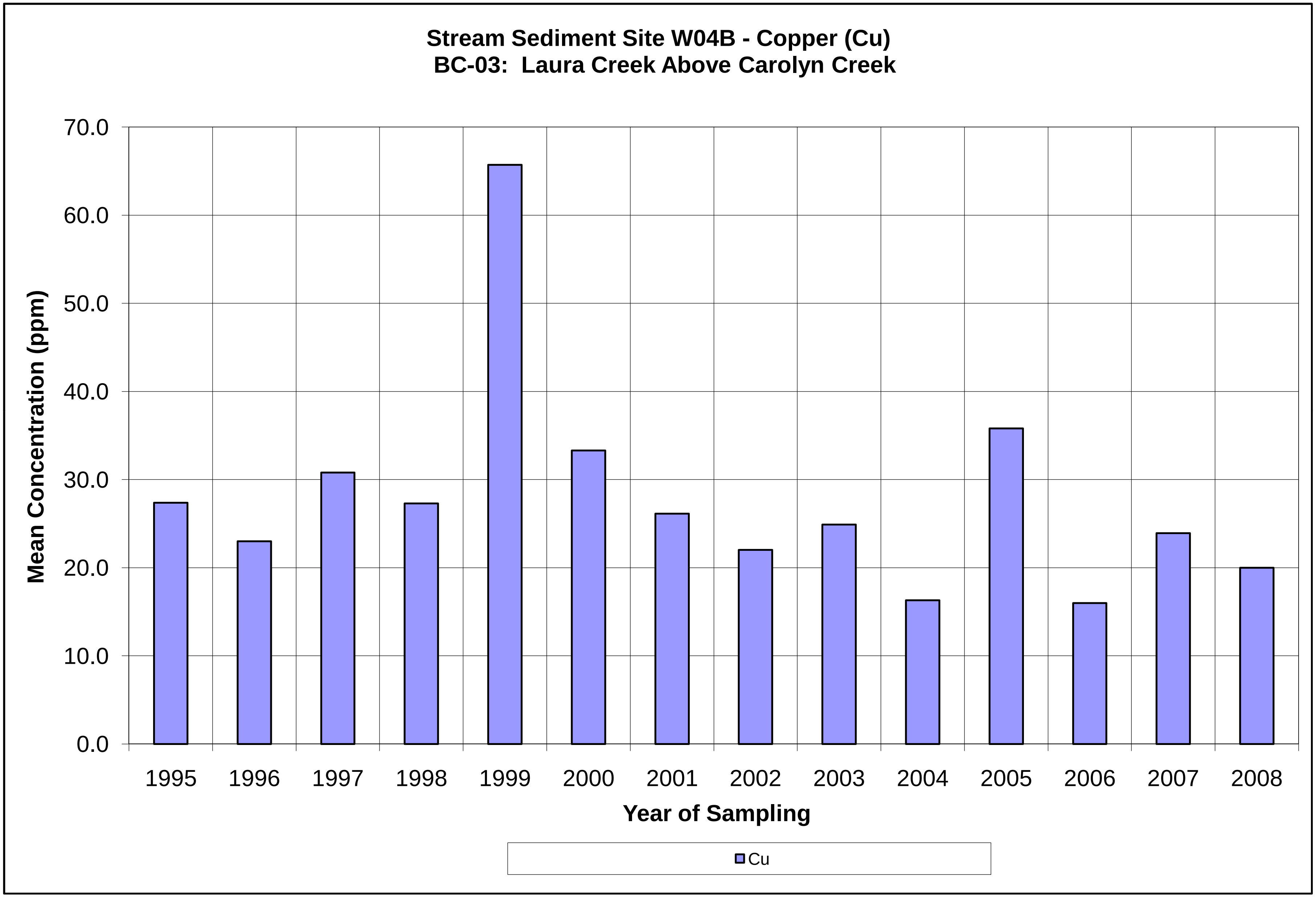


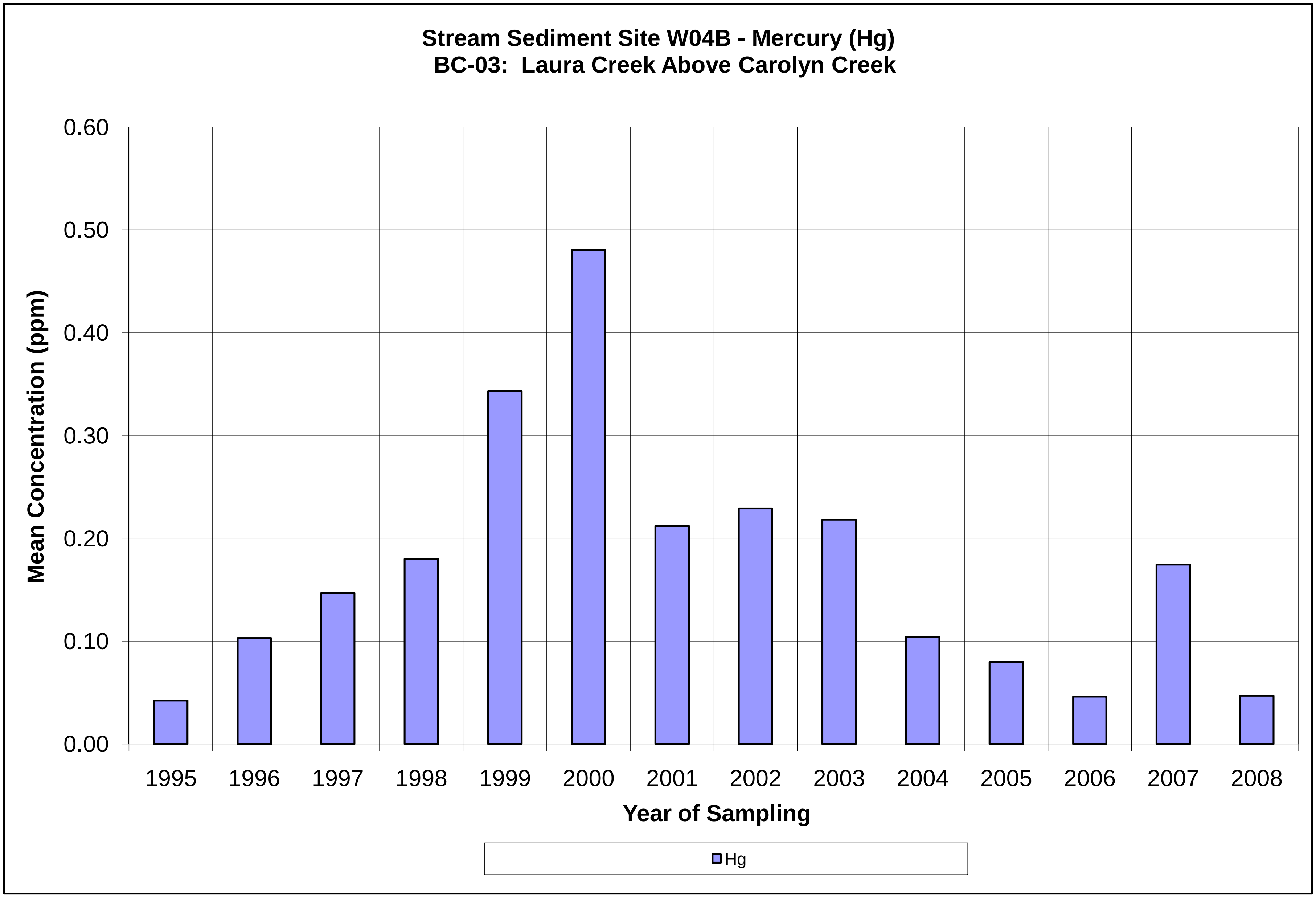
Stream Sediment Site W04B - Arsenic (As)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

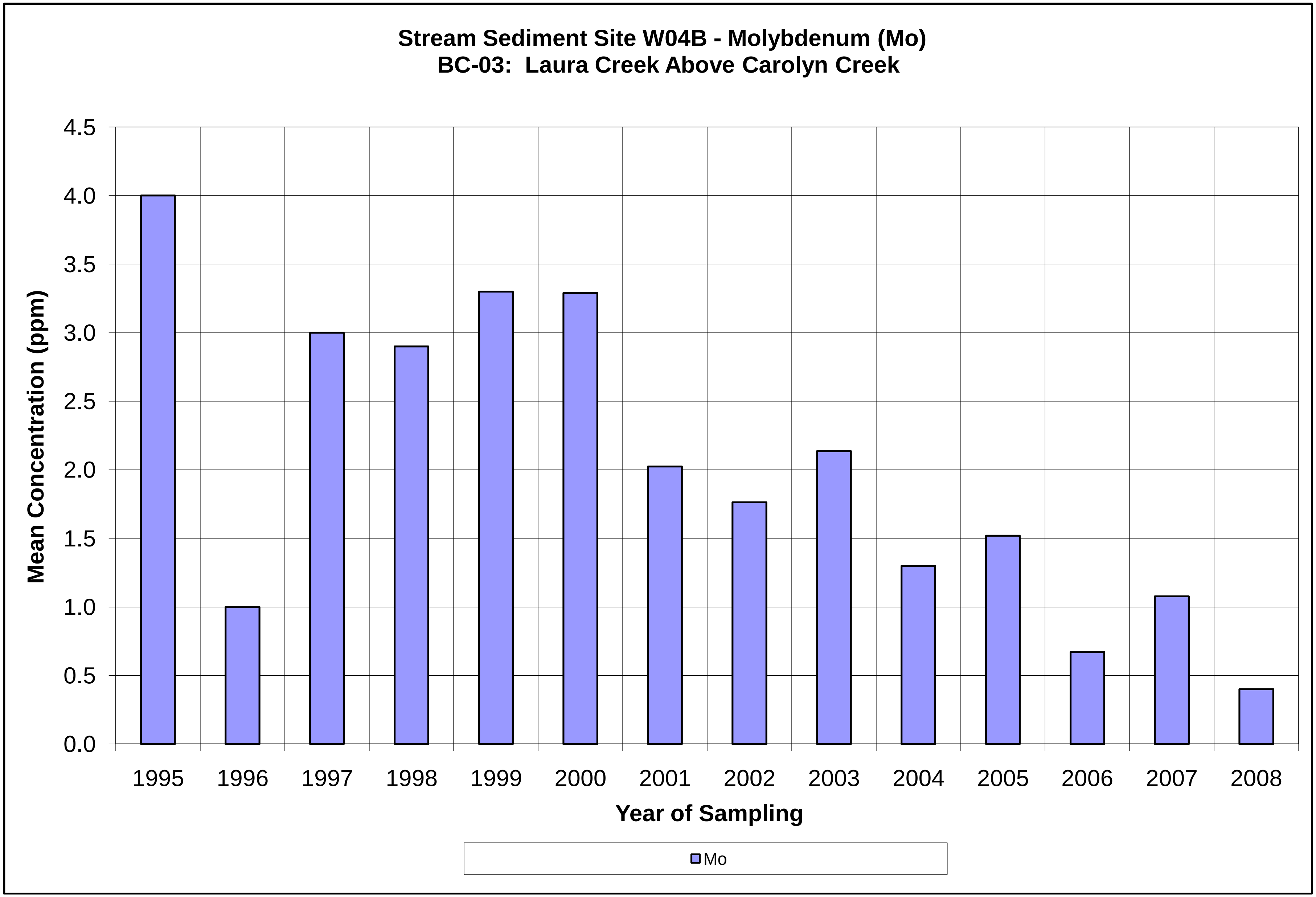


Stream Sediment Site W04B - Antimony (Sb)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

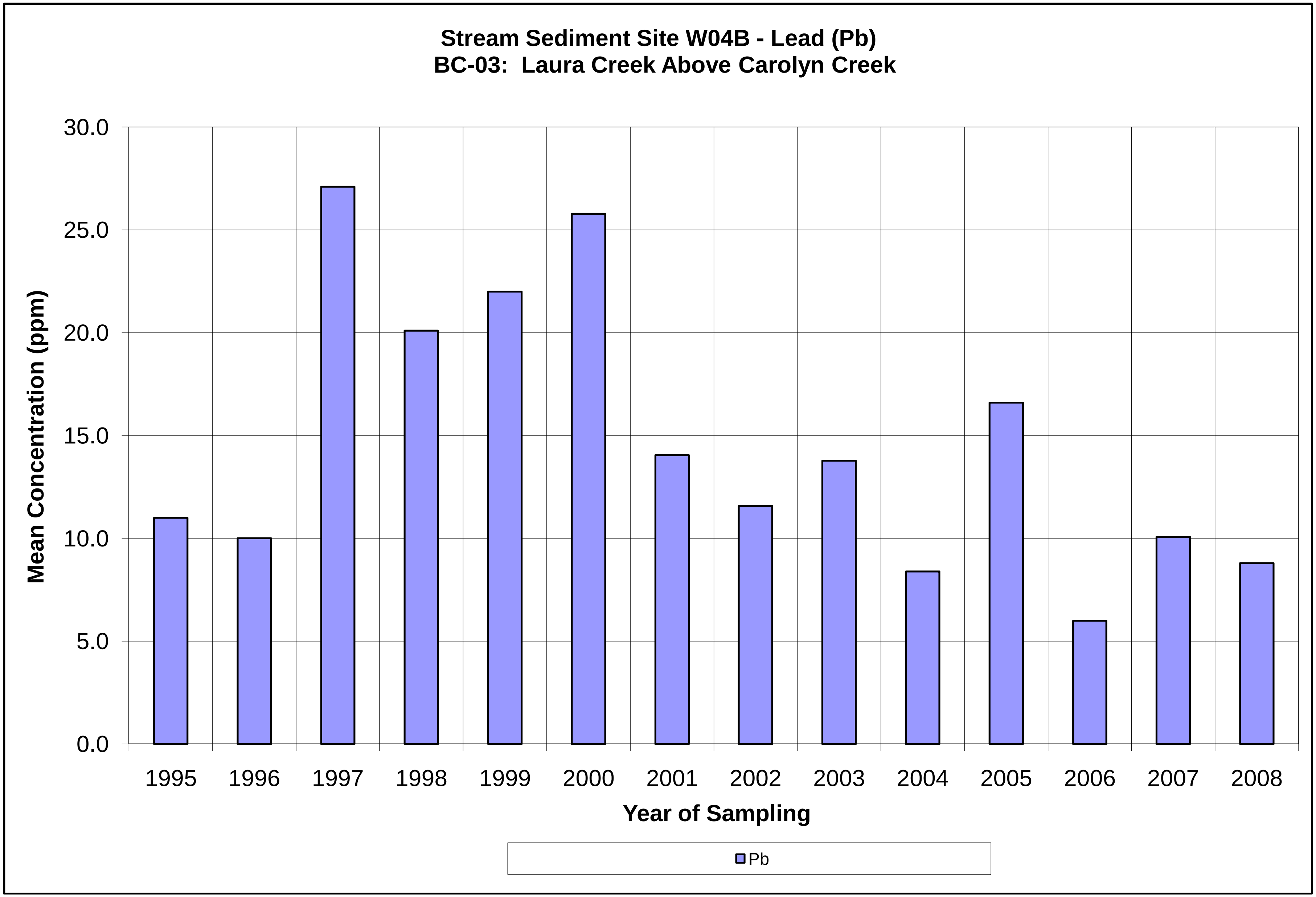

Stream Sediment Site W04B - Cadmium (Cd)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
0.0
0.5
1.0
1.5
2.0
2.5
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

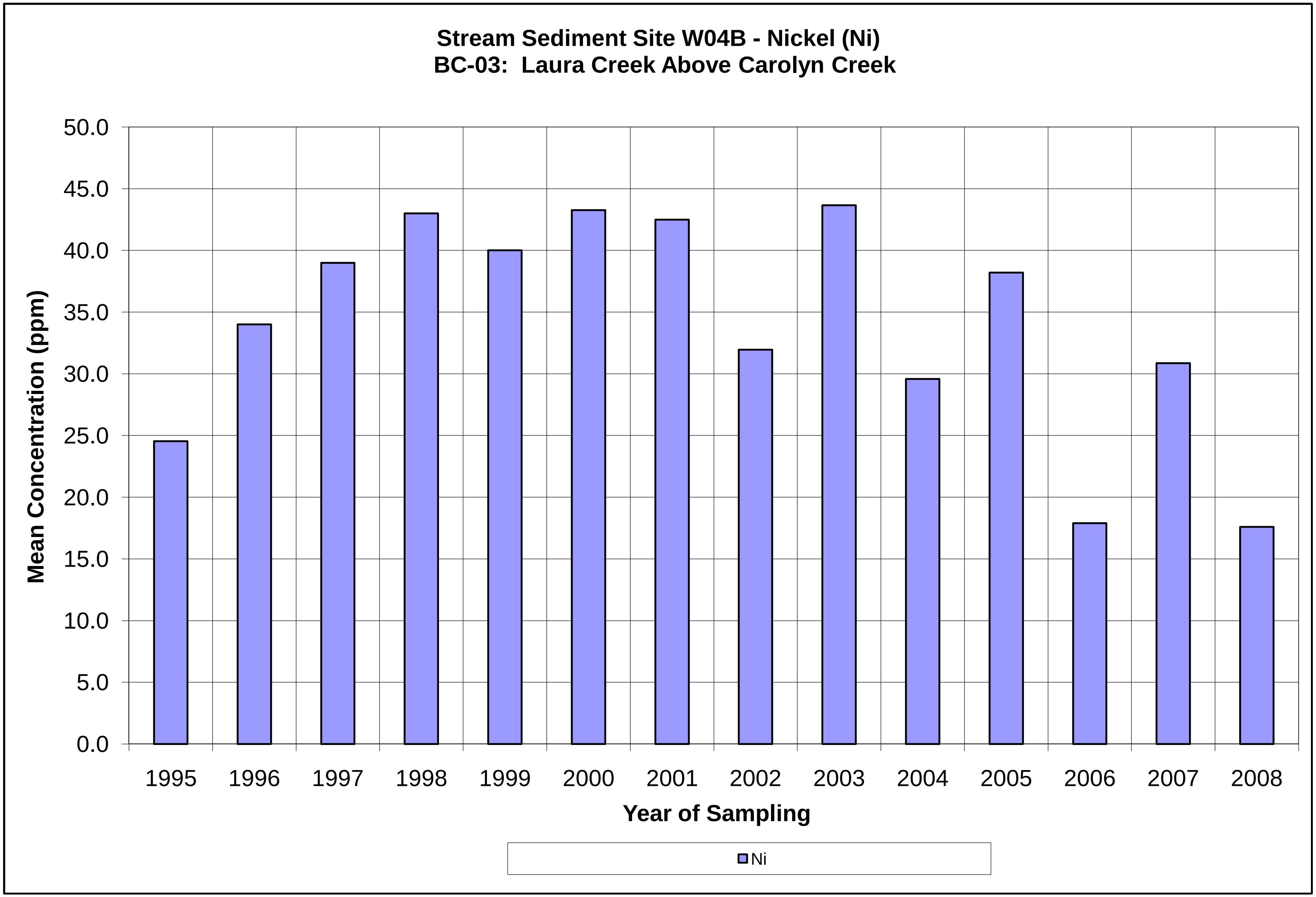

Stream Sediment Site W04B - Copper (Cu)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

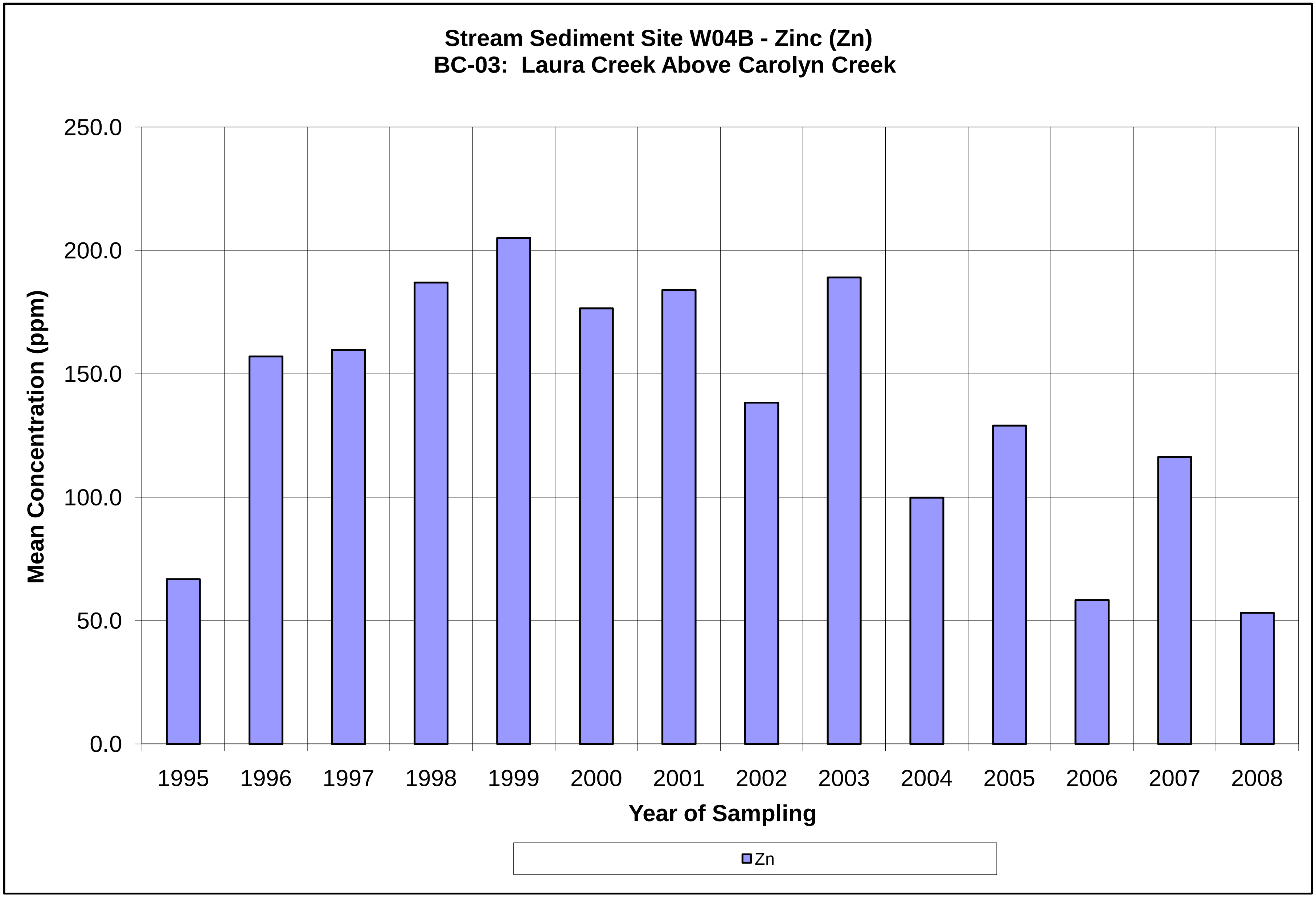

Stream Sediment Site W04B - Mercury (Hg)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

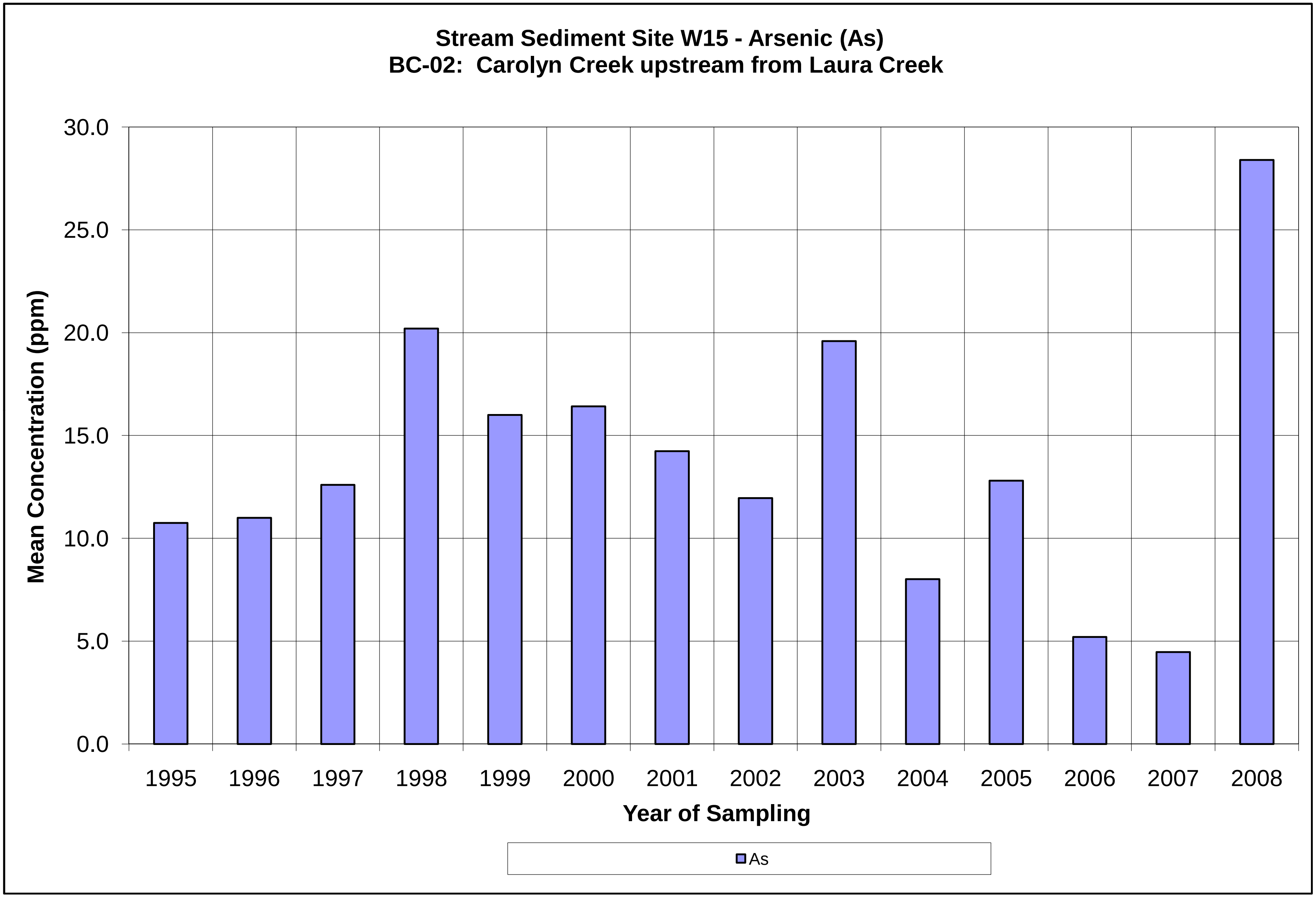


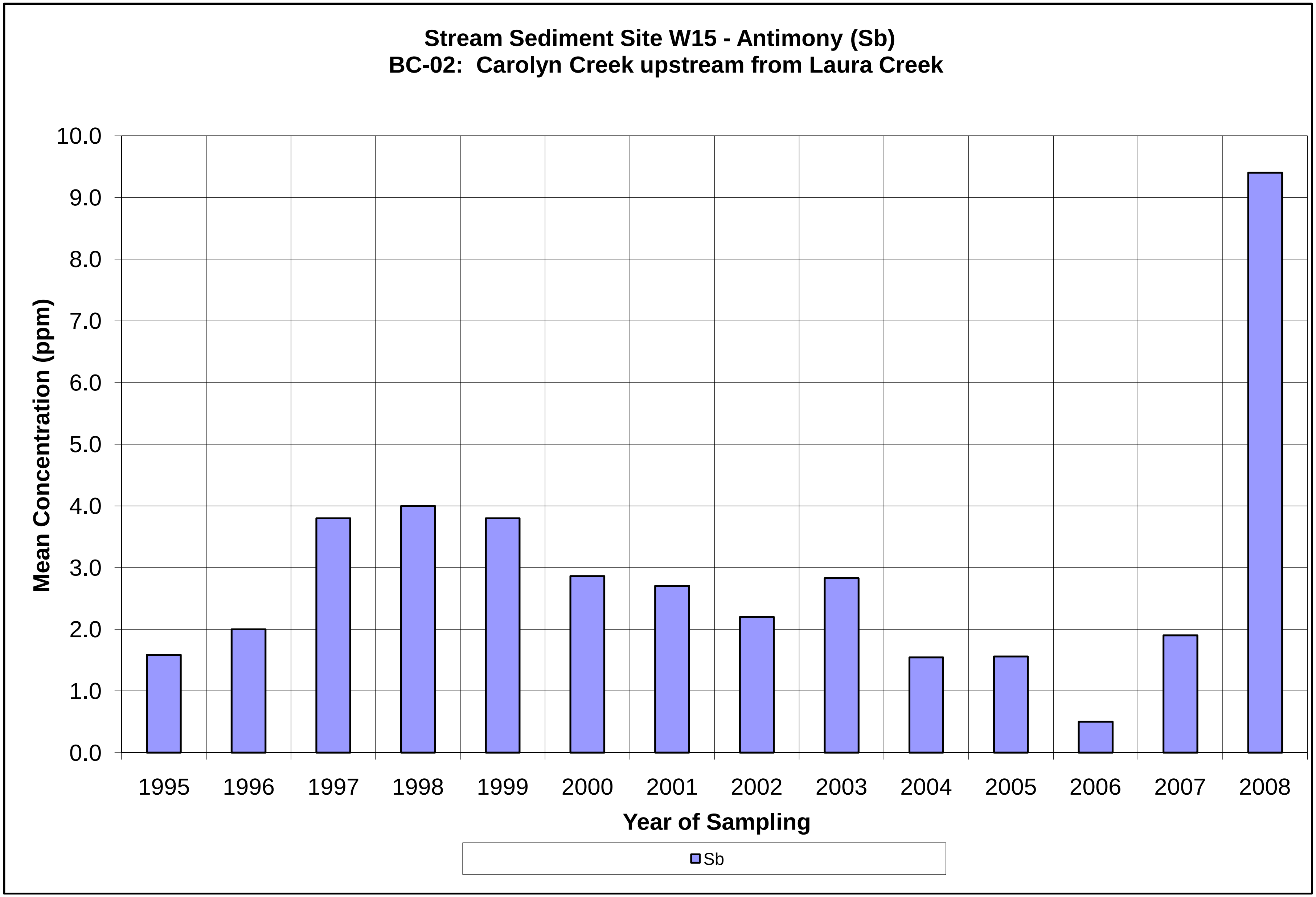
Stream Sediment Site W04B - Molybdenum (Mo)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo

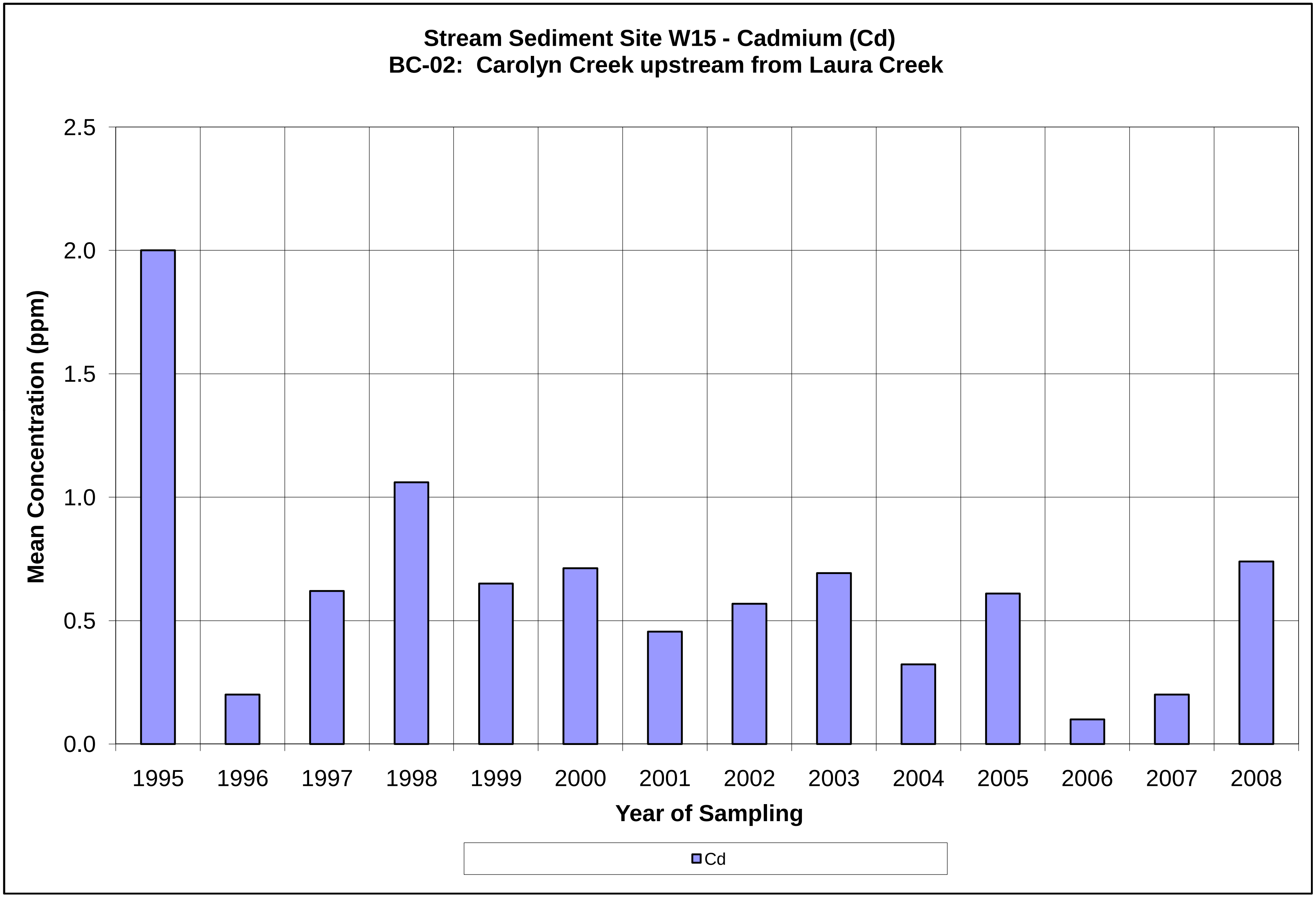

Stream Sediment Site W04B - Lead (Pb)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

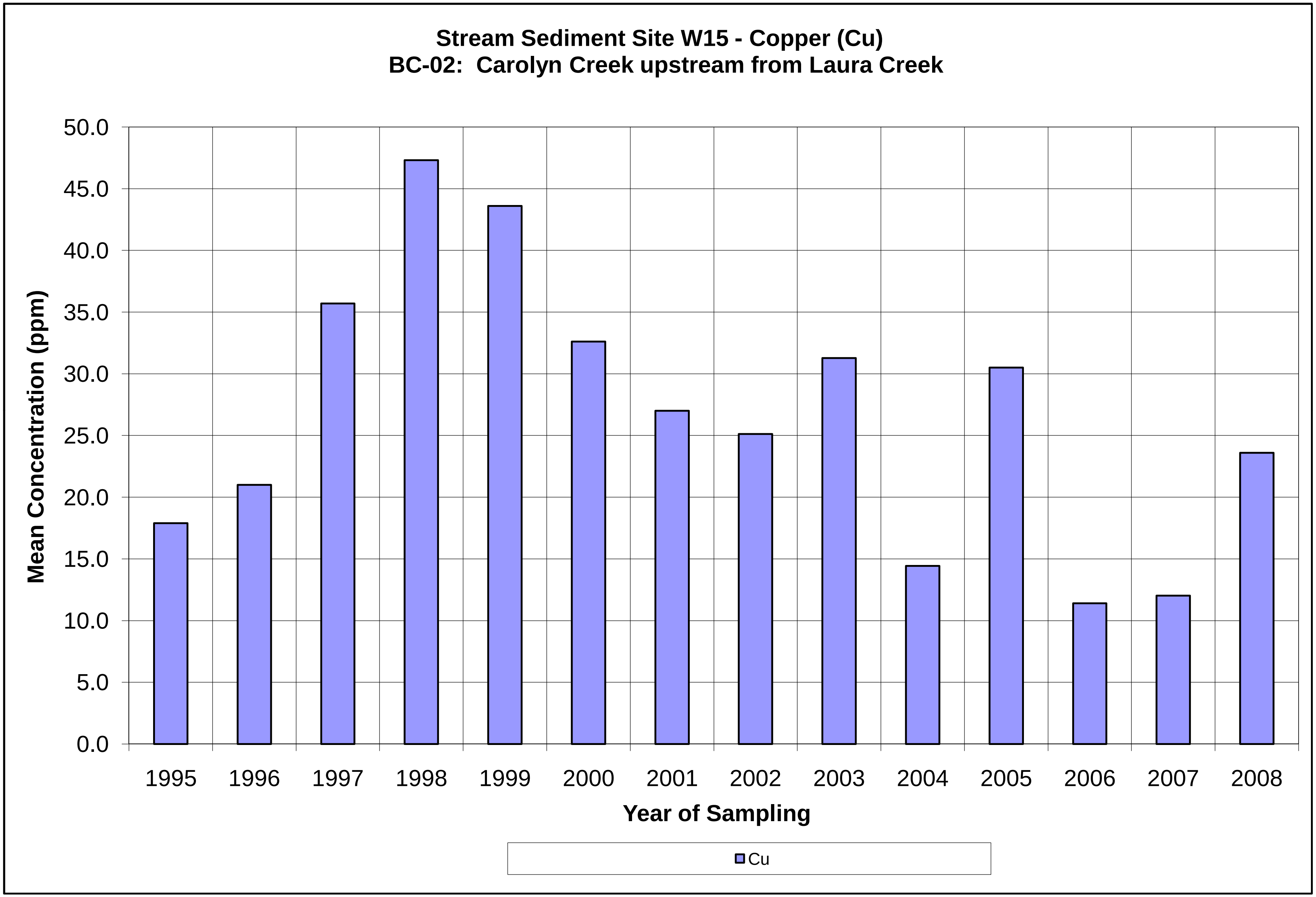

Stream Sediment Site W04B - Nickel (Ni)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni

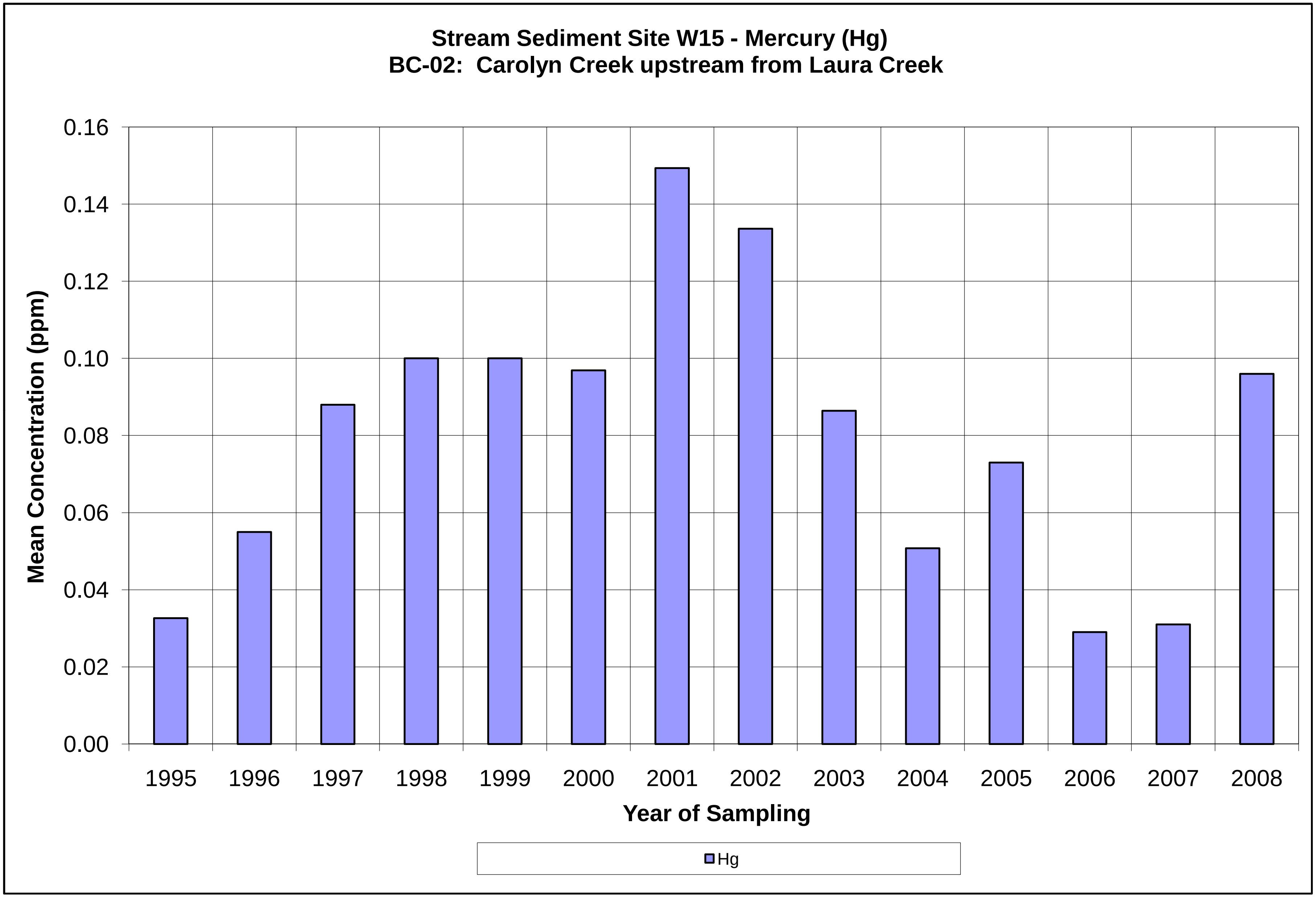

Stream Sediment Site W04B - Zinc (Zn)
BC-03: Laura Creek Above Carolyn Creek
Mean Concentration (ppm)
250.0
200.0
150.0
100.0
50.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

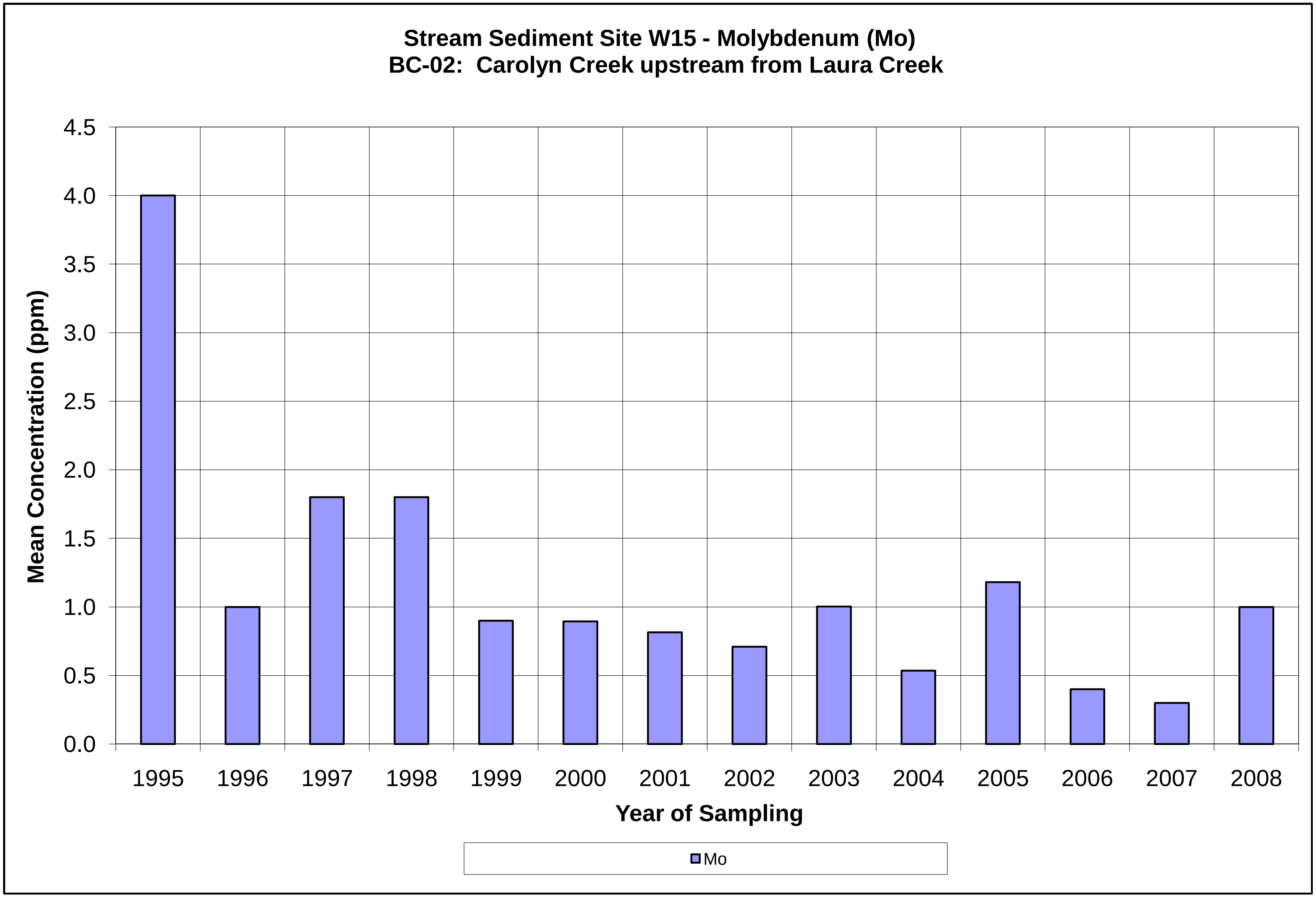

Stream Sediment Site W15 - Arsenic (As)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

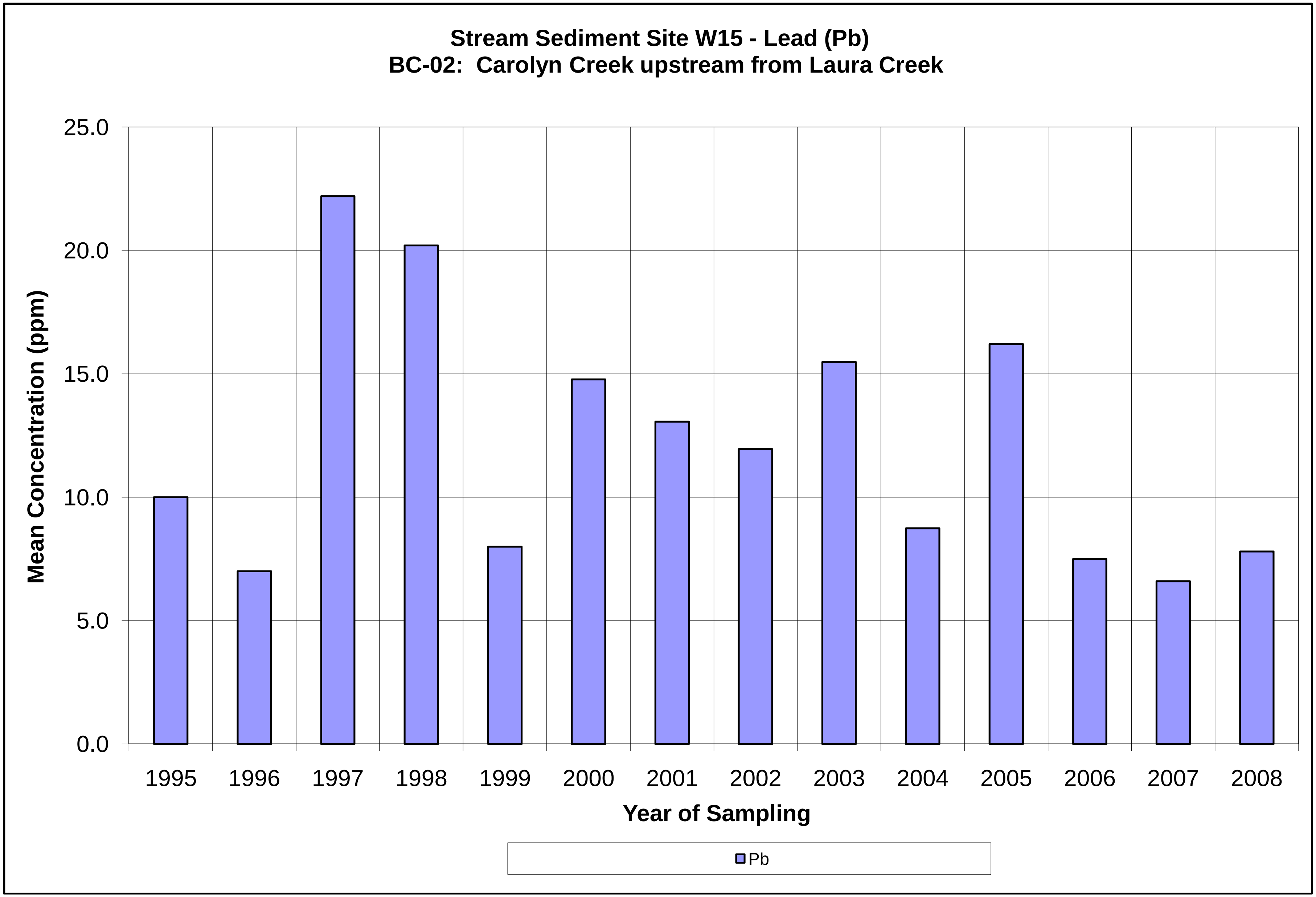

Stream Sediment Site W15 - Antimony (Sb)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

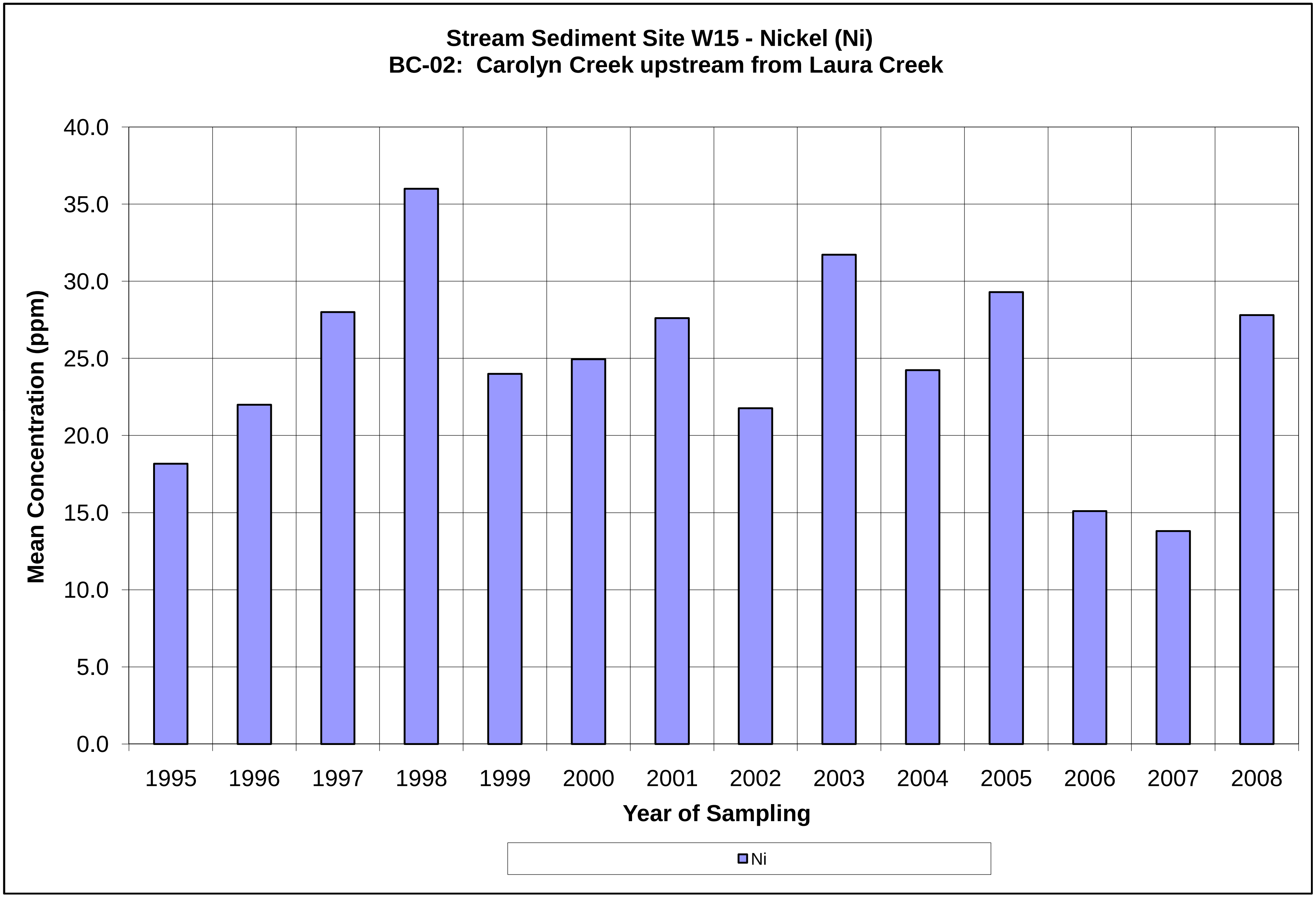

Stream Sediment Site W15 - Cadmium (Cd)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

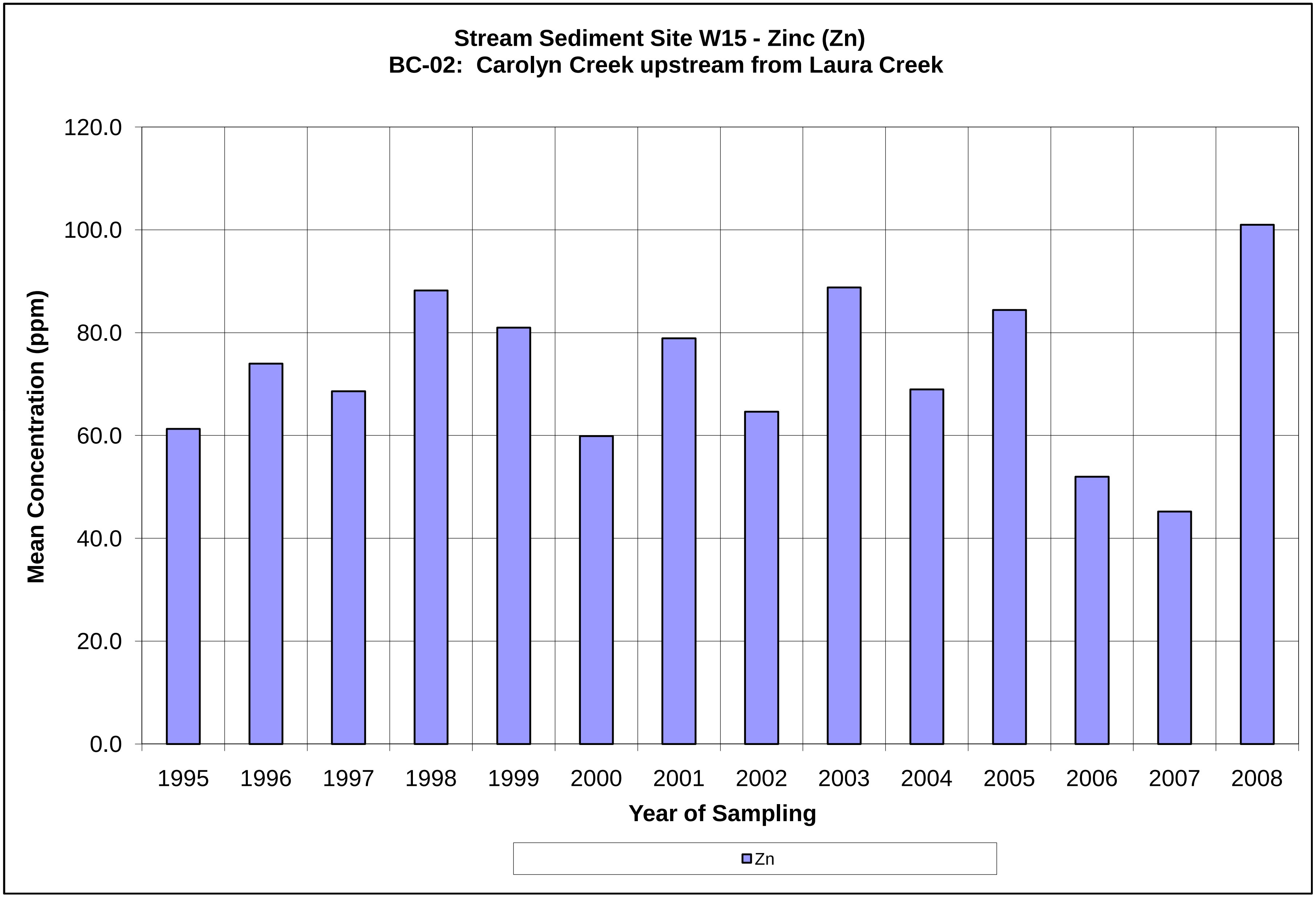

Stream Sediment Site W15 - Copper (Cu)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

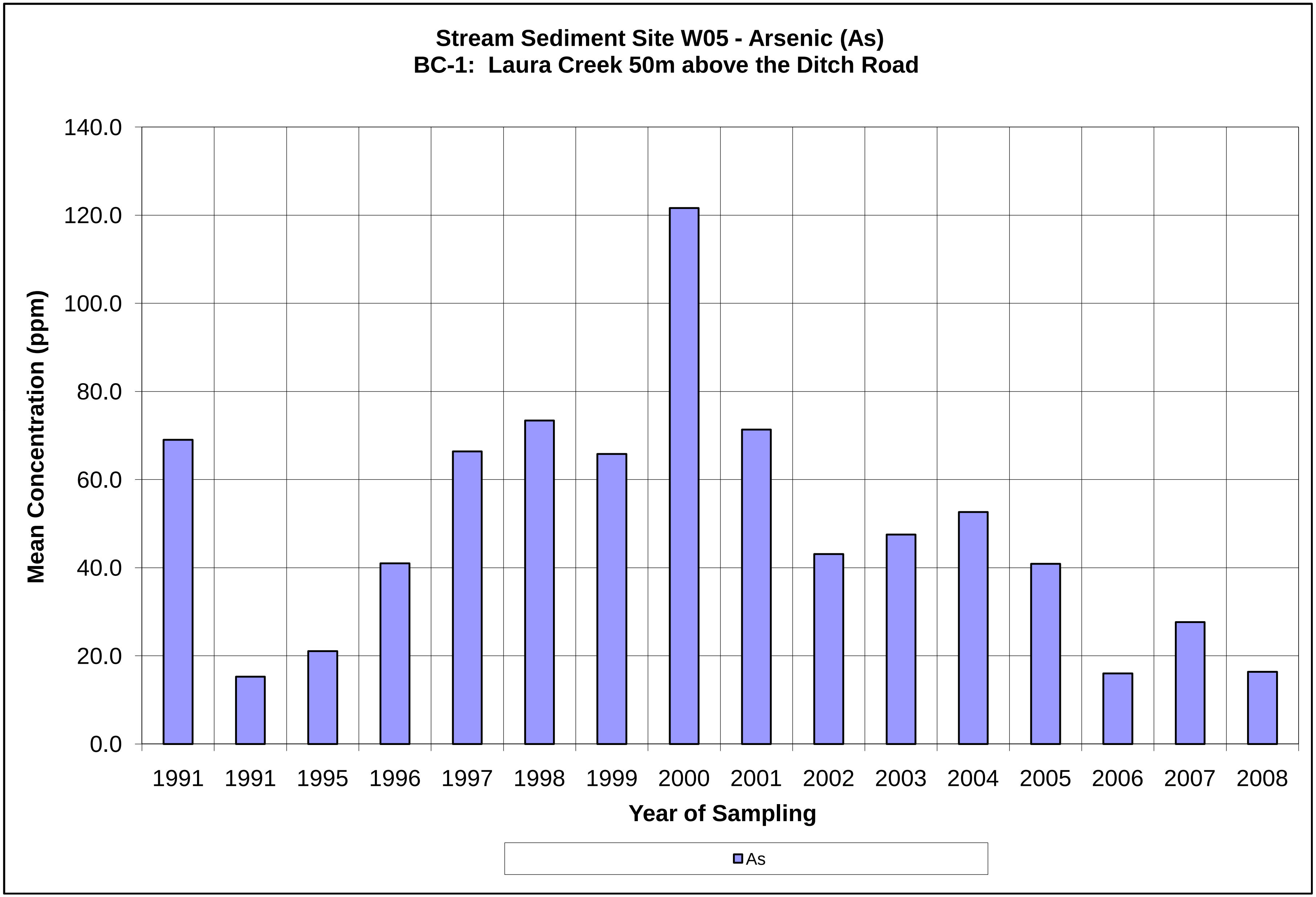

Stream Sediment Site W15 - Mercury (Hg)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg


Stream Sediment Site W15 - Molybdenum (Mo)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo

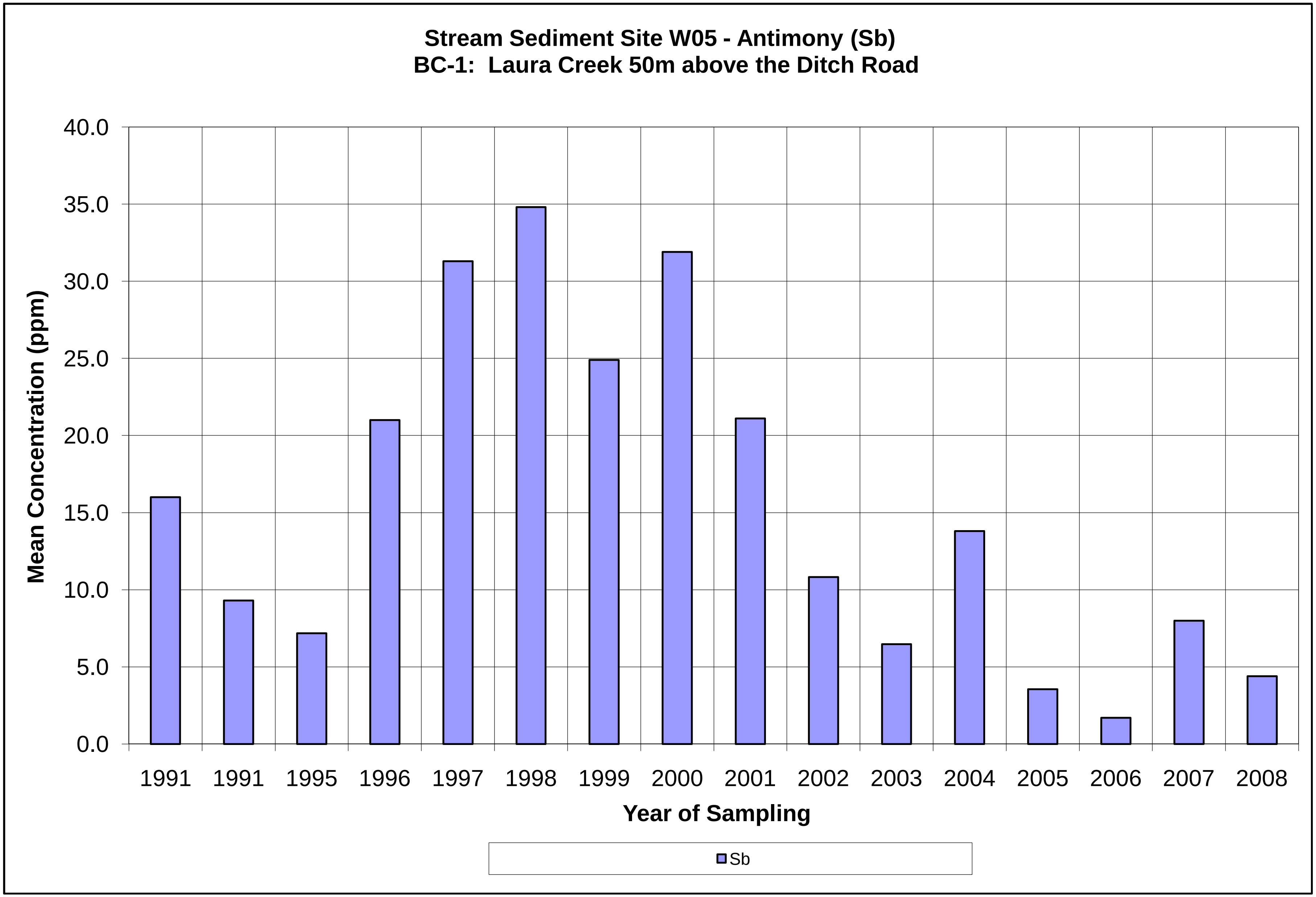

Stream Sediment Site W15 - Lead (Pb)
BC-02: Carolyn Creek upstream from Laura Creek
25.0
20.0
15.0
10.0
5.0
0.0
Mean Concentration (ppm)
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb


Stream Sediment Site W15 - Nickel (Ni)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni

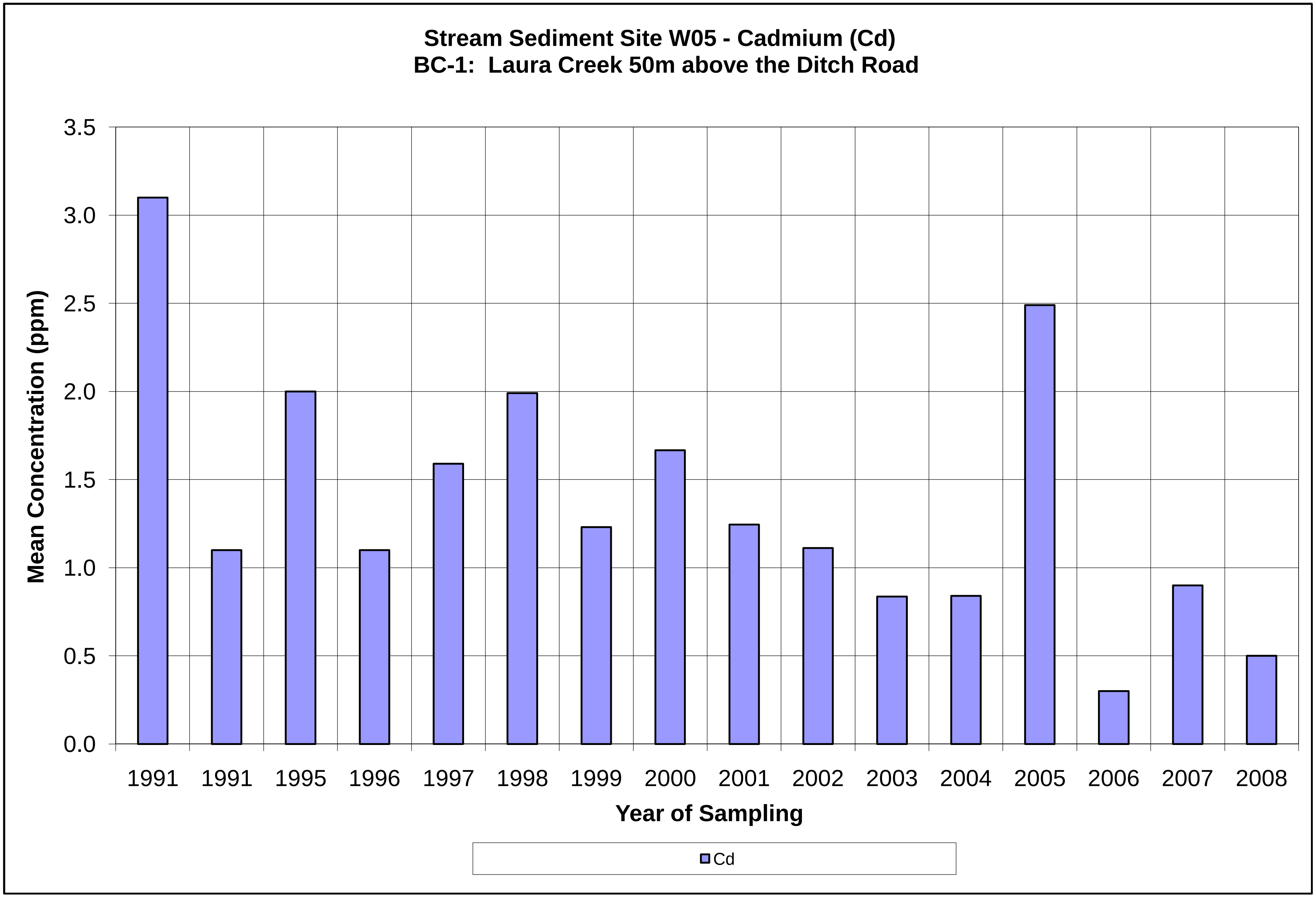

Stream Sediment Site W15 - Zinc (Zn)
BC-02: Carolyn Creek upstream from Laura Creek
Mean Concentration (ppm)
0.0
20.0
40.0
60.0
80.0
100.0
120.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn



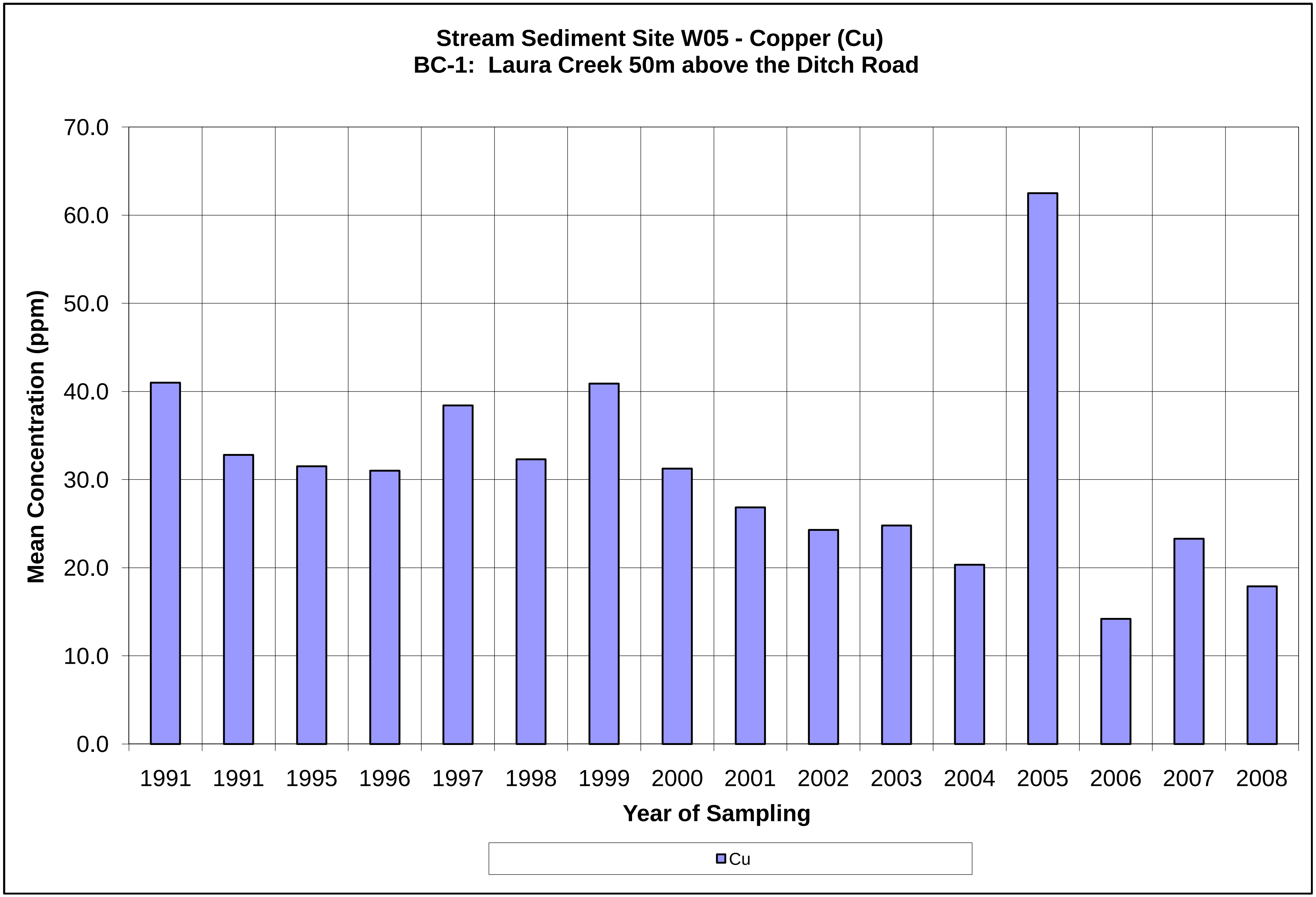
Stream Sediment Site W05 - Arsenic (As)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As



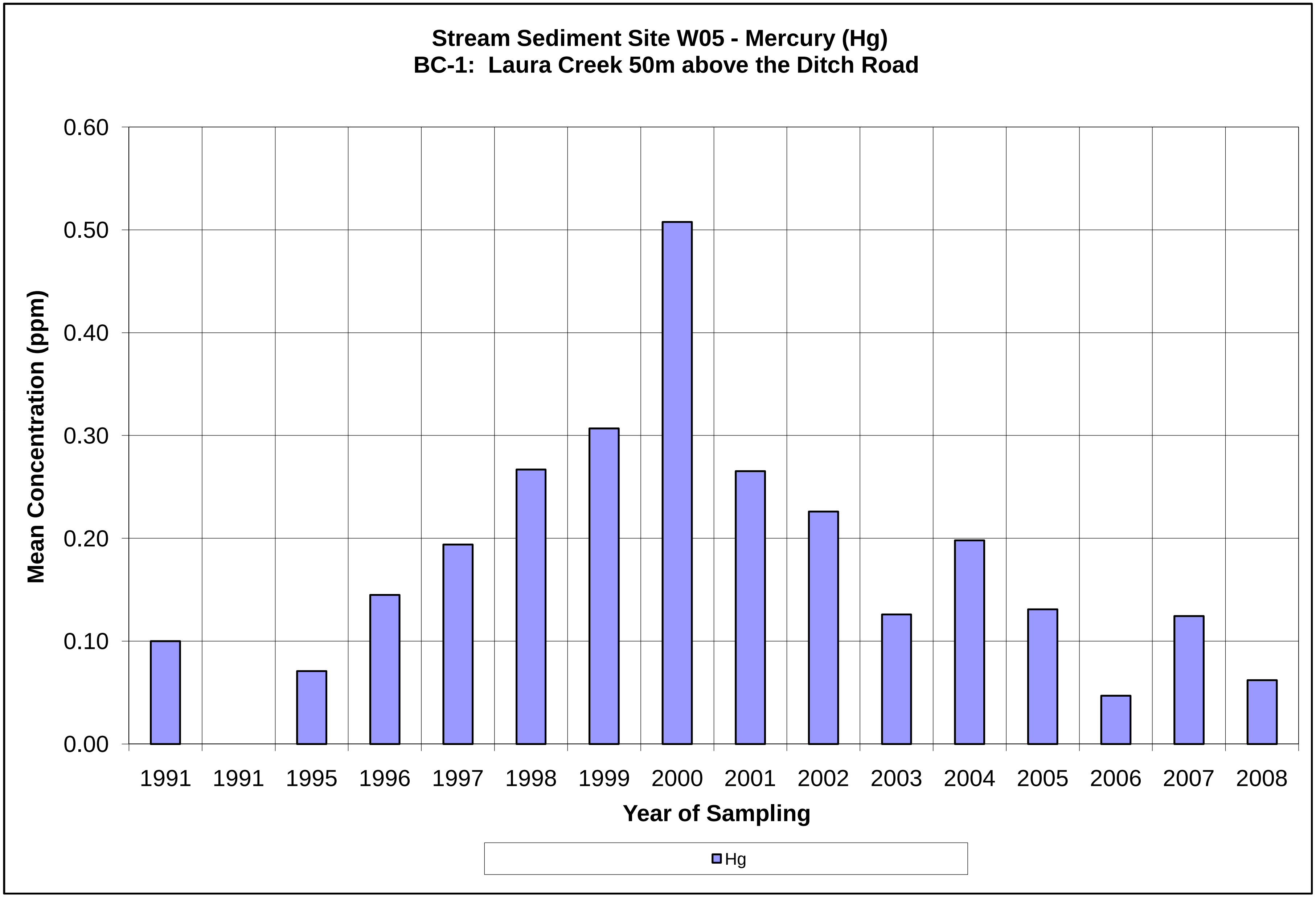
Stream Sediment Site W05 - Antimony (Sb)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

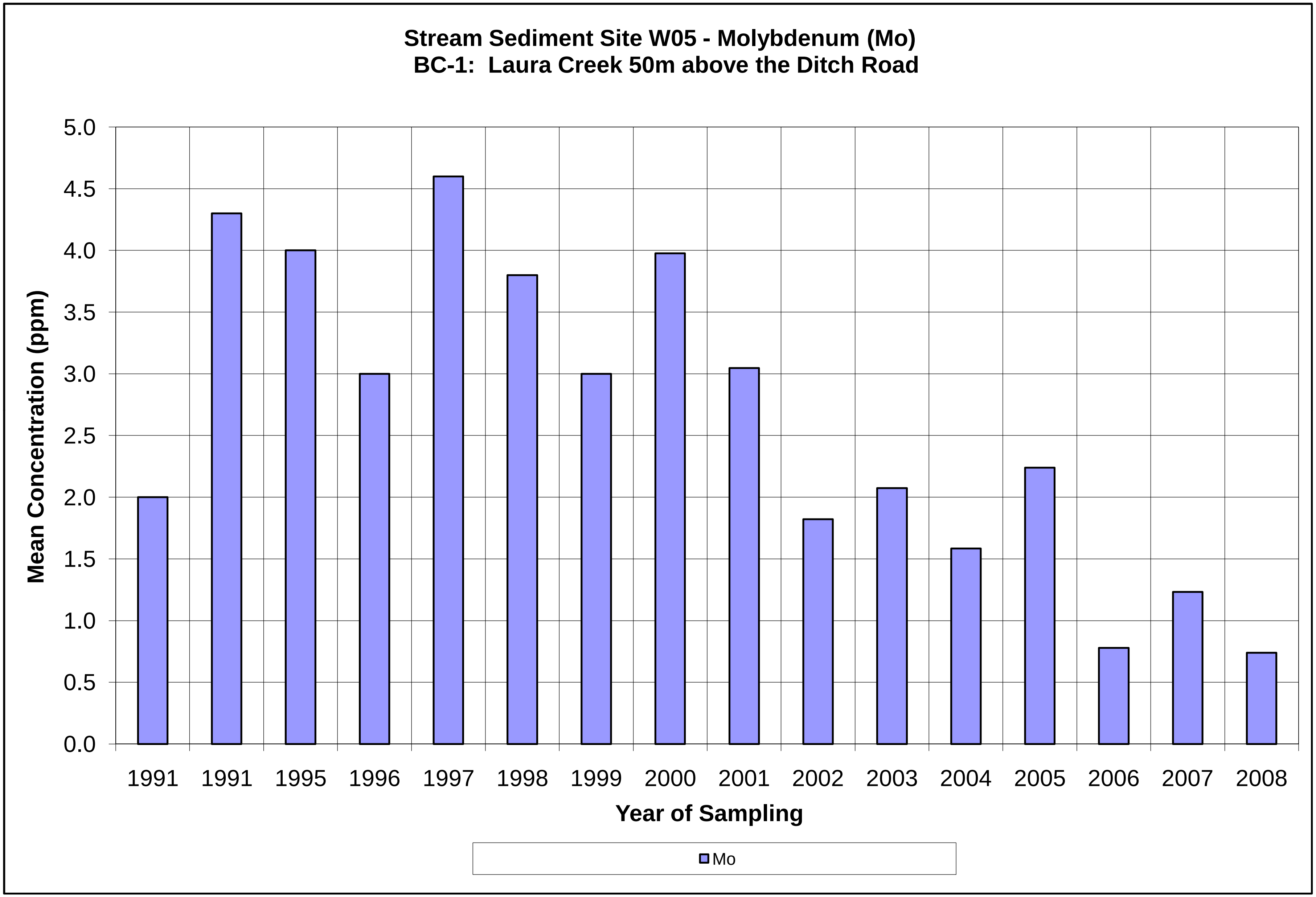


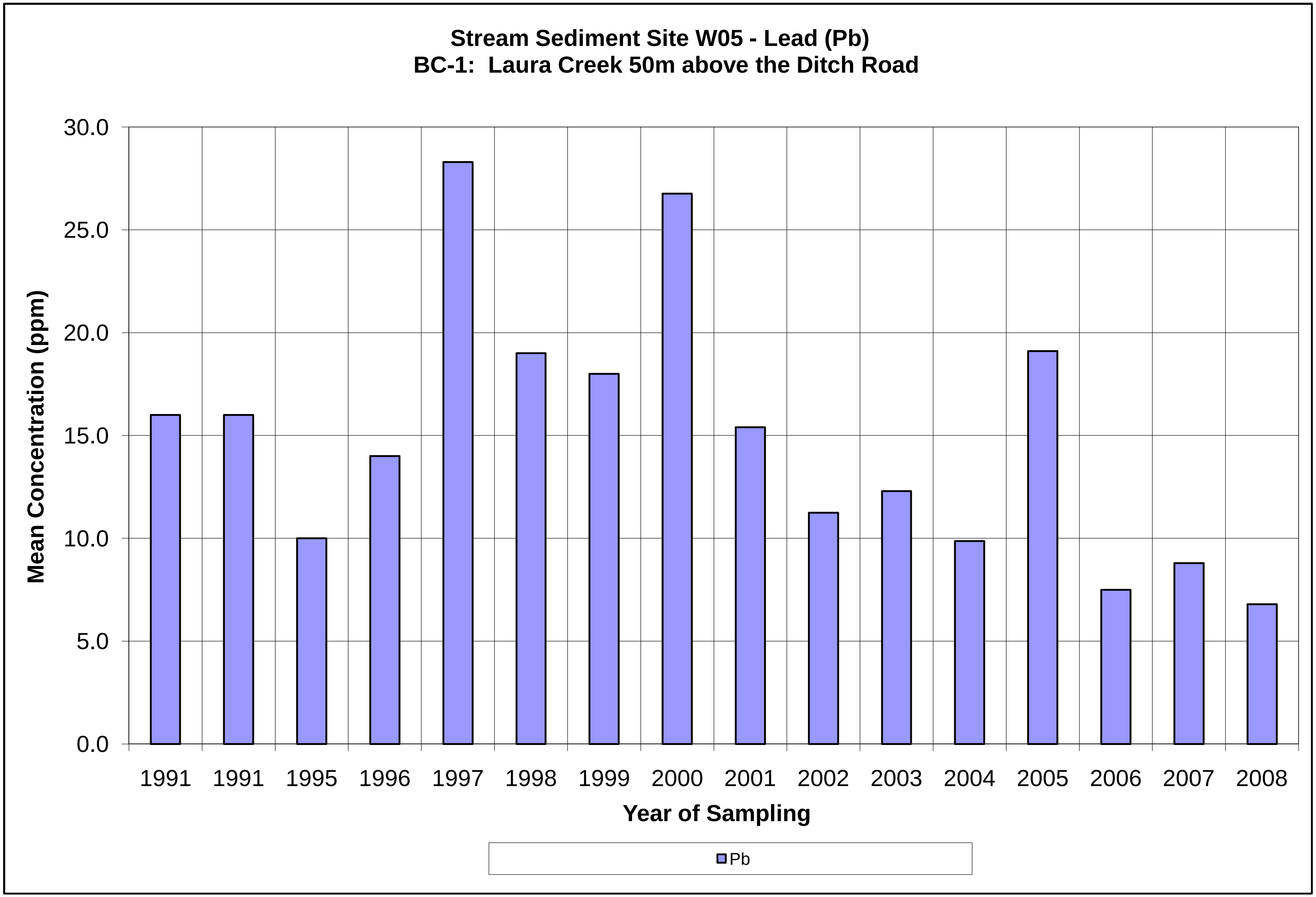
Stream Sediment Site W05 - Cadmium (Cd)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

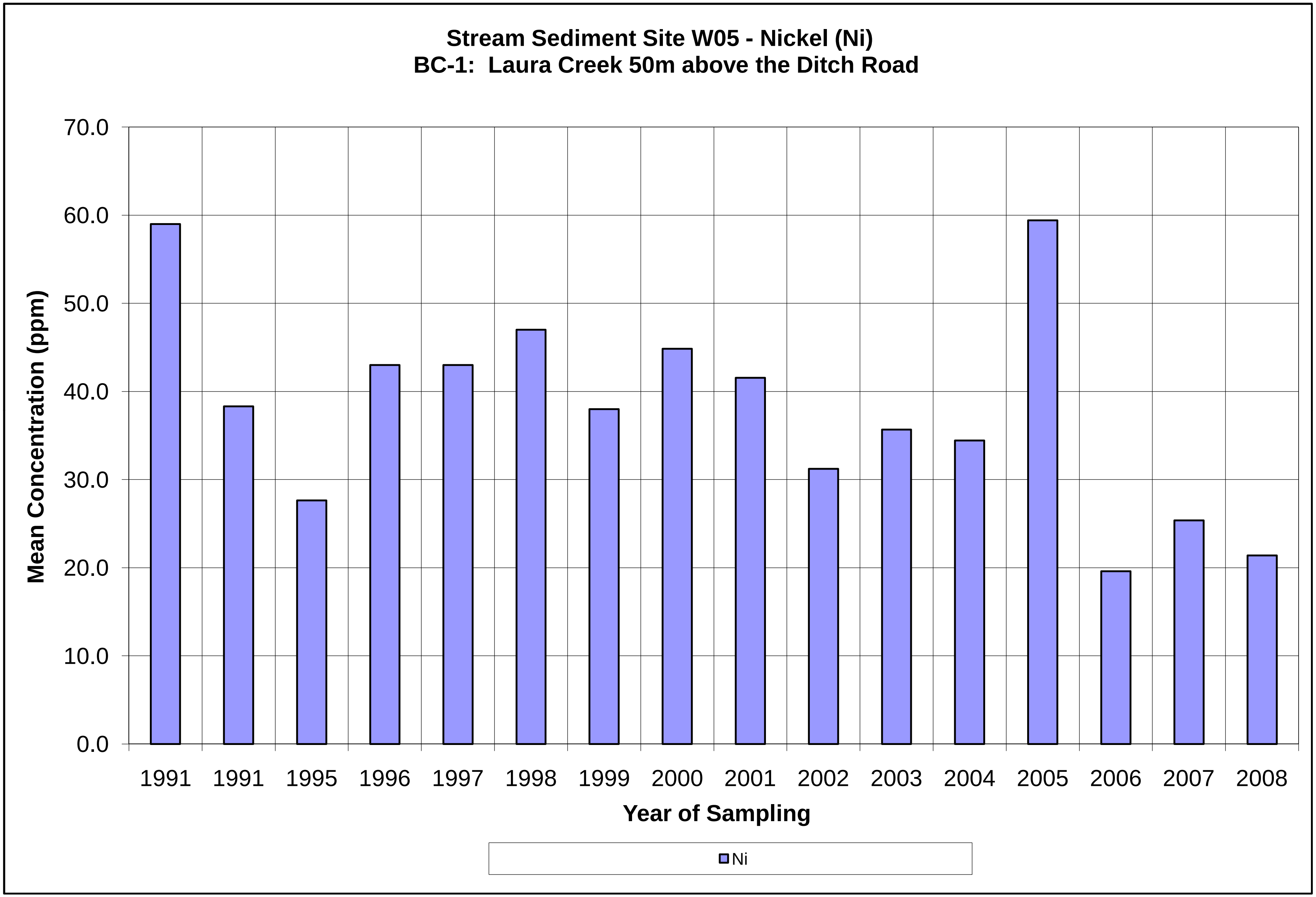


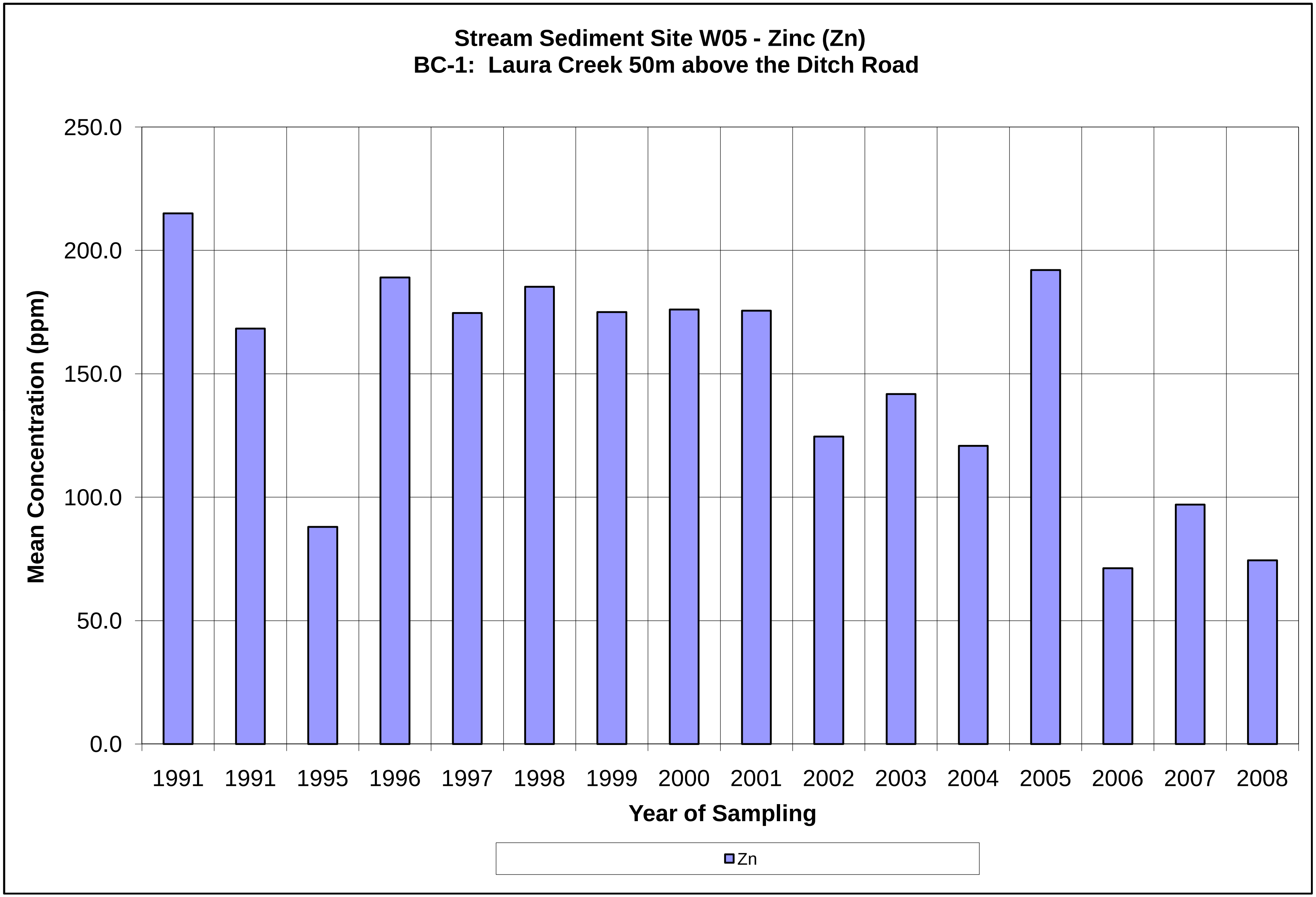
Stream Sediment Site W05 - Copper (Cu)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

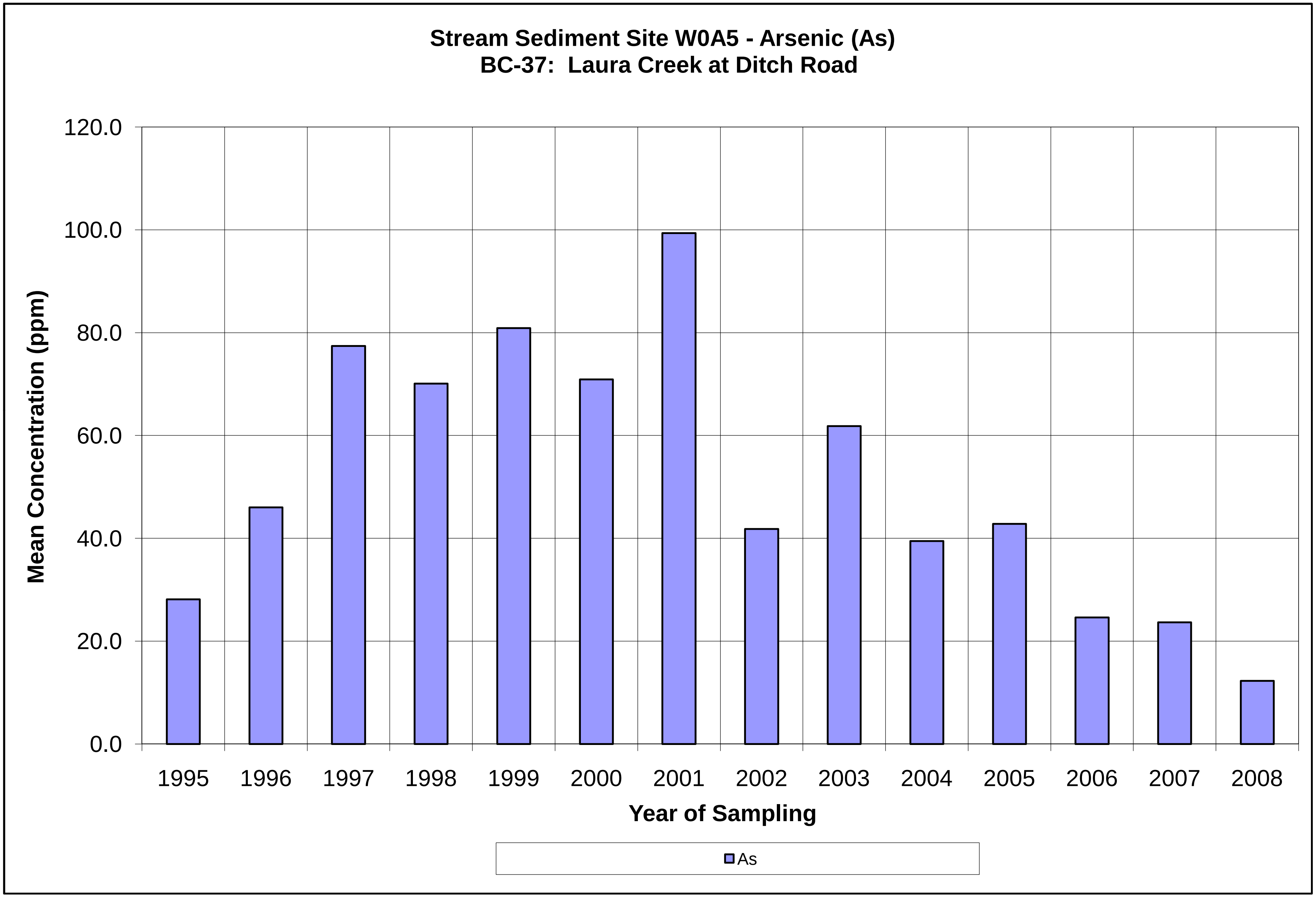

Stream Sediment Site W05 - Mercury (Hg)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

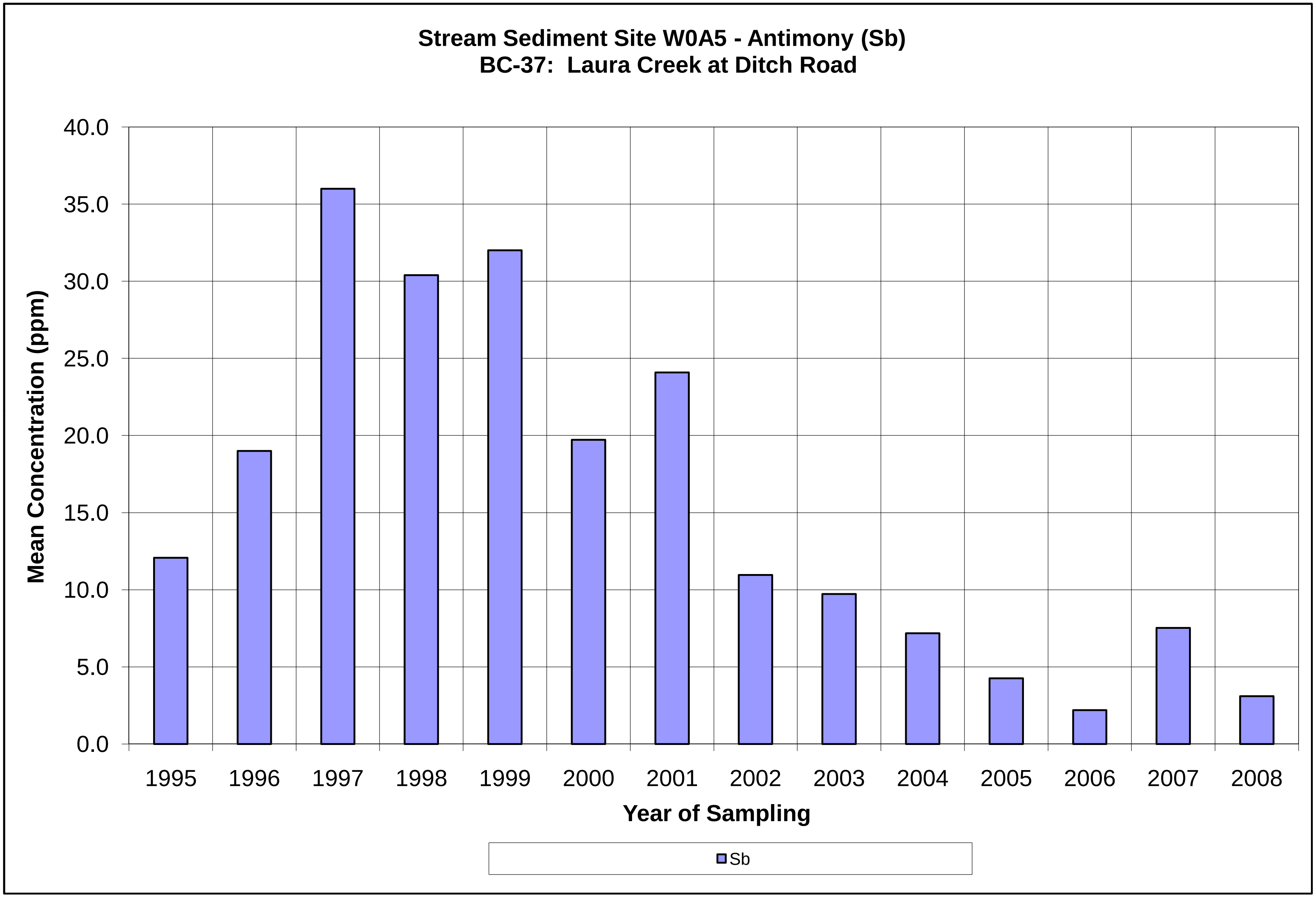

Stream Sediment Site W05 - Molybdenum (Mo)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo


Stream Sediment Site W05 - Lead (Pb)
BC-1: Laura Creek 50m above the Ditch Road
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Mean Concentration (ppm)
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

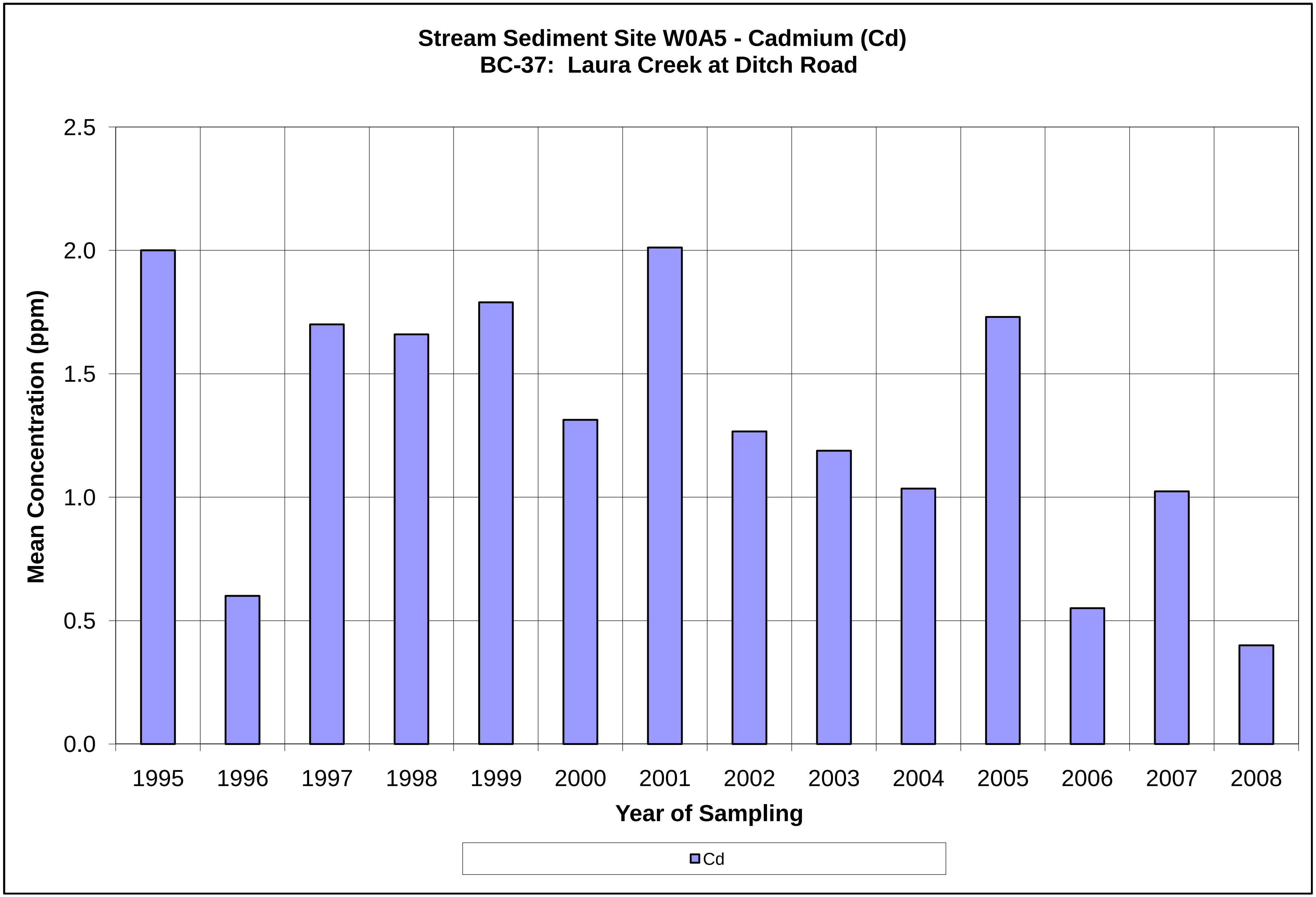

Stream Sediment Site W05 - Nickel (Ni)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni


Stream Sediment Site W05 - Zinc (Zn)
BC-1: Laura Creek 50m above the Ditch Road
Mean Concentration (ppm)
250.0
200.0
150.0
100.0
50.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

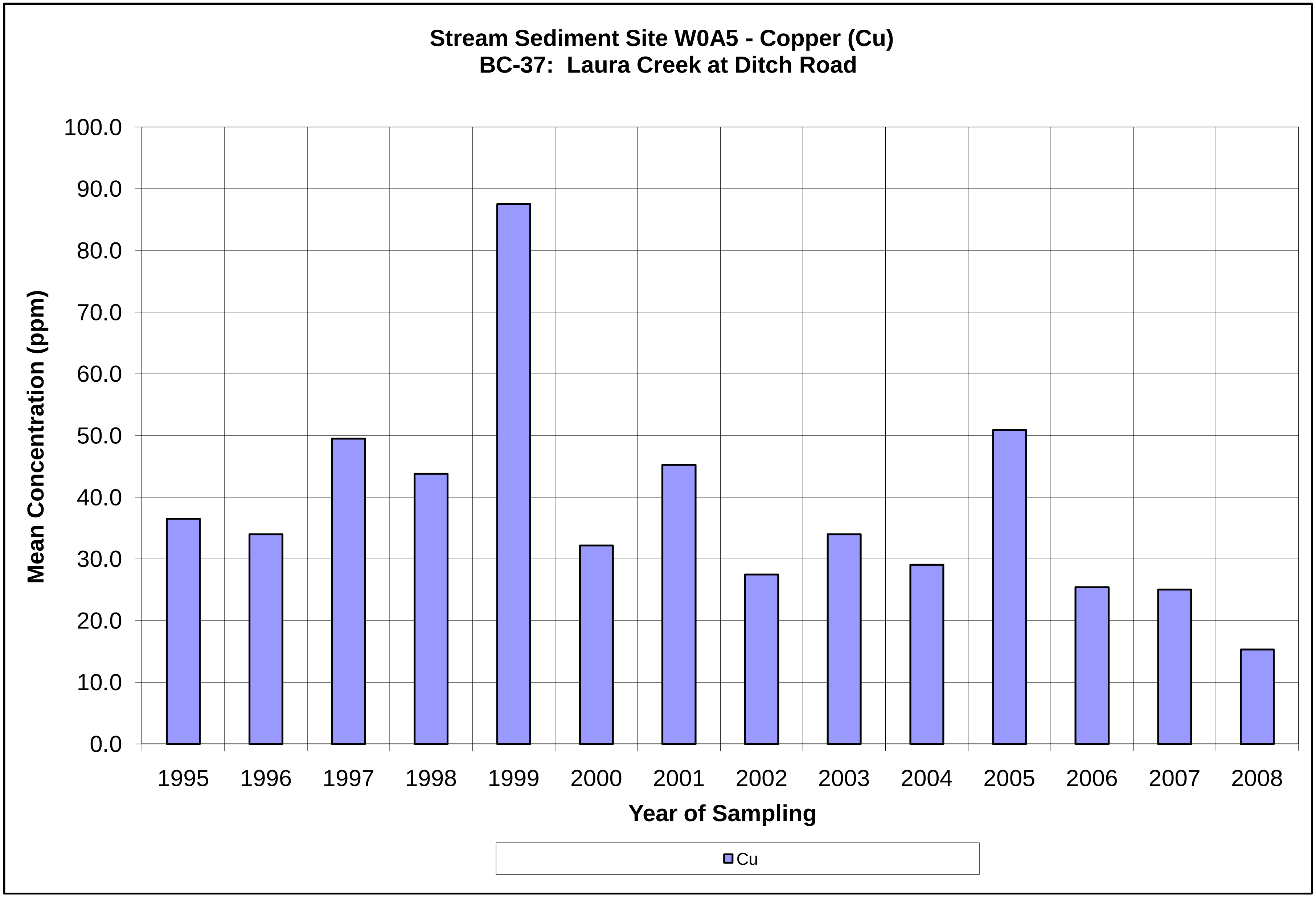

Stream Sediment Site W0A5 - Arsenic (As)
BC-37: Laura Creek at Ditch Road
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Mean Concentration (ppm)
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As



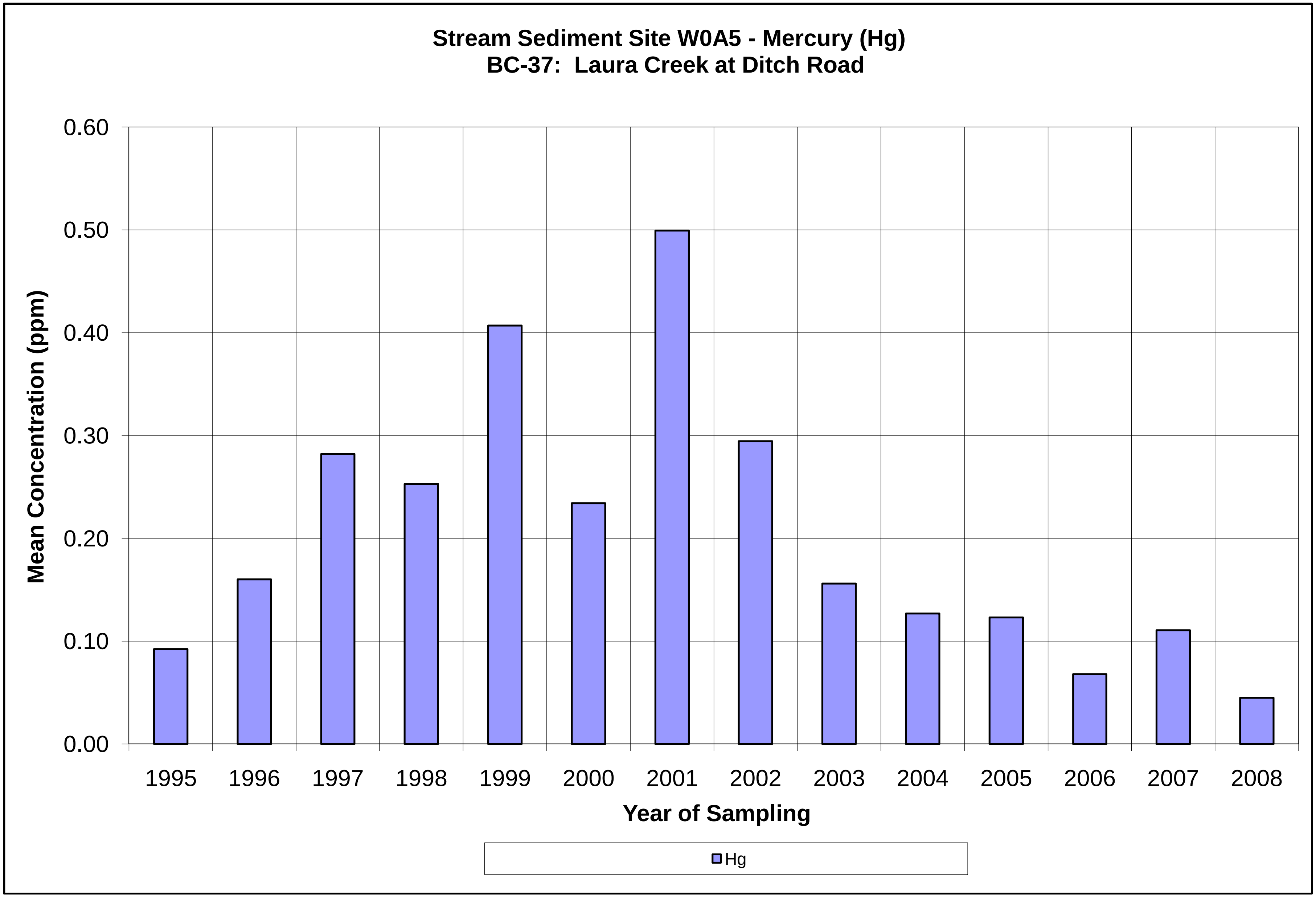
Stream Sediment Site W0A5 - Antimony (Sb)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

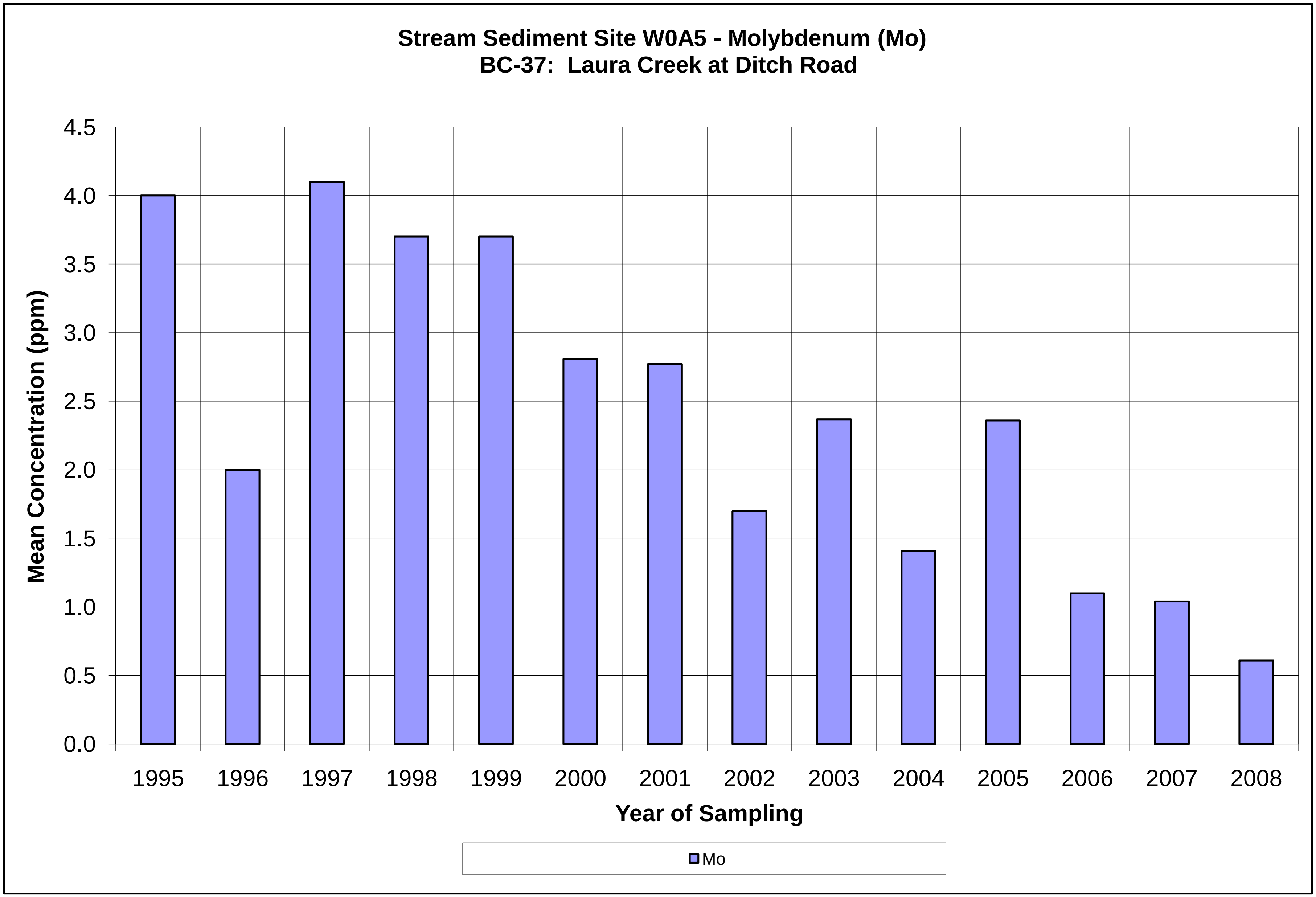


Stream Sediment Site W0A5 - Cadmium (Cd)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

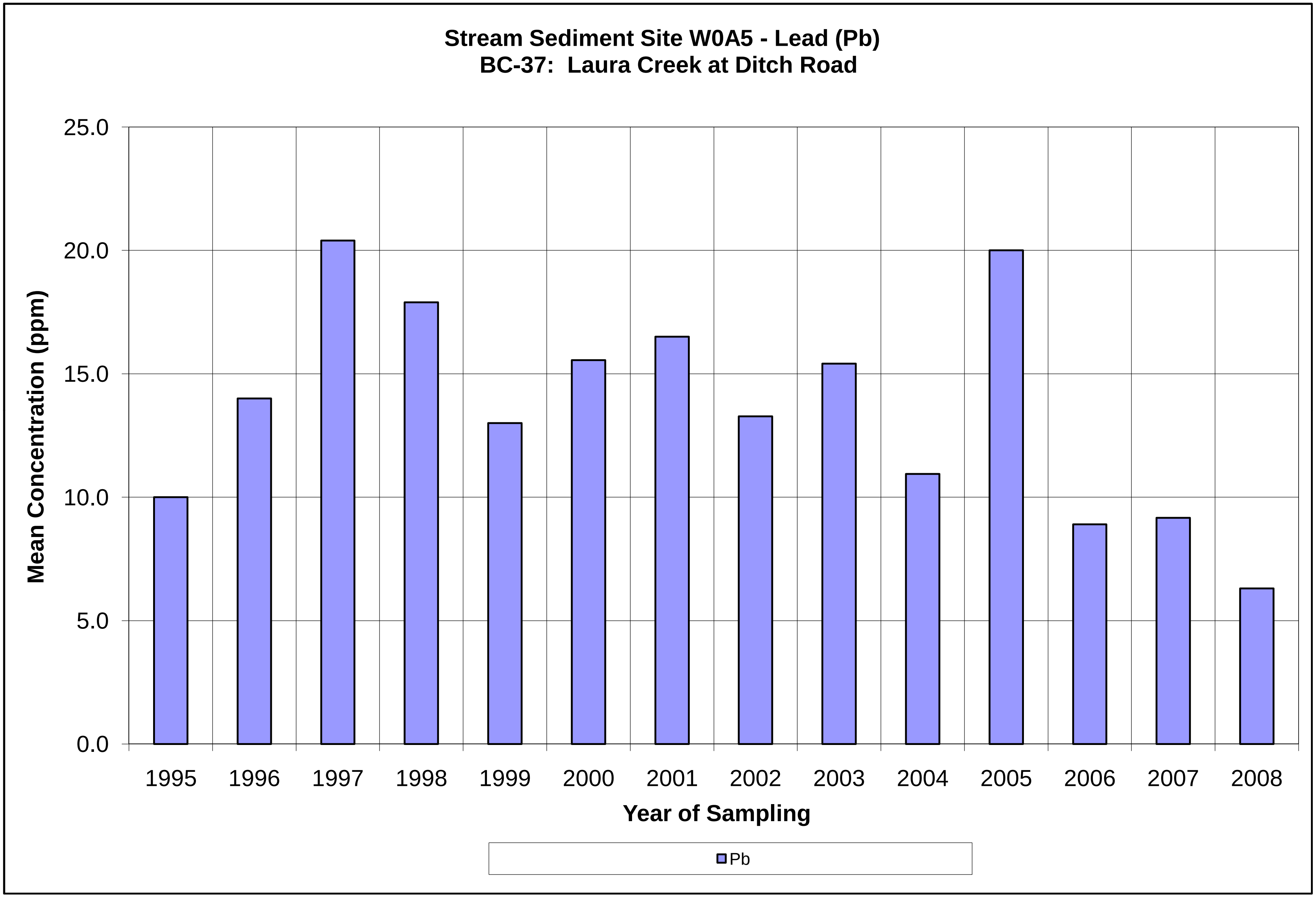


Stream Sediment Site W0A5 - Copper (Cu)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

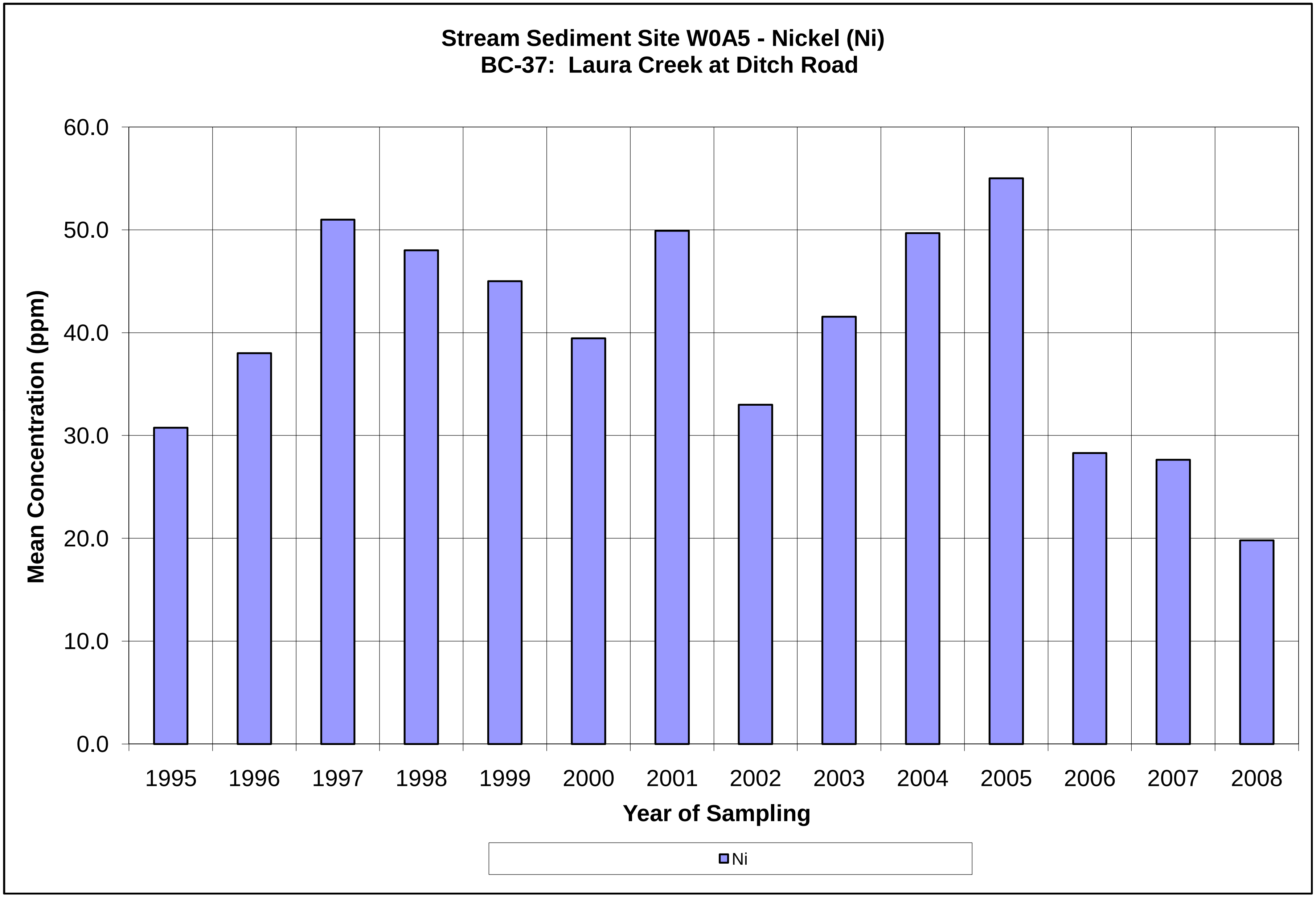

Stream Sediment Site W0A5 - Mercury (Hg)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

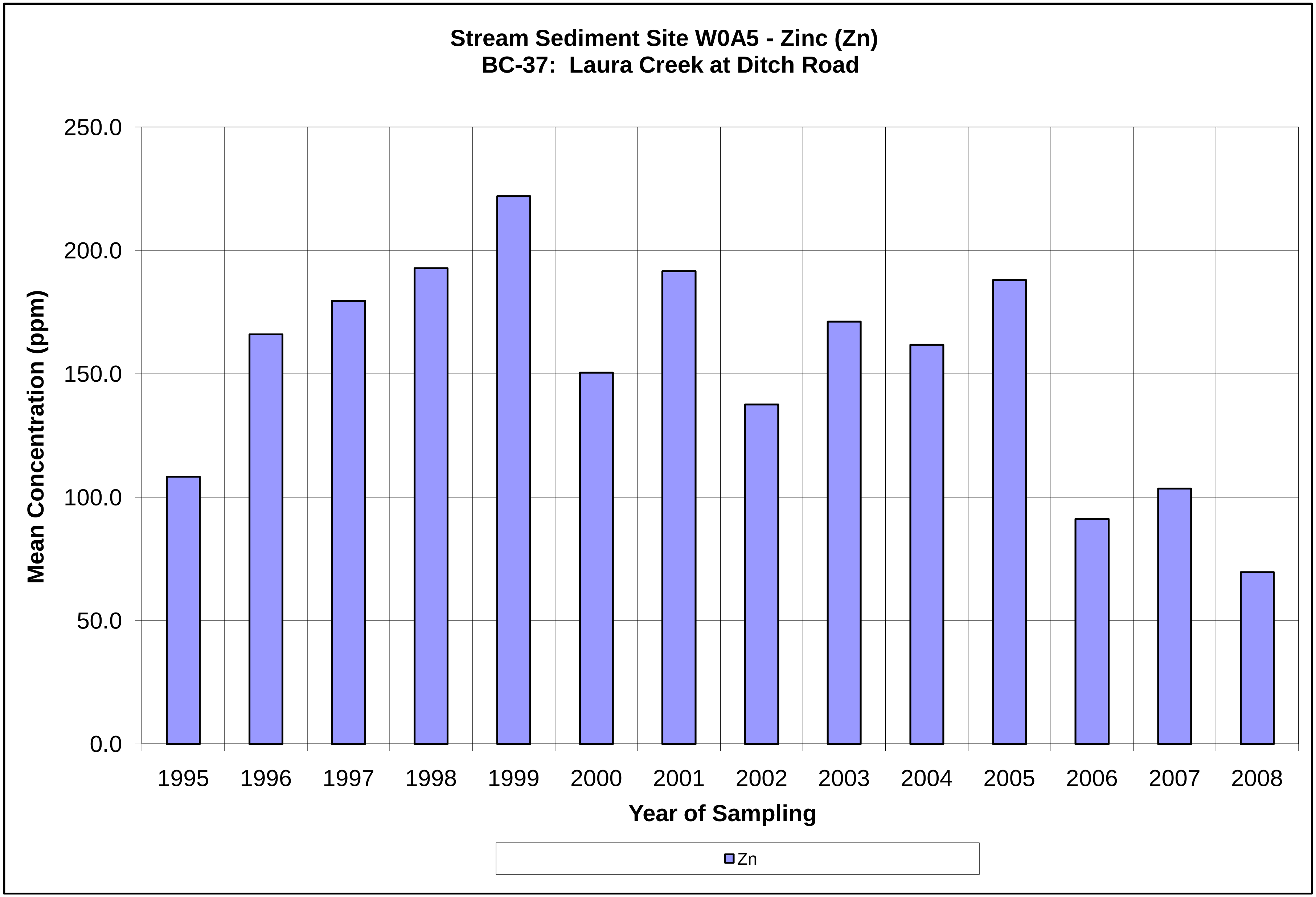


Stream Sediment Site W0A5 - Molybdenum (Mo)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo



Stream Sediment Site W0A5 - Lead (Pb)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb


Stream Sediment Site W0A5 - Nickel (Ni)
BC-37: Laura Creek at Ditch Road
Mean Concentration (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni



Stream Sediment Site W0A5 - Zinc (Zn)
BC-37: Laura Creek at Ditch Road
250.0
200.0
150.0
100.0
50.0
0.0
Mean Concentration (ppm)
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

Brewery Creek Mine

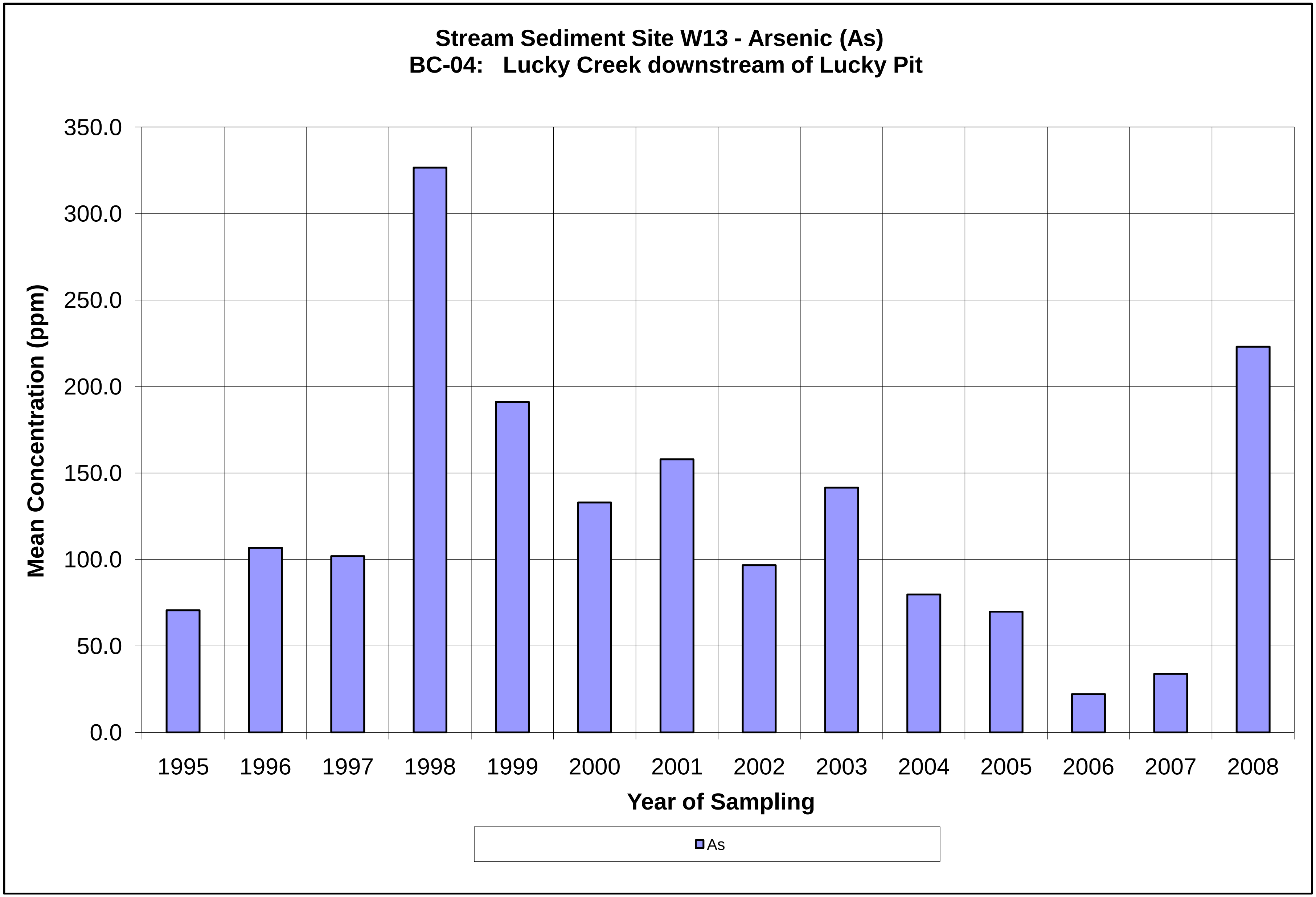
Stream Sediment Analysis: HISTORICAL COMPARISON

		Lucky Ck. Monitoring Station W13 BC-4													
				1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm			70.6	106.7	101.9	326.5	191.0	132.9	157.9	96.6	141.5	79.7	69.8	22.2	33.9	223.0
Sb	ppm			16.4	19.7	24.0	92.4	34.9	28.1	34.6	16.3	7.9	8.9	7.2	2.0	6.3	11.0
Cd	ppm			2.0	2.3	1.3	2.5	1.8	1.5	1.7	1.6	1.6	1.4	1.5	0.7	1.4	2.8
Cu	ppm			33.8	28.7	33.5	39.1	49.1	29.9	38.9	28.0	33.9	24.3	41.0	21.9	27.1	37.0
Hg	ppm			0.3	1.0	1.9	1.2	1.0	1.1	1.2	0.7	0.9	0.5	0.4	0.1	0.3	0.3
Mo	ppm			4.0	4.7	7.2	6.5	5.1	5.3	6.6	4.2	5.9	3.9	3.4	0.9	1.1	2.8
Pb	ppm			23.7	34.0	48.5	62.5	47.0	35.3	40.7	32.5	46.0	29.1	29.3	10.6	17.8	12.2
Ni	ppm			37.4	46.7	30.0	54.0	41.0	31.3	39.3	32.8	39.2	46.3	46.0	25.1	32.4	39.1
Zn	ppm			216.0	307.0	170.6	298.4	237.0	158.1	213.4	190.4	240.8	194.8	211.0	89.9	120.7	217.0

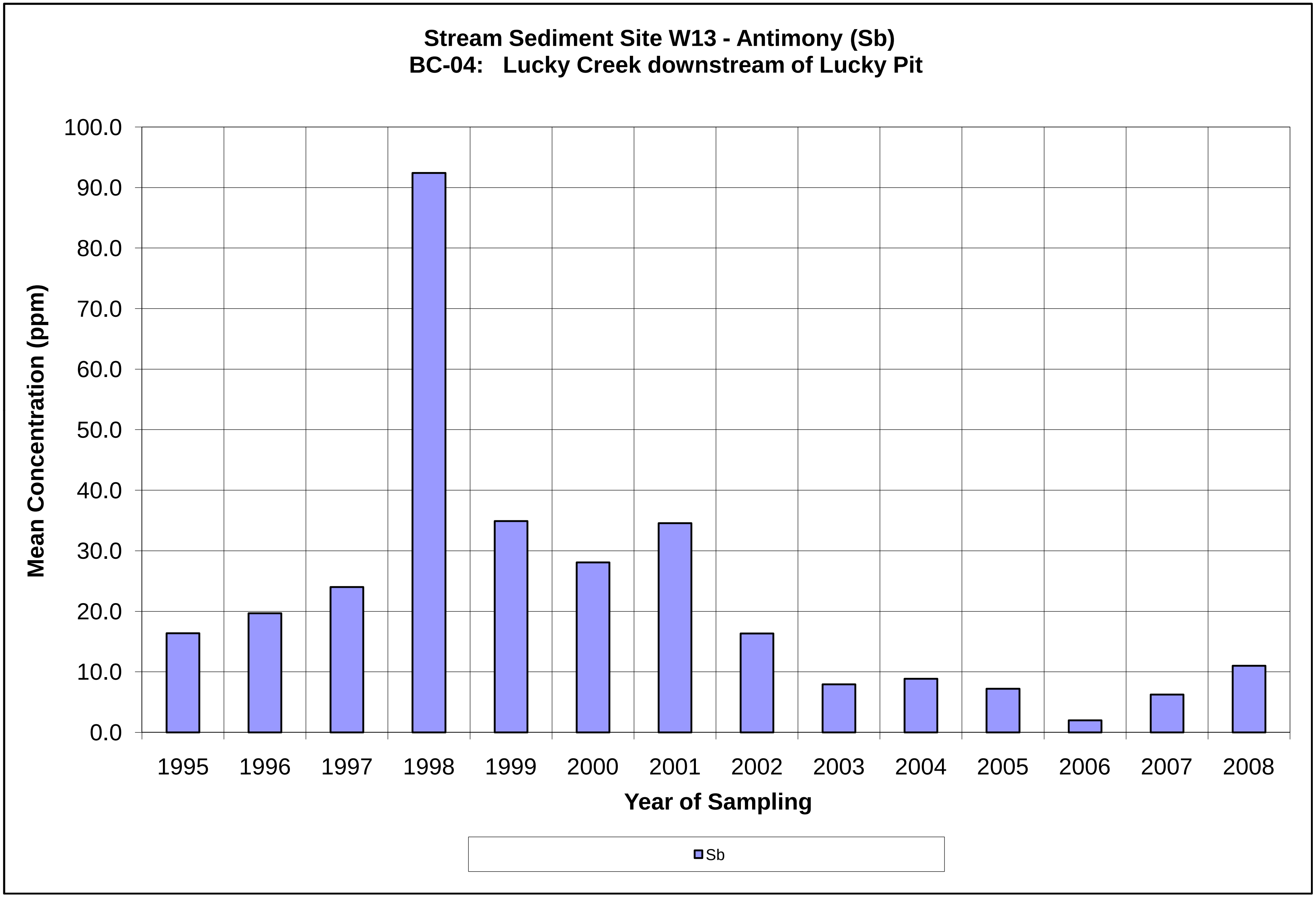
		Golden Creek Monitoring Stations W16 BC-36													
				1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm			19.2	8.0	6.4	8.1	10.2	13.1	9.2	4.6	12.0	6.1	22.3	6.4	5.4	9.1
Sb	ppm			2.6	2.0	2.1	1.5	2.0	2.6	1.4	1.0	1.4	2.0	2.6	<0.5	2.1	2.5
Cd	ppm			2.4	1.1	1.4	1.0	1.2	1.9	1.4	1.5	2.5	1.3	1.9	0.6	1.3	1.8
Cu	ppm			99.0	42.3	59.3	41.8	61.7	55.7	45.2	31.1	58.8	33.1	26.7	21.9	37.5	106.0
Hg	ppm			0.4	1.0	0.2	0.1	0.2	0.3	0.3	0.5	0.2	0.2	0.5	0.1	0.2	0.2
Mo	ppm			4.3	3.0	4.8	3.6	4.2	5.1	3.6	2.5	4.1	2.6	1.6	1.2	2.8	4.1
Pb	ppm				6.3	13.2	8.4	13.0	9.9	9.9	8.6	11.0	7.3	8.4	6.3	7.0	10.8
Ni	ppm			50.0	46.3	56.0	40.0	47.0	45.9	50.6	33.2	58.8	43.5	61.8	23.2	36.9	42.2
Zn	ppm			308.5	289.7	302.7	217.8	290.0	268.3	300.7	204.8	362.3	230.4	373.0	104.0	206.3	238.0

		Golden Creek Monitoring Stations W02 BC-31													
		1991	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm	85.0	52.3	35.2	41.7	37.8	39.0	50.5	35.4	35.0	21.7	48.9	23.0	36.3	20.3	17.1	20.5
Sb	ppm	29.0	13.3	12.2	12.3	12.6	11.8	29.6	9.8	7.7	5.9	6.3	2.1	6.6	2.6	4.5	6.0
Cd	ppm	4.2	1.7	2.0	1.9	1.8	2.5	1.9	1.5	1.4	1.1	2.3	1.5	2.3	1.9	1.3	1.2
Cu	ppm	59.0	37.9	61.7	42.0	54.8	56.6	95.9	34.2	43.9	32.7	48.1	30.8	39.7	41.4	33.7	33.0
Hg	ppm	0.5	0.0	0.3	1.0	0.3	0.4	0.4	0.3	0.5	0.4	0.3	0.3	0.2	0.3	0.2	0.2
Mo	ppm	3.7	7.3	4.0	3.0	5.6	4.6	3.9	3.0	4.1	2.5	3.1	1.8	3.0	2.0	2.0	2.2
Pb	ppm	33.0	15.7	19.3	19.0	22.7	17.5	25.0	14.8	15.2	12.1	19.6	12.0	17.7	12.8	9.9	10.3
Ni	ppm	69.0	44.7	49.9	55.0	57.0	60.0	52.0	43.6	50.1	39.7	59.2	53.7	56.8	44.1	39.4	38.6
Zn	ppm	328.0	232.7	287.7	309.7	305.9	295.6	289.0	215.5	296.7	211.7	309.8	233.6	297.0	223.0	182.3	197.0

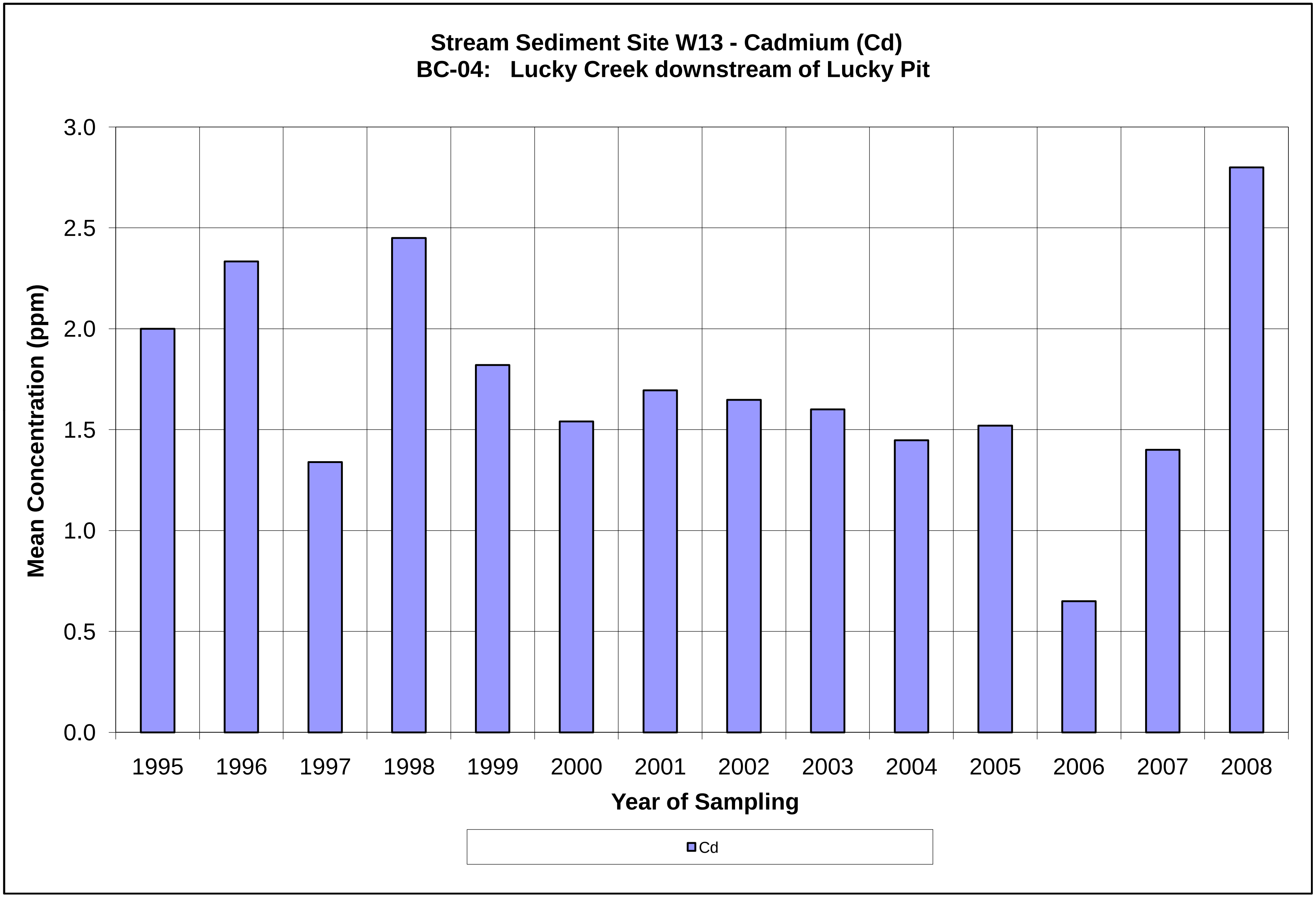
*** all values represent mean of replicate samples***

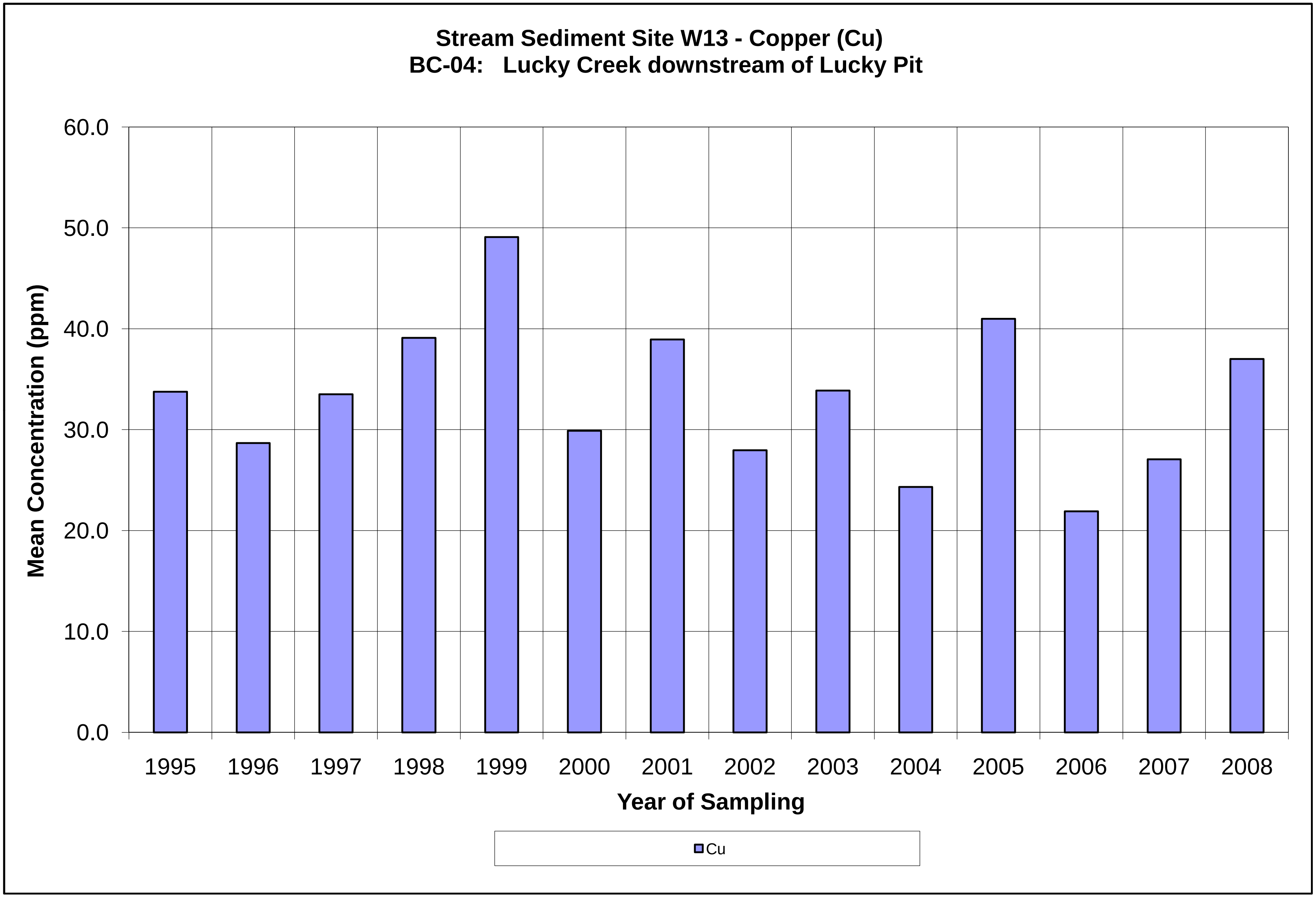


Stream Sediment Site W13 - Arsenic (As)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

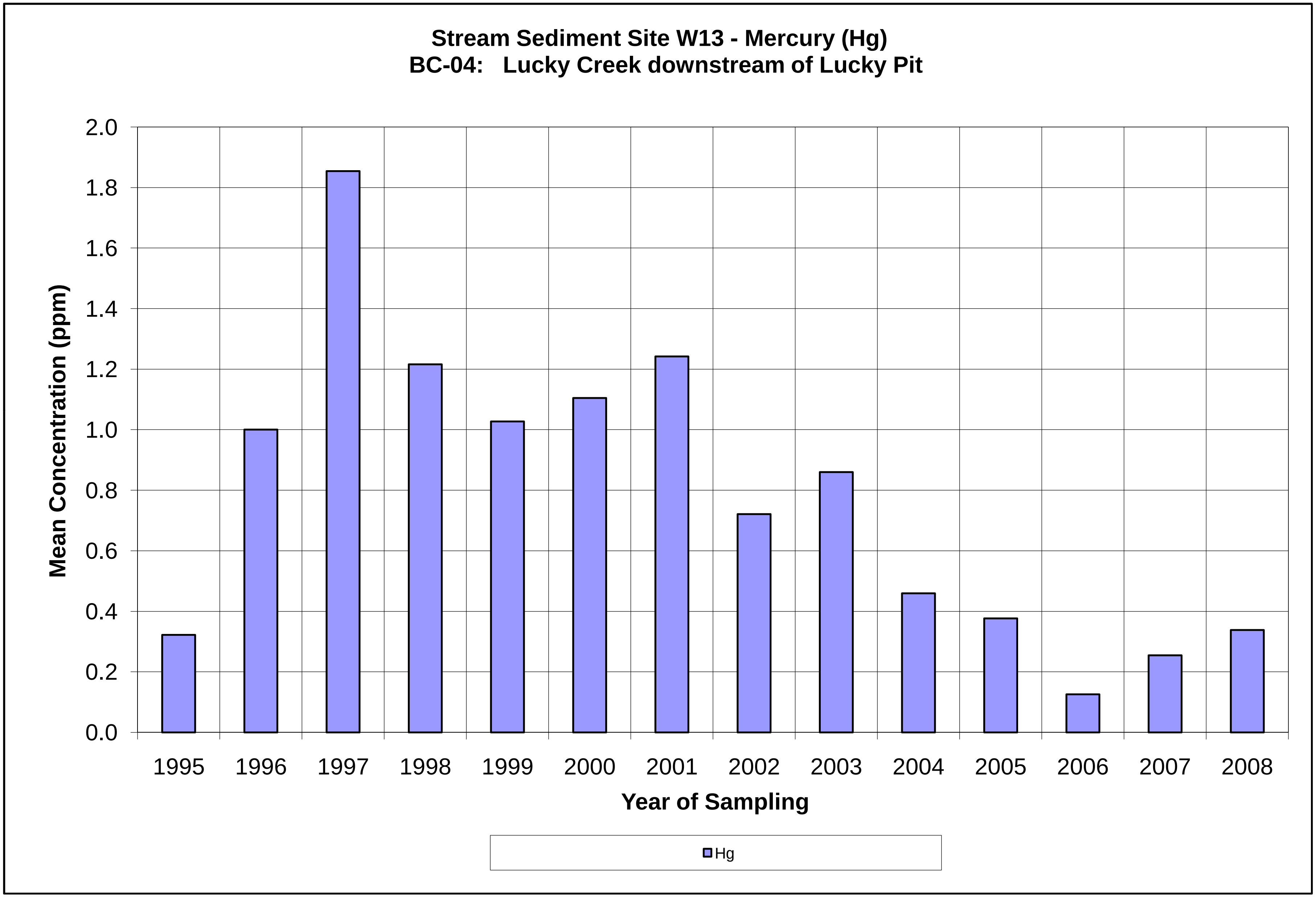


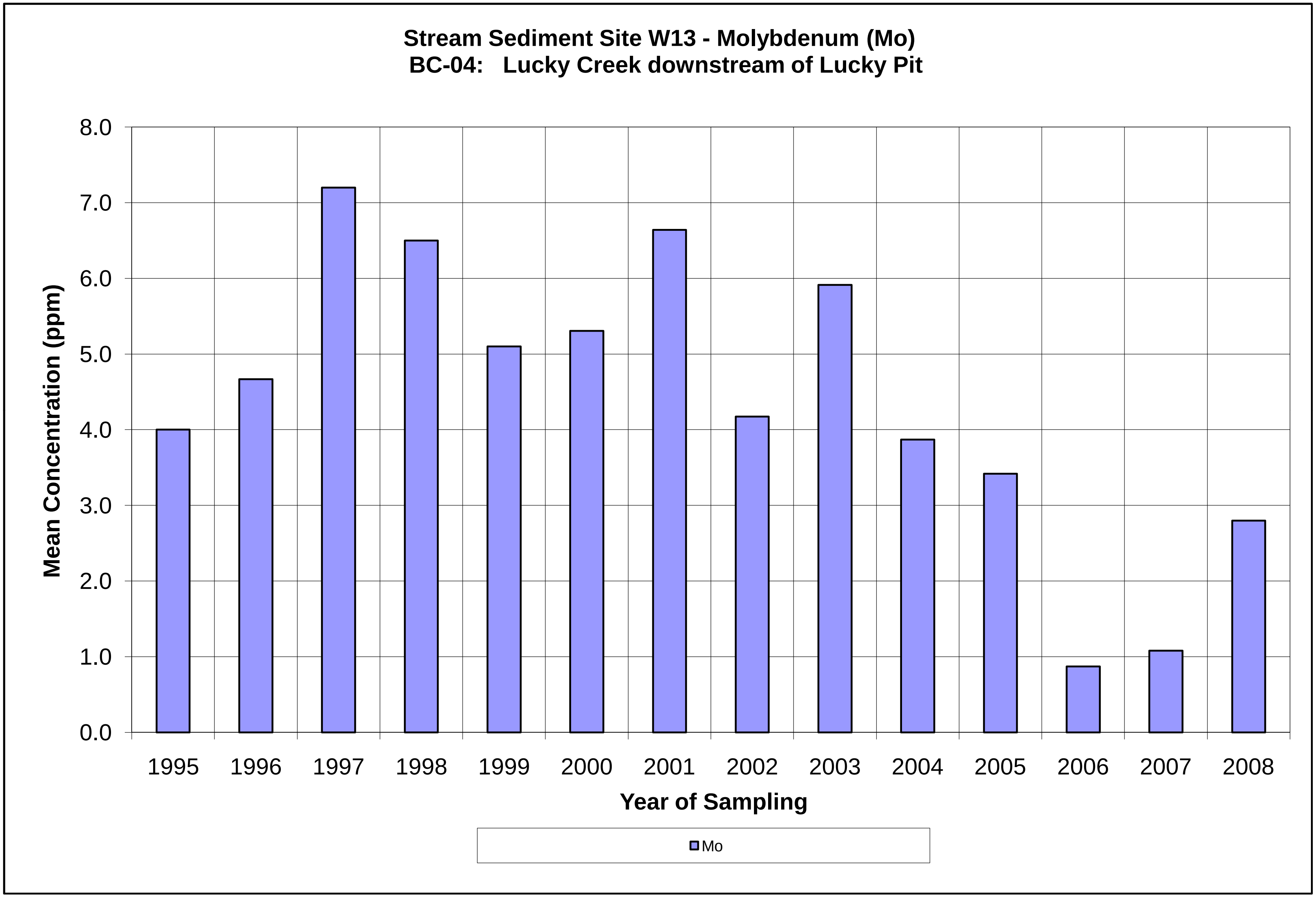
Stream Sediment Site W13 - Antimony (Sb)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

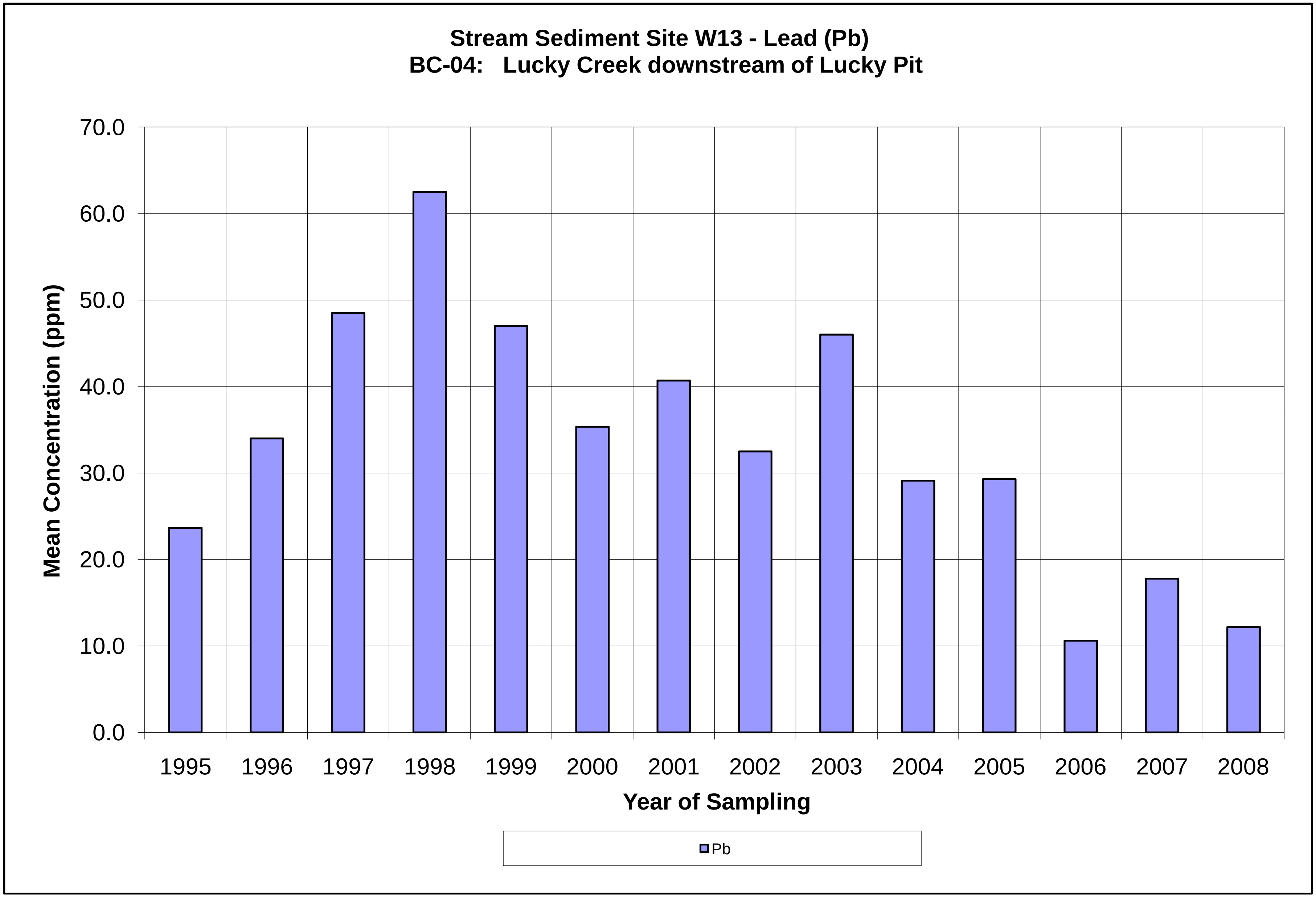

Stream Sediment Site W13 - Cadmium (Cd)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd



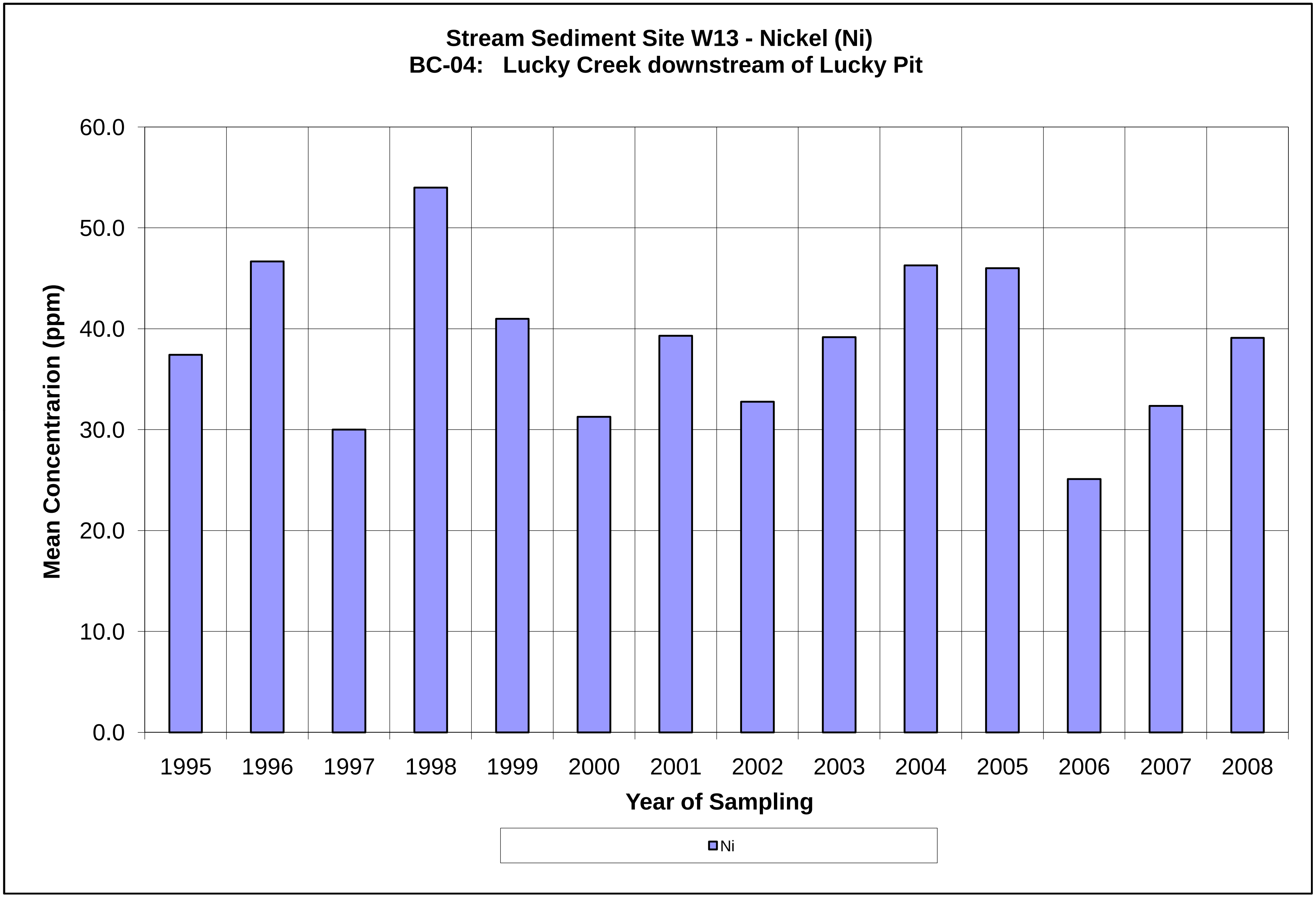
Stream Sediment Site W13 - Copper (Cu)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu


Stream Sediment Site W13 - Mercury (Hg)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

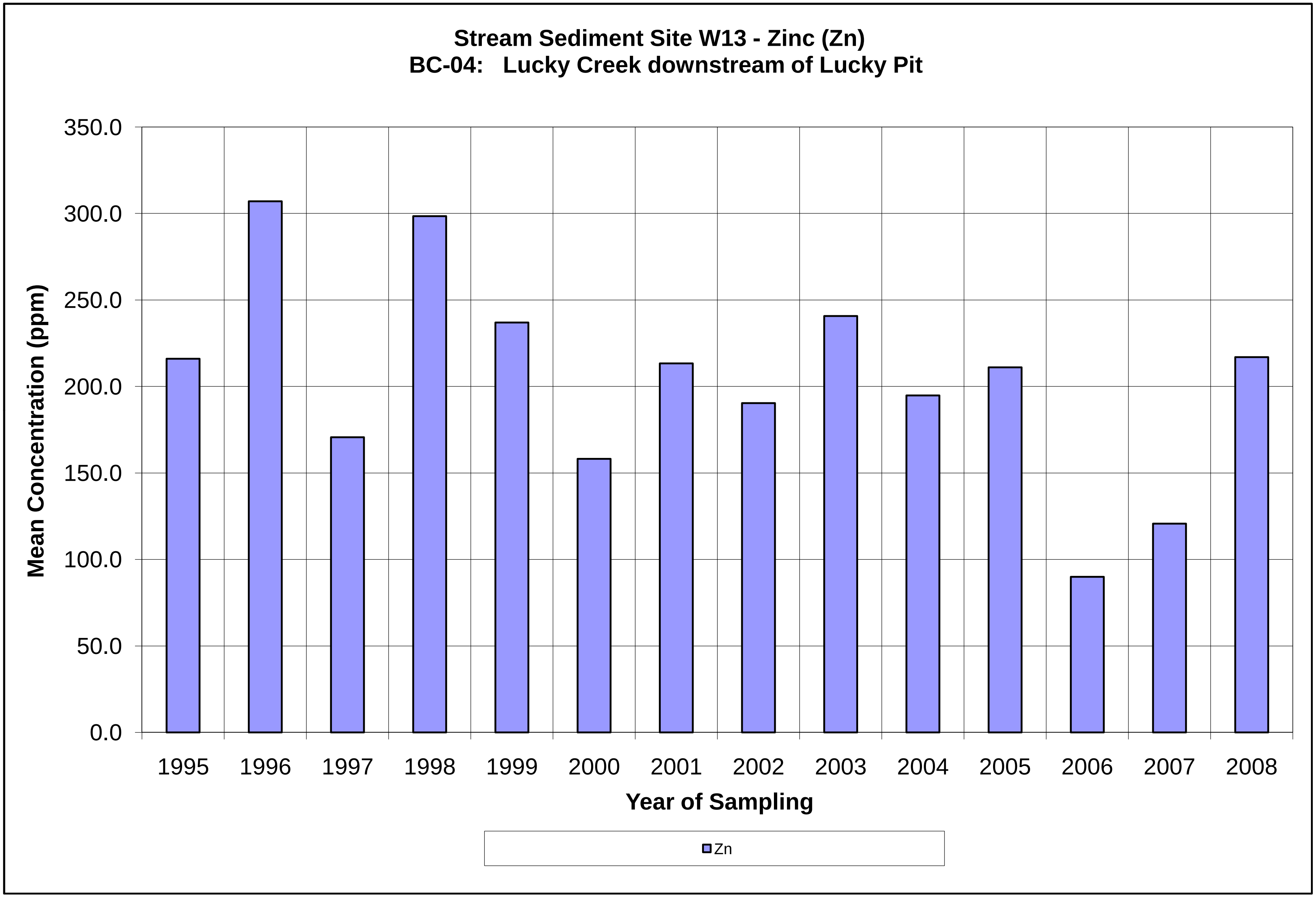

Stream Sediment Site W13 - Molybdenum (Mo)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo



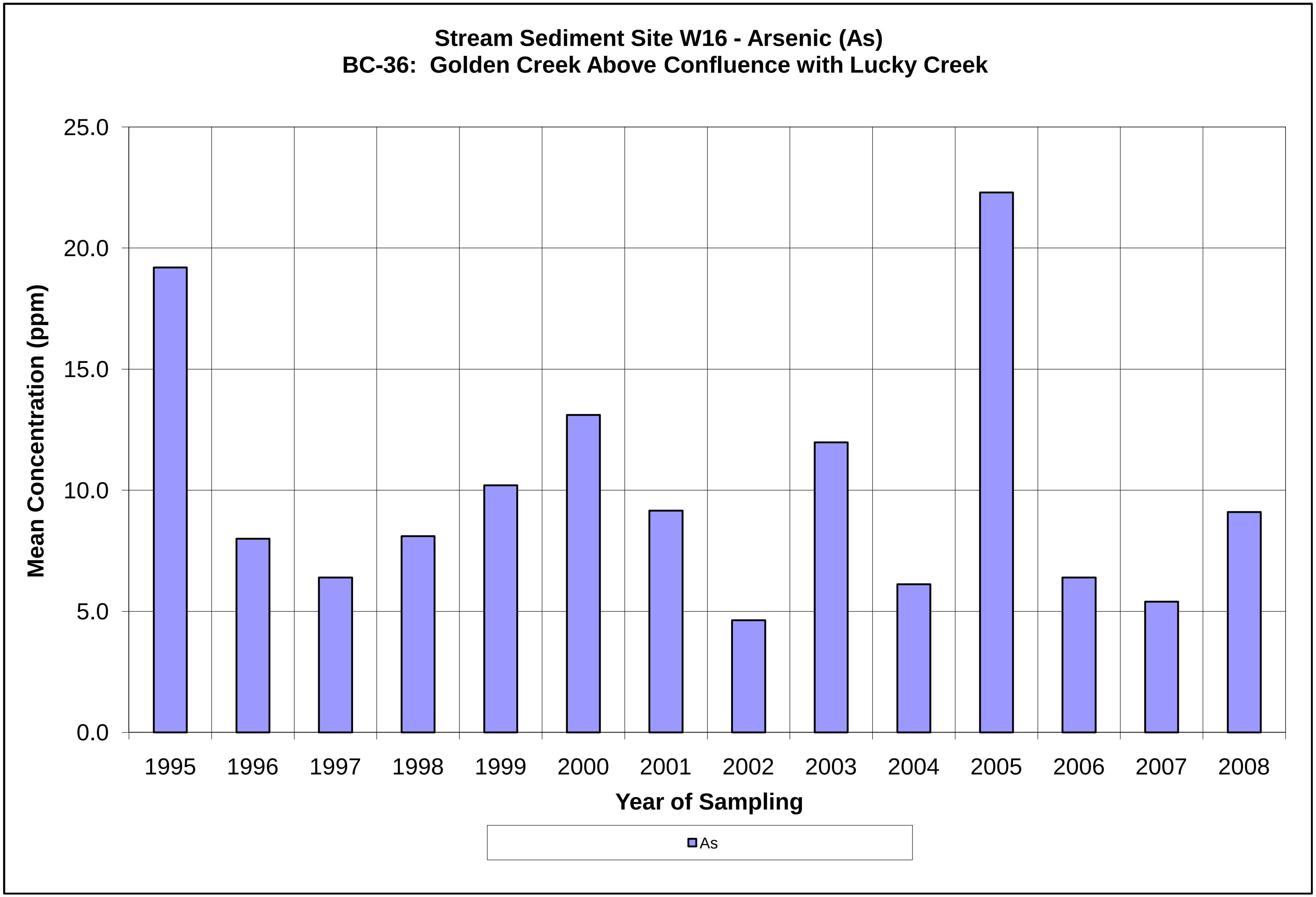
Stream Sediment Site W13 - Lead (Pb)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentration (ppm)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

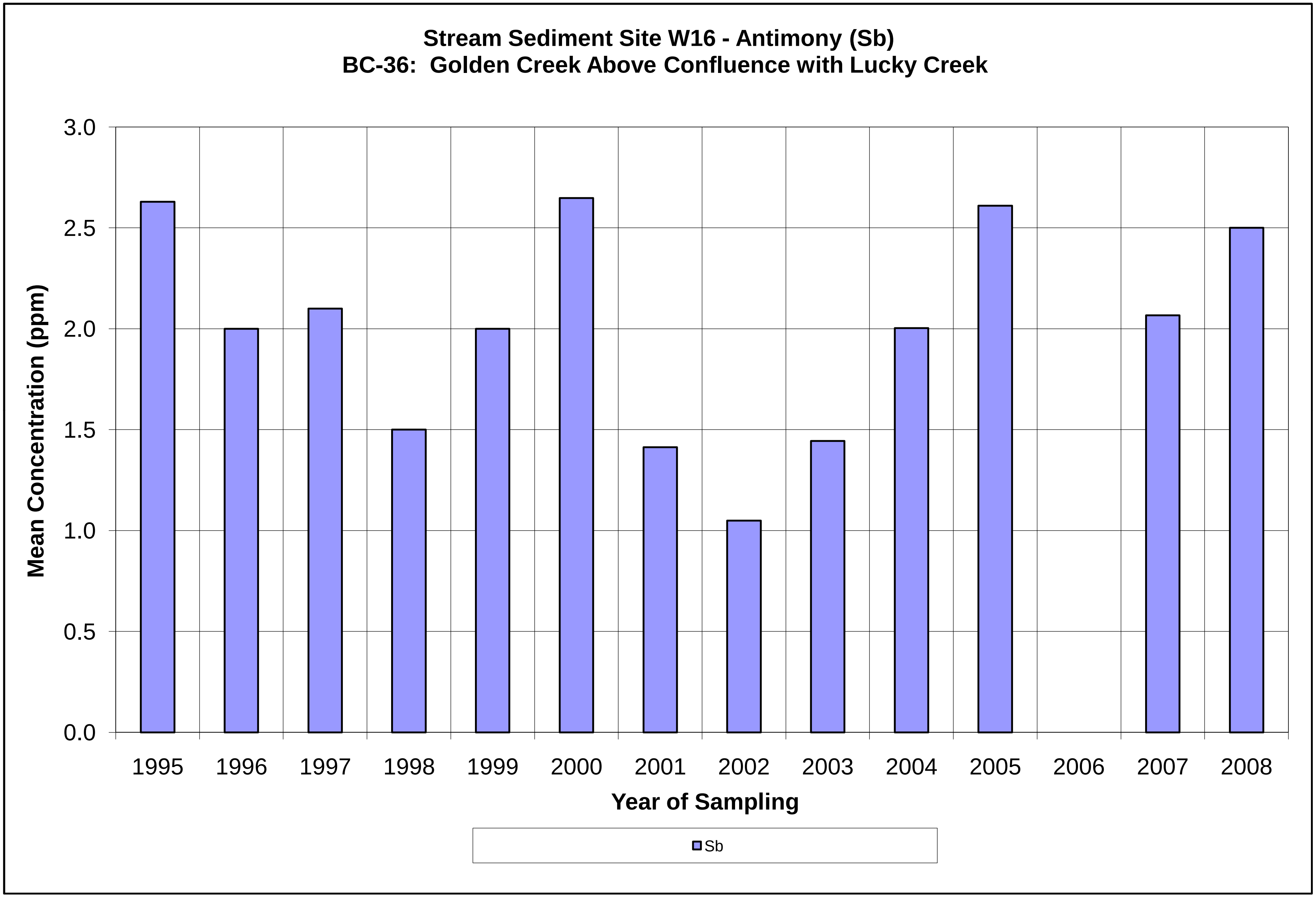


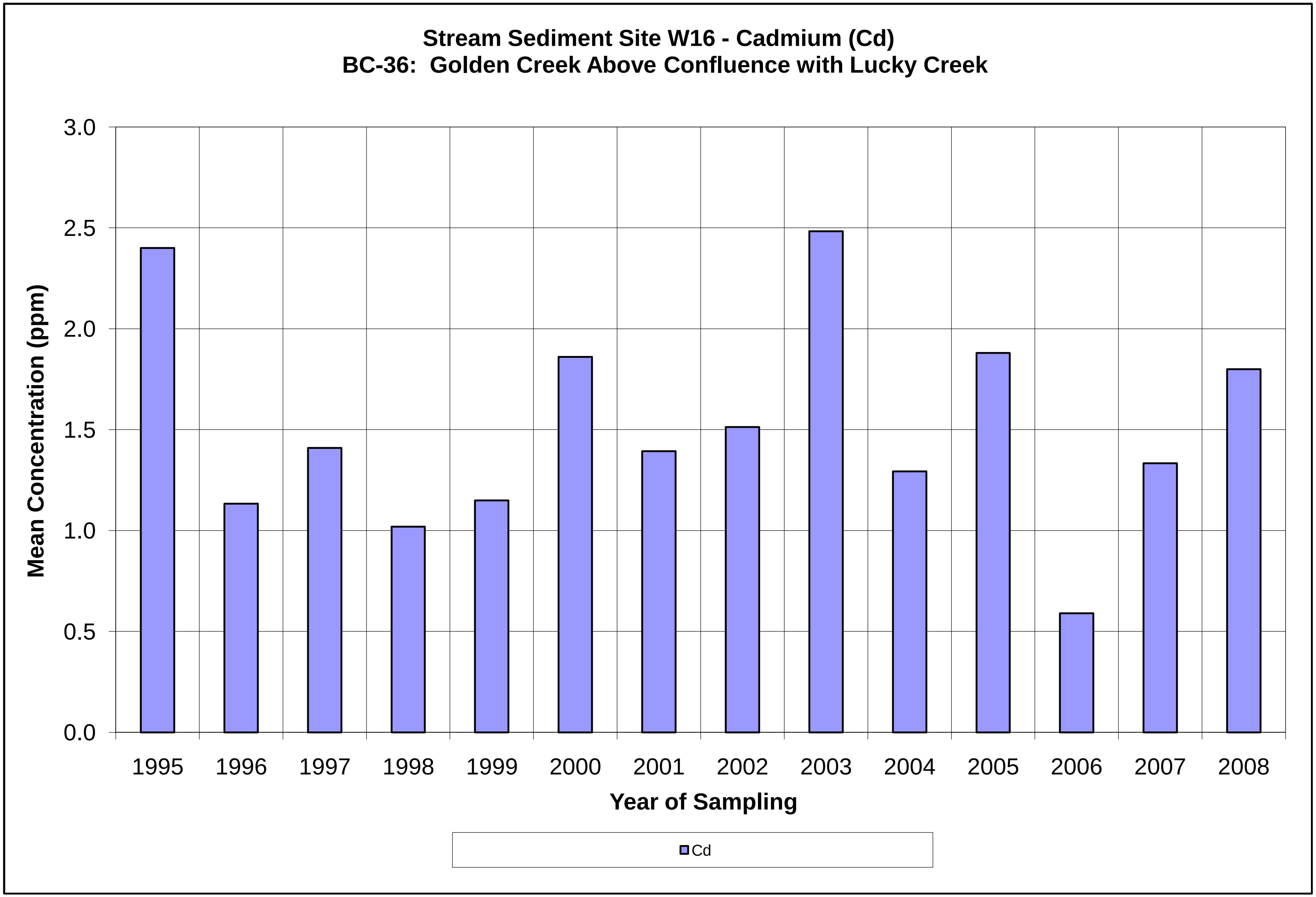
Stream Sediment Site W13 - Nickel (Ni)
BC-04: Lucky Creek downstream of Lucky Pit
Mean Concentrarion (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni



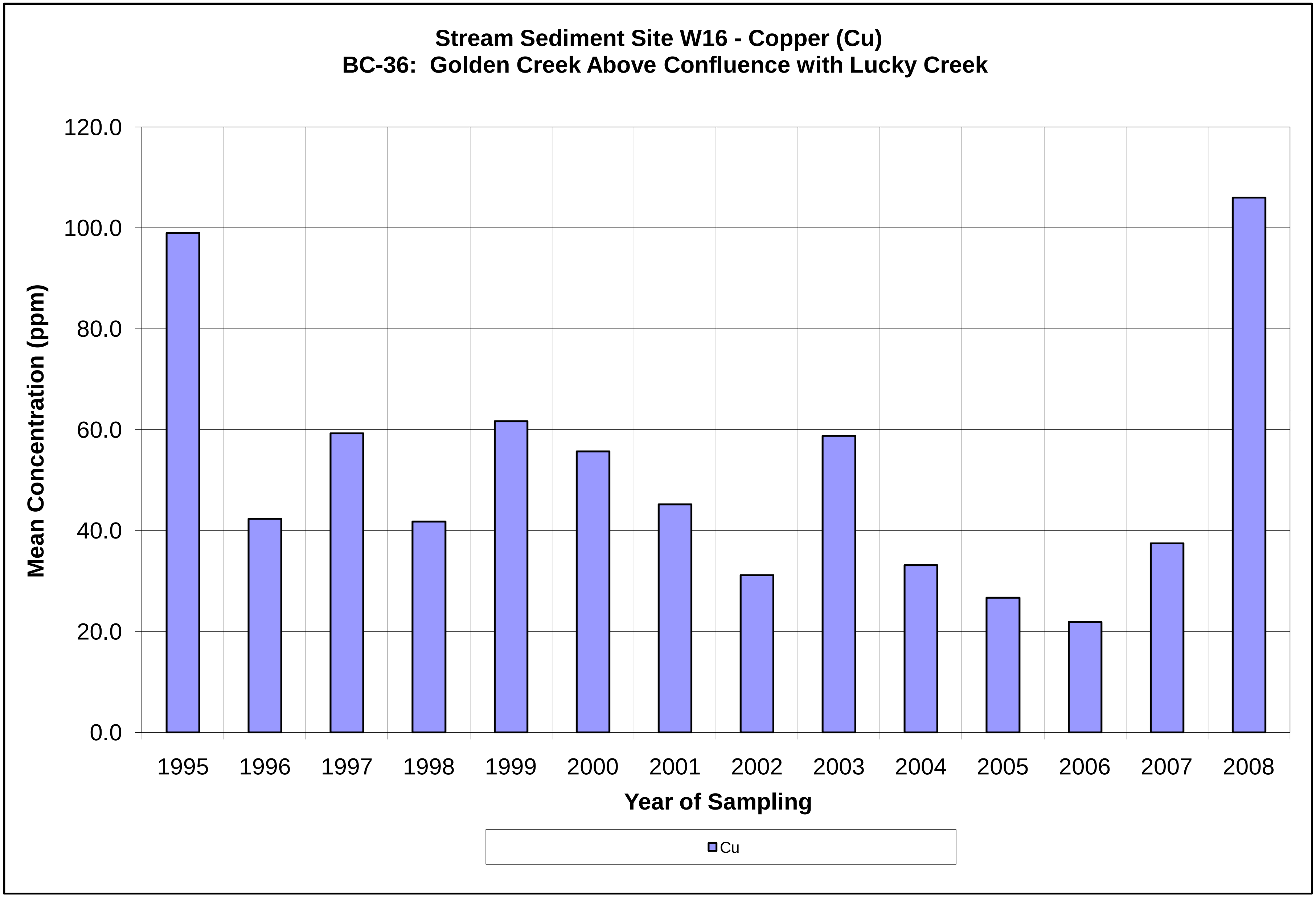
Stream Sediment Site W13 - Zinc (Zn)
BC-04: Lucky Creek downstream of Lucky Pit
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Mean Concentration (ppm)
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn


Stream Sediment Site W16 - Arsenic (As)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

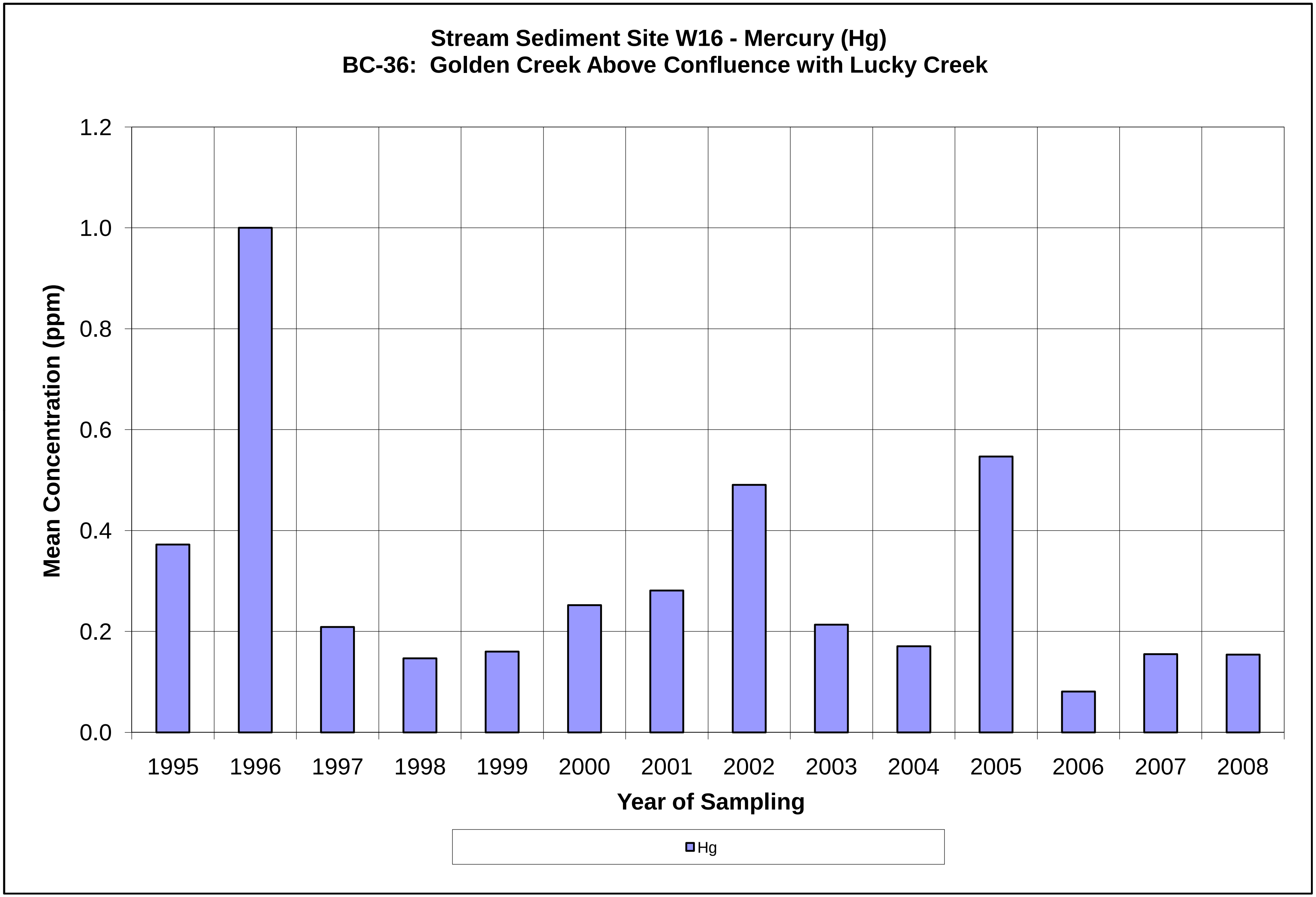

Stream Sediment Site W16 - Antimony (Sb)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

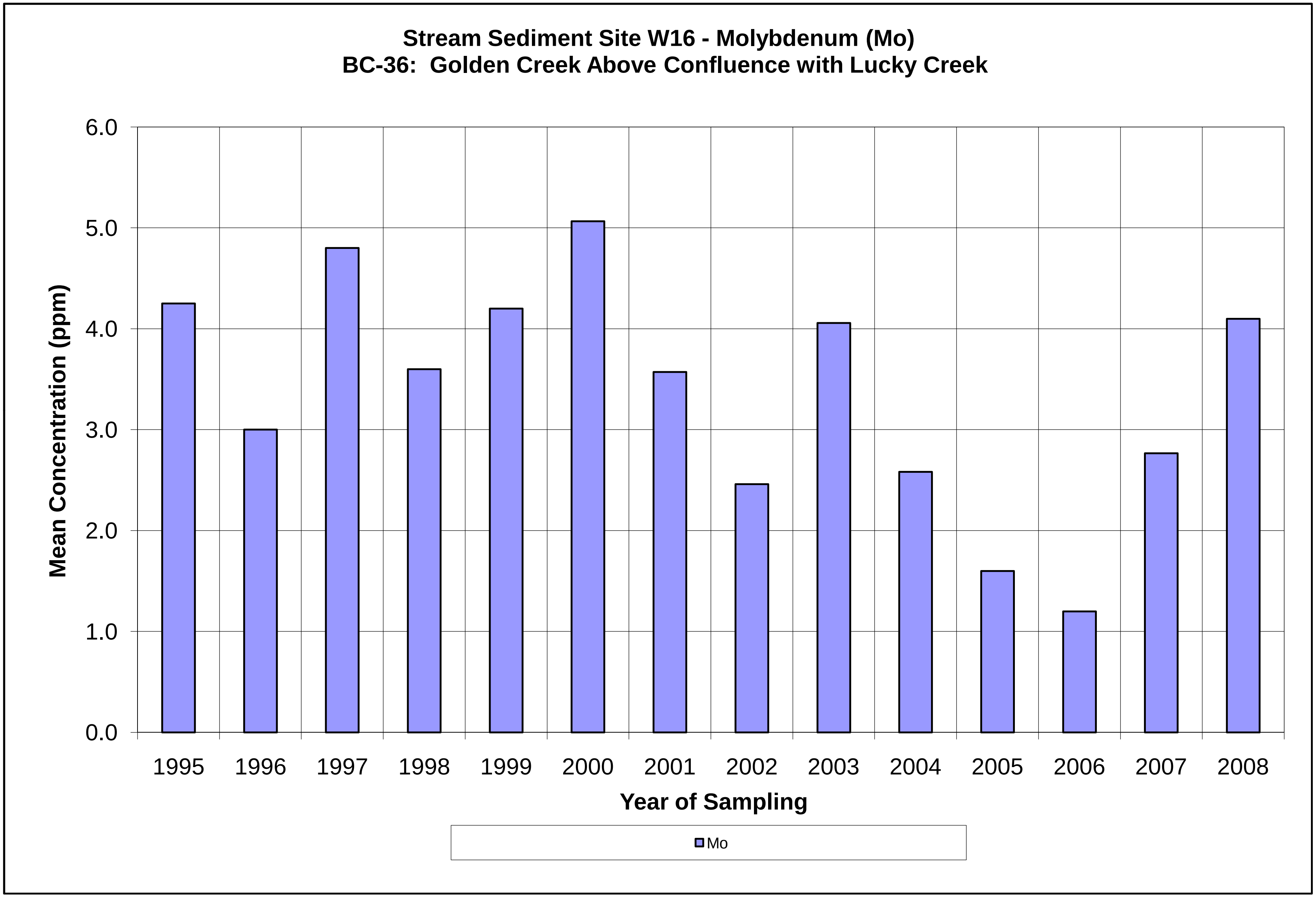


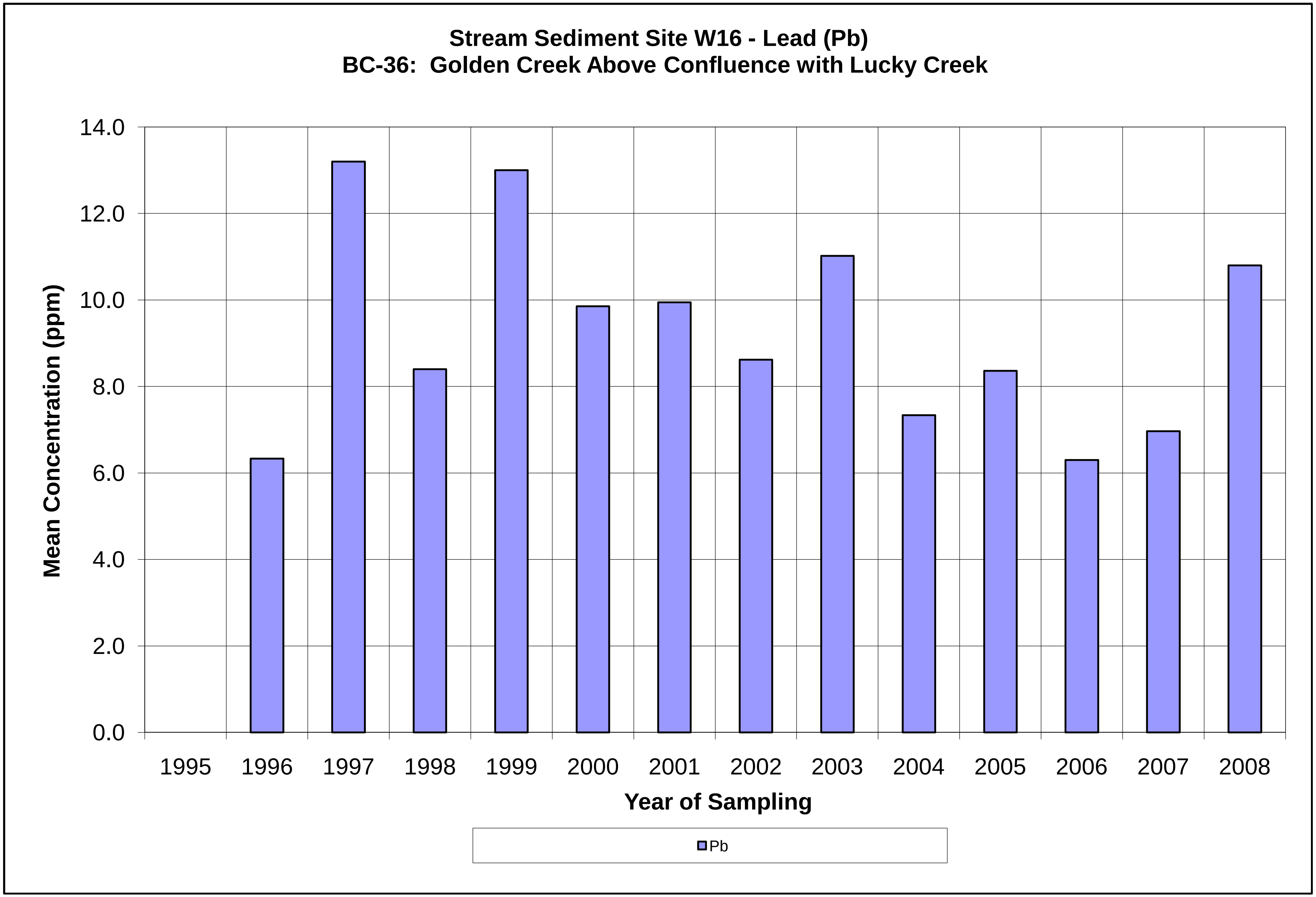
Stream Sediment Site W16 - Cadmium (Cd)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd



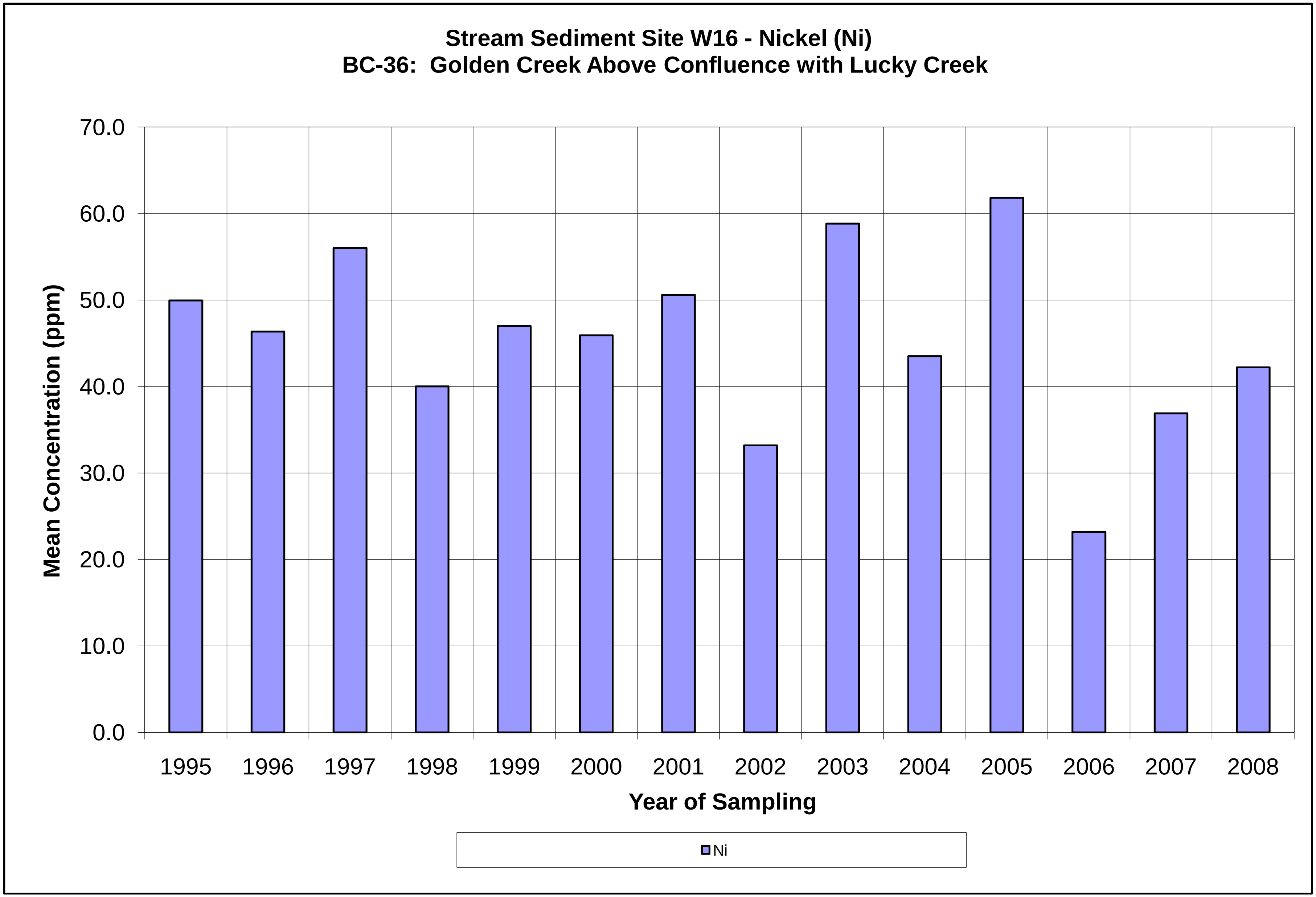
Stream Sediment Site W16 - Copper (Cu)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

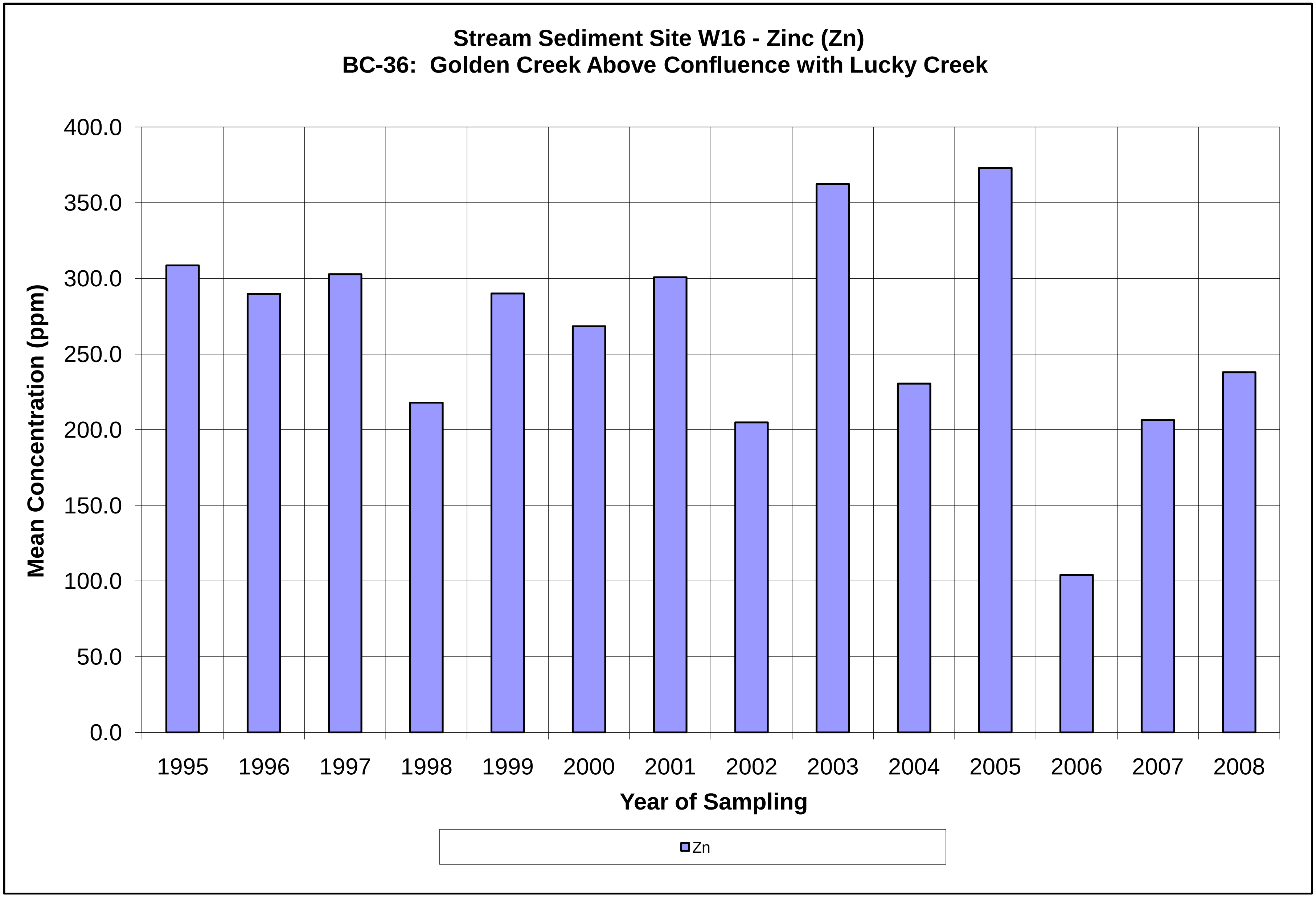

Stream Sediment Site W16 - Mercury (Hg)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

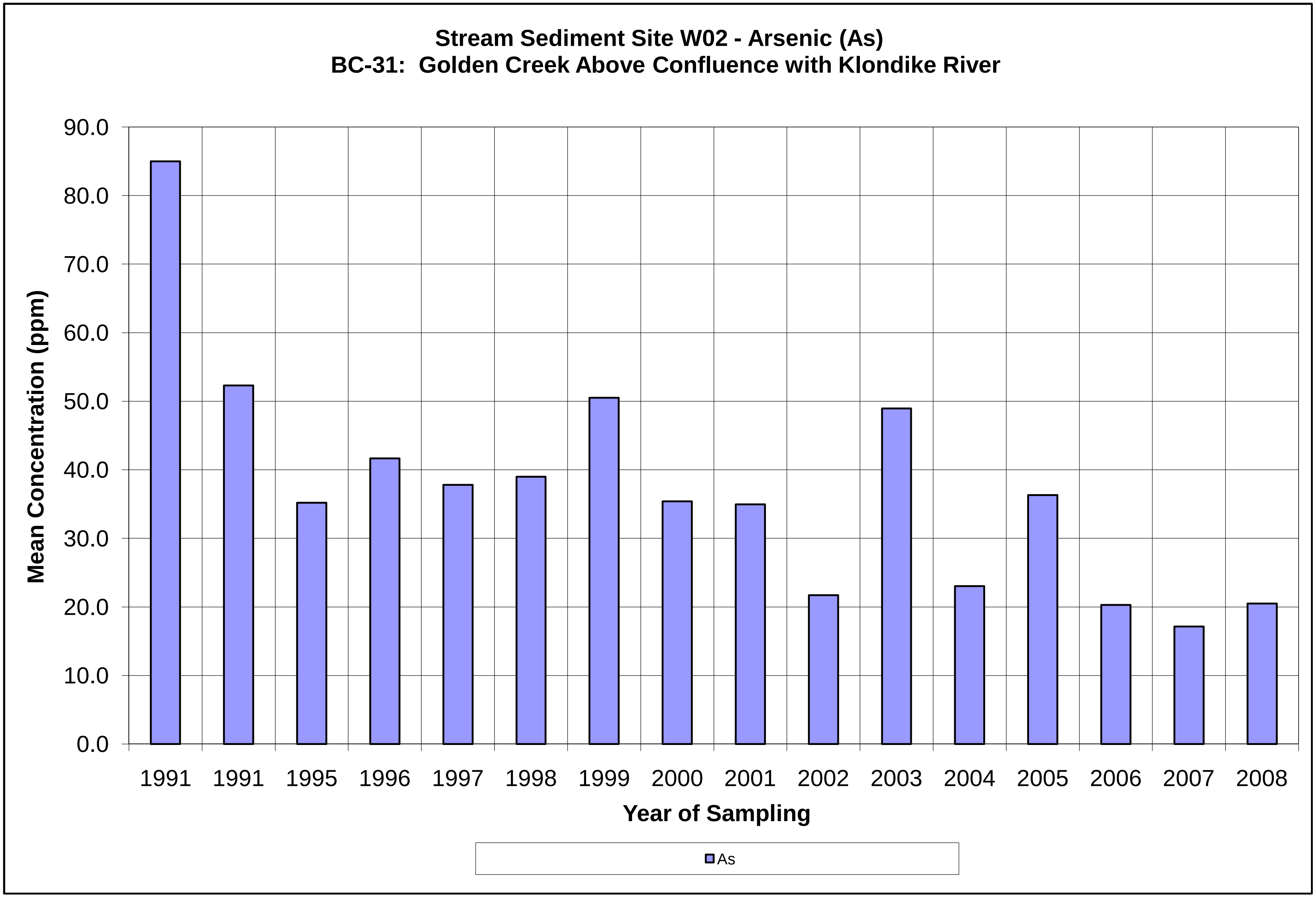

Stream Sediment Site W16 - Molybdenum (Mo)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo



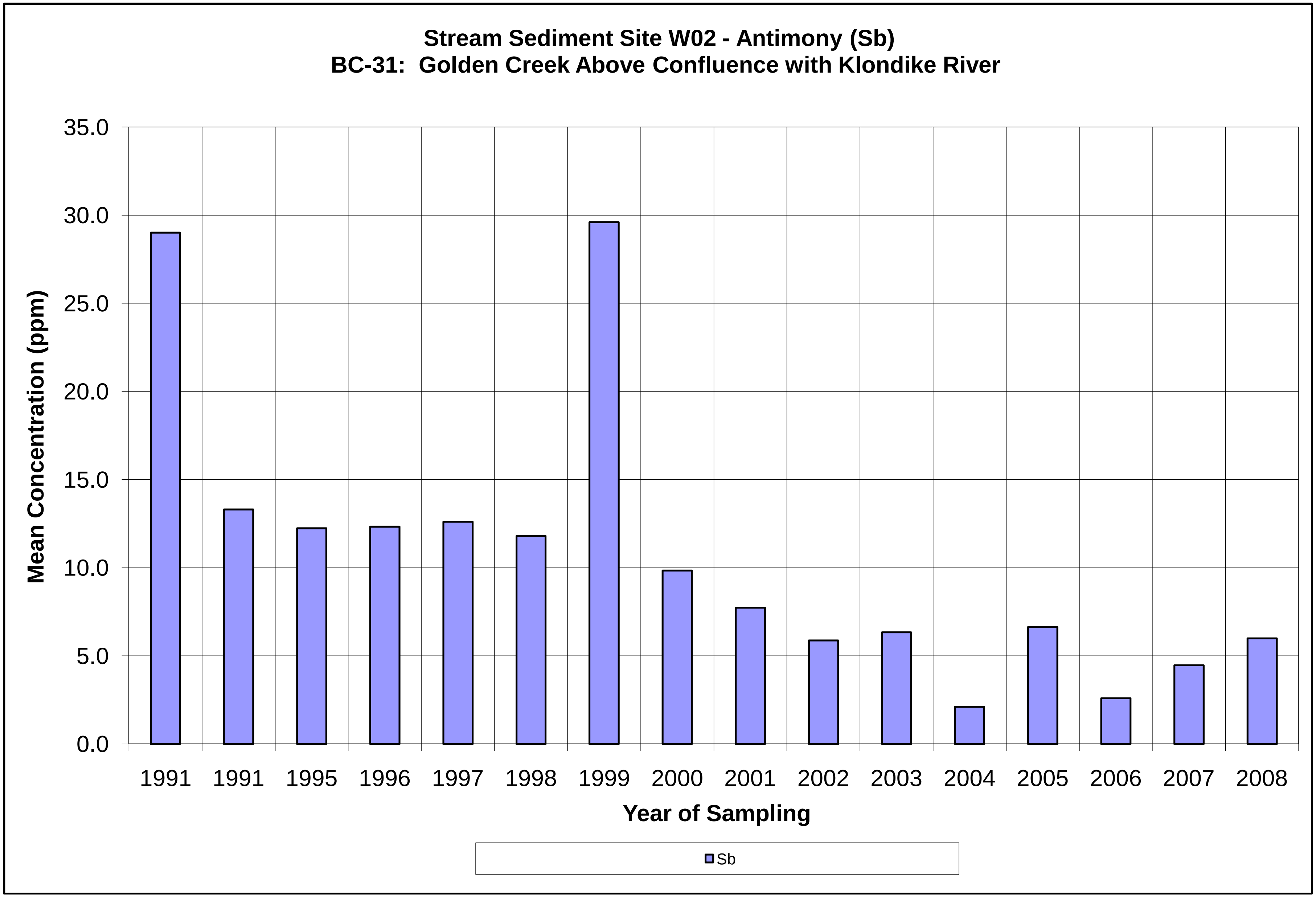
Stream Sediment Site W16 - Lead (Pb)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

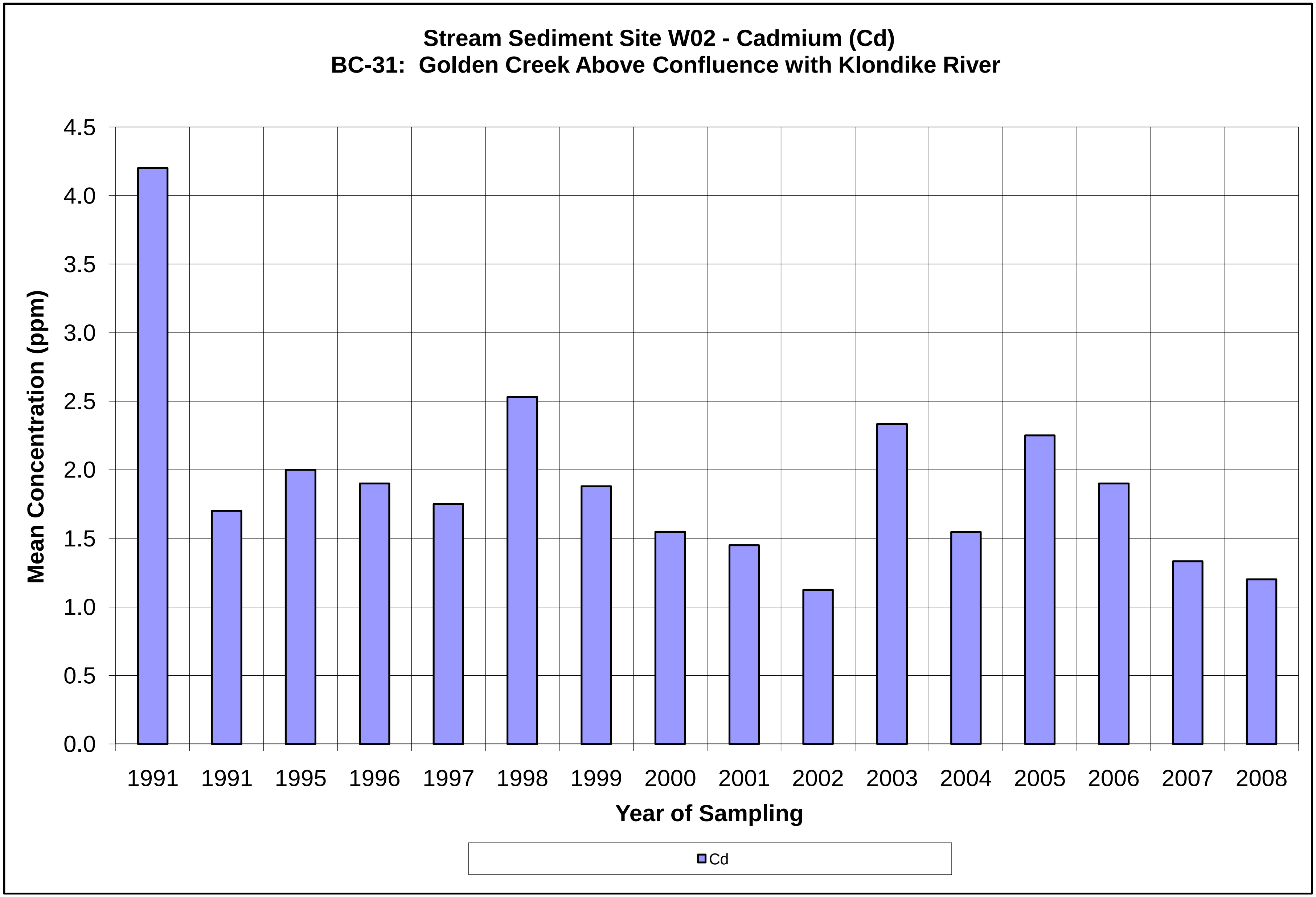

Stream Sediment Site W16 - Nickel (Ni)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni


Stream Sediment Site W16 - Zinc (Zn)
BC-36: Golden Creek Above Confluence with Lucky Creek
Mean Concentration (ppm)
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

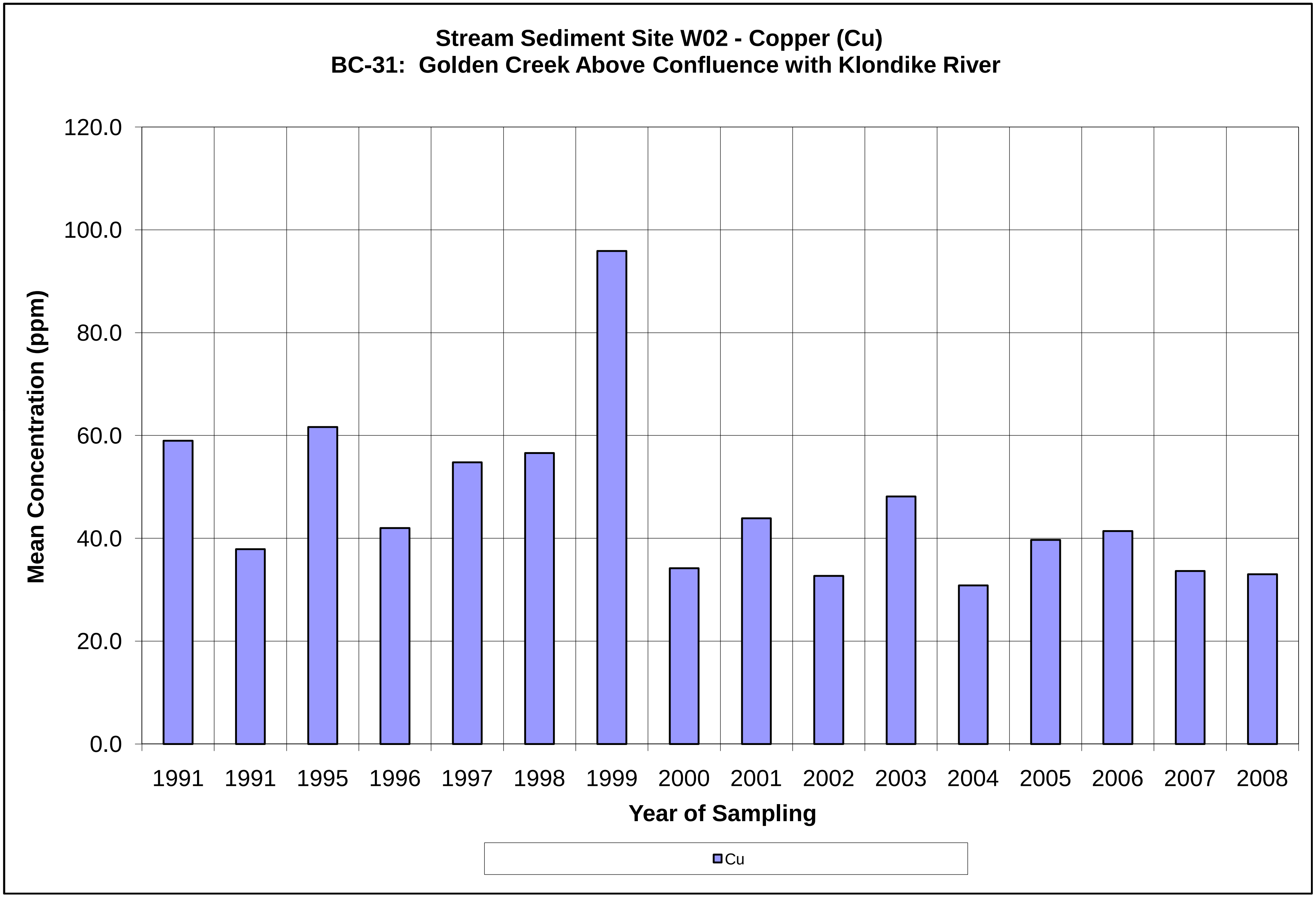


Stream Sediment Site W02 - Arsenic (As)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

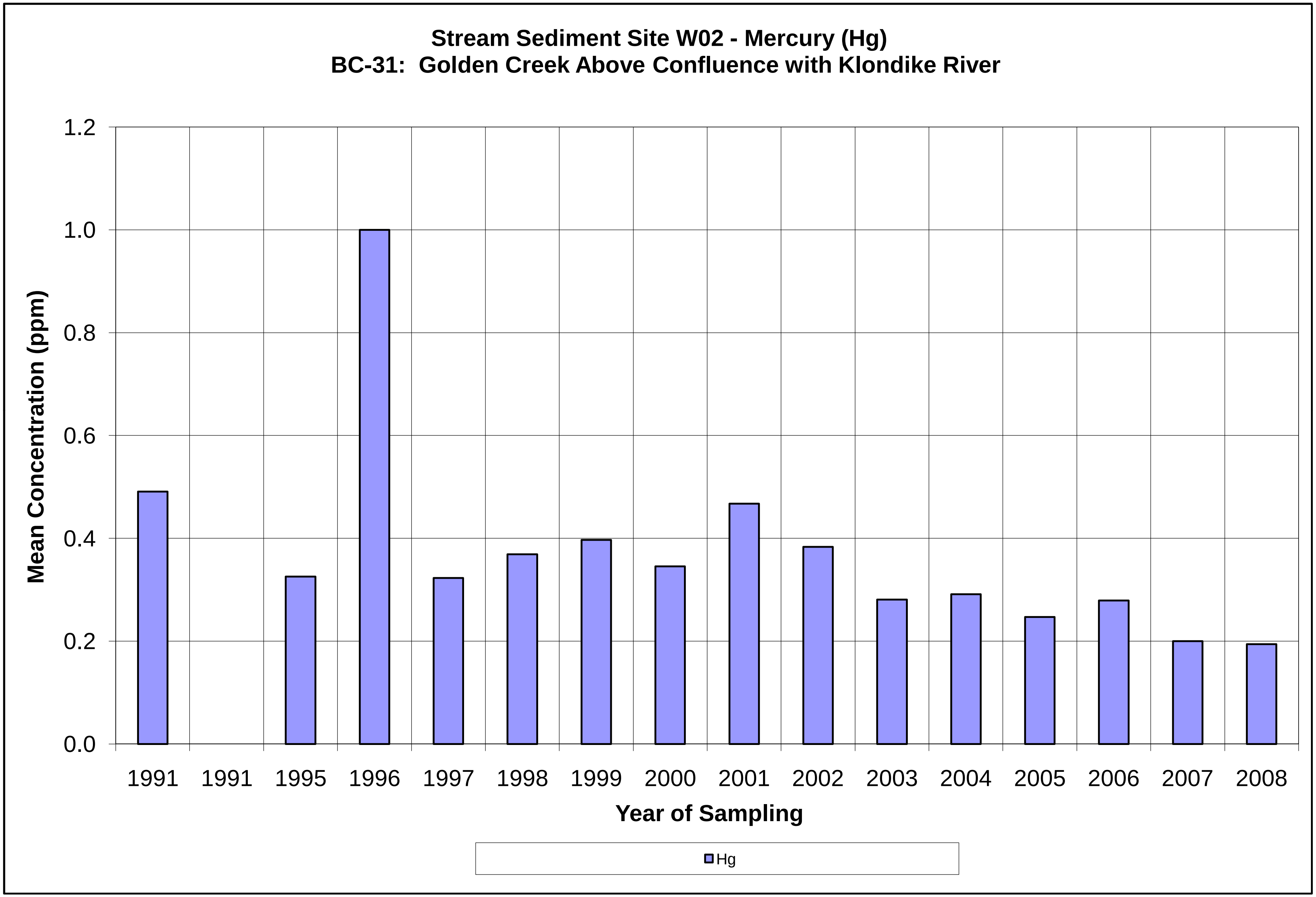

Stream Sediment Site W02 - Antimony (Sb)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

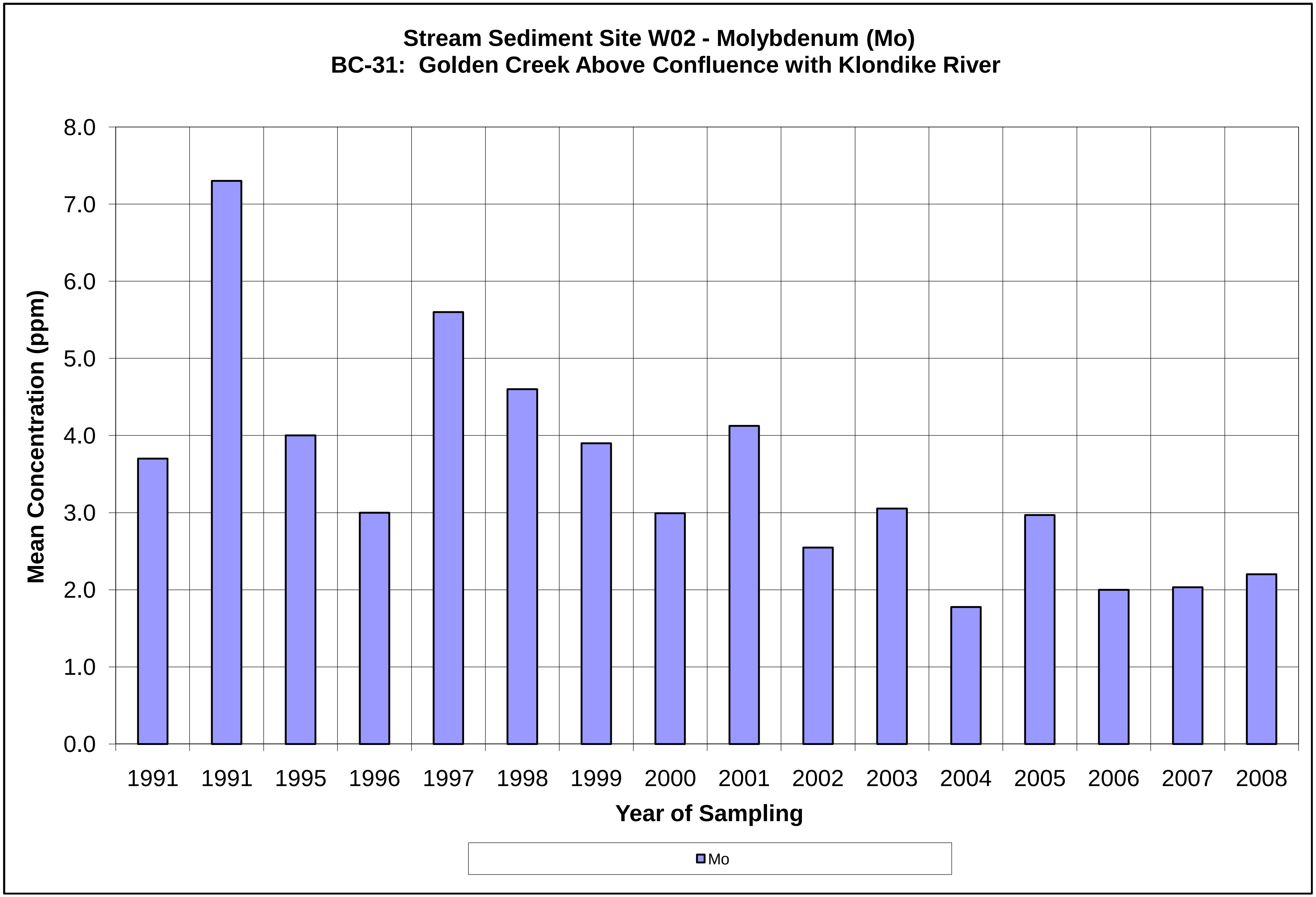


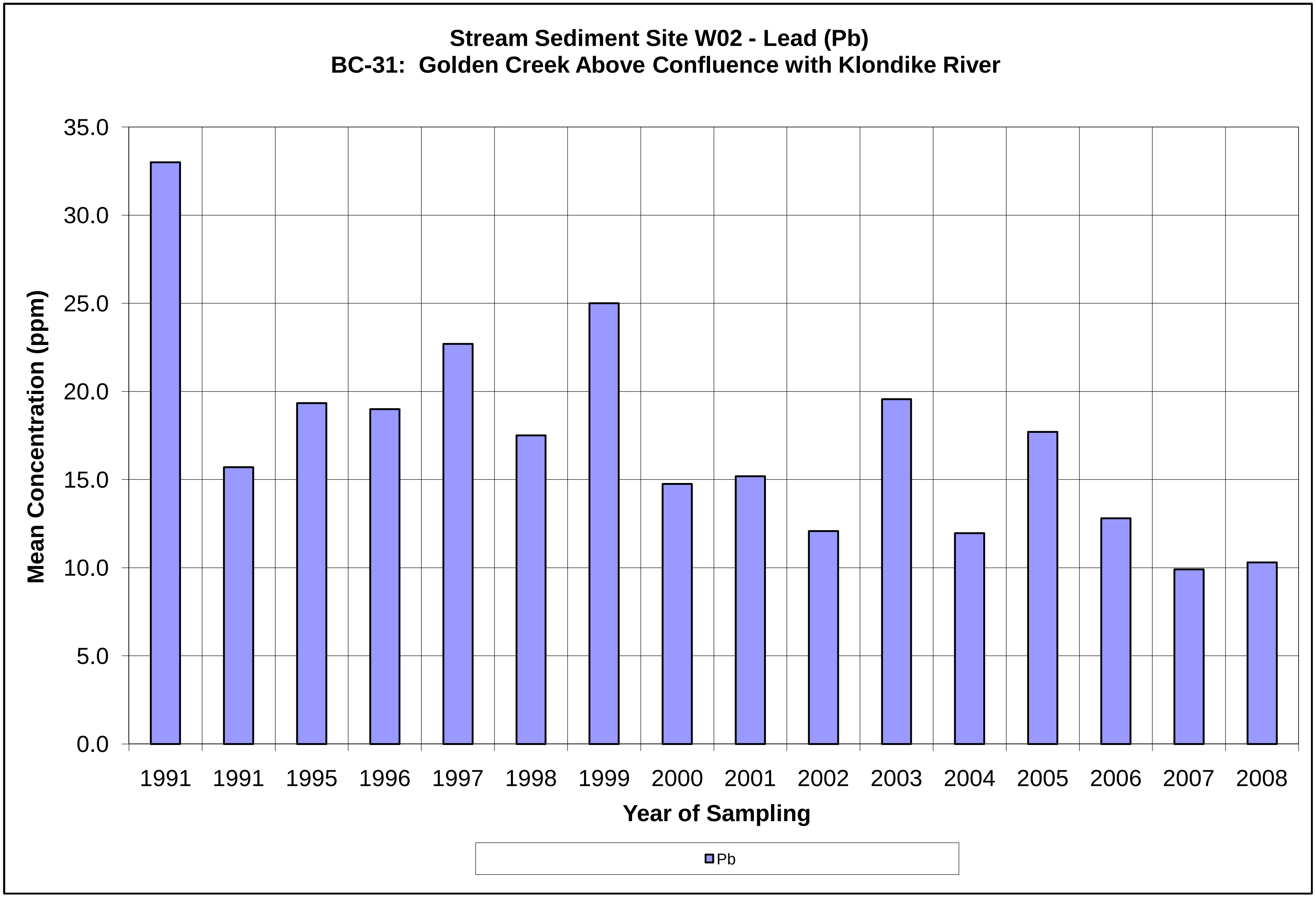
Stream Sediment Site W02 - Cadmium (Cd)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd



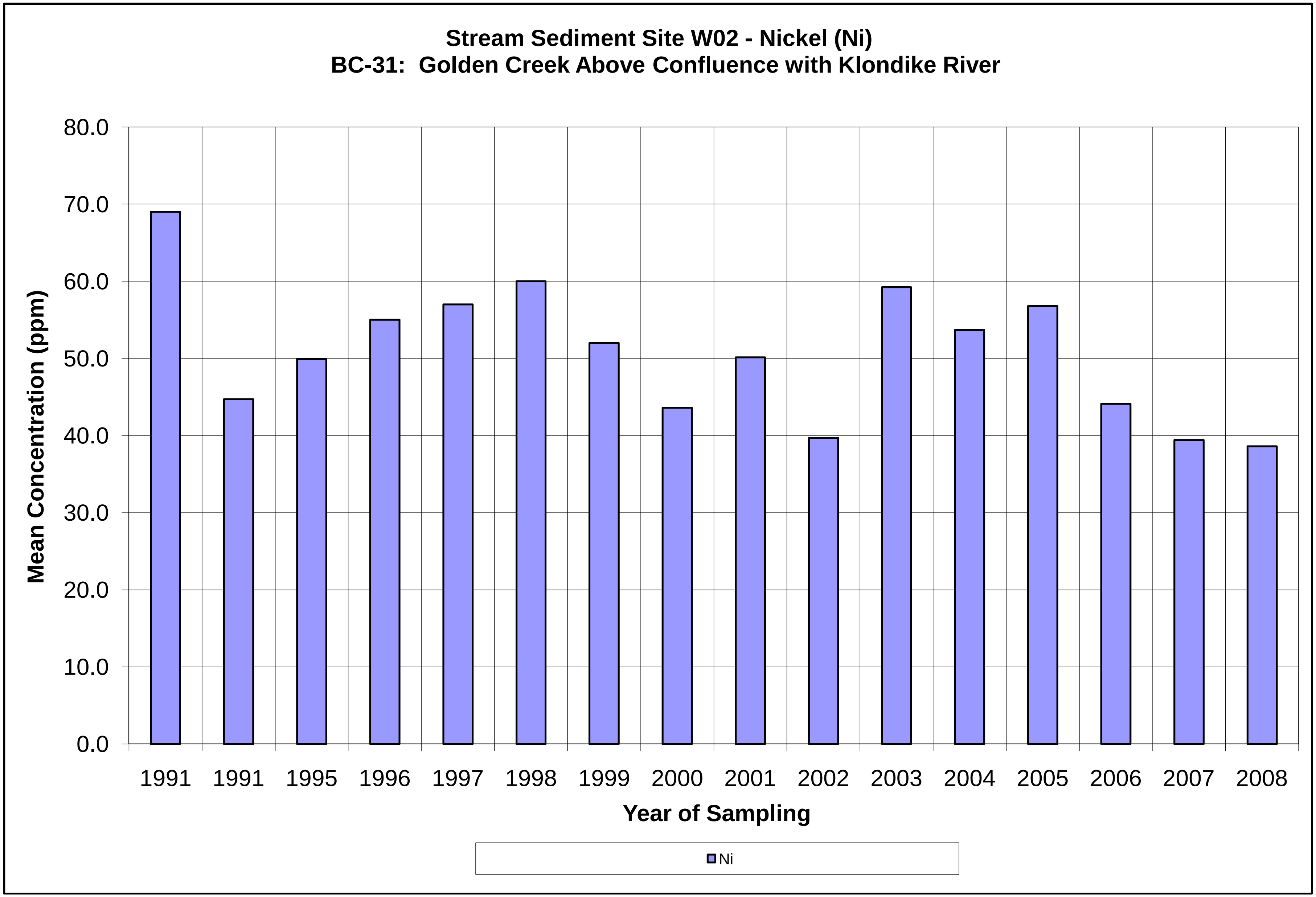
Stream Sediment Site W02 - Copper (Cu)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

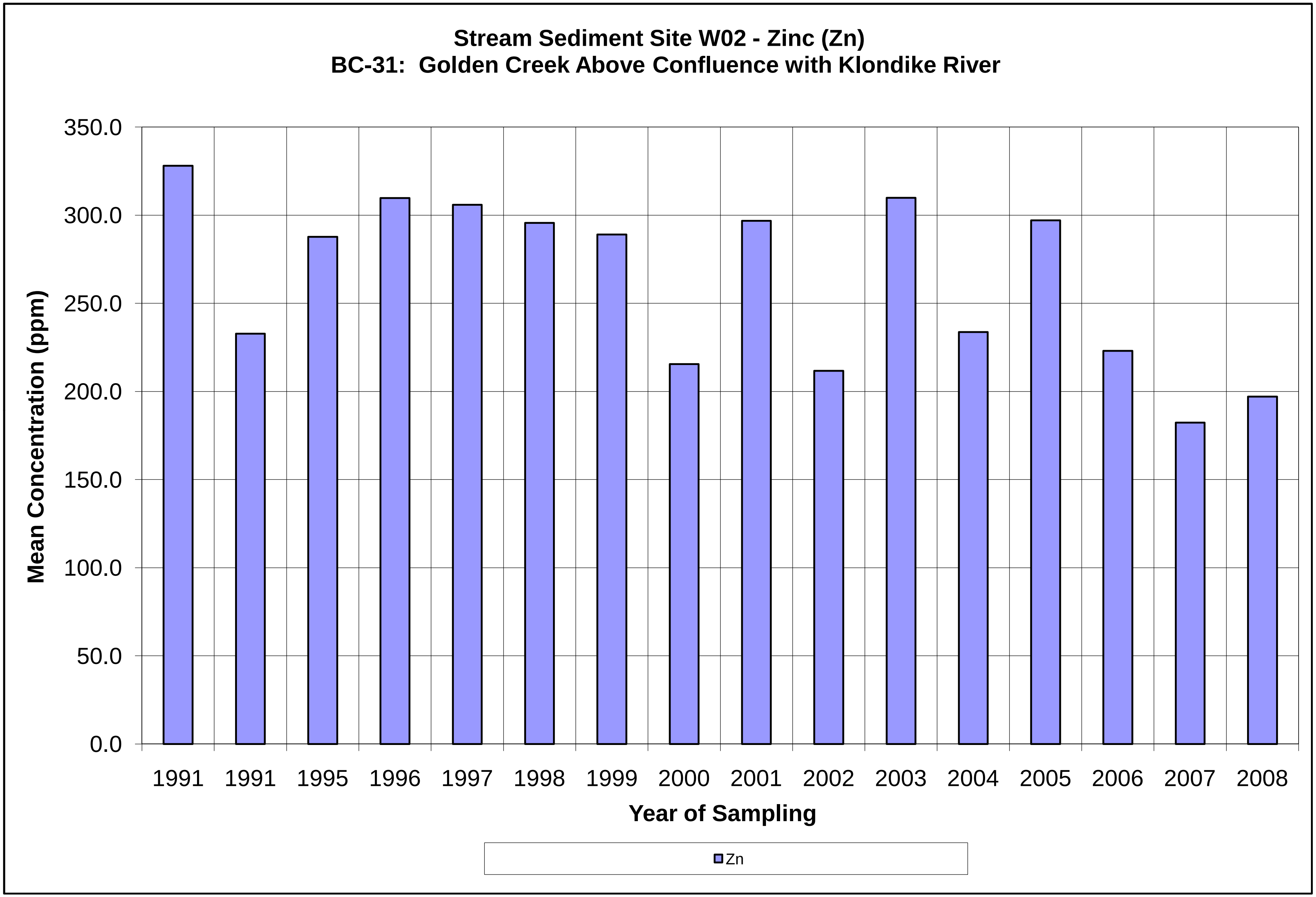

Stream Sediment Site W02 - Mercury (Hg)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg


Stream Sediment Site W02 - Molybdenum (Mo)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo



Stream Sediment Site W02 - Lead (Pb)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb


Stream Sediment Site W02 - Nickel (Ni)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni


Stream Sediment Site W02 - Zinc (Zn)
BC-31: Golden Creek Above Confluence with Klondike River
Mean Concentration (ppm)
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

Brewery Creek Mine

Stream Sediment Analysis: HISTORICAL COMPARISON

		Pacific Creek Monitoring Stations W11 BC-5															
		1991				1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm	13.0				33.4	27.2	**	20.8	23.1	14.5	**	12.3	13.7	**	7.2	**
Sb	ppm	2.0				3.0	5.9	**	3.1	3.7	2.5	**	1.8	2.3	**	2.4	**
Cd	ppm	2.1				2.1	3.4	**	2.6	2.7	2.8	**	2.3	2.9	**	2.5	**
Cu	ppm	36.0				47.3	55.9	**	38.3	43.3	36.6	**	30.0	51.3	**	41.4	**
Hg	ppm	0.2				0.4	0.3	**	0.5	0.8	0.4	**	0.3	0.3	**	0.3	**
Mo	ppm	1.0				5.1	4.6	**	2.9	2.6	2.5	**	1.8	2.4	**	2.2	**
Pb	ppm	8.0				13.1	14.5	**	9.6	10.5	9.4	**	7.5	13.2	**	7.2	**
Ni	ppm	58.0				61.0	73.0	**	59.8	73.9	60.4	**	63.4	66.2	**	50.5	**
Zn	ppm	342.0				378.8	412.7	**	367.2	460.9	371.5	**	321.9	385.0	**	304.0	**

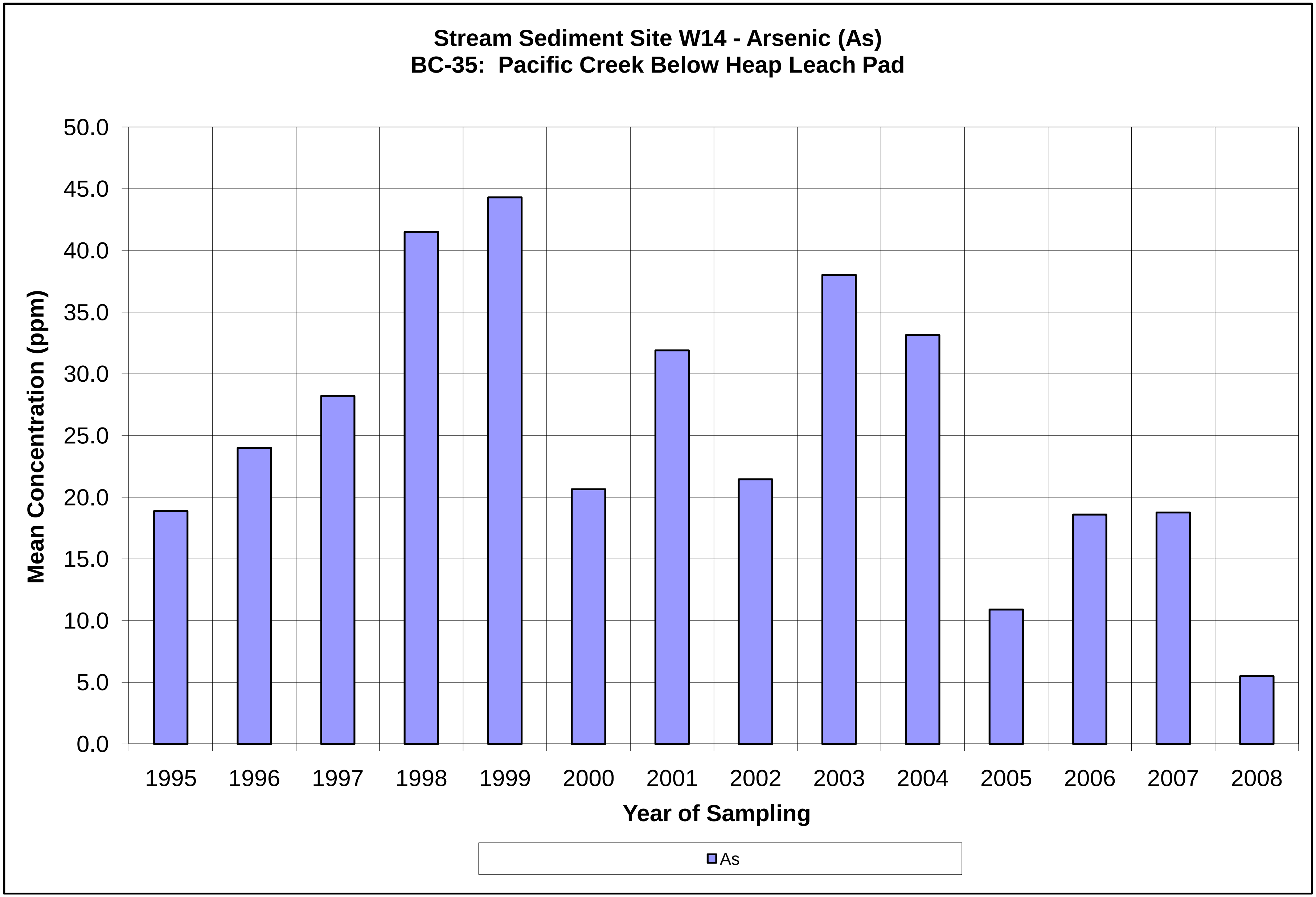
		Pacific Creek Monitoring Stations W14 BC-35															
				1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm			18.9	24.0	28.2	41.5	44.3	20.6	31.9	21.5	38.0	33.1	10.9	18.6	18.8	5.5
Sb	ppm			3.5	3.0	5.1	6.8	6.6	3.3	5.1	5.9	3.2	3.7	1.4	1.7	4.4	0.5
Cd	ppm			2.0	1.5	1.3	2.1	2.0	1.5	1.8	1.3	2.5	1.7	1.9	1.6	2.6	1.0
Cu	ppm			25.1	30.0	36.5	38.9	56.0	23.0	36.9	24.8	41.6	27.4	51.0	23.3	27.2	34.9
Hg	ppm			0.5	0.8	0.8	1.0	1.4	0.9	0.9	0.6	0.7	0.5	0.2	0.5	0.6	0.2
Mo	ppm			4.0	1.0	2.3	2.7	2.3	1.4	2.0	1.5	2.2	1.9	4.3	1.1	1.1	2.1
Pb	ppm			10.0	8.0	9.6	9.4	11.0	6.2	9.3	7.4	10.1	8.0	11.1	7.0	5.9	5.6
Ni	ppm			46.0	59.0	71.0	75.0	72.0	44.1	68.9	47.7	78.8	77.9	45.6	49.4	57.8	48.5
Zn	ppm			241.7	351.0	371.2	410.6	445.0	240.0	365.2	270.3	453.1	421.6	263.0	308.0	381.7	223.0

		Lee Creek Monitoring Stations W06A BC-33															
		1991	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm	15.0	8.0	6.3	10.0	10.7	13.2	12.2	17.1	12.8	7.5	11.5	6.9	9.0	8.5	6.5	6.5
Sb	ppm	2.0	8.0	2.3	2.0	2.8	3.6	2.8	3.2	2.5	1.5	1.2	0.9	1.4	1.3	3.2	2.1
Cd	ppm	3.0	2.9	2.4	2.7	2.1	2.8	2.1	1.8	2.2	1.7	1.9	2.3	2.6	2.5	3.7	2.9
Cu	ppm	81.0	59.4	51.8	64.0	61.2	60.5	82.7	32.7	63.4	45.1	58.3	54.8	53.0	54.2	65.3	62.9
Hg	ppm	0.2	0.0	0.2	0.3	0.3	0.2	0.2	0.4	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2
Mo	ppm	6.0	8.3	4.0	5.0	6.0	6.0	5.7	2.5	5.7	3.9	4.3	4.1	3.9	3.3	4.1	3.9
Pb	ppm	14.0	9.0	10.0	13.0	12.7	11.3	9.0	7.7	11.2	8.8	11.5	11.8	12.1	10.5	10.1	8.4
Ni	ppm	82.0	59.3	59.8	72.0	68.0	70.0	67.0	48.9	70.5	49.5	65.8	68.5	58.6	54.4	69.0	56.7
Zn	ppm	518.0	400.3	384.7	472.0	416.2	411.9	447.0	290.1	447.9	325.4	431.2	305.0	335.0	322.0	365.0	323.0

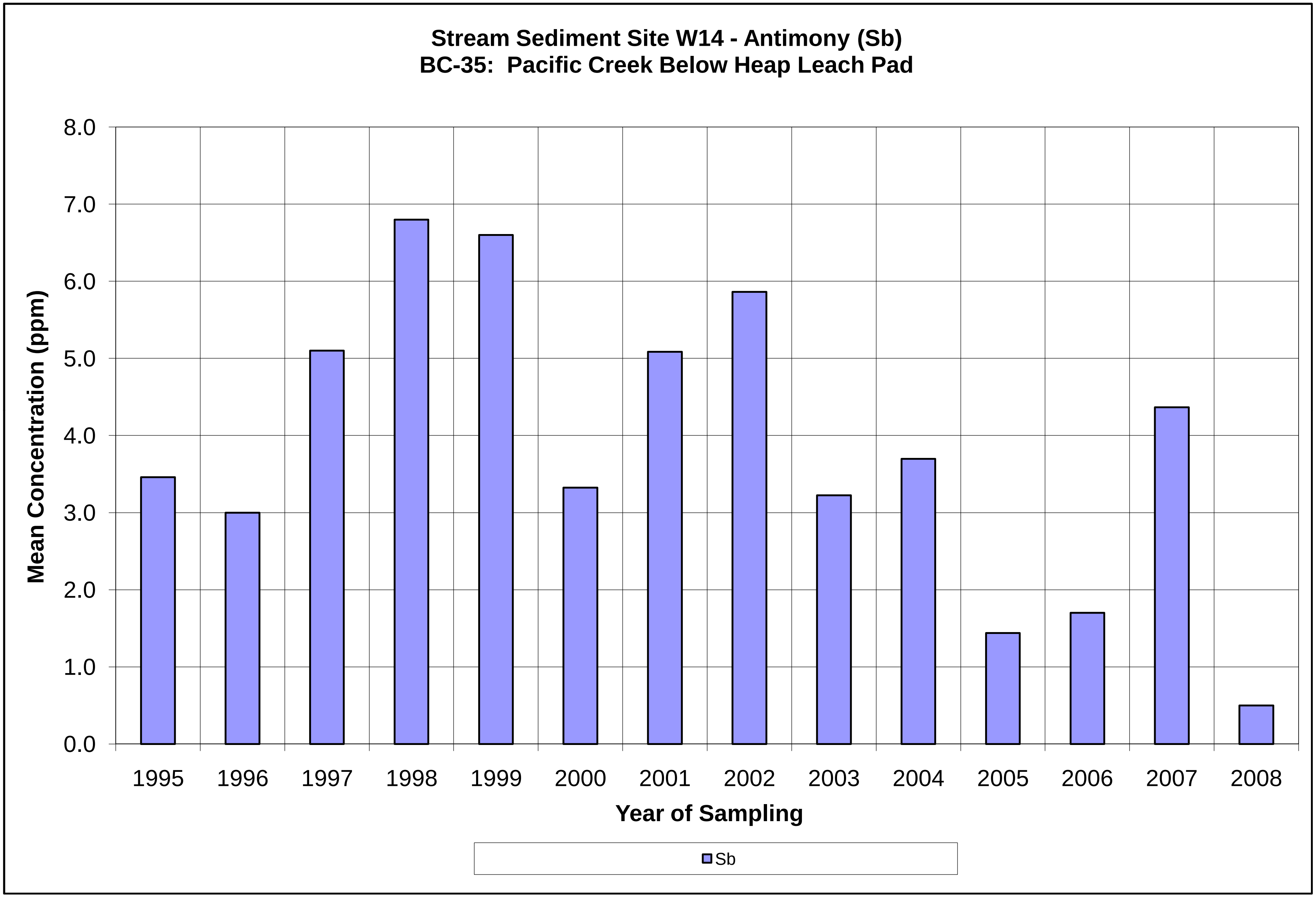
		Lee Creek Monitoring Stations W07 BC-34															
		1991	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
As	ppm	12.0	8.0	8.0	10.0	9.4	10.2	**	9.1	11.9	7.5	11.8	8.0	9.2	11.2	6.2	8.0
Sb	ppm	2.0	8.0	2.8	2.0	2.6	3.2	**	2.9	2.4	1.6	1.2	1.8	2.7	1.1	3.6	3.1
Cd	ppm	3.2	3.2	2.6	4.2	2.3	2.6	**	1.8	2.1	1.8	1.9	2.8	2.0	3.3	3.3	2.2
Cu	ppm	70.0	66.0	67.5	76.0	66.9	55.3	**	50.3	57.4	44.2	54.7	49.7	48.2	84.5	60.7	71.5
Hg	ppm	0.2	0.0	0.3	0.3	0.3	0.2	**	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2
Mo	ppm	6.0	9.3	4.0	5.0	6.1	5.5	**	4.9	4.9	3.8	4.2	3.9	3.7	4.1	3.8	4.0
Pb	ppm	12.0	10.0	10.0	12.0	13.5	10.1	**	10.7	10.8	8.6	14.4	9.5	11.3	13.8	9.5	9.3
Ni	ppm	81.0	71.3	63.5	85.0	74.0	69.0	**	60.3	67.4	51.7	67.3	75.7	61.2	73.5	65.0	60.5
Zn	ppm	497.0	437.3	397.3	508.0	456.1	402.9	**	344.5	434.9	315.3	427.5	370.9	353.0	434.0	351.0	346.0

*** all values represent mean of replicate samples***

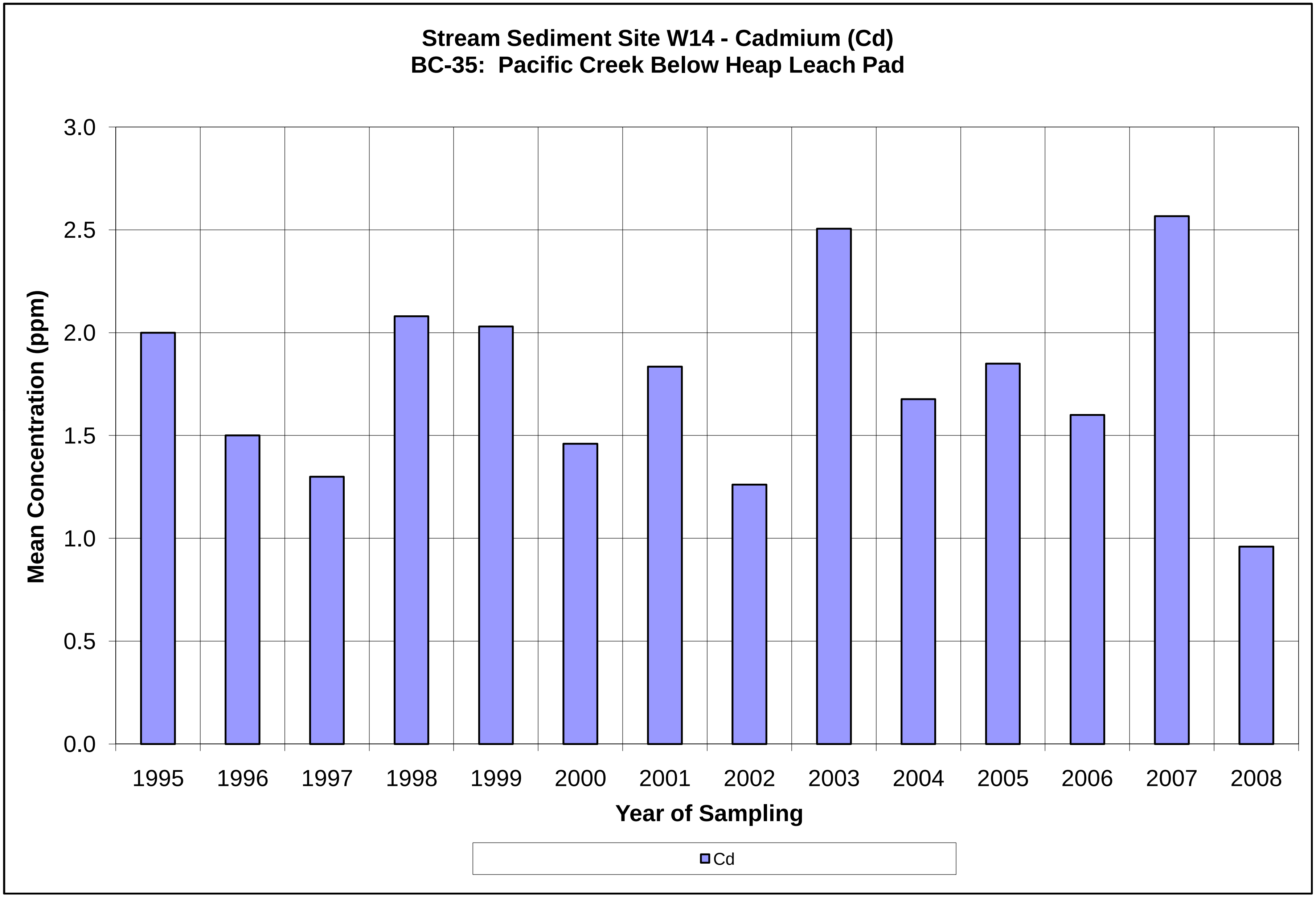
*****Sites not sampled this year***

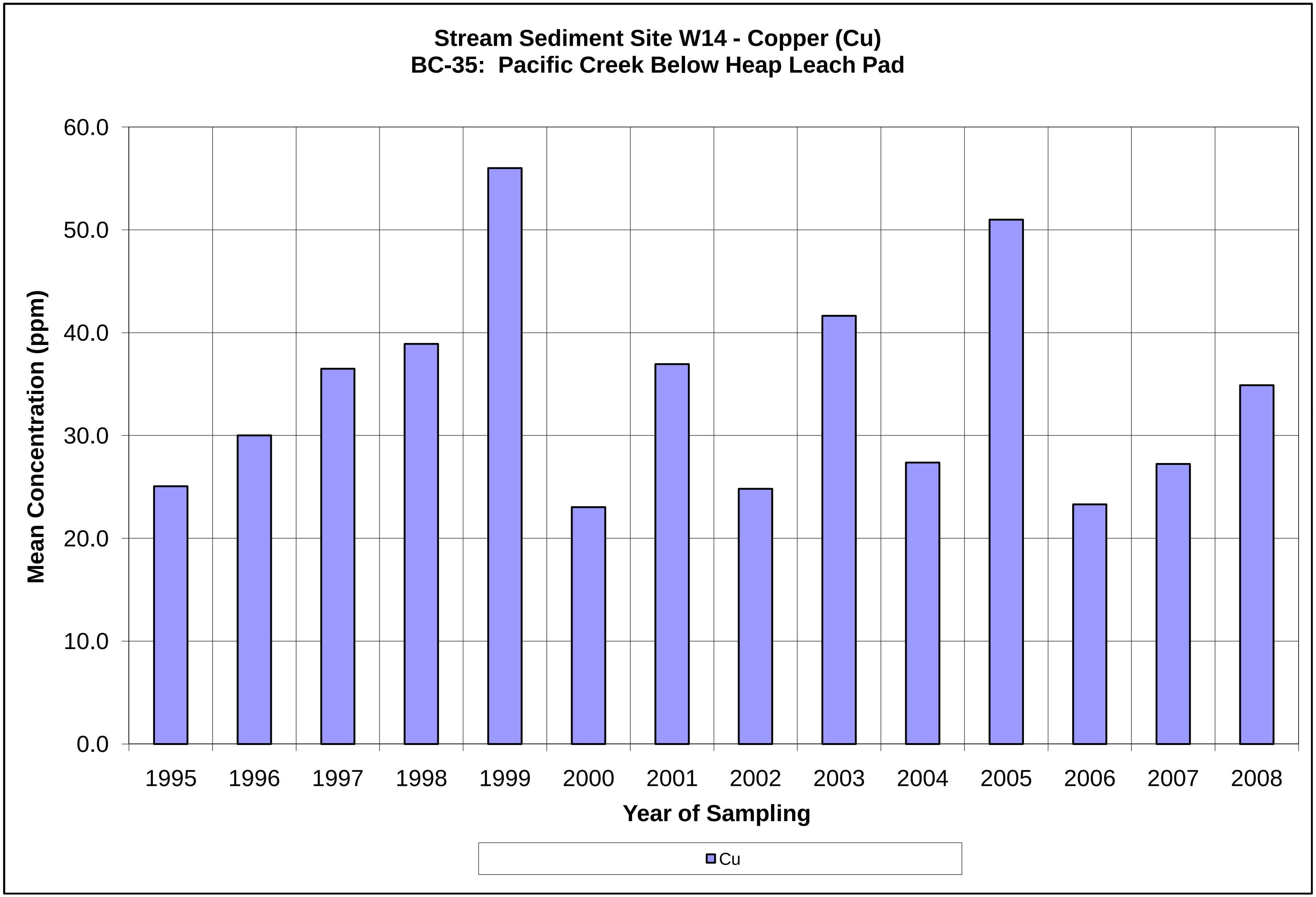


Stream Sediment Site W14 - Arsenic (As)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

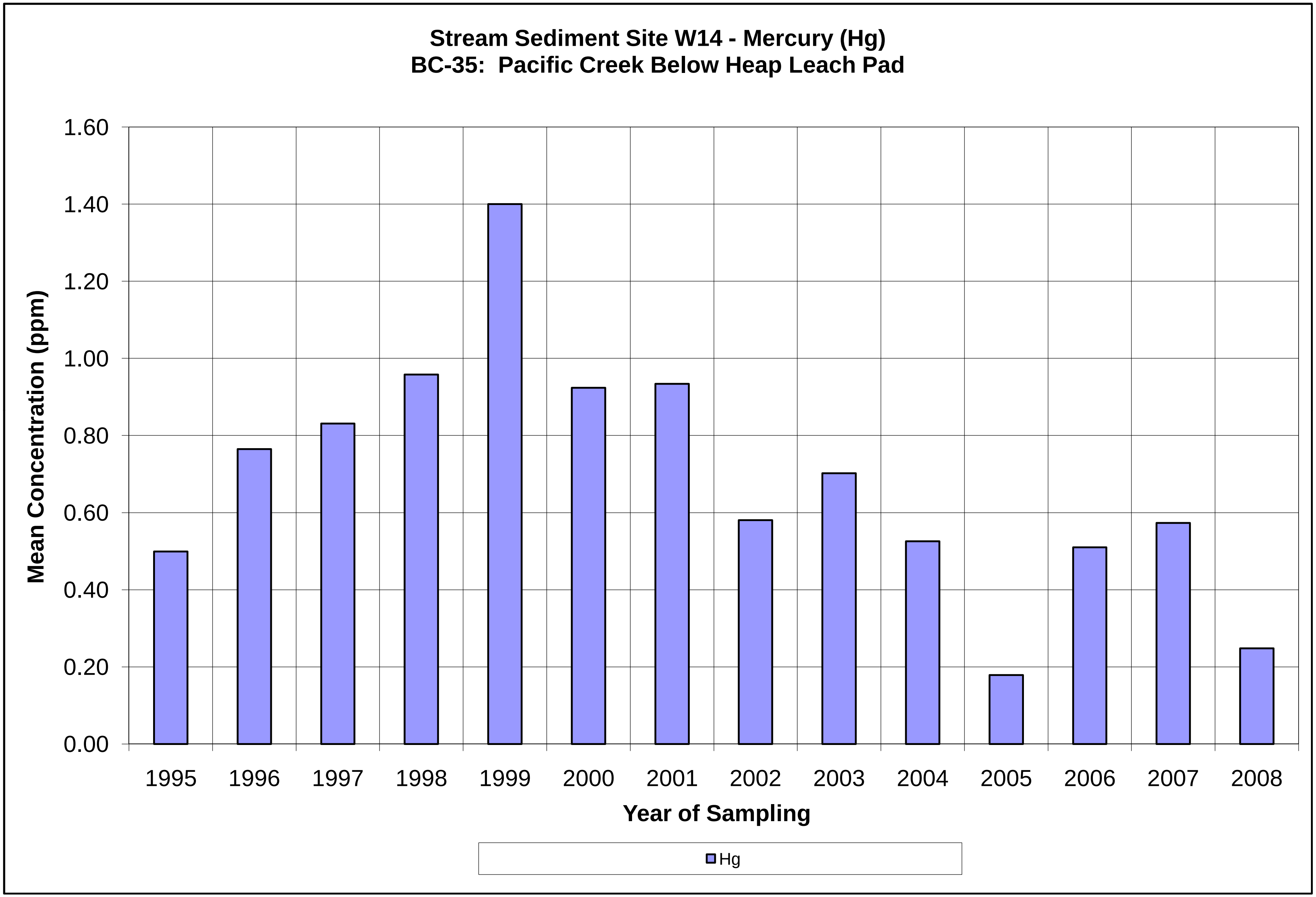


Stream Sediment Site W14 - Antimony (Sb)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

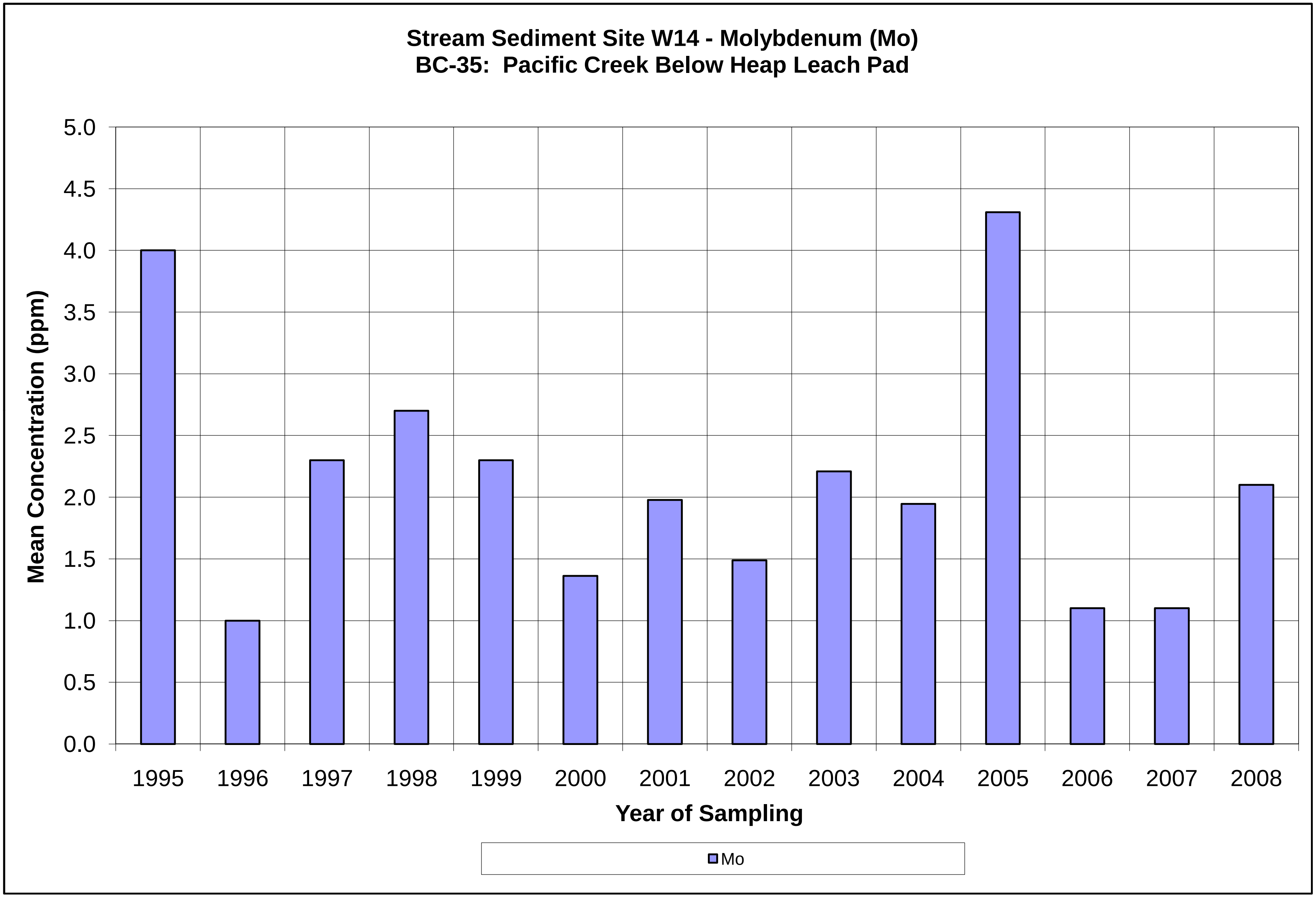

Stream Sediment Site W14 - Cadmium (Cd)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd



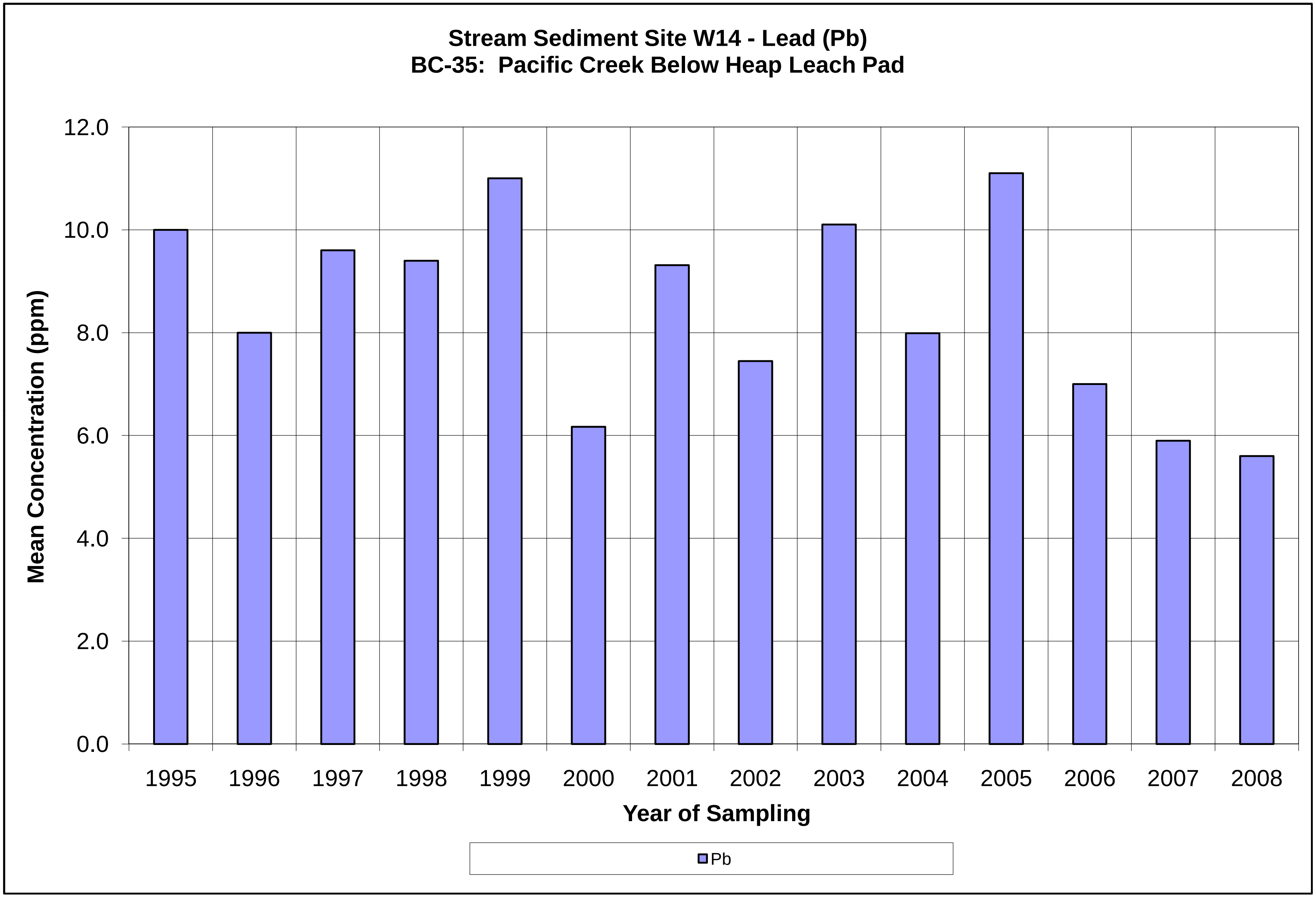
Stream Sediment Site W14 - Copper (Cu)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu



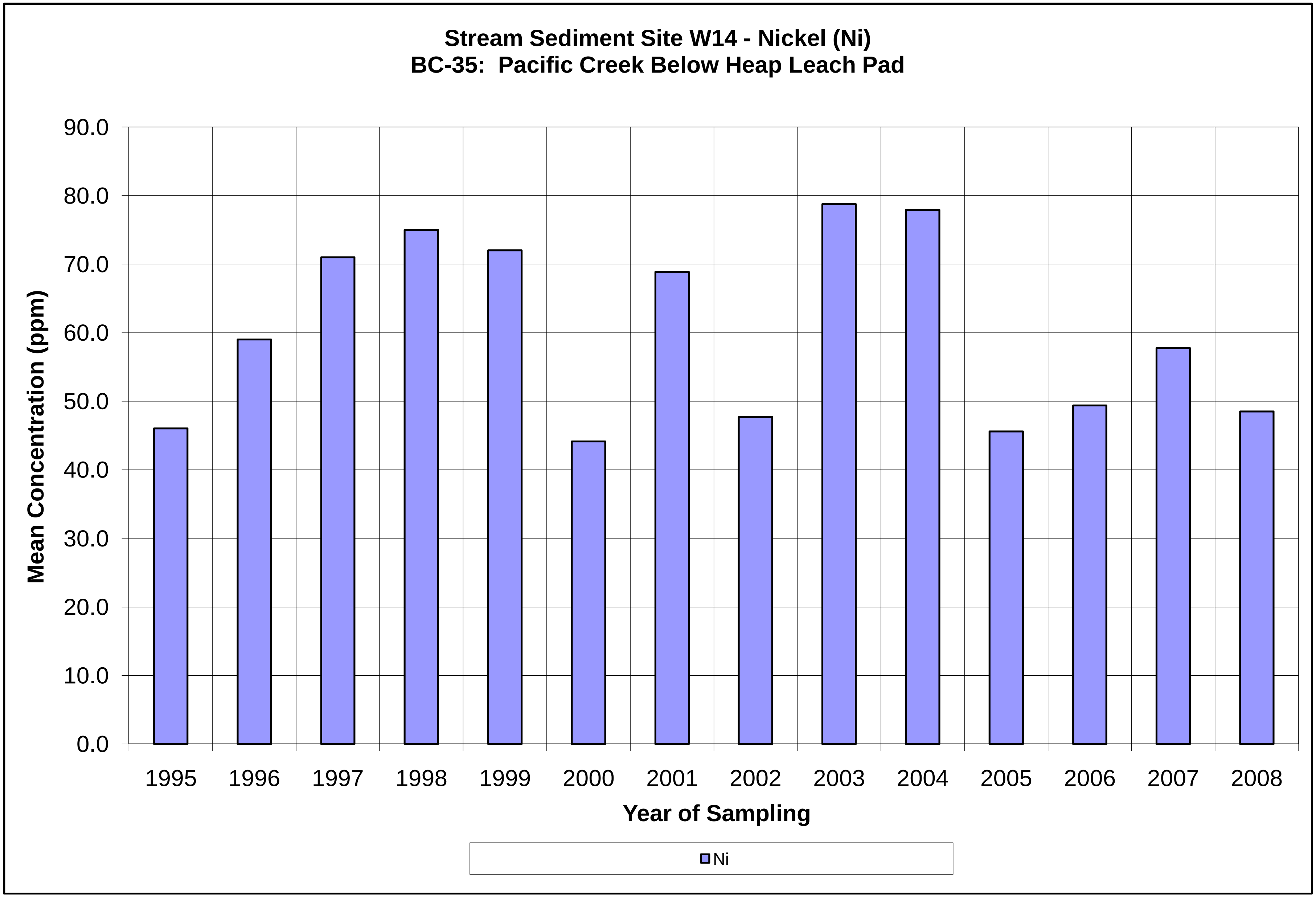
Stream Sediment Site W14 - Mercury (Hg)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

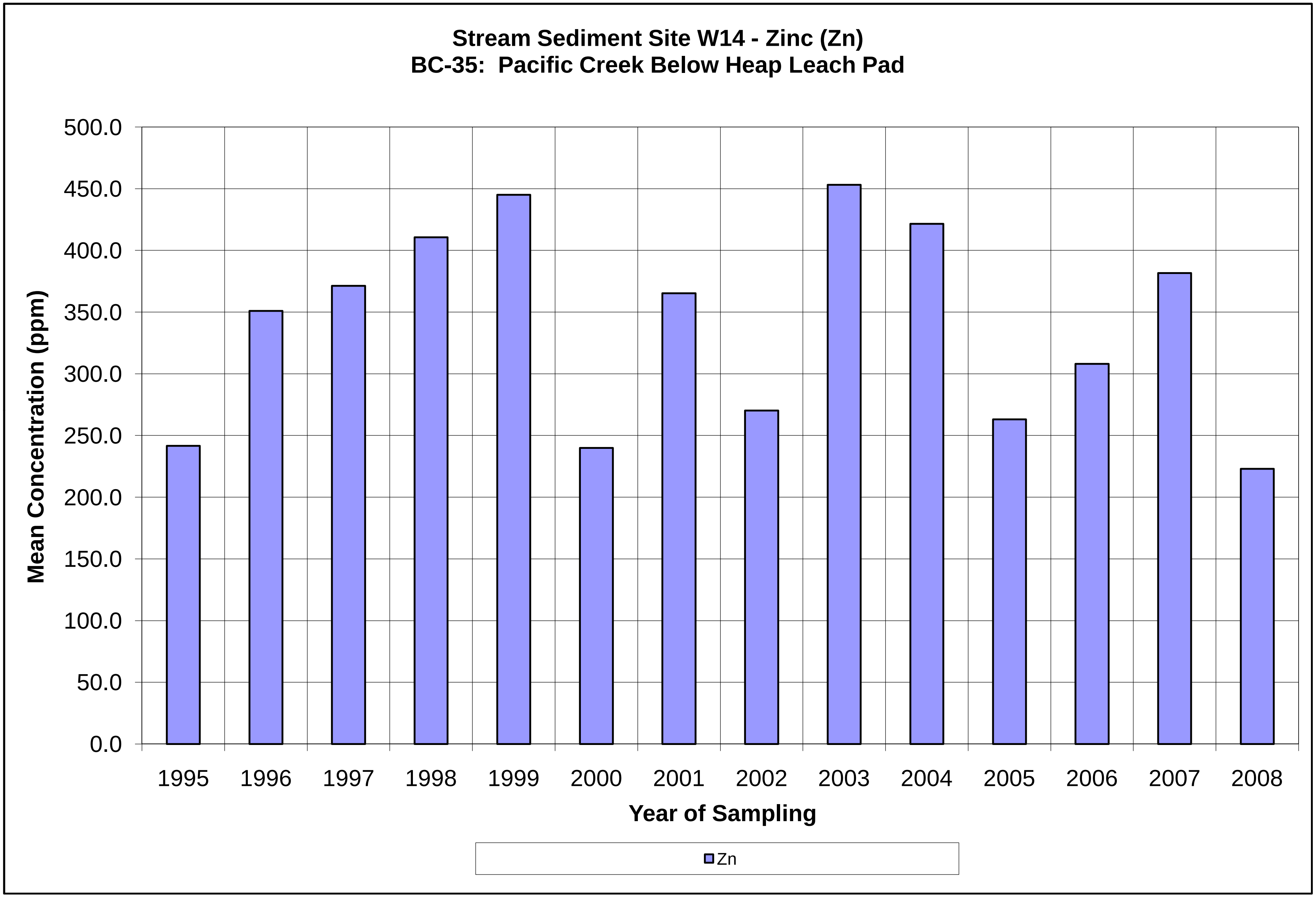


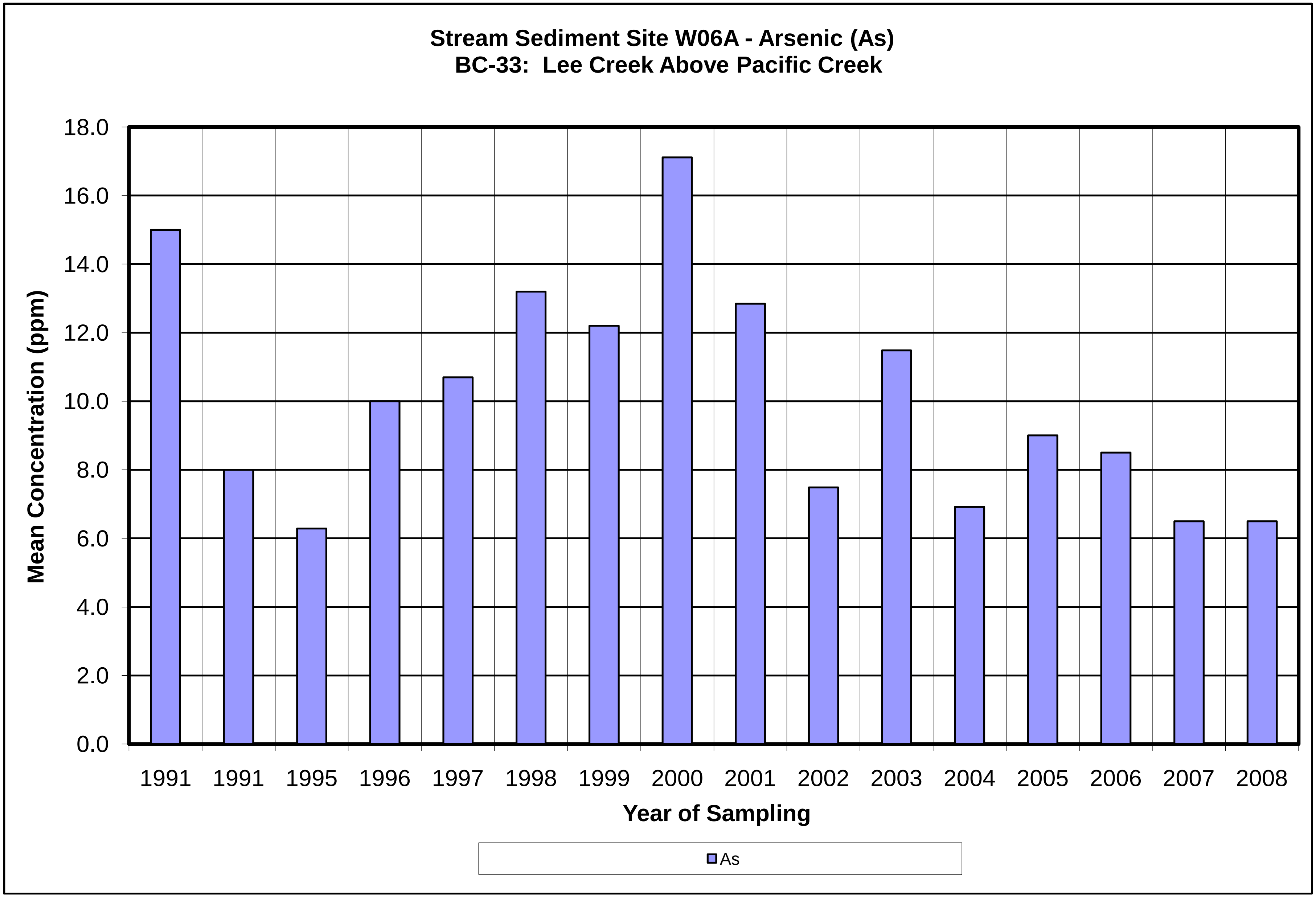
Stream Sediment Site W14 - Molybdenum (Mo)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo



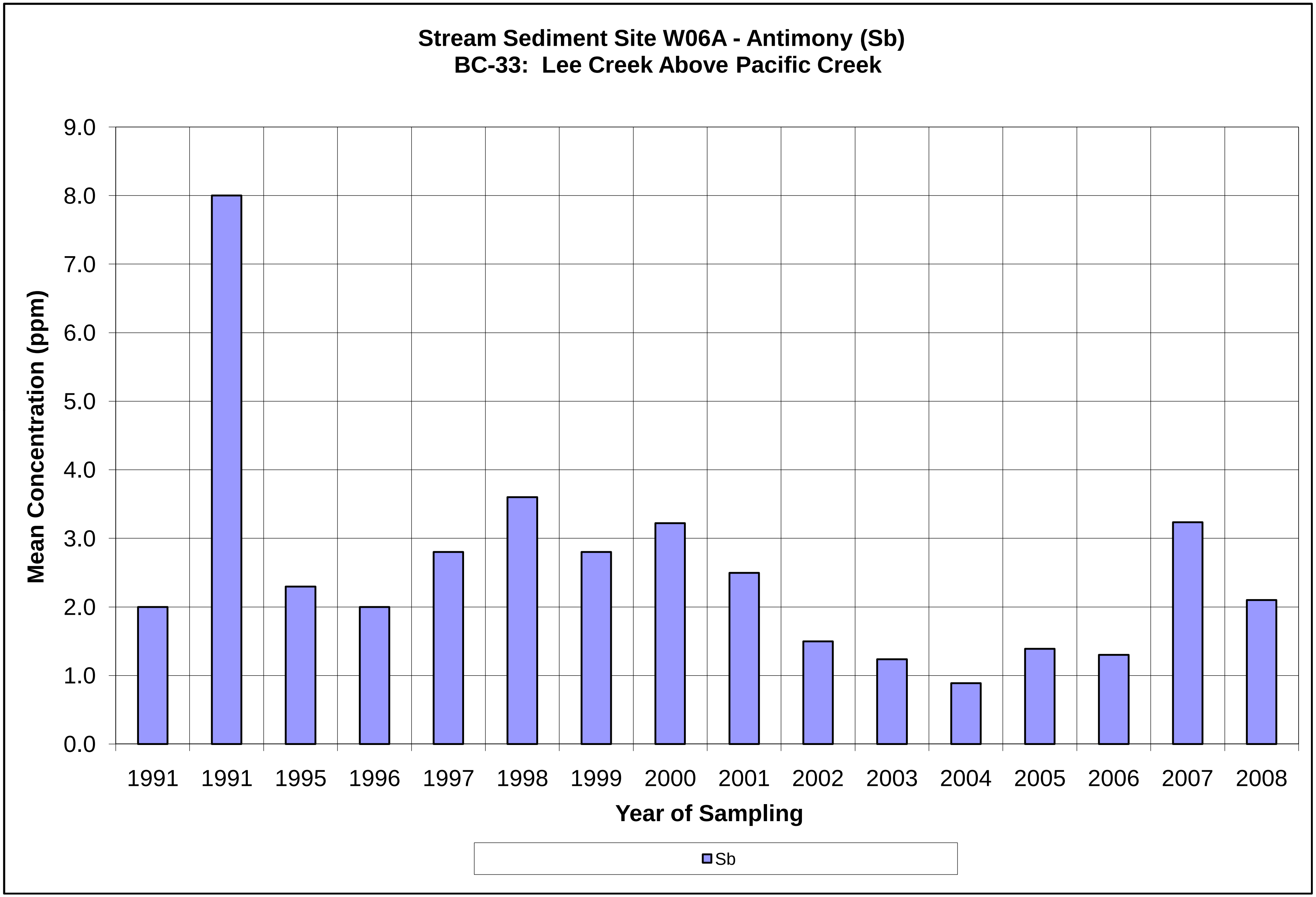
Stream Sediment Site W14 - Lead (Pb)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

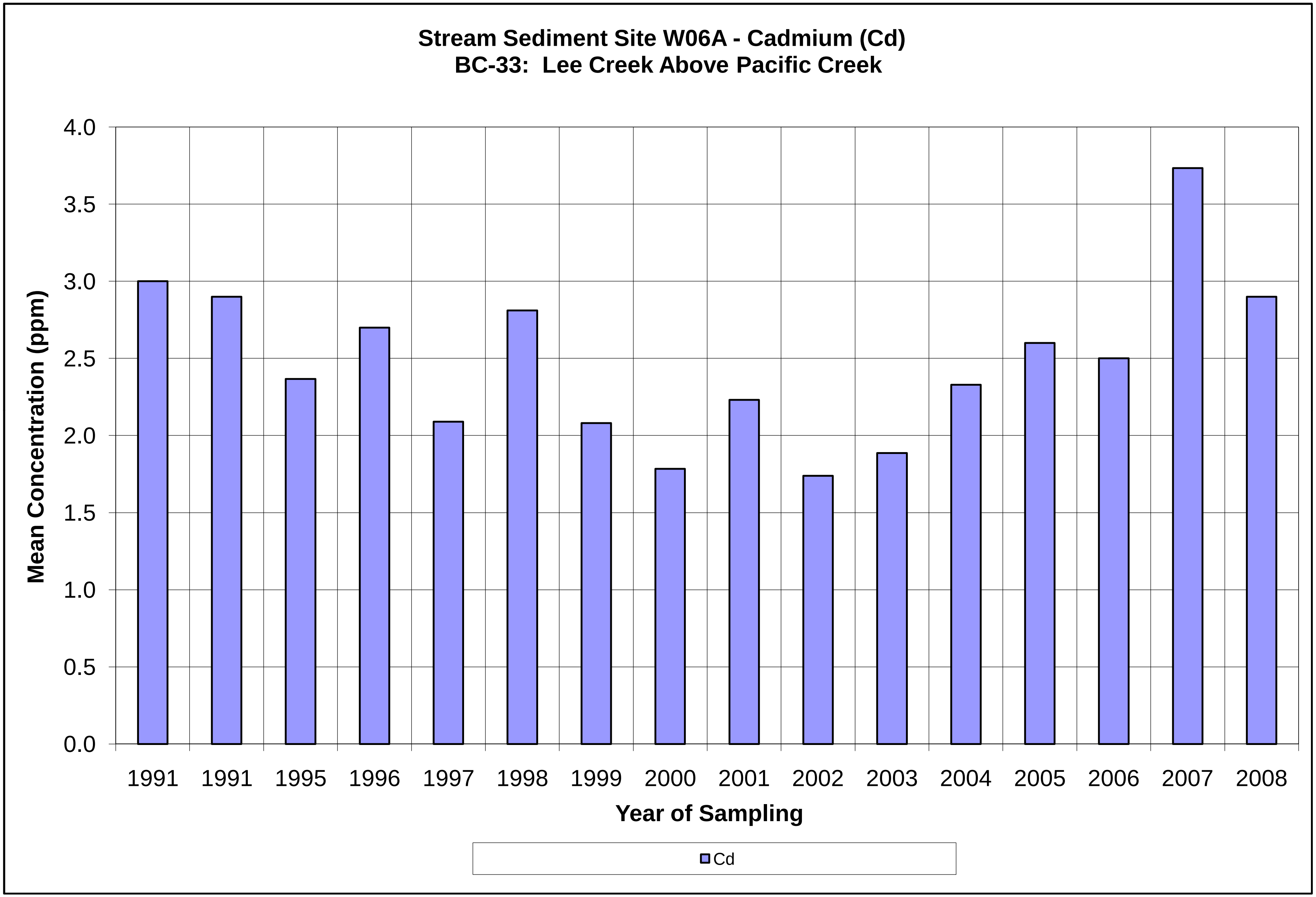

Stream Sediment Site W14 - Nickel (Ni)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni


Stream Sediment Site W14 - Zinc (Zn)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

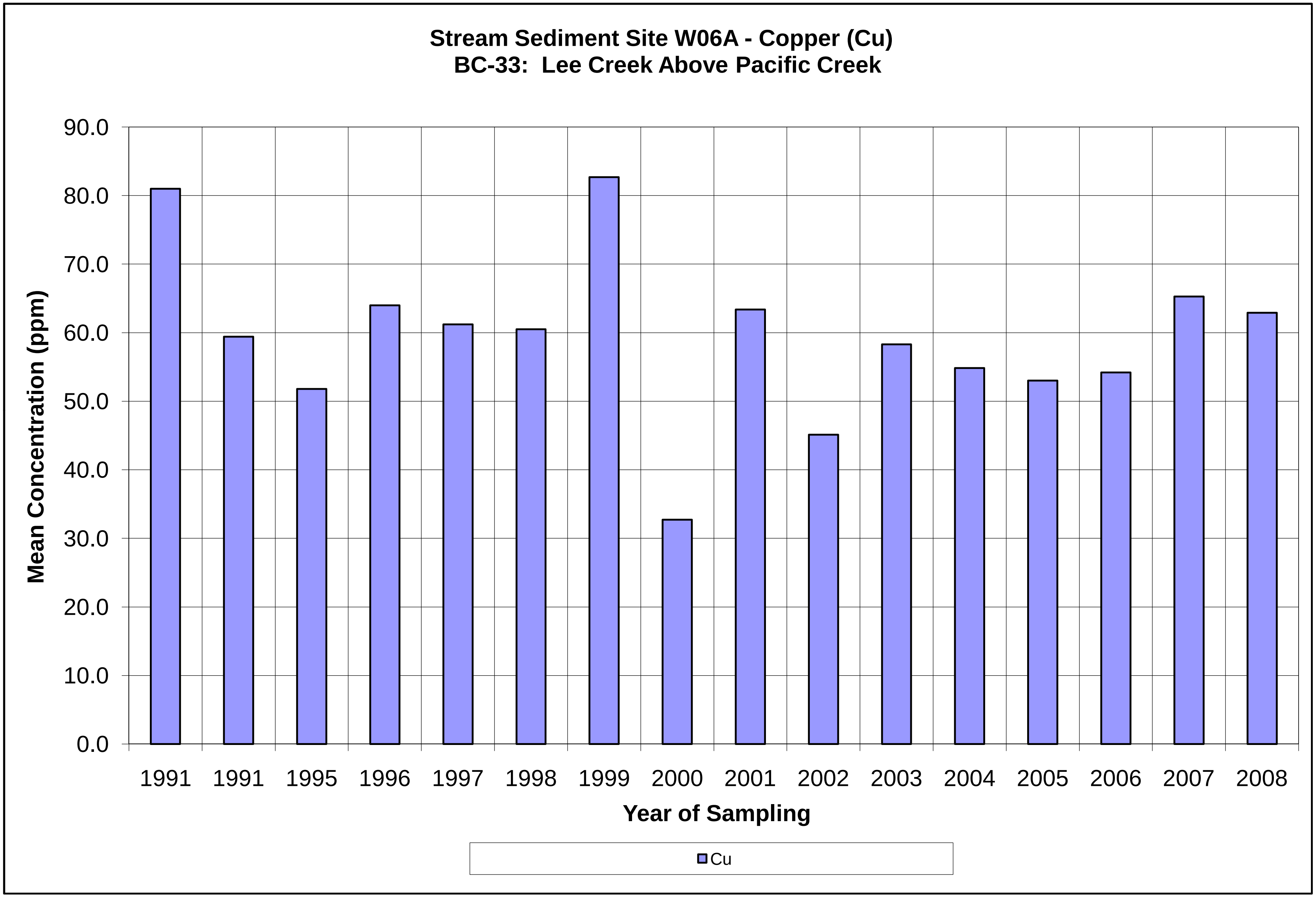


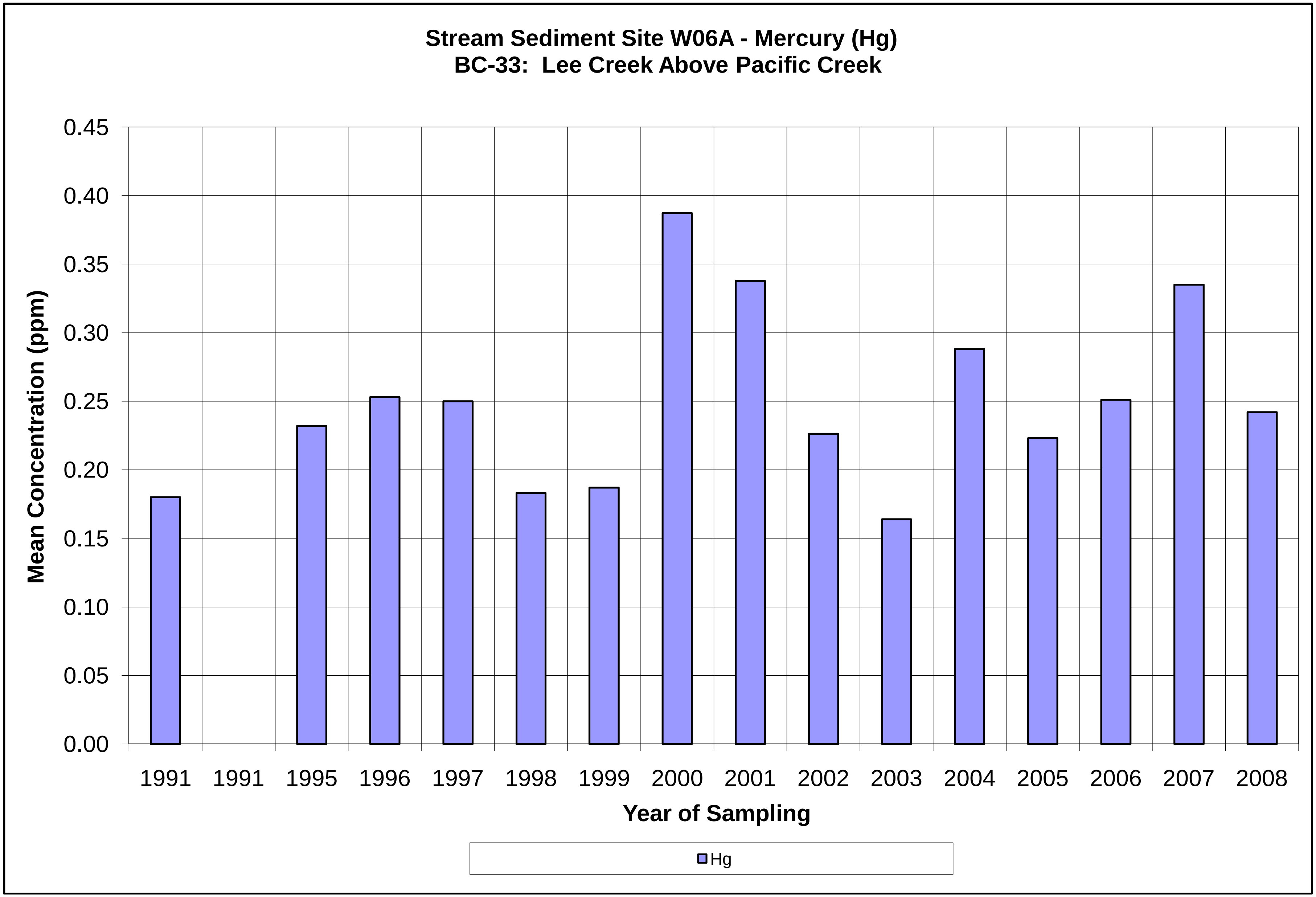
Stream Sediment Site W06A - Arsenic (As)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As


Stream Sediment Site W06A - Antimony (Sb)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

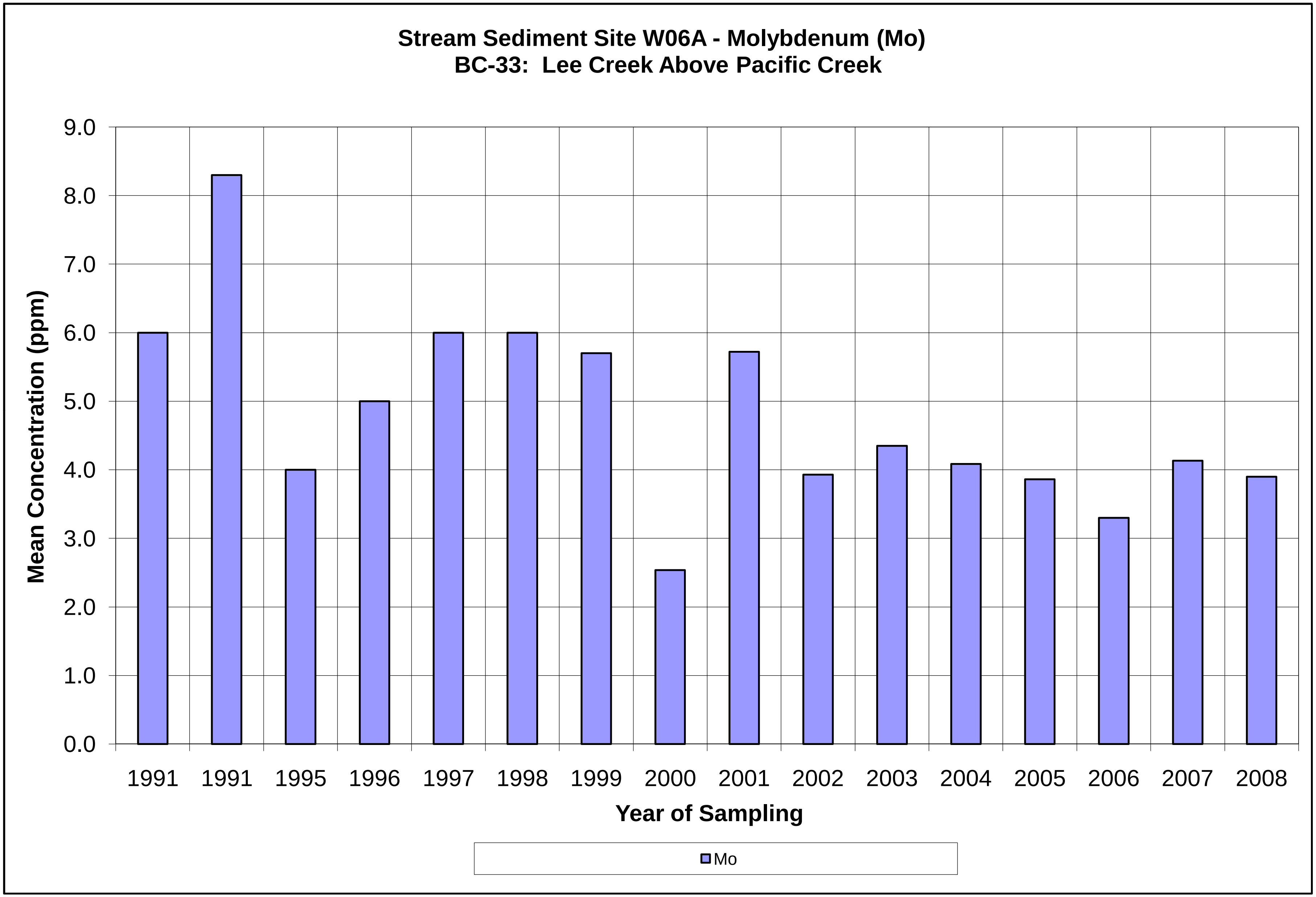


Stream Sediment Site W06A - Cadmium (Cd)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

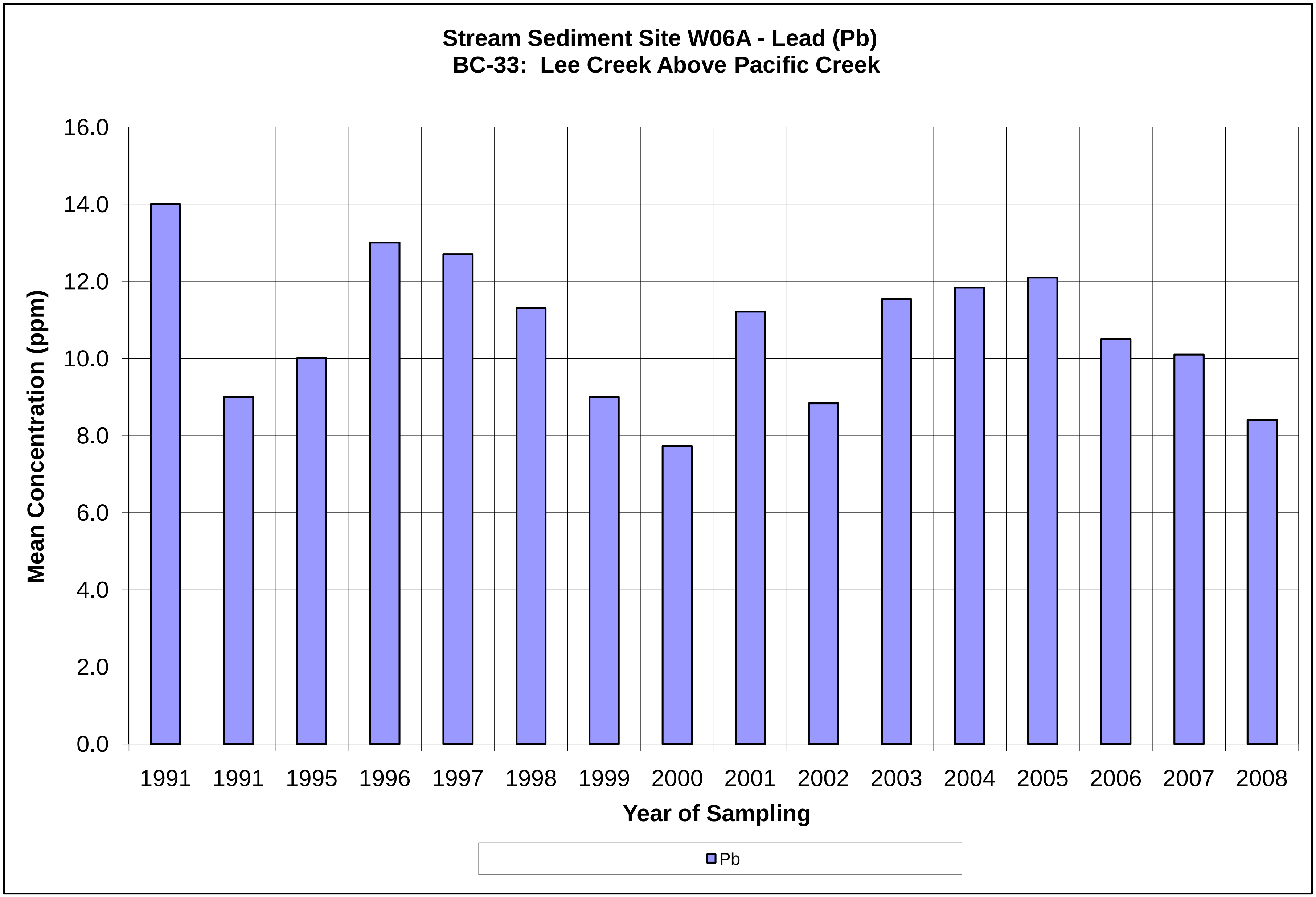

Stream Sediment Site W06A - Copper (Cu)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

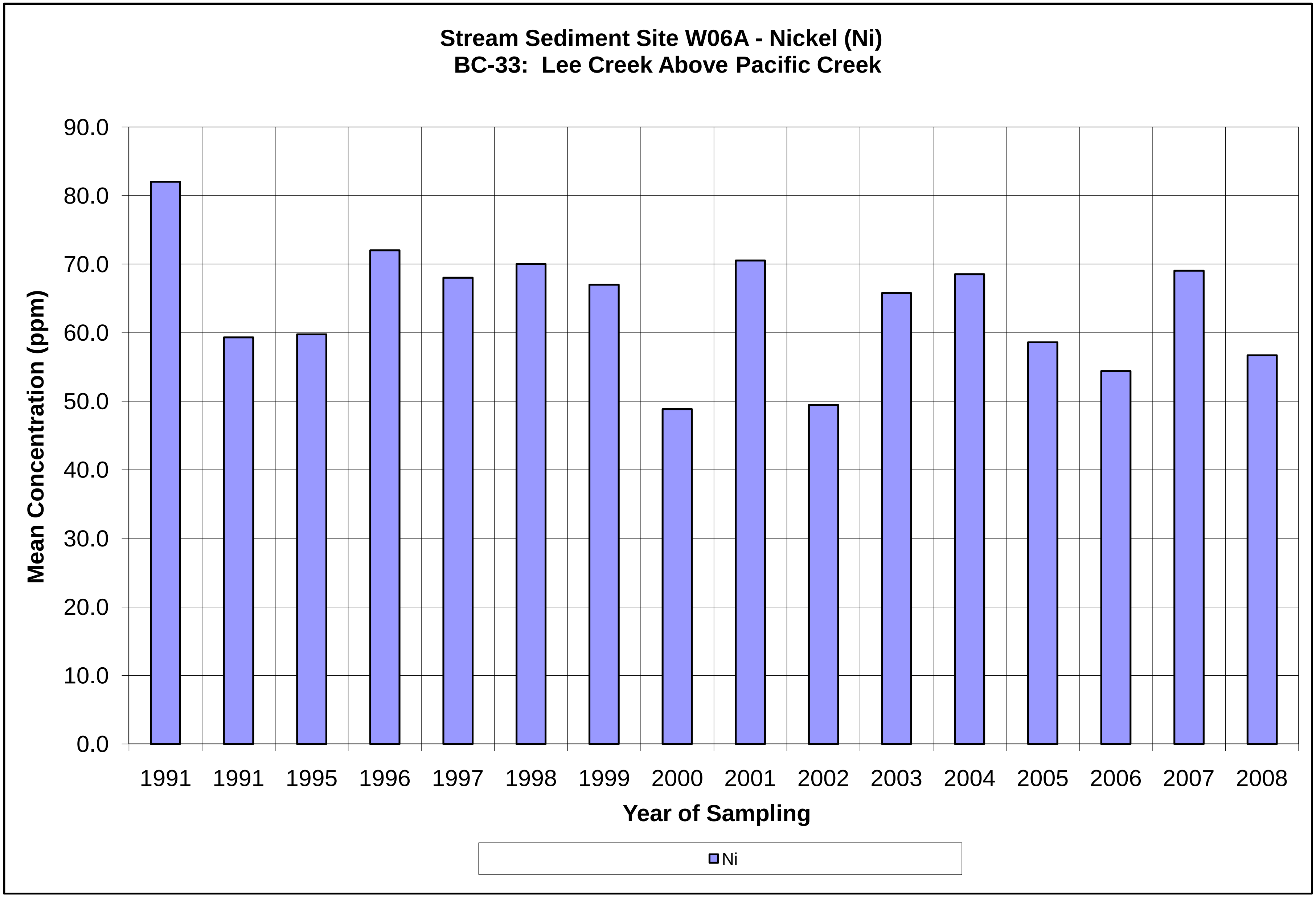


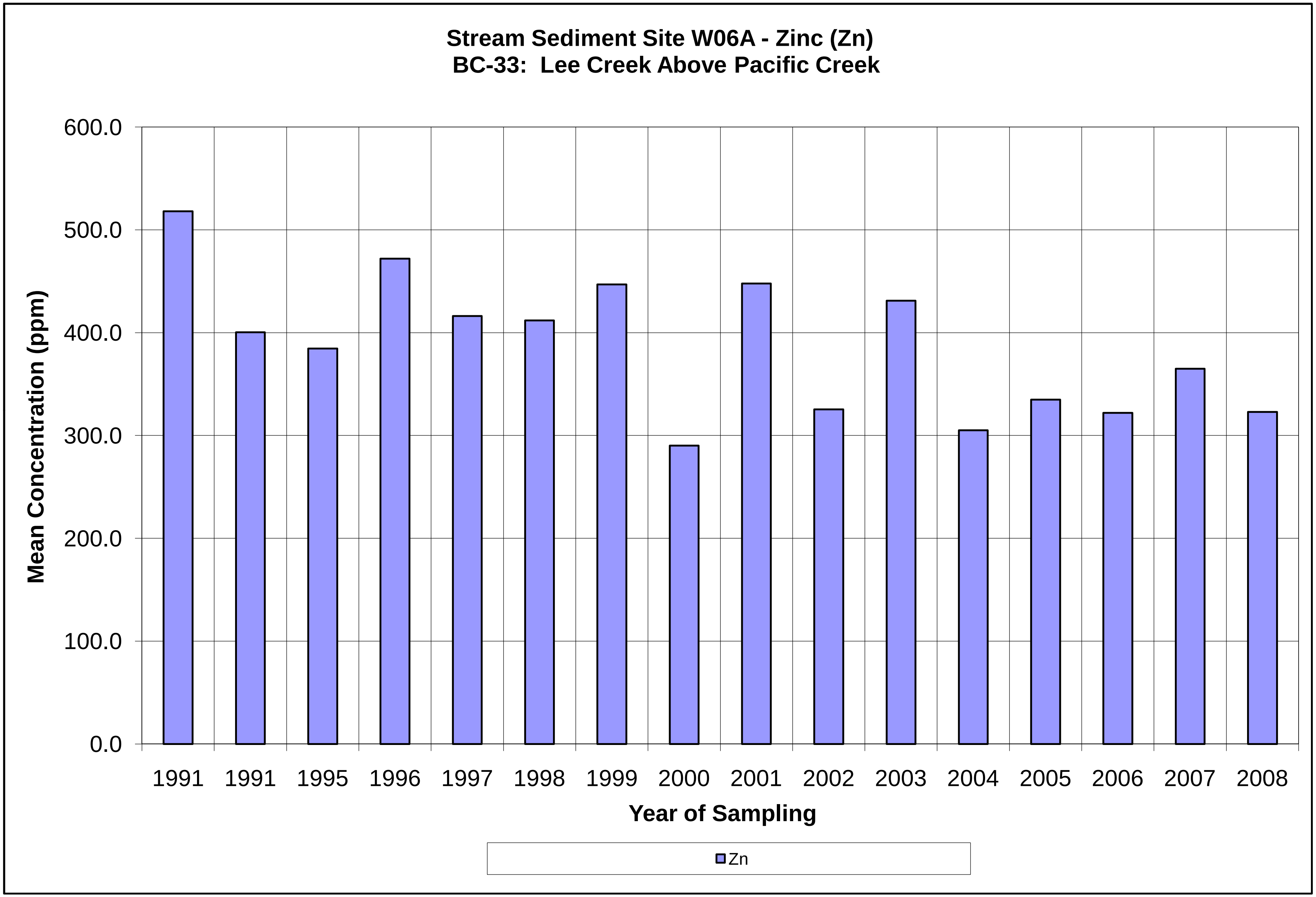
Stream Sediment Site W06A - Mercury (Hg)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

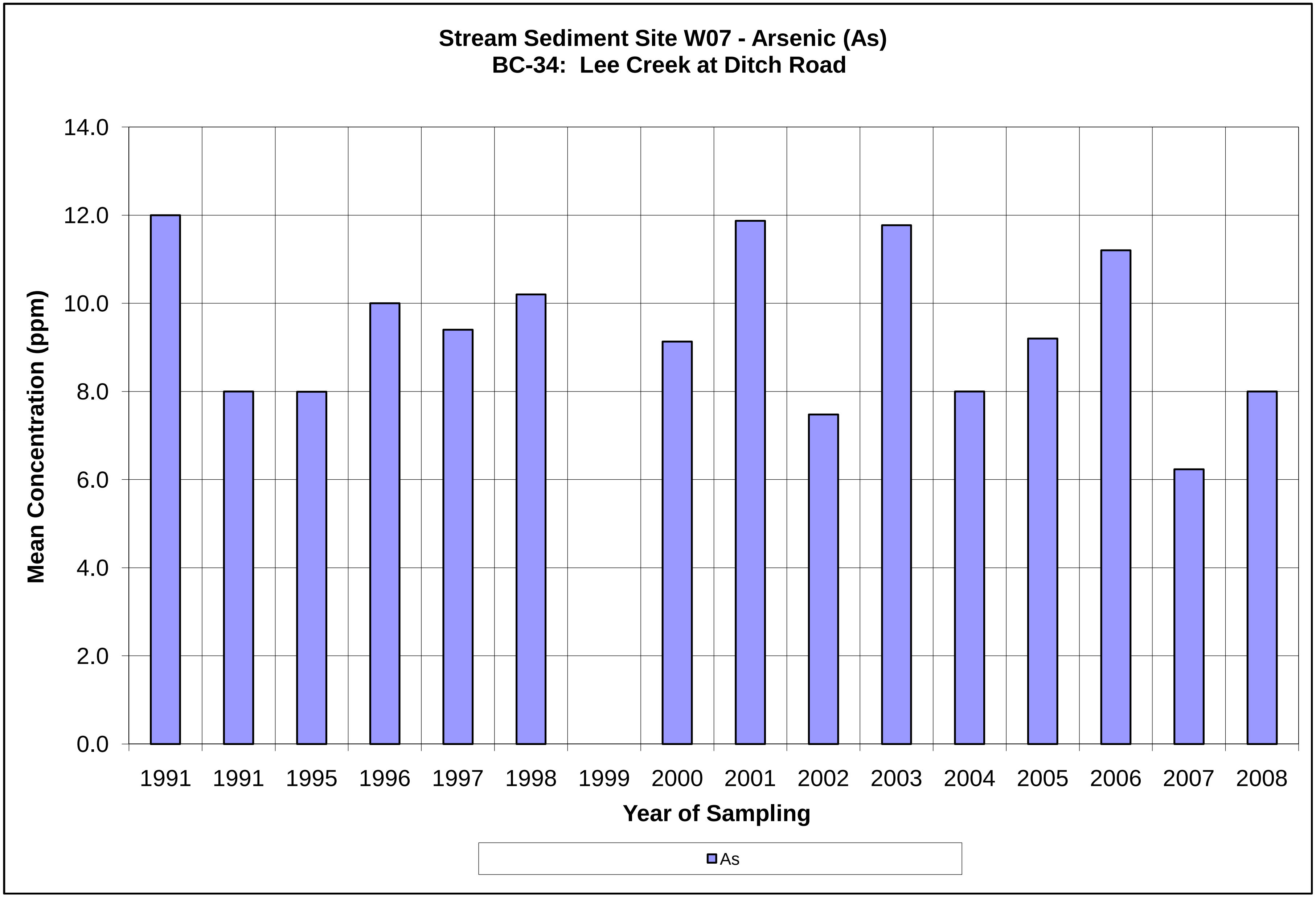


Stream Sediment Site W06A - Molybdenum (Mo)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo

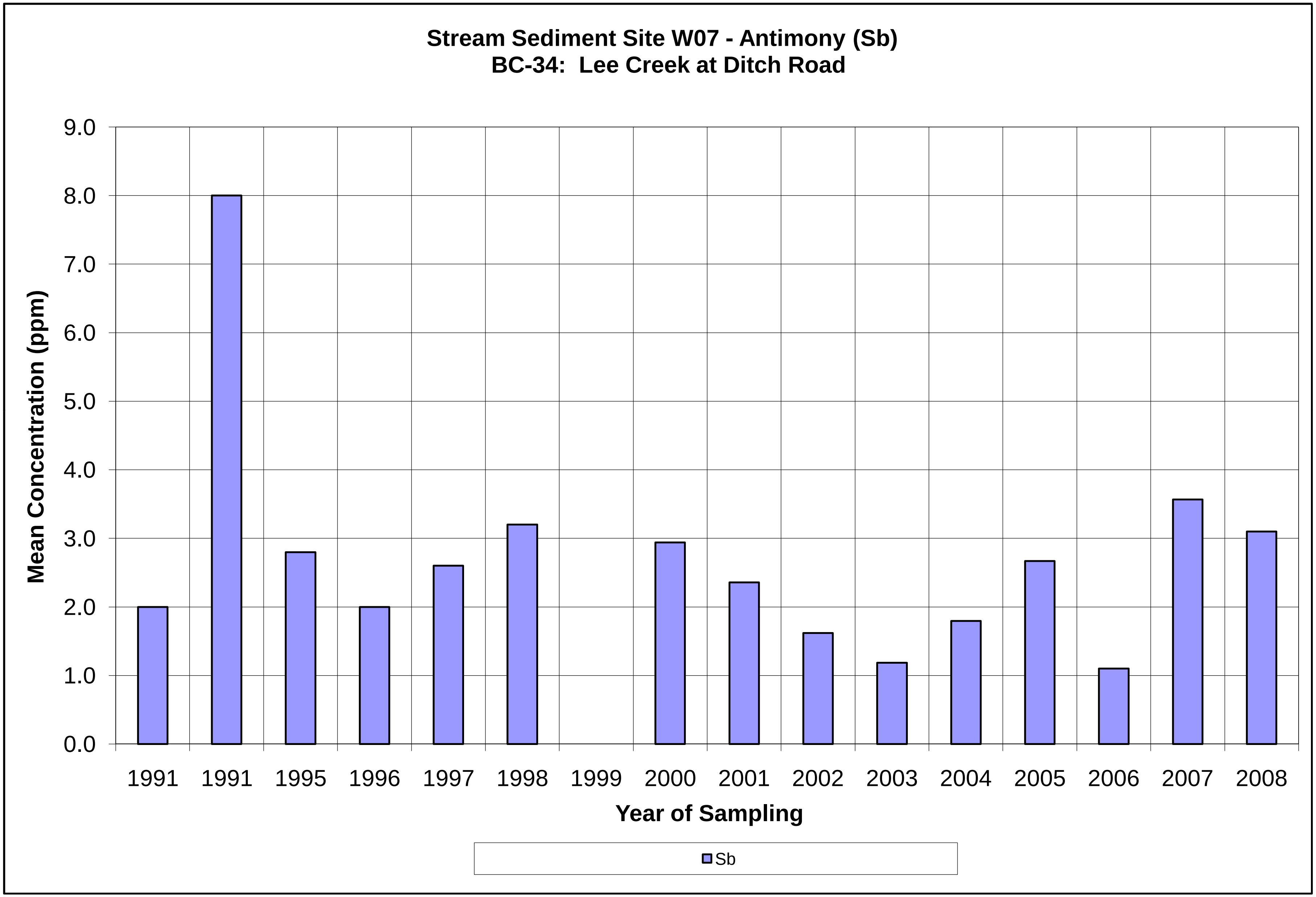

Stream Sediment Site W06A - Lead (Pb)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb


Stream Sediment Site W06A - Nickel (Ni)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni

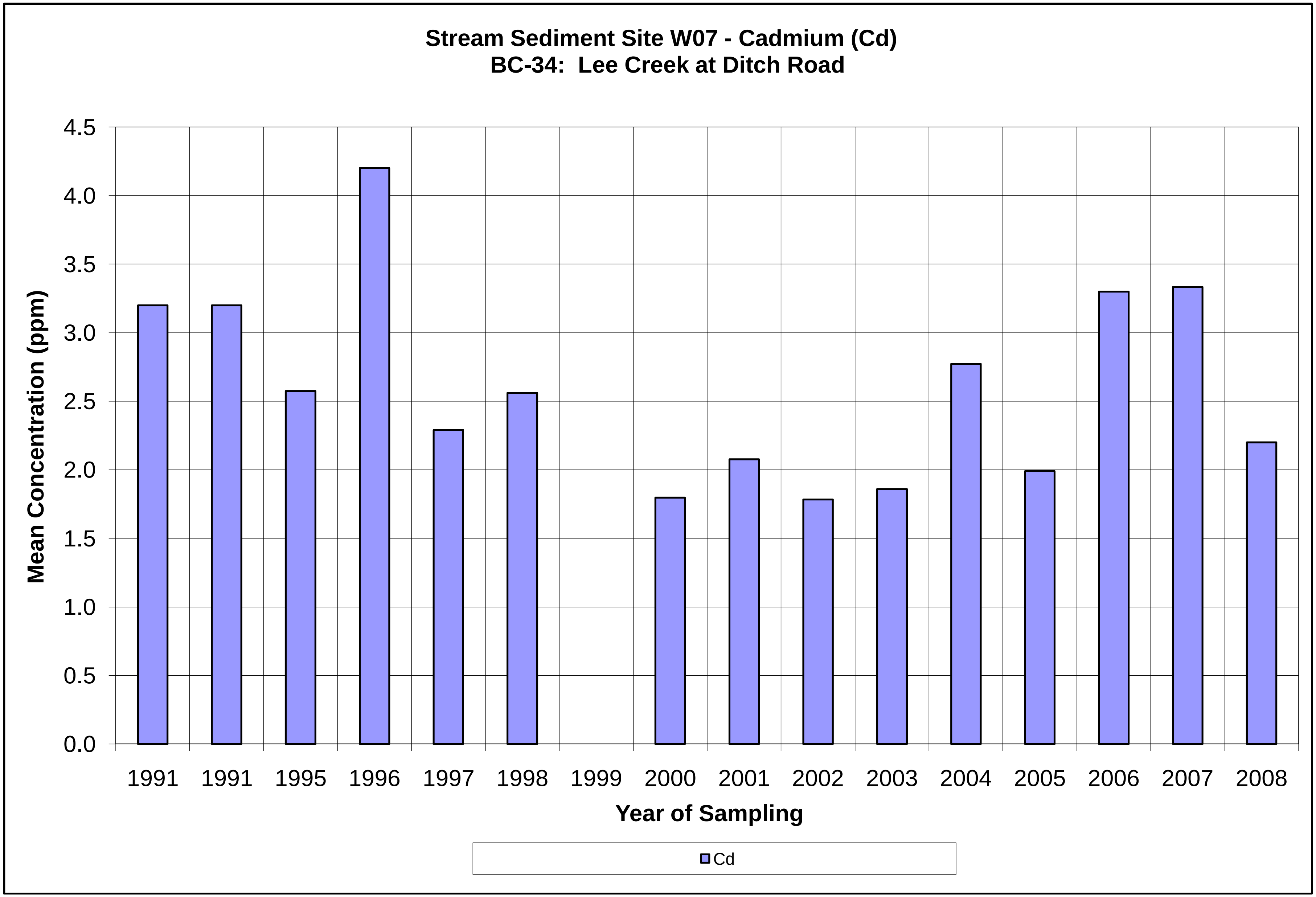

Stream Sediment Site W06A - Zinc (Zn)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn



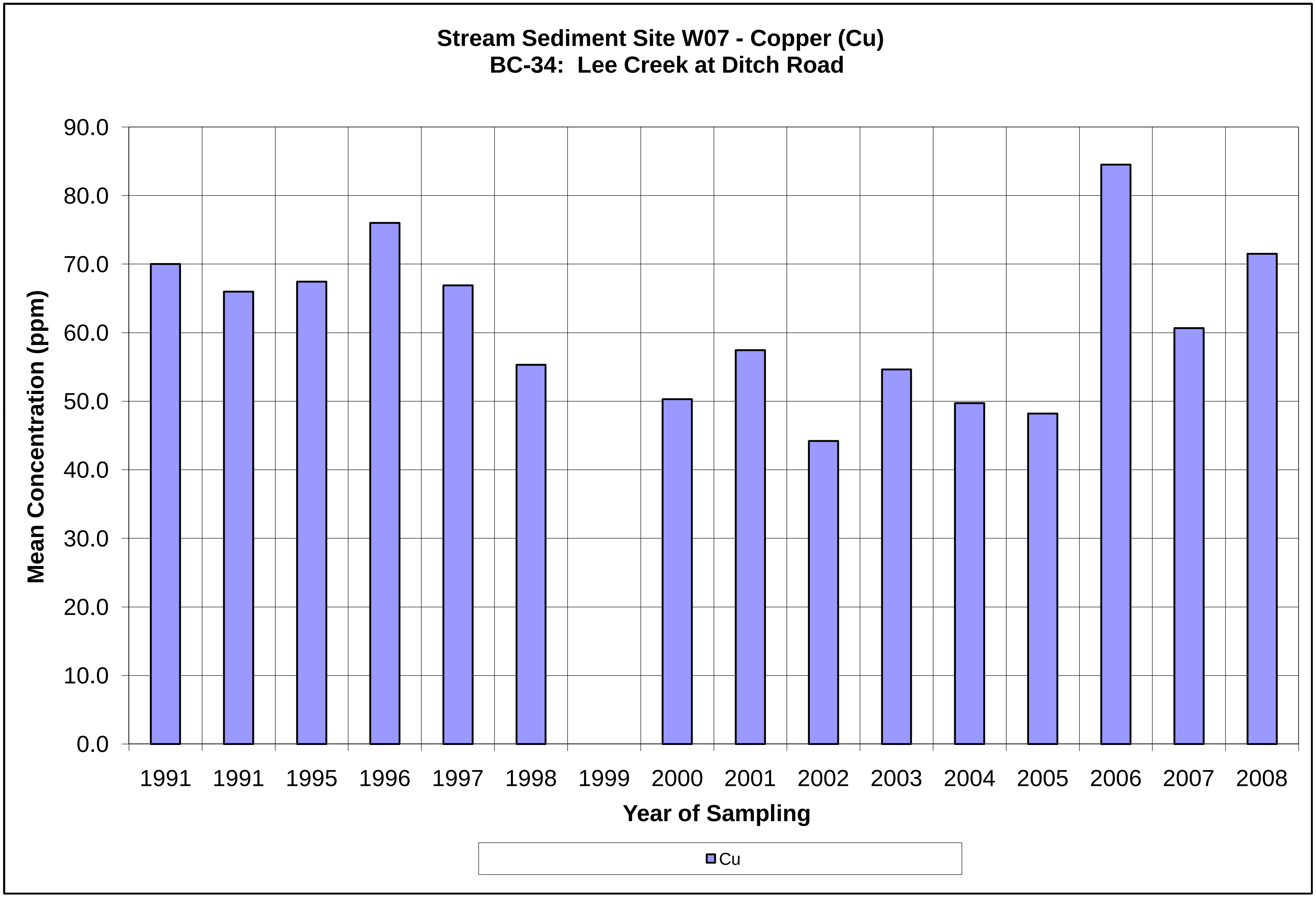
Stream Sediment Site W07 - Arsenic (As)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

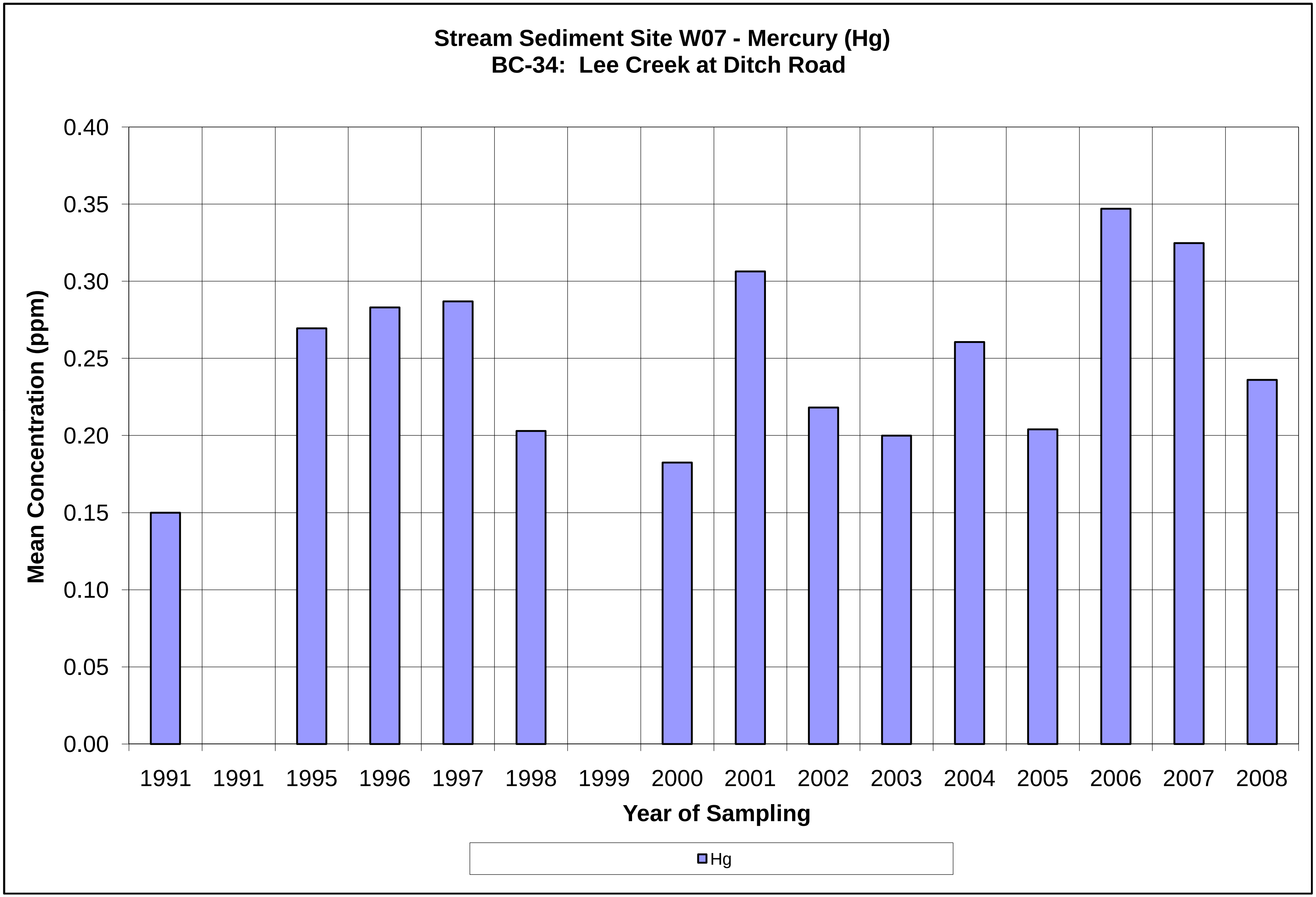


Stream Sediment Site W07 - Antimony (Sb)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

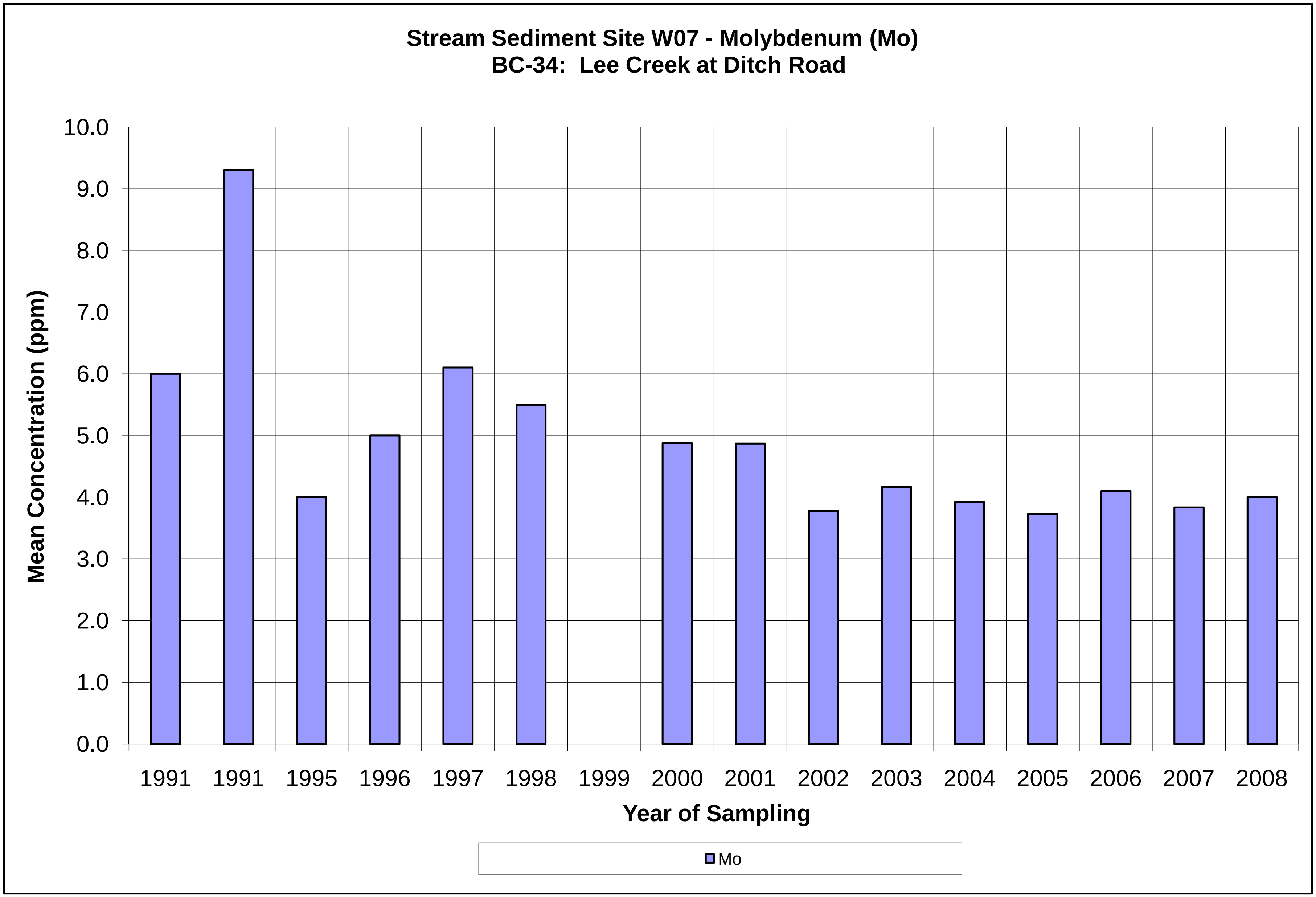


Stream Sediment Site W07 - Cadmium (Cd)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

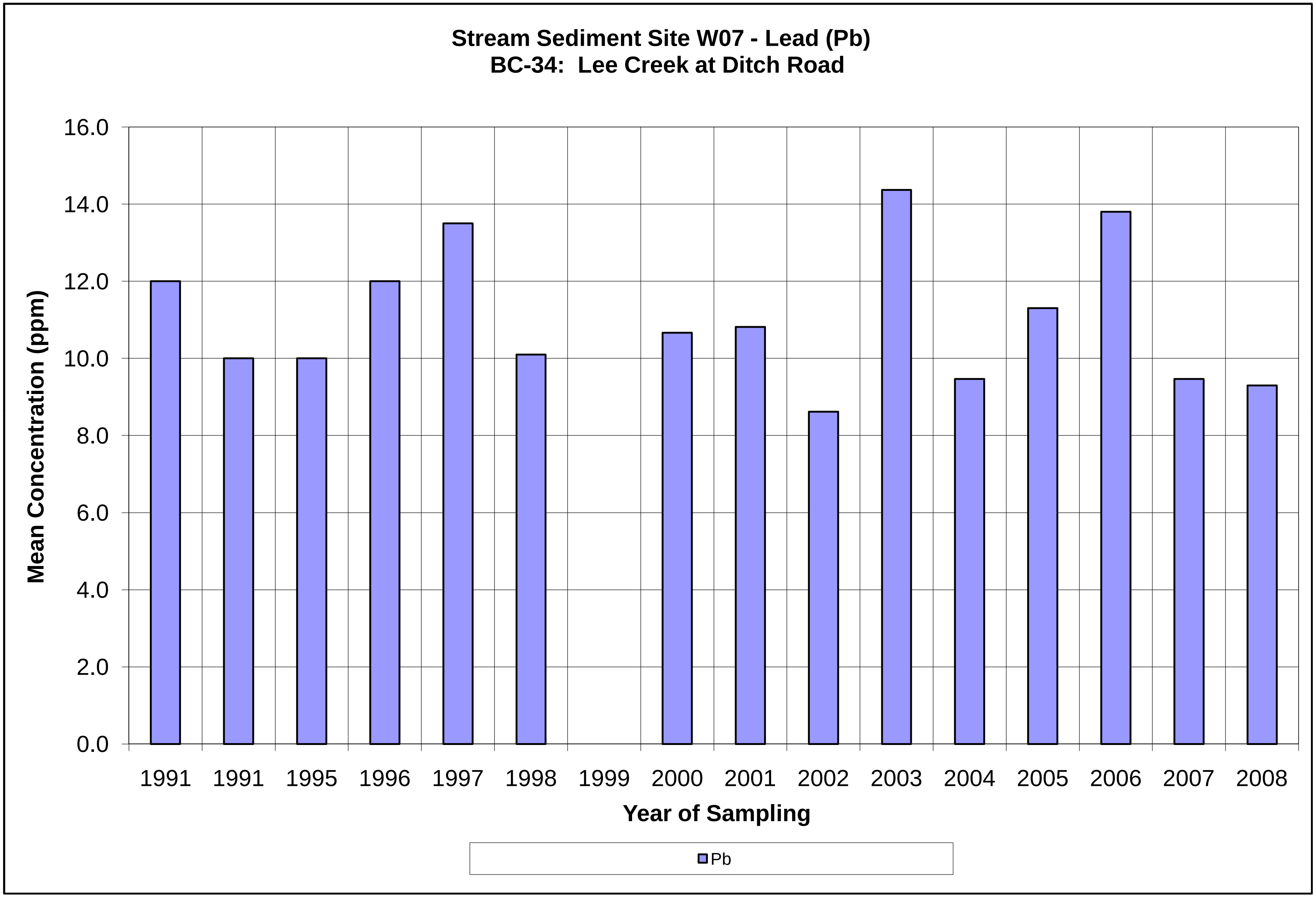

Stream Sediment Site W07 - Copper (Cu)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

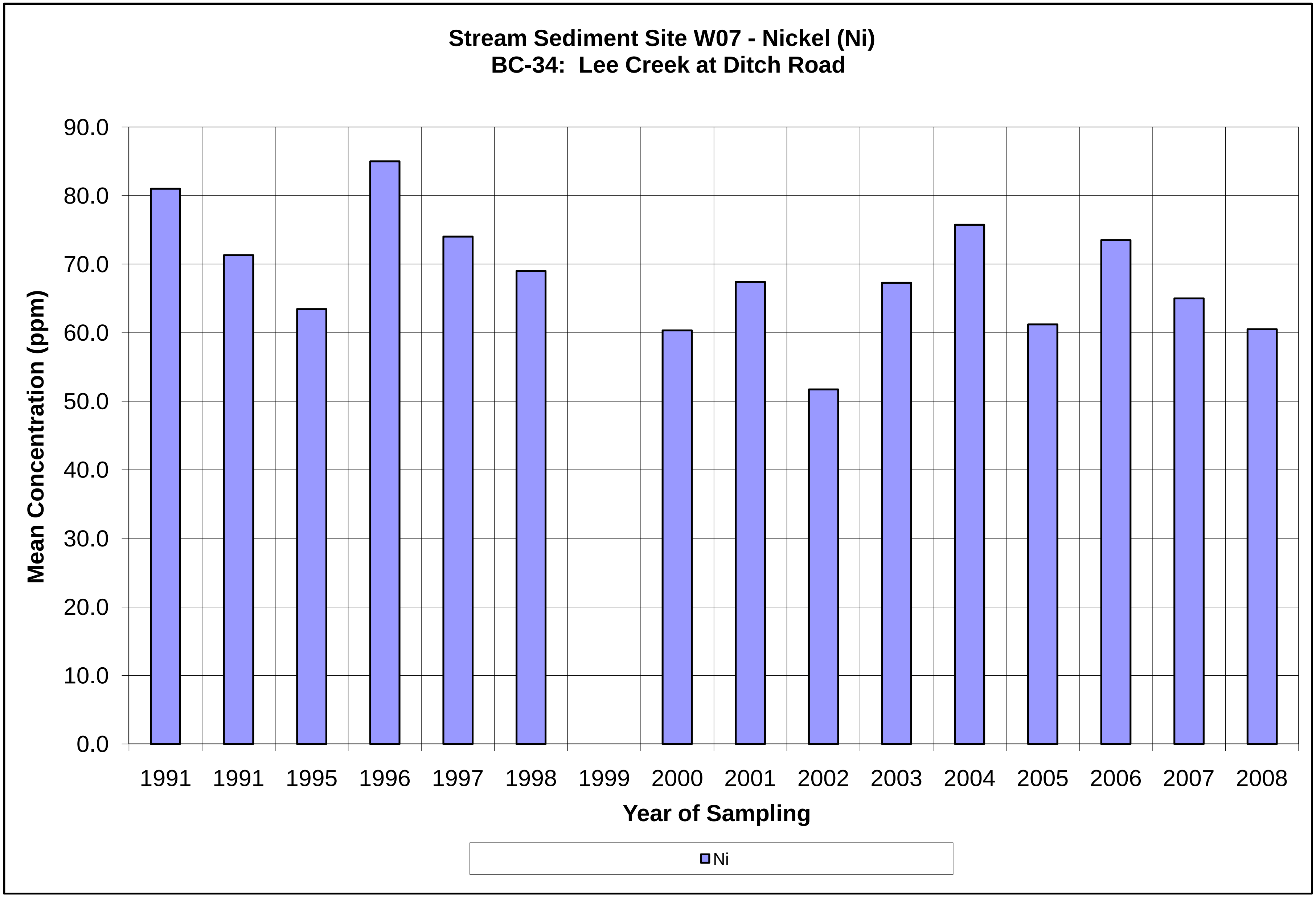


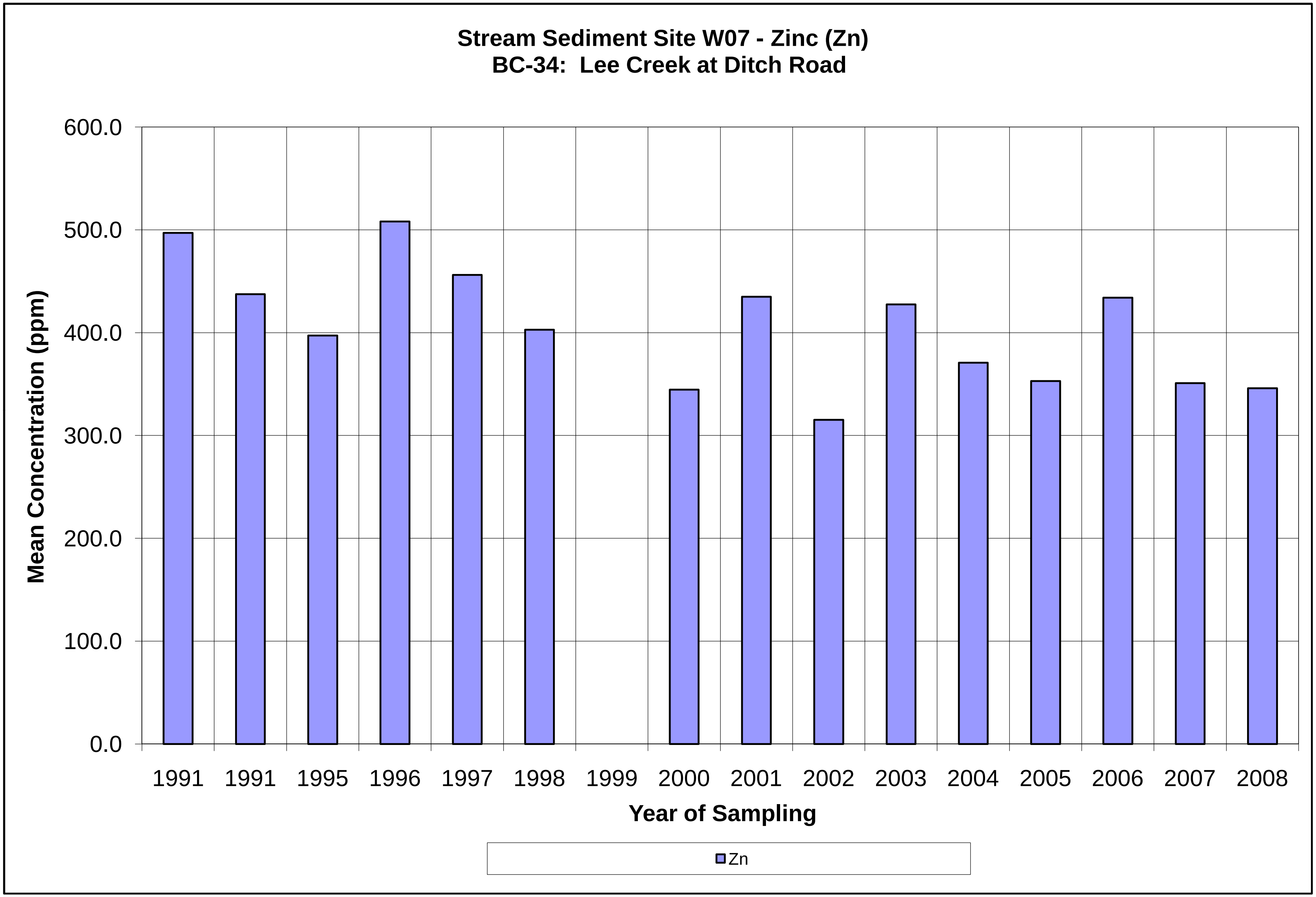
Stream Sediment Site W07 - Mercury (Hg)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg



Stream Sediment Site W07 - Molybdenum (Mo)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo


Stream Sediment Site W07 - Lead (Pb)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb


Stream Sediment Site W07 - Nickel (Ni)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni


Stream Sediment Site W07 - Zinc (Zn)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

Brewery Creek Mine

Stream Sediment Analysis: HISTORICAL COMPARISON

		Pacific Creek Monitoring Stations W11 BC-5															
		1991				**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	**ppm**	13.0				33.4	27.2	**	20.8	23.1	14.5	**	12.3	13.7	**	7.2	**
Sb	**ppm**	2.0				3.0	5.9	**	3.1	3.7	2.5	**	1.8	2.3	**	2.4	**
Cd	**ppm**	2.1				2.1	3.4	**	2.6	2.7	2.8	**	2.3	2.9	**	2.5	**
Cu	**ppm**	36.0				47.3	55.9	**	38.3	43.3	36.6	**	30.0	51.3	**	41.4	**
Hg	**ppm**	0.2				0.4	0.3	**	0.5	0.8	0.4	**	0.3	0.3	**	0.3	**
Mo	**ppm**	1.0				5.1	4.6	**	2.9	2.6	2.5	**	1.8	2.4	**	2.2	**
Pb	**ppm**	8.0				13.1	14.5	**	9.6	10.5	9.4	**	7.5	13.2	**	7.2	**
Ni	**ppm**	58.0				61.0	73.0	**	59.8	73.9	60.4	**	63.4	66.2	**	50.5	**
Zn	**ppm**	342.0				378.8	412.7	**	367.2	460.9	371.5	**	321.9	385.0	**	304.0	**

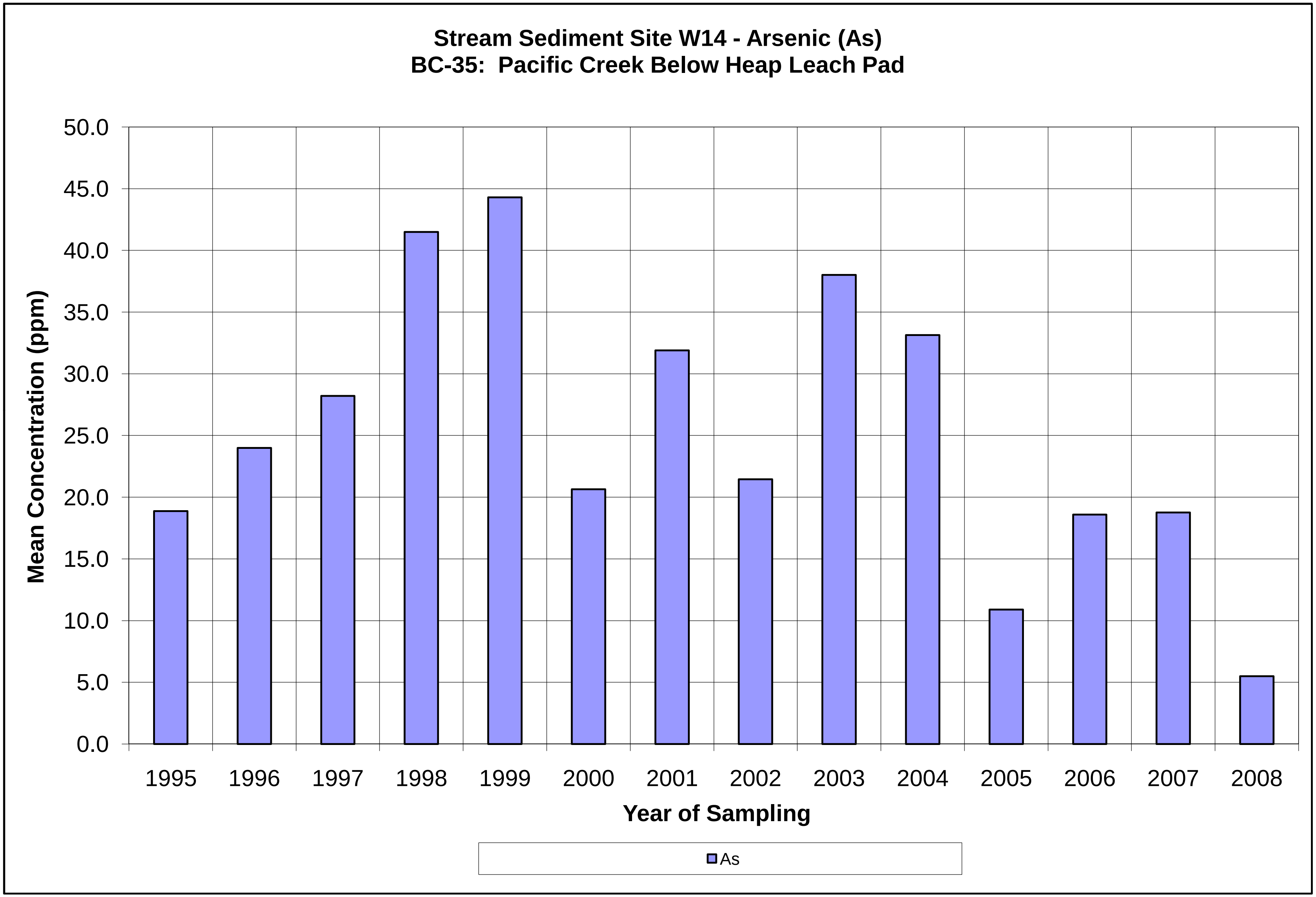
		Pacific Creek Monitoring Stations W14 BC-35															
				1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	**ppm**			18.9	24.0	28.2	41.5	44.3	20.6	31.9	21.5	38.0	33.1	10.9	18.6	18.8	5.5
Sb	**ppm**			3.5	3.0	5.1	6.8	6.6	3.3	5.1	5.9	3.2	3.7	1.4	1.7	4.4	0.5
Cd	**ppm**			2.0	1.5	1.3	2.1	2.0	1.5	1.8	1.3	2.5	1.7	1.9	1.6	2.6	1.0
Cu	**ppm**			25.1	30.0	36.5	38.9	56.0	23.0	36.9	24.8	41.6	27.4	51.0	23.3	27.2	34.9
Hg	**ppm**			0.5	0.8	0.8	1.0	1.4	0.9	0.9	0.6	0.7	0.5	0.2	0.5	0.6	0.2
Mo	**ppm**			4.0	1.0	2.3	2.7	2.3	1.4	2.0	1.5	2.2	1.9	4.3	1.1	1.1	2.1
Pb	**ppm**			10.0	8.0	9.6	9.4	11.0	6.2	9.3	7.4	10.1	8.0	11.1	7.0	5.9	5.6
Ni	**ppm**			46.0	59.0	71.0	75.0	72.0	44.1	68.9	47.7	78.8	77.9	45.6	49.4	57.8	48.5
Zn	**ppm**			241.7	351.0	371.2	410.6	445.0	240.0	365.2	270.3	453.1	421.6	263.0	308.0	381.7	223.0

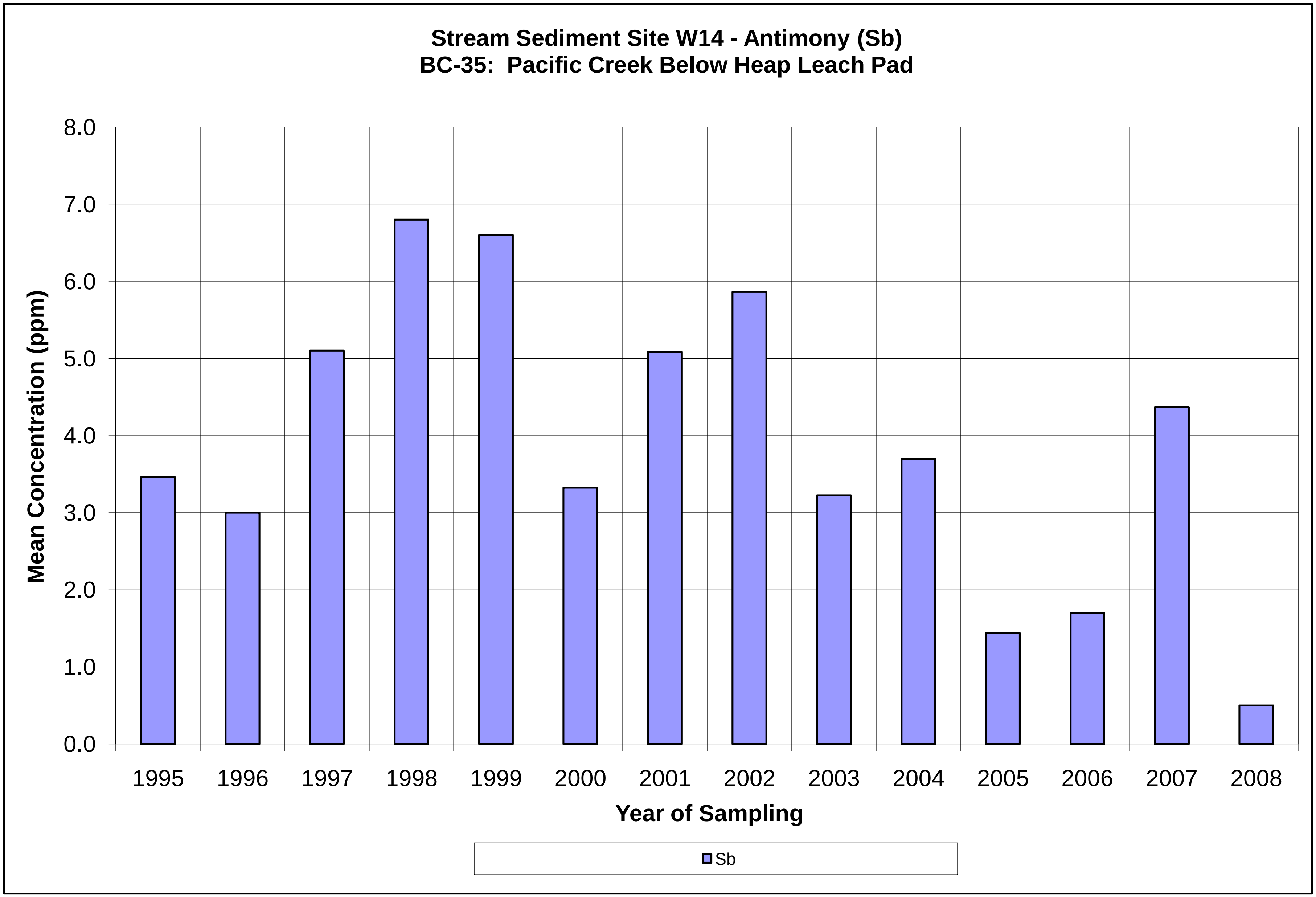
		Lee Creek Monitoring Stations W06A BC-33															
		1991	**1991**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	**ppm**	15.0	8.0	6.3	10.0	10.7	13.2	12.2	17.1	12.8	7.5	11.5	6.9	9.0	8.5	6.5	6.5
Sb	**ppm**	2.0	8.0	2.3	2.0	2.8	3.6	2.8	3.2	2.5	1.5	1.2	0.9	1.4	1.3	3.2	2.1
Cd	**ppm**	3.0	2.9	2.4	2.7	2.1	2.8	2.1	1.8	2.2	1.7	1.9	2.3	2.6	2.5	3.7	2.9
Cu	**ppm**	81.0	59.4	51.8	64.0	61.2	60.5	82.7	32.7	63.4	45.1	58.3	54.8	53.0	54.2	65.3	62.9
Hg	**ppm**	0.2	0.0	0.2	0.3	0.3	0.2	0.2	0.4	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2
Mo	**ppm**	6.0	8.3	4.0	5.0	6.0	6.0	5.7	2.5	5.7	3.9	4.3	4.1	3.9	3.3	4.1	3.9
Pb	**ppm**	14.0	9.0	10.0	13.0	12.7	11.3	9.0	7.7	11.2	8.8	11.5	11.8	12.1	10.5	10.1	8.4
Ni	**ppm**	82.0	59.3	59.8	72.0	68.0	70.0	67.0	48.9	70.5	49.5	65.8	68.5	58.6	54.4	69.0	56.7
Zn	**ppm**	518.0	400.3	384.7	472.0	416.2	411.9	447.0	290.1	447.9	325.4	431.2	305.0	335.0	322.0	365.0	323.0

		Lee Creek Monitoring Stations W07 BC-34															
		1991	**1991**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
As	**ppm**	12.0	8.0	8.0	10.0	9.4	10.2	**	9.1	11.9	7.5	11.8	8.0	9.2	11.2	6.2	8.0
Sb	**ppm**	2.0	8.0	2.8	2.0	2.6	3.2	**	2.9	2.4	1.6	1.2	1.8	2.7	1.1	3.6	3.1
Cd	**ppm**	3.2	3.2	2.6	4.2	2.3	2.6	**	1.8	2.1	1.8	1.9	2.8	2.0	3.3	3.3	2.2
Cu	**ppm**	70.0	66.0	67.5	76.0	66.9	55.3	**	50.3	57.4	44.2	54.7	49.7	48.2	84.5	60.7	71.5
Hg	**ppm**	0.2	0.0	0.3	0.3	0.3	0.2	**	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2
Mo	**ppm**	6.0	9.3	4.0	5.0	6.1	5.5	**	4.9	4.9	3.8	4.2	3.9	3.7	4.1	3.8	4.0
Pb	**ppm**	12.0	10.0	10.0	12.0	13.5	10.1	**	10.7	10.8	8.6	14.4	9.5	11.3	13.8	9.5	9.3
Ni	**ppm**	81.0	71.3	63.5	85.0	74.0	69.0	**	60.3	67.4	51.7	67.3	75.7	61.2	73.5	65.0	60.5
Zn	**ppm**	497.0	437.3	397.3	508.0	456.1	402.9	**	344.5	434.9	315.3	427.5	370.9	353.0	434.0	351.0	346.0

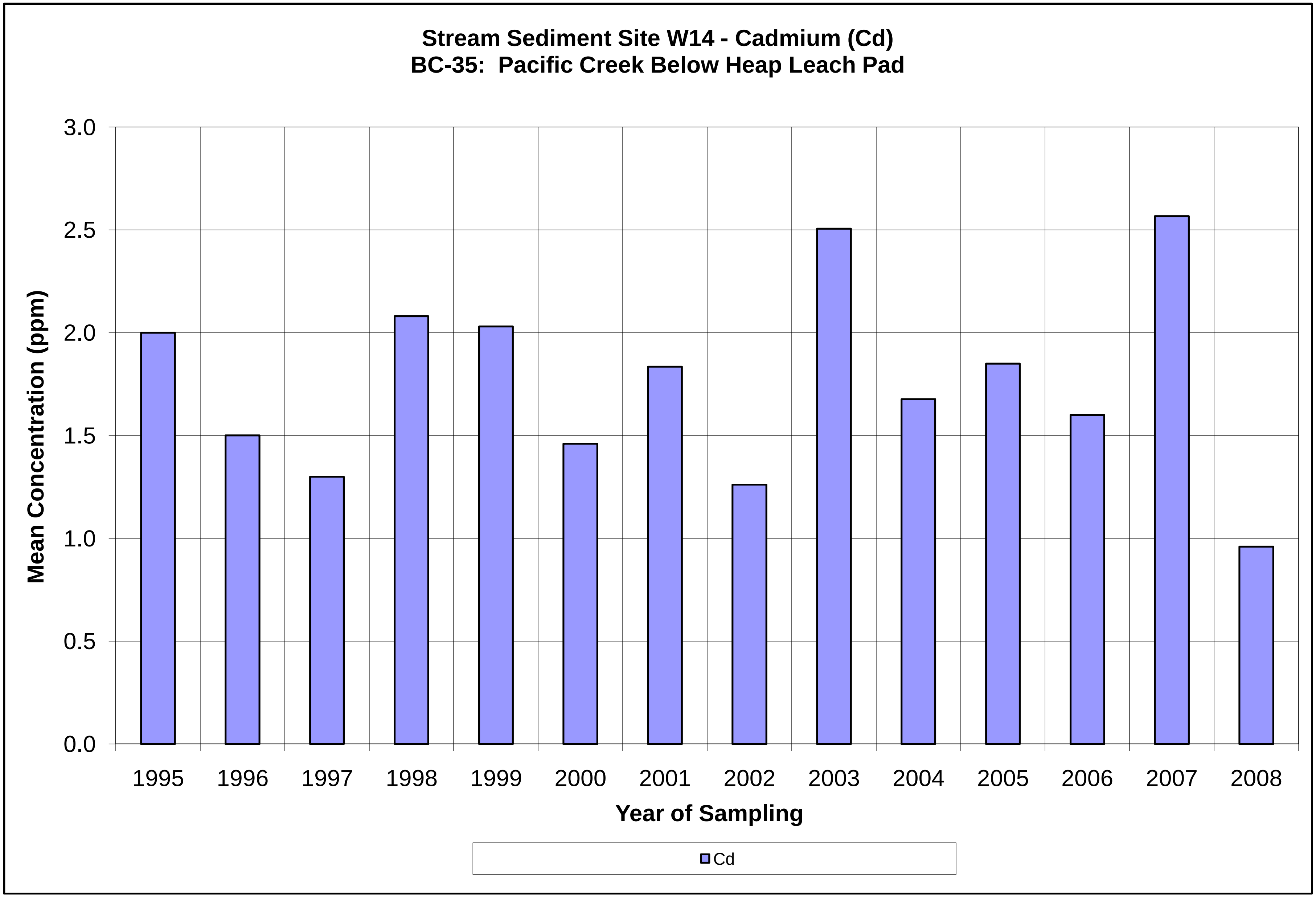
*** all values represent mean of replicate samples***

*****Sites not sampled this year***

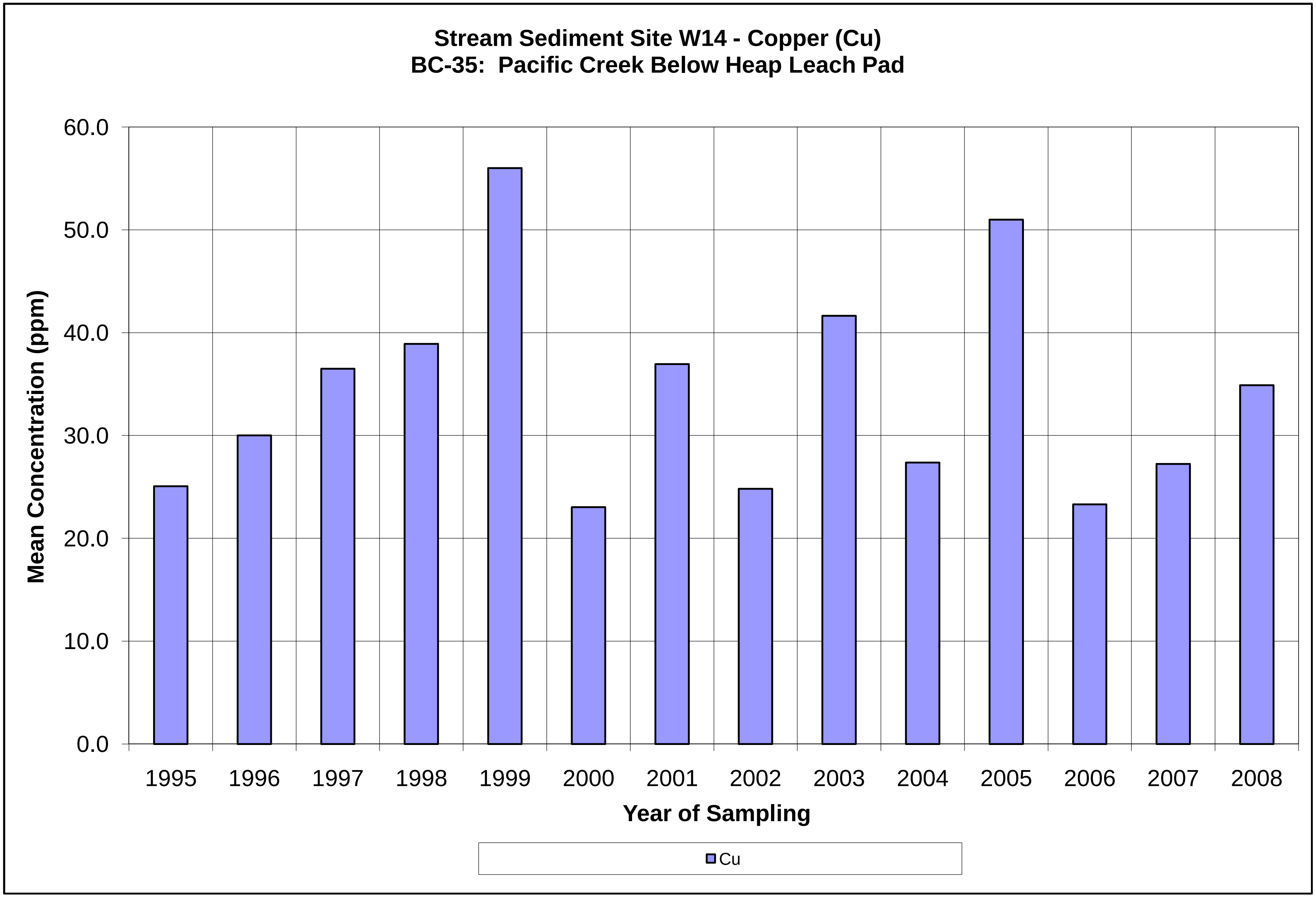

Stream Sediment Site W14 - Arsenic (As)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

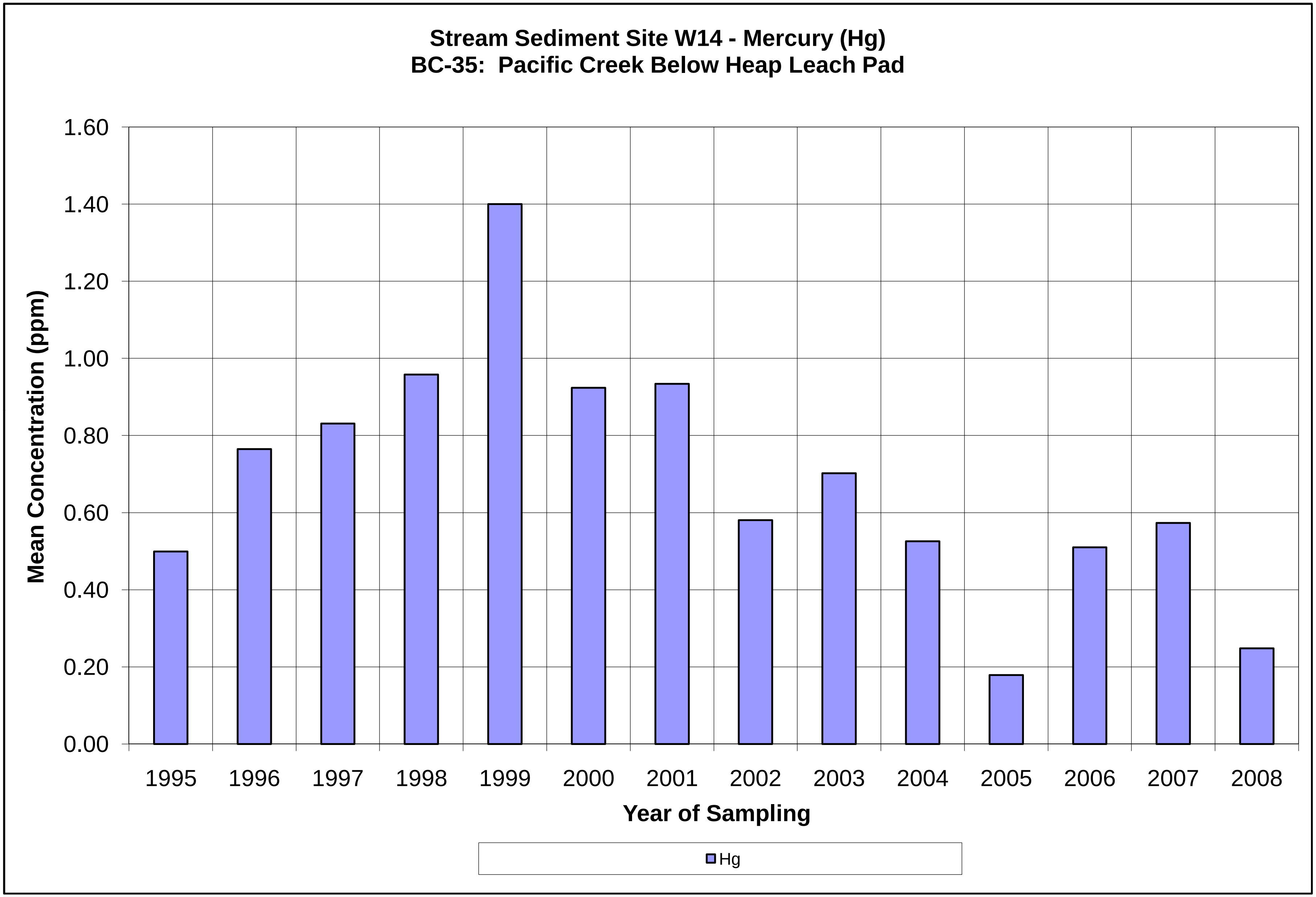


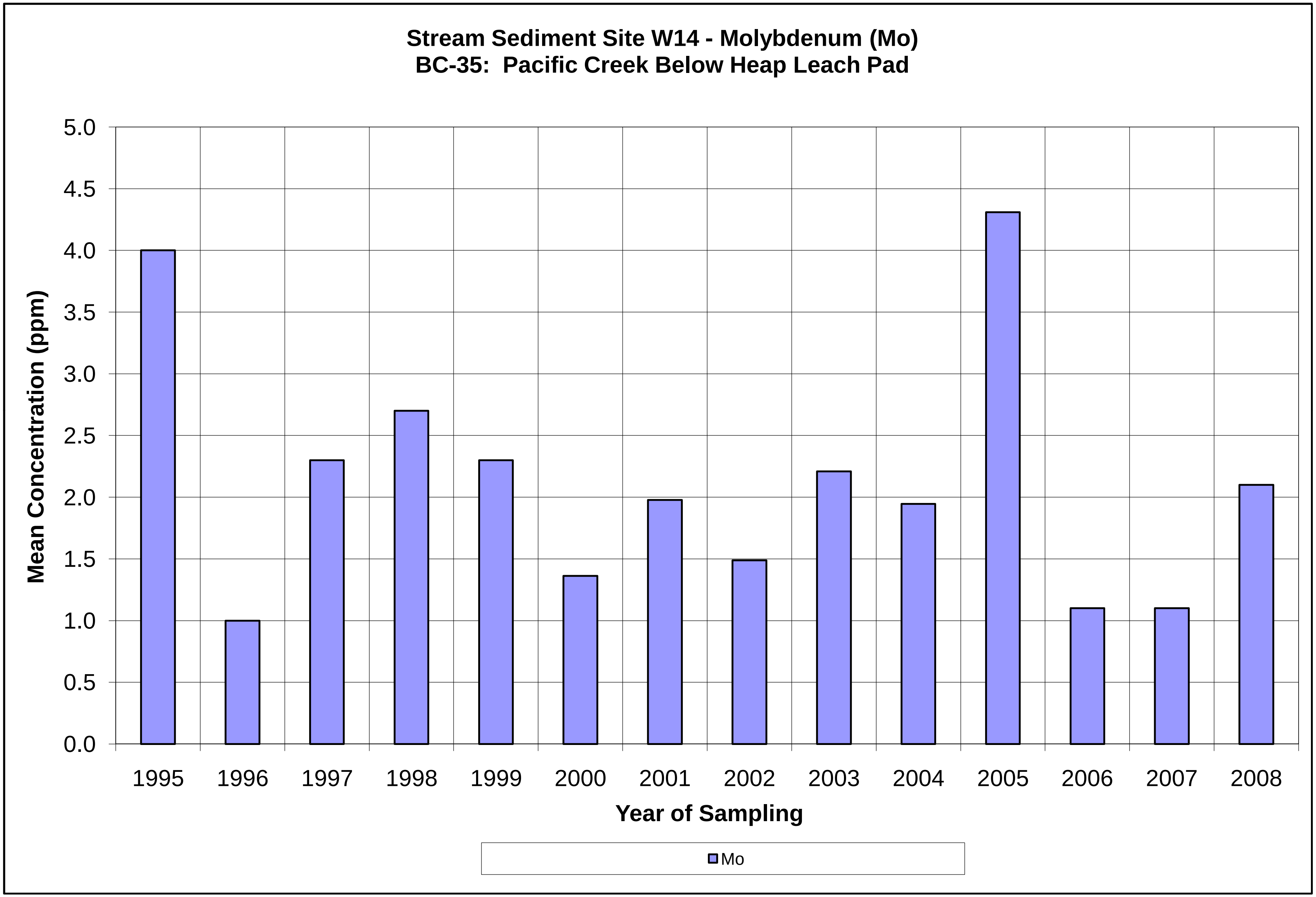
Stream Sediment Site W14 - Antimony (Sb)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb



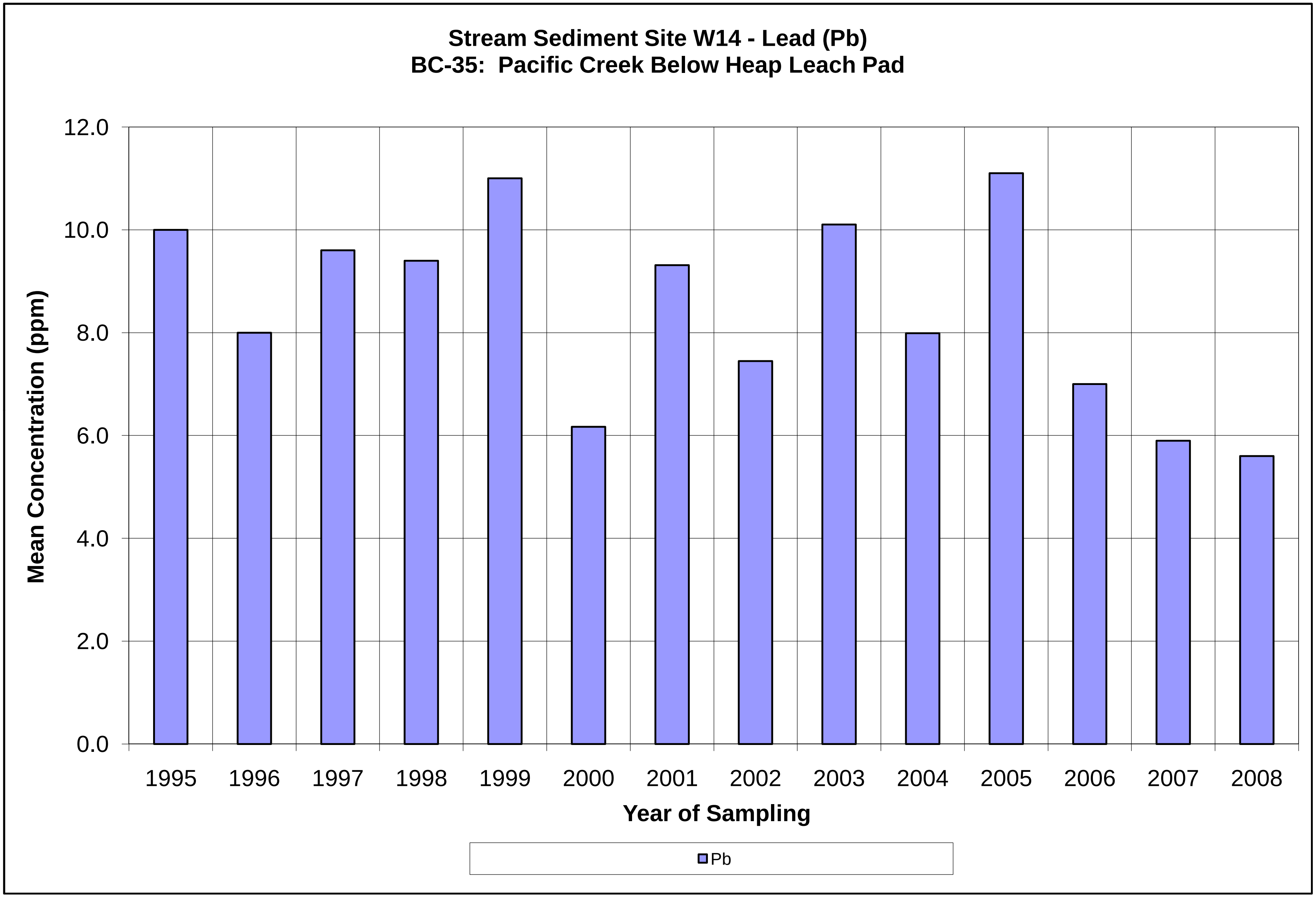
Stream Sediment Site W14 - Cadmium (Cd)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd


Stream Sediment Site W14 - Copper (Cu)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

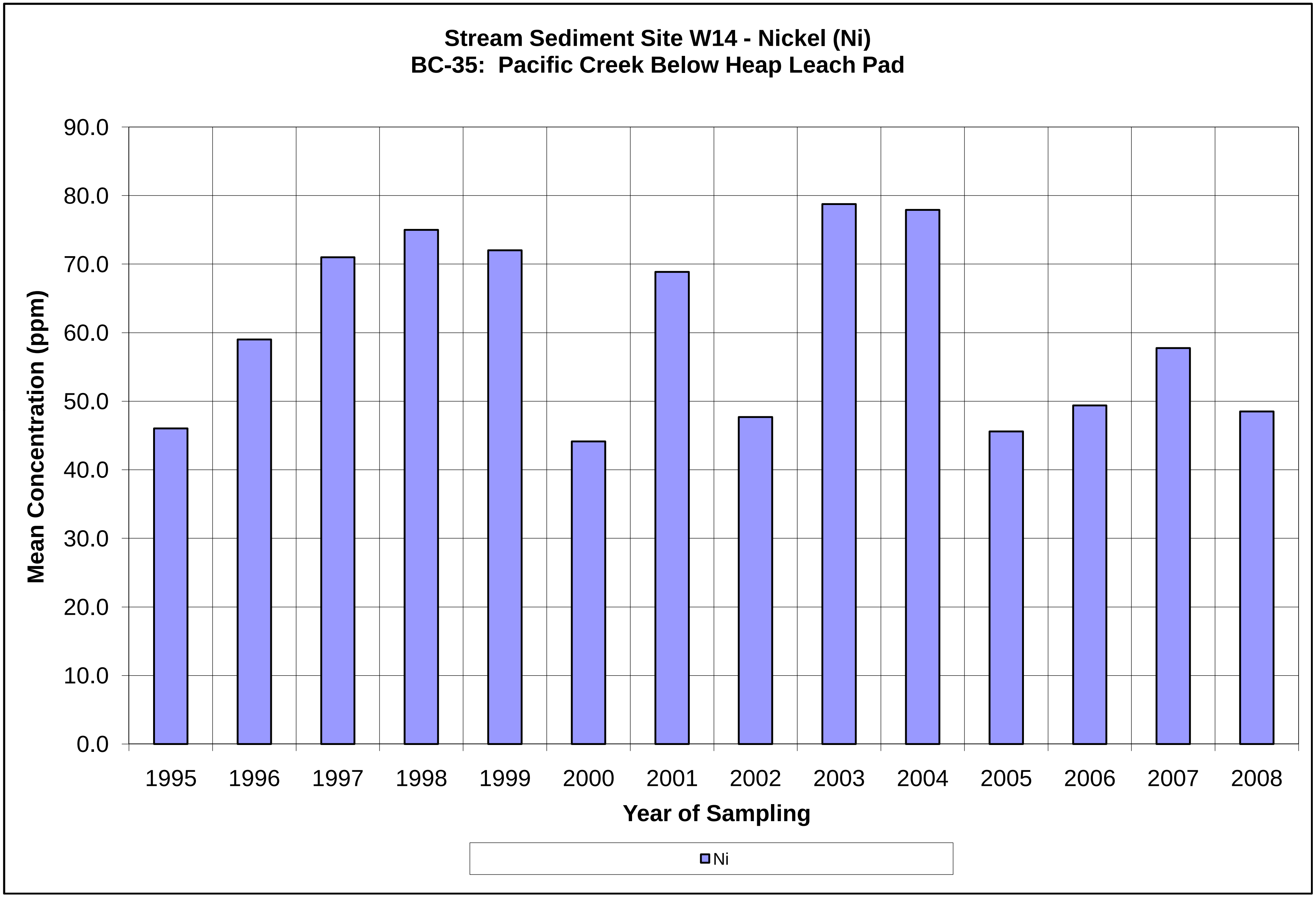

Stream Sediment Site W14 - Mercury (Hg)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg



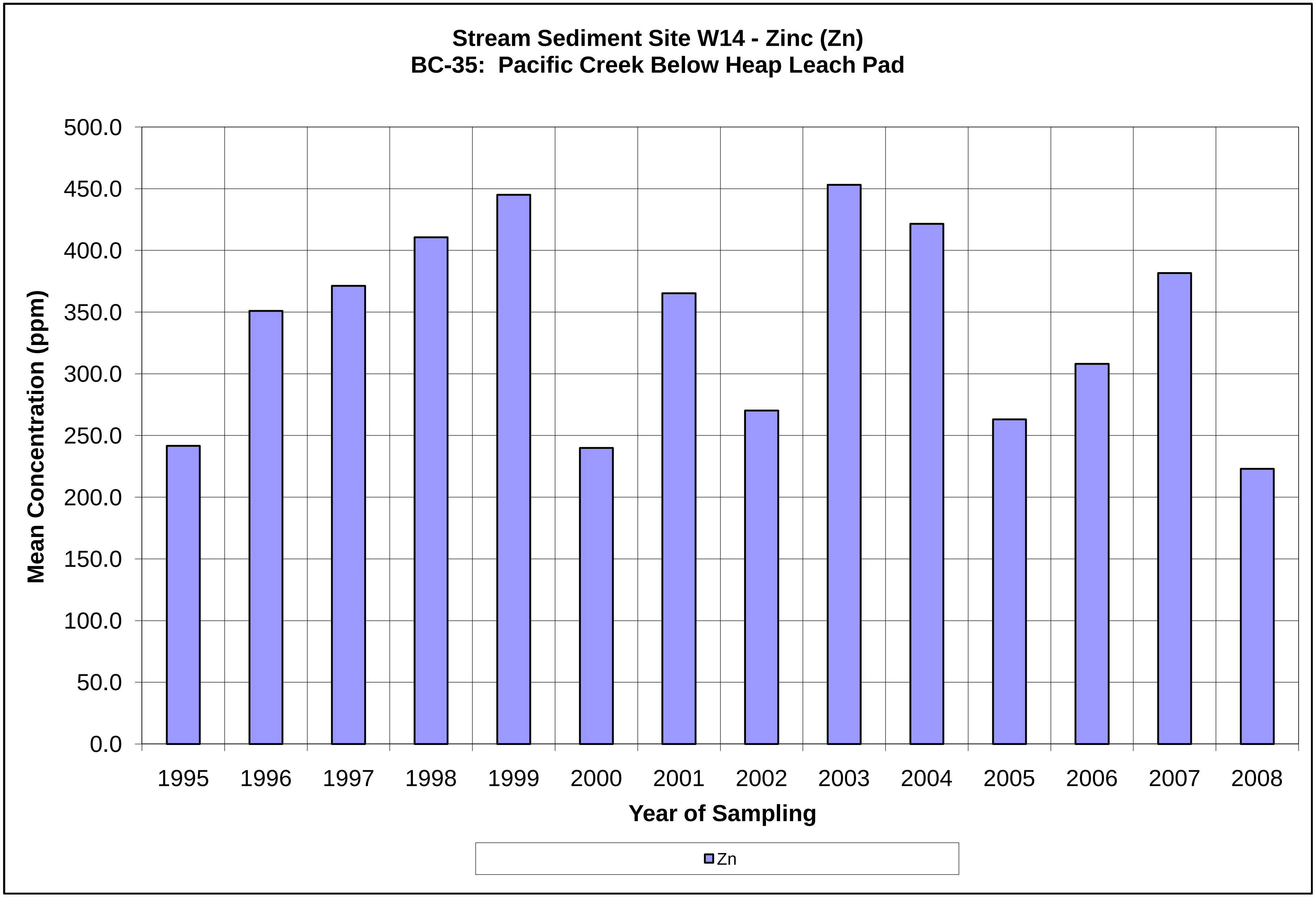
Stream Sediment Site W14 - Molybdenum (Mo)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo



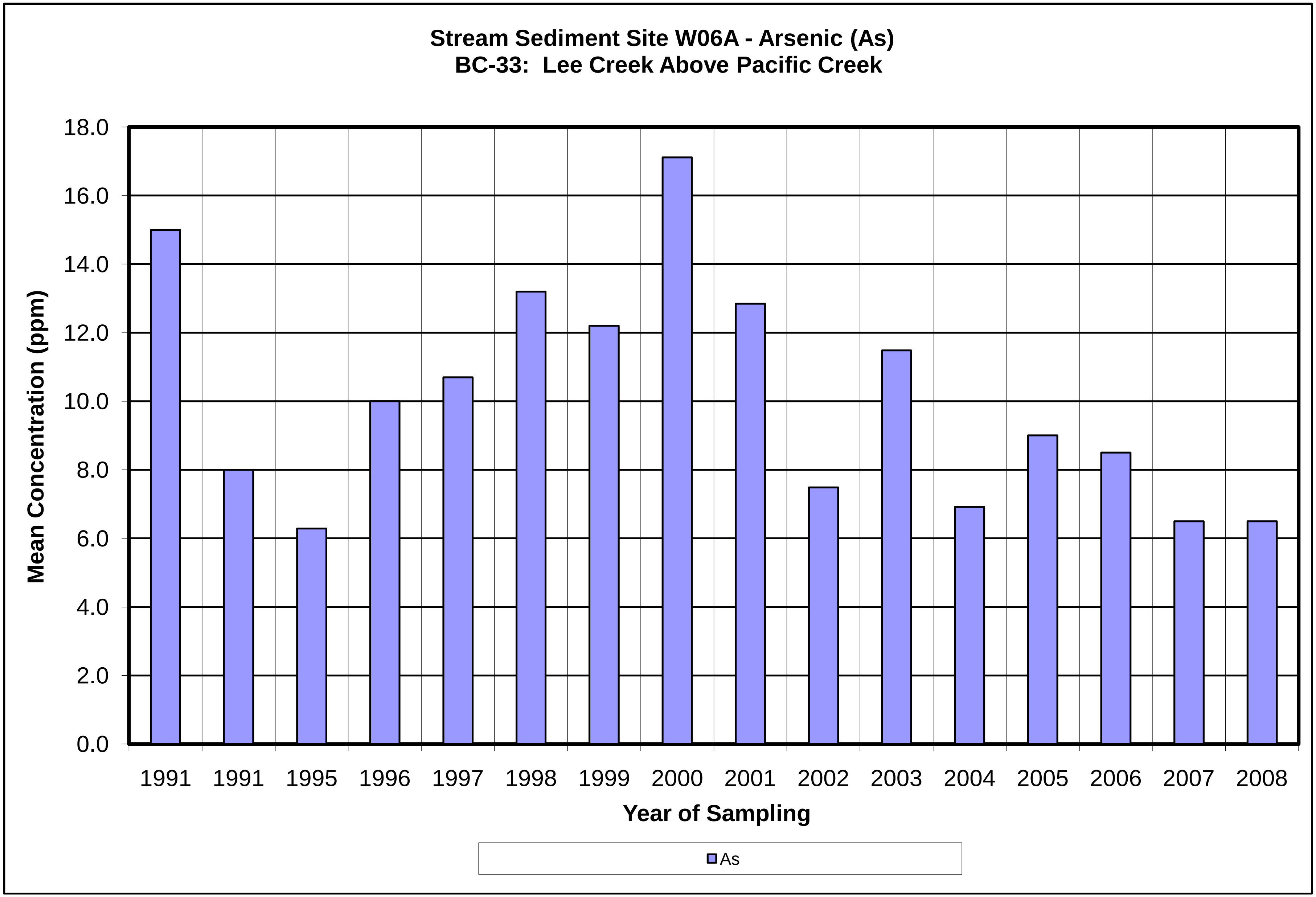
Stream Sediment Site W14 - Lead (Pb)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb



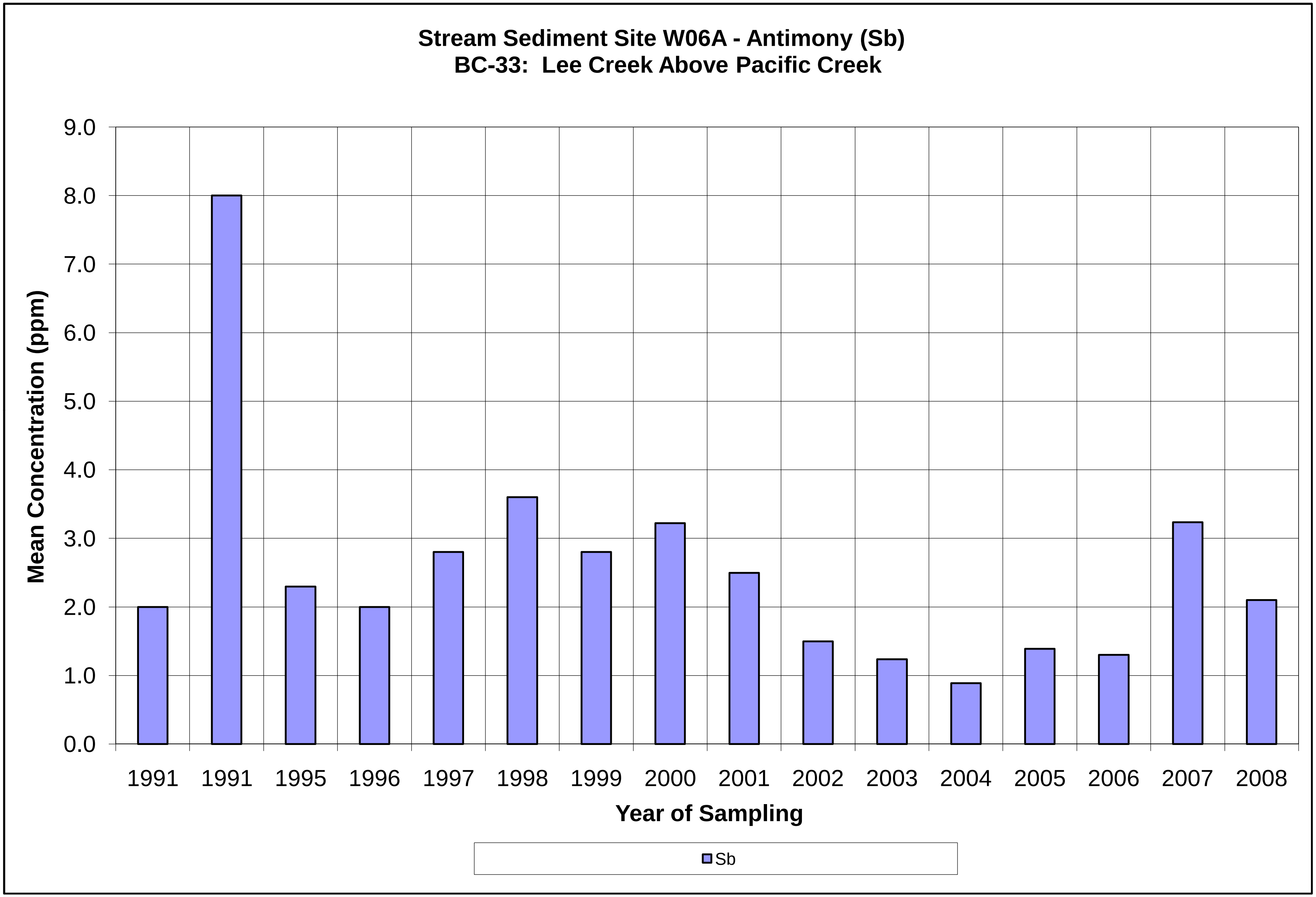
Stream Sediment Site W14 - Nickel (Ni)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni

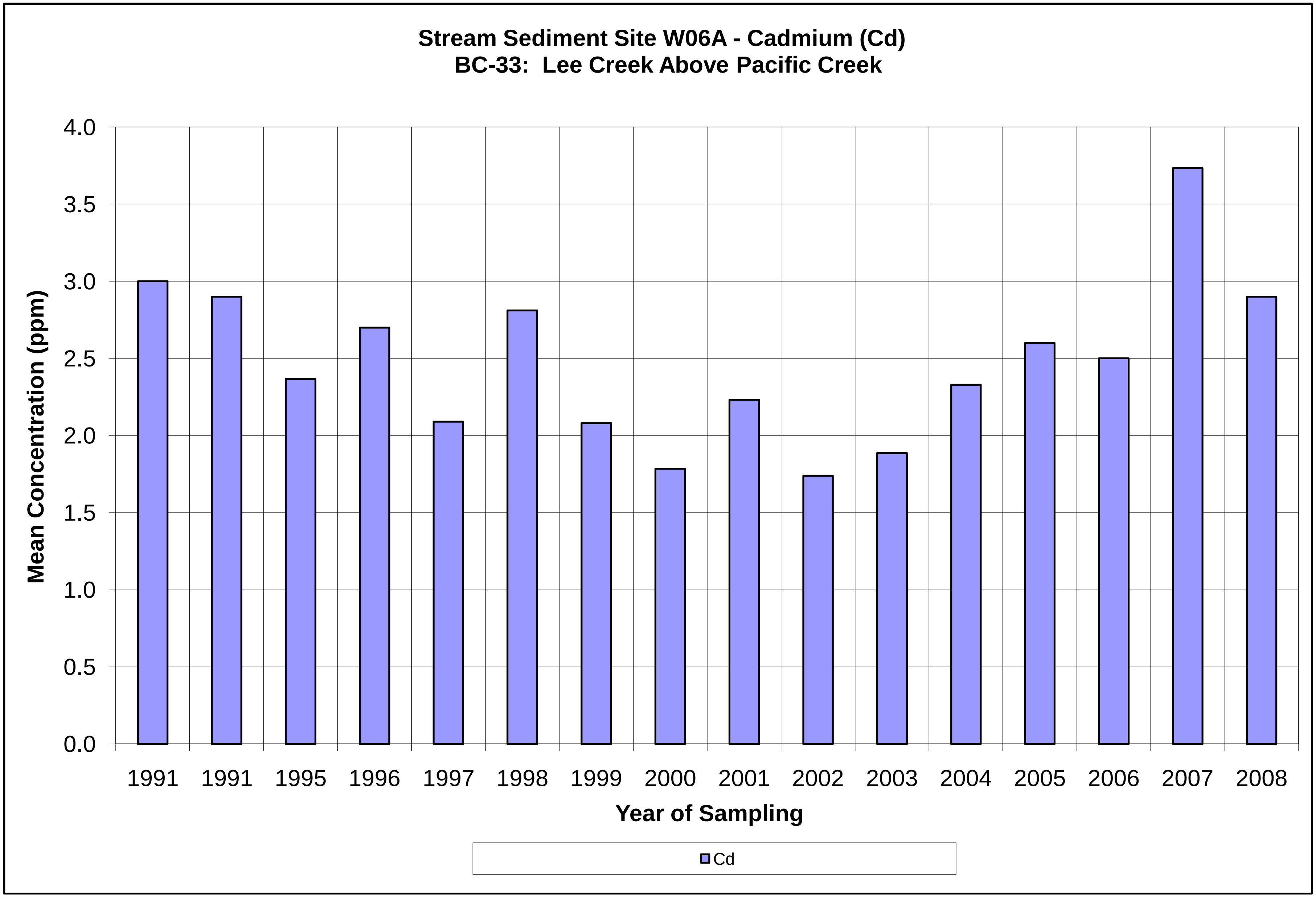


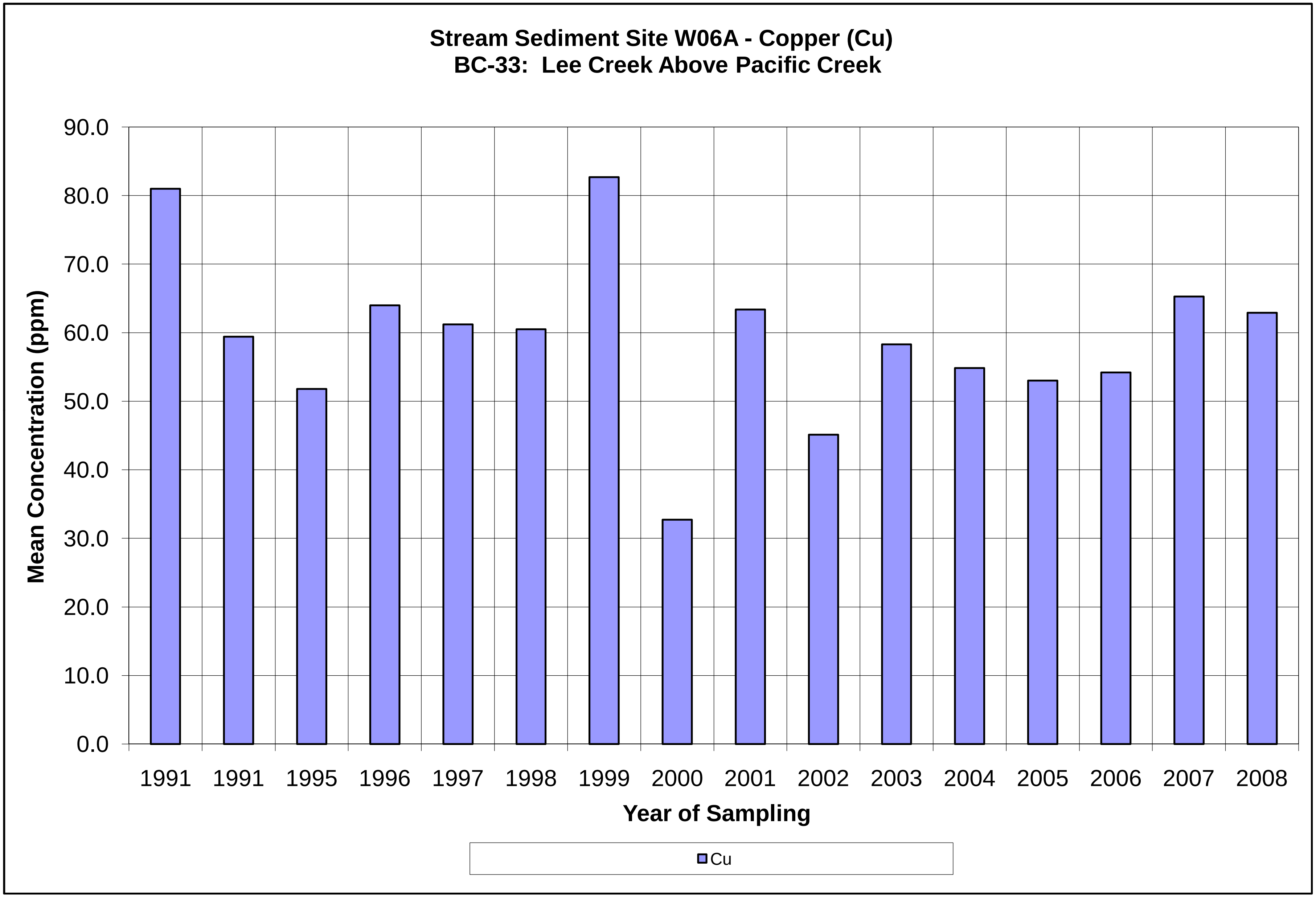
Stream Sediment Site W14 - Zinc (Zn)
BC-35: Pacific Creek Below Heap Leach Pad
Mean Concentration (ppm)
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn



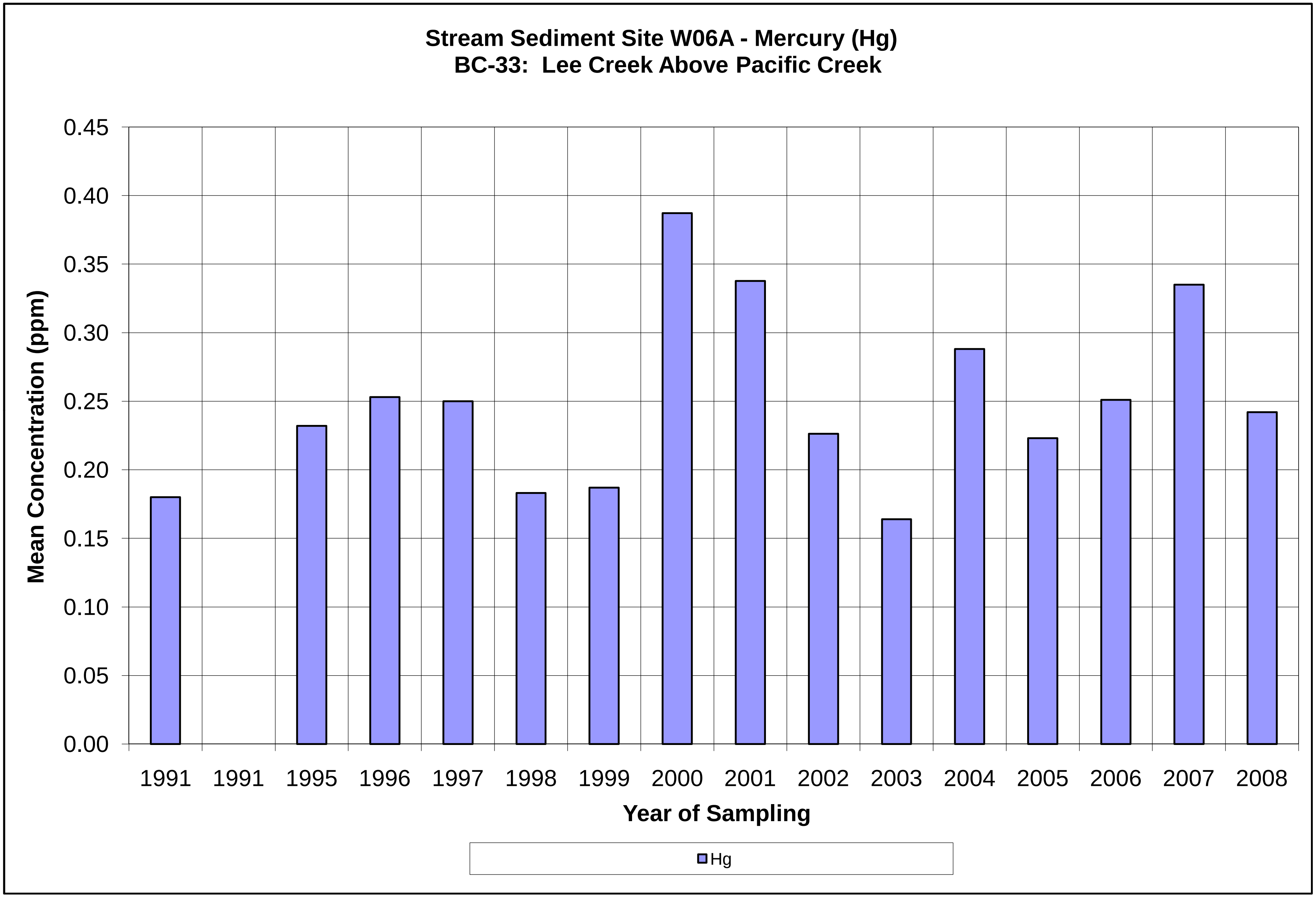
Stream Sediment Site W06A - Arsenic (As)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As


Stream Sediment Site W06A - Antimony (Sb)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb

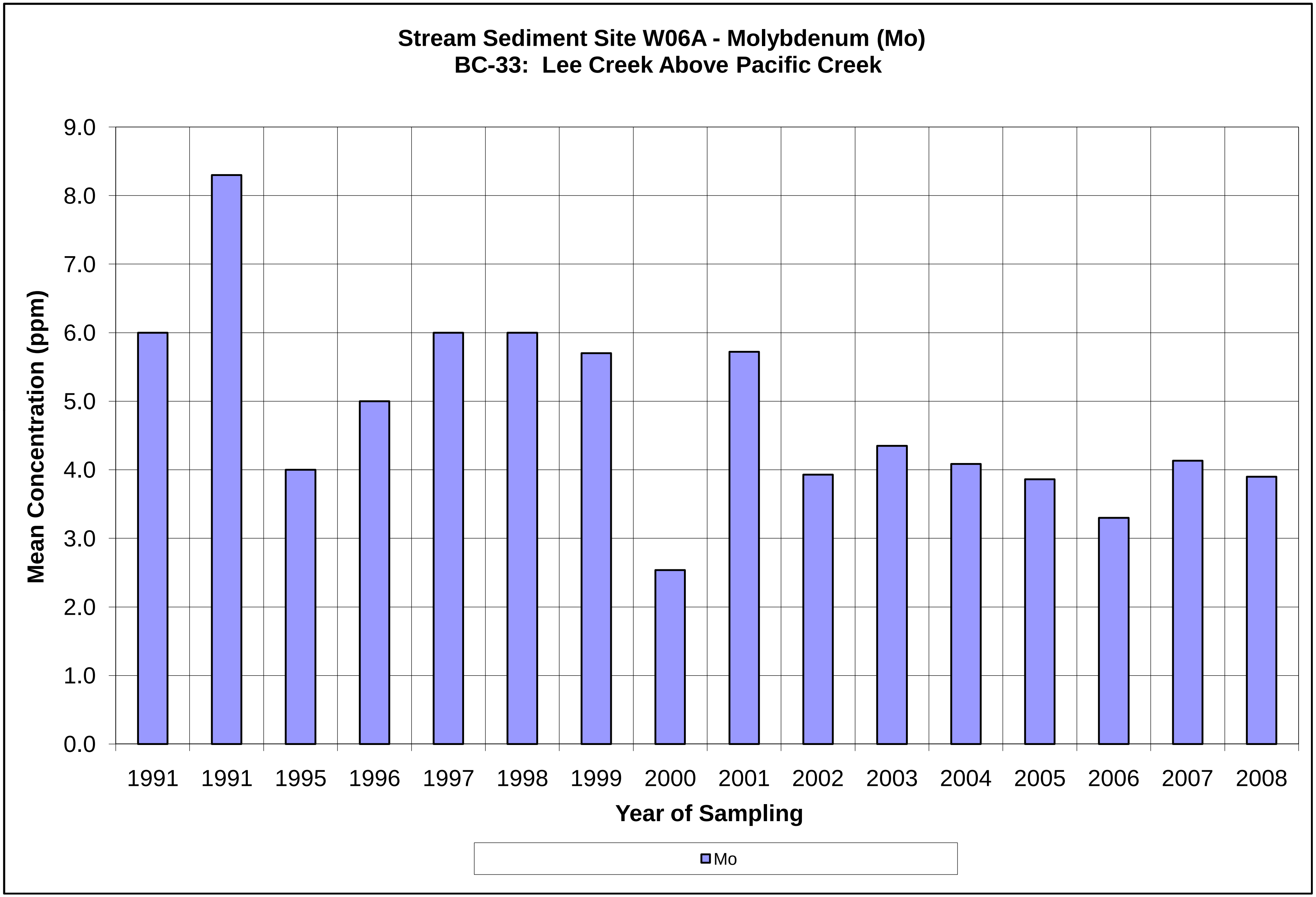

Stream Sediment Site W06A - Cadmium (Cd)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd

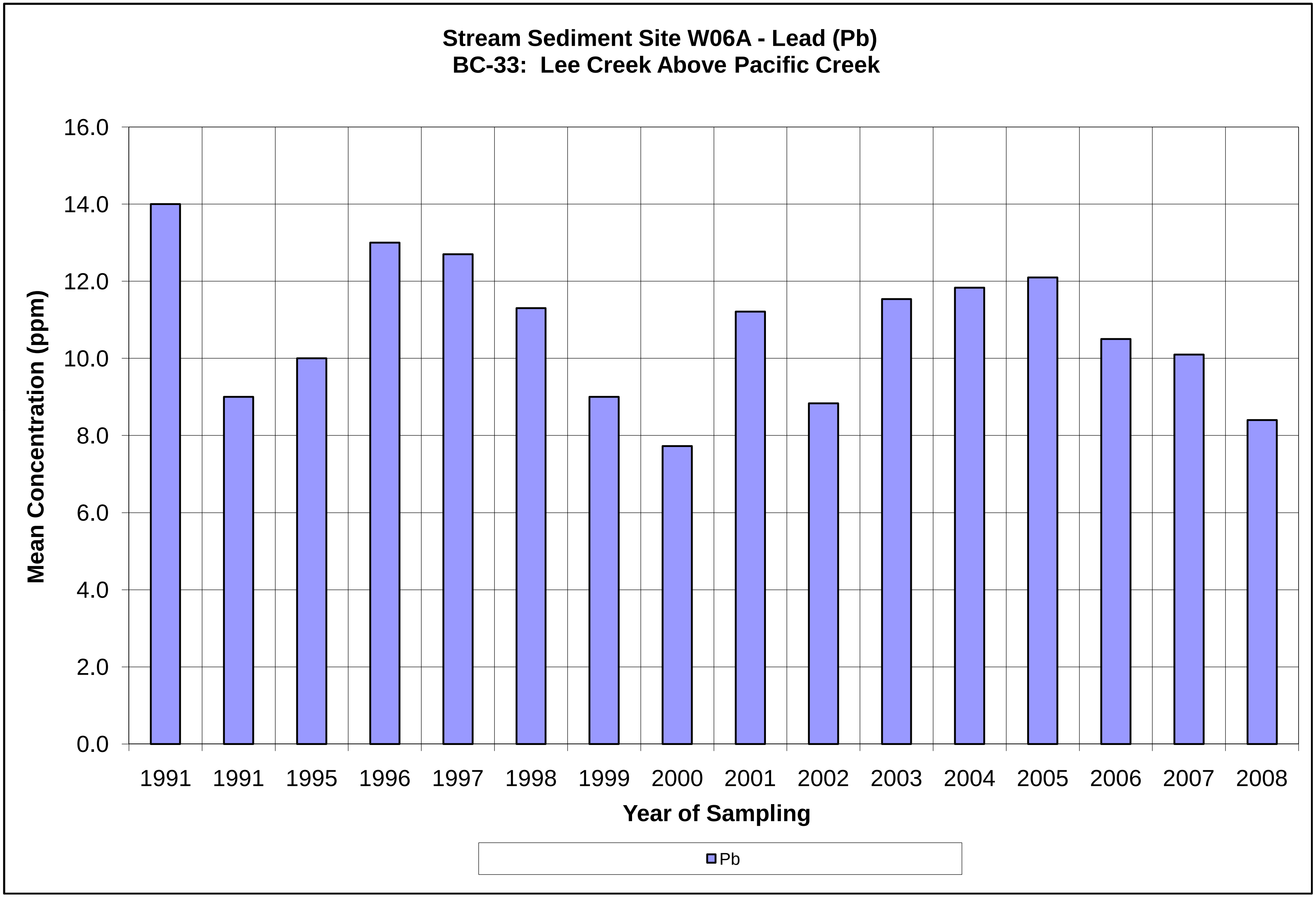


Stream Sediment Site W06A - Copper (Cu)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu

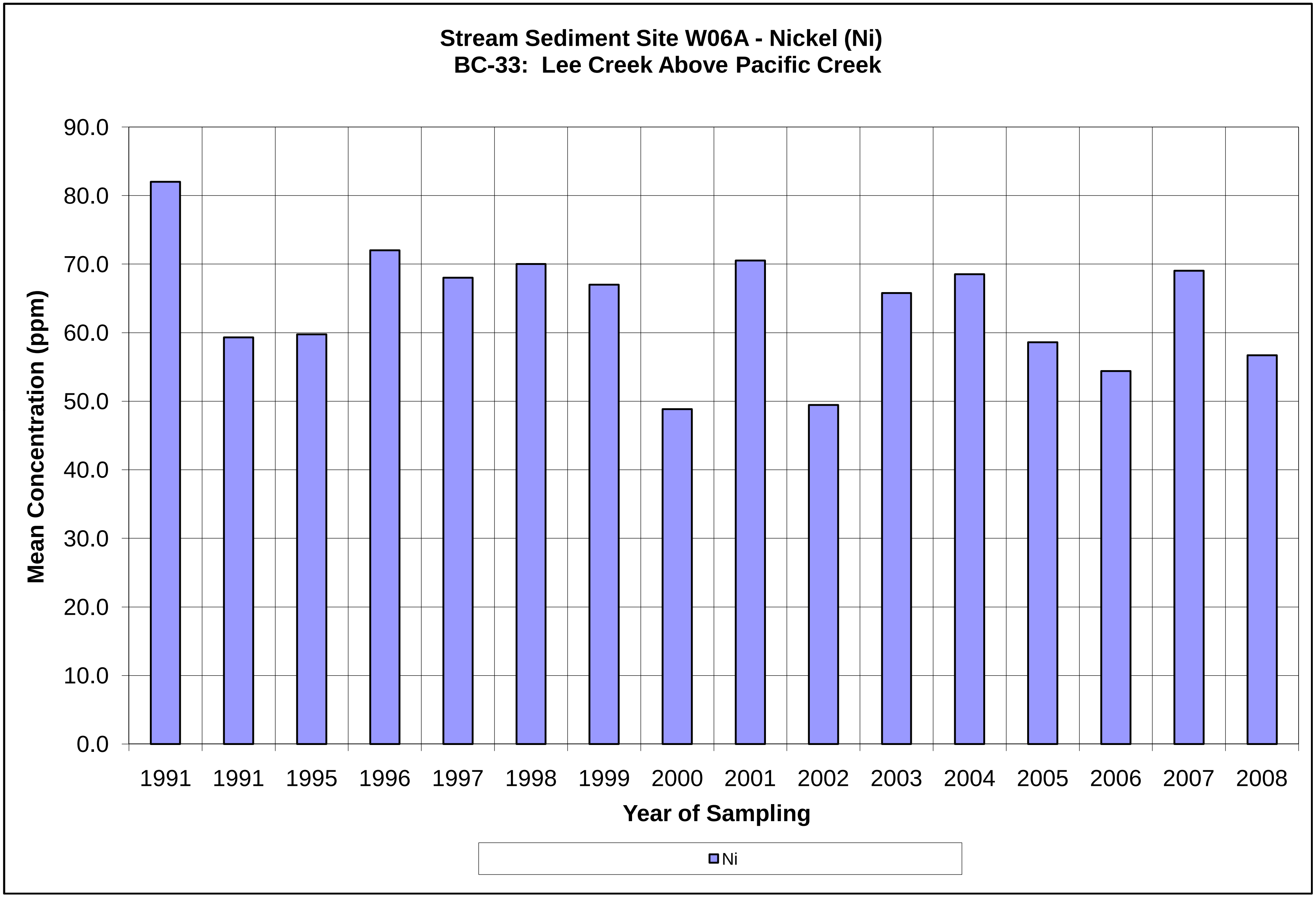


Stream Sediment Site W06A - Mercury (Hg)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg

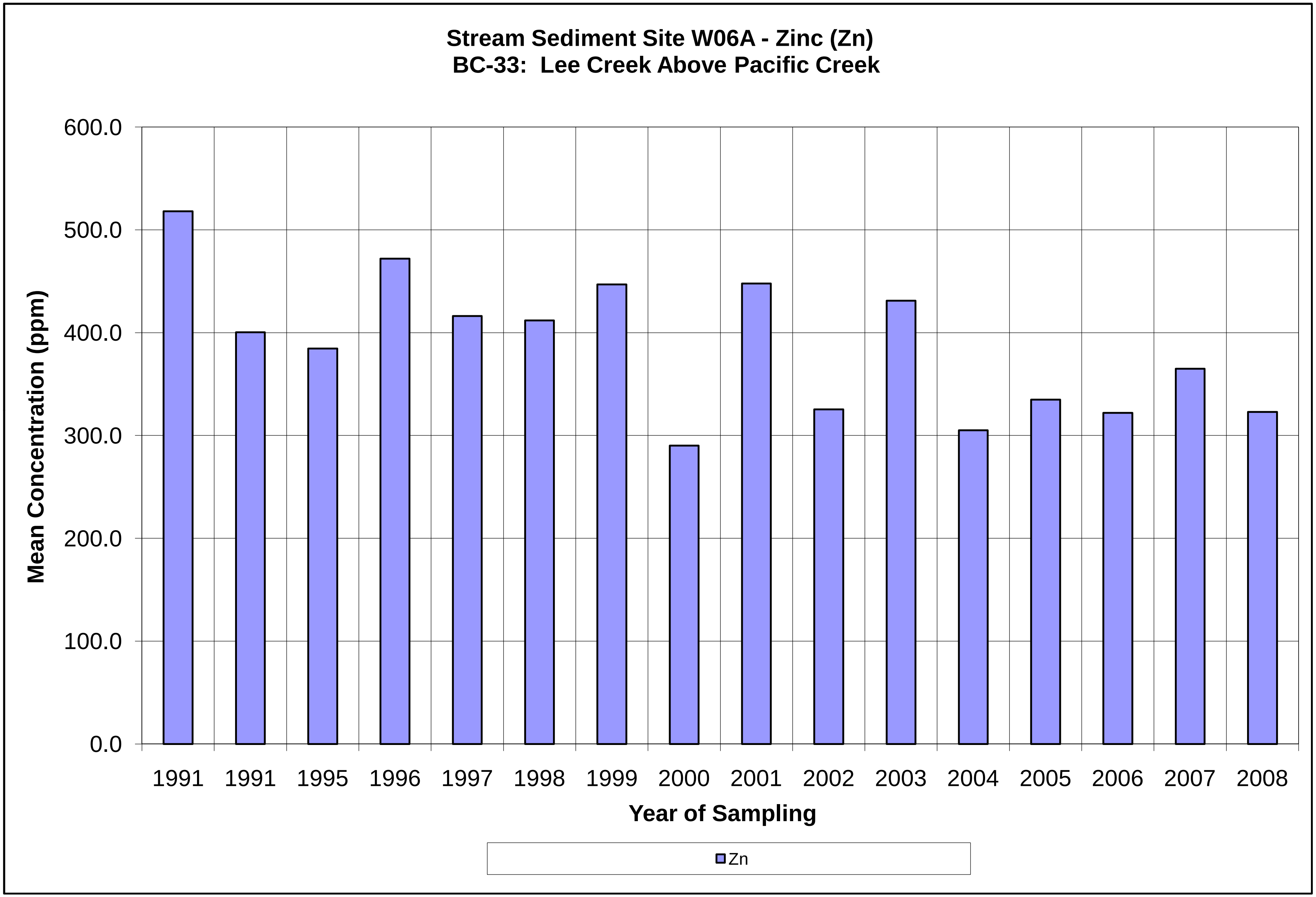

Stream Sediment Site W06A - Molybdenum (Mo)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo

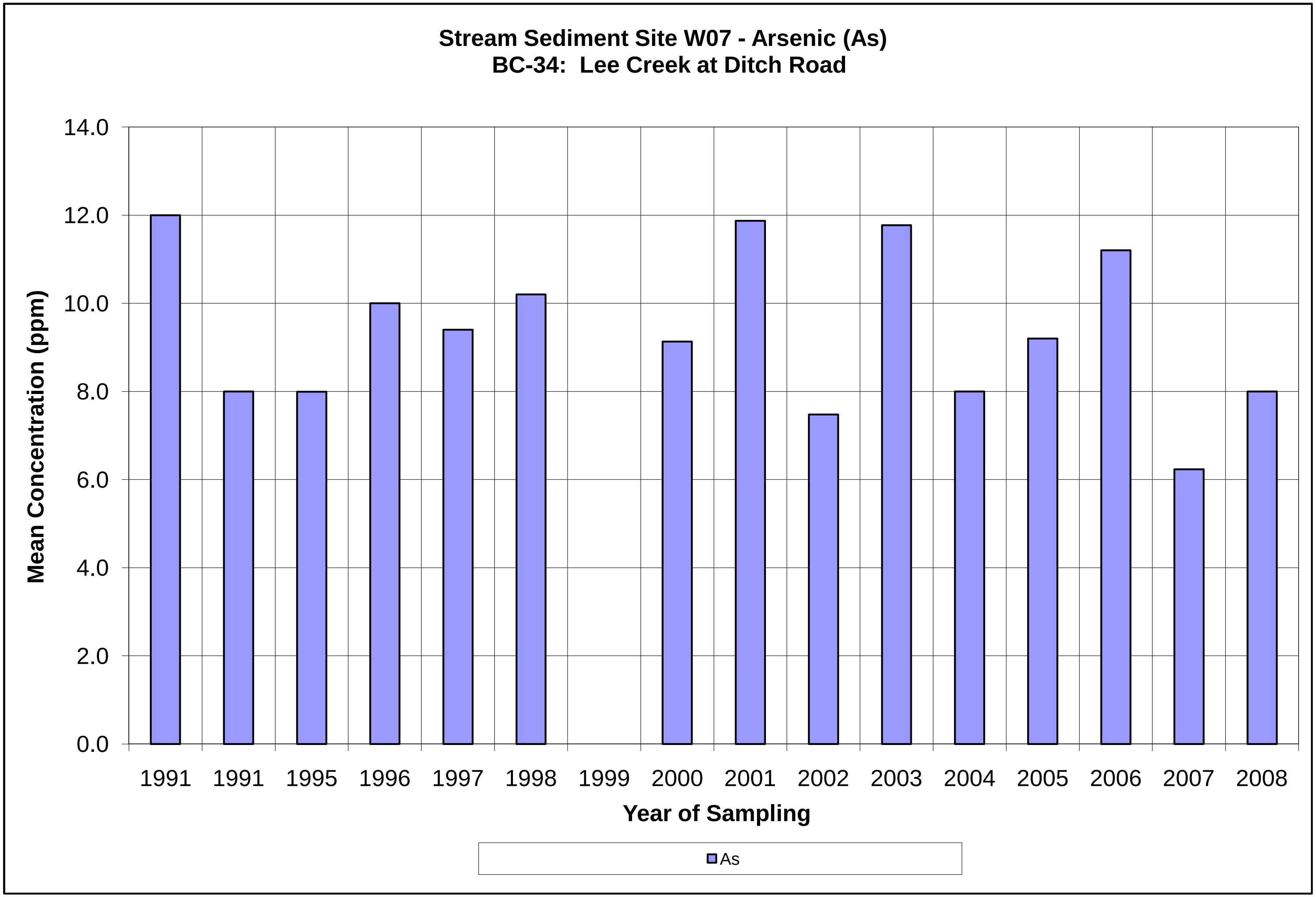


Stream Sediment Site W06A - Lead (Pb)
BC-33: Lee Creek Above Pacific Creek
Mean Concentration (ppm)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Pb

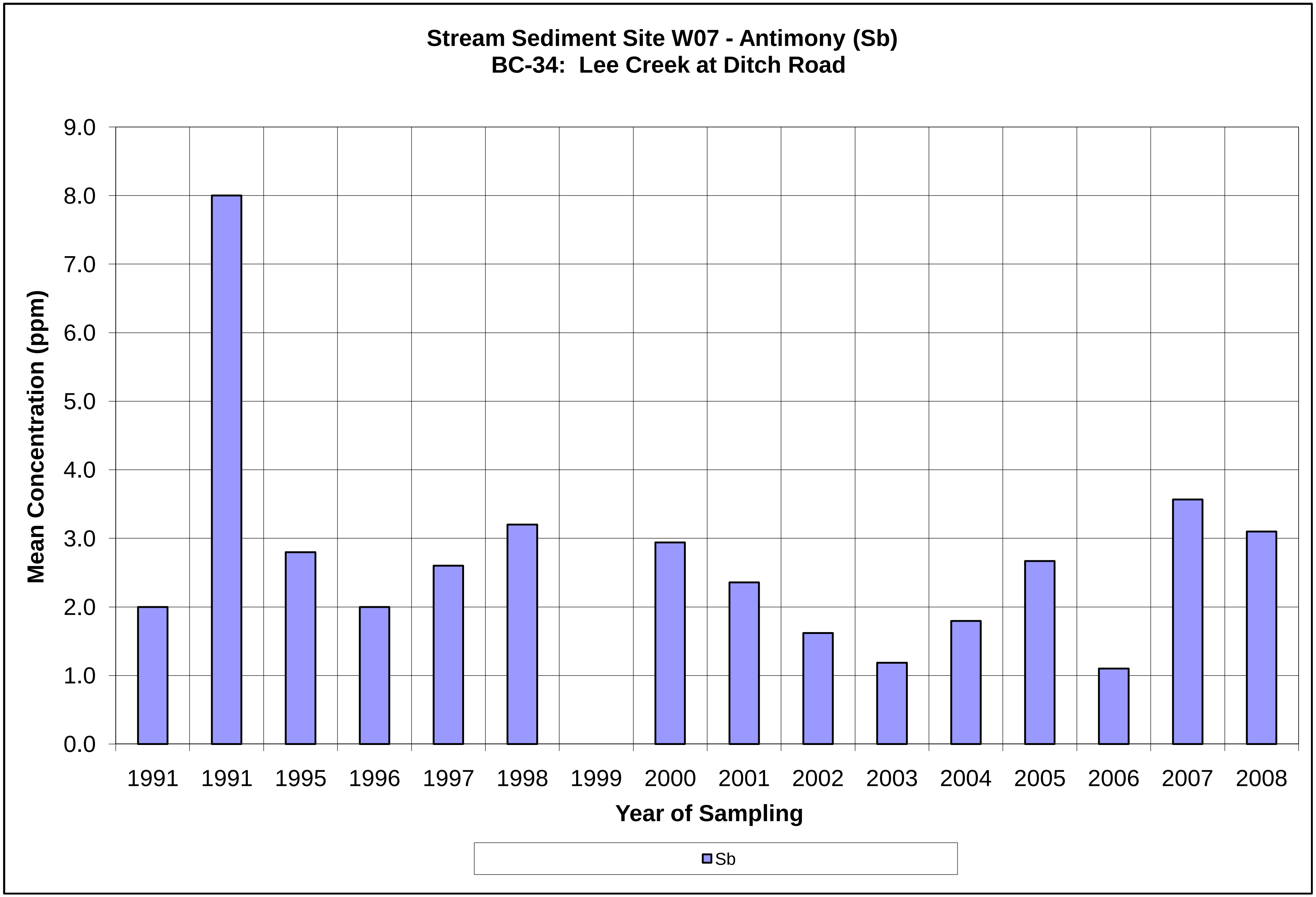


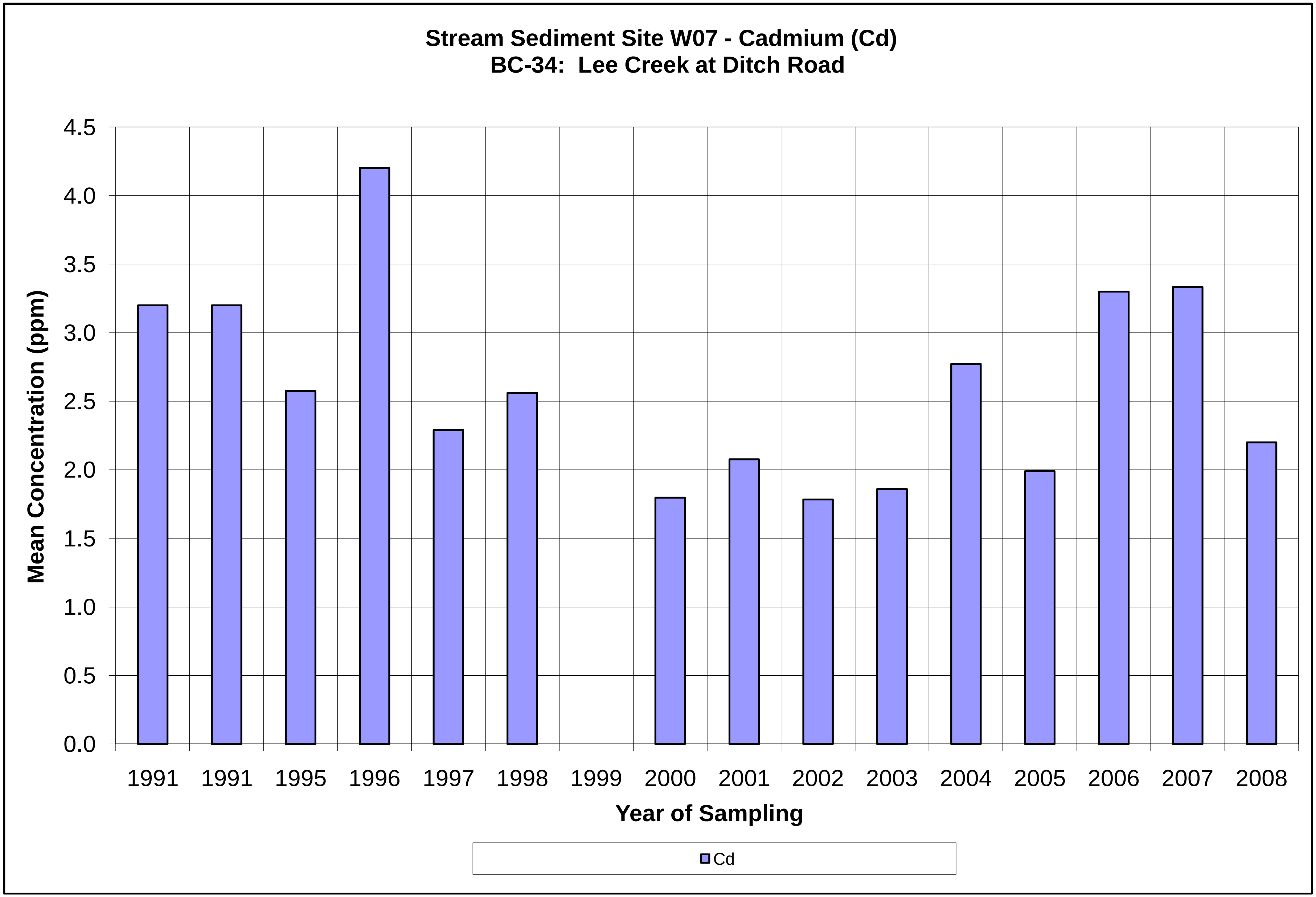
Stream Sediment Site W06A - Nickel (Ni)
BC-33: Lee Creek Above Pacific Creek
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Mean Concentration (ppm)
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni

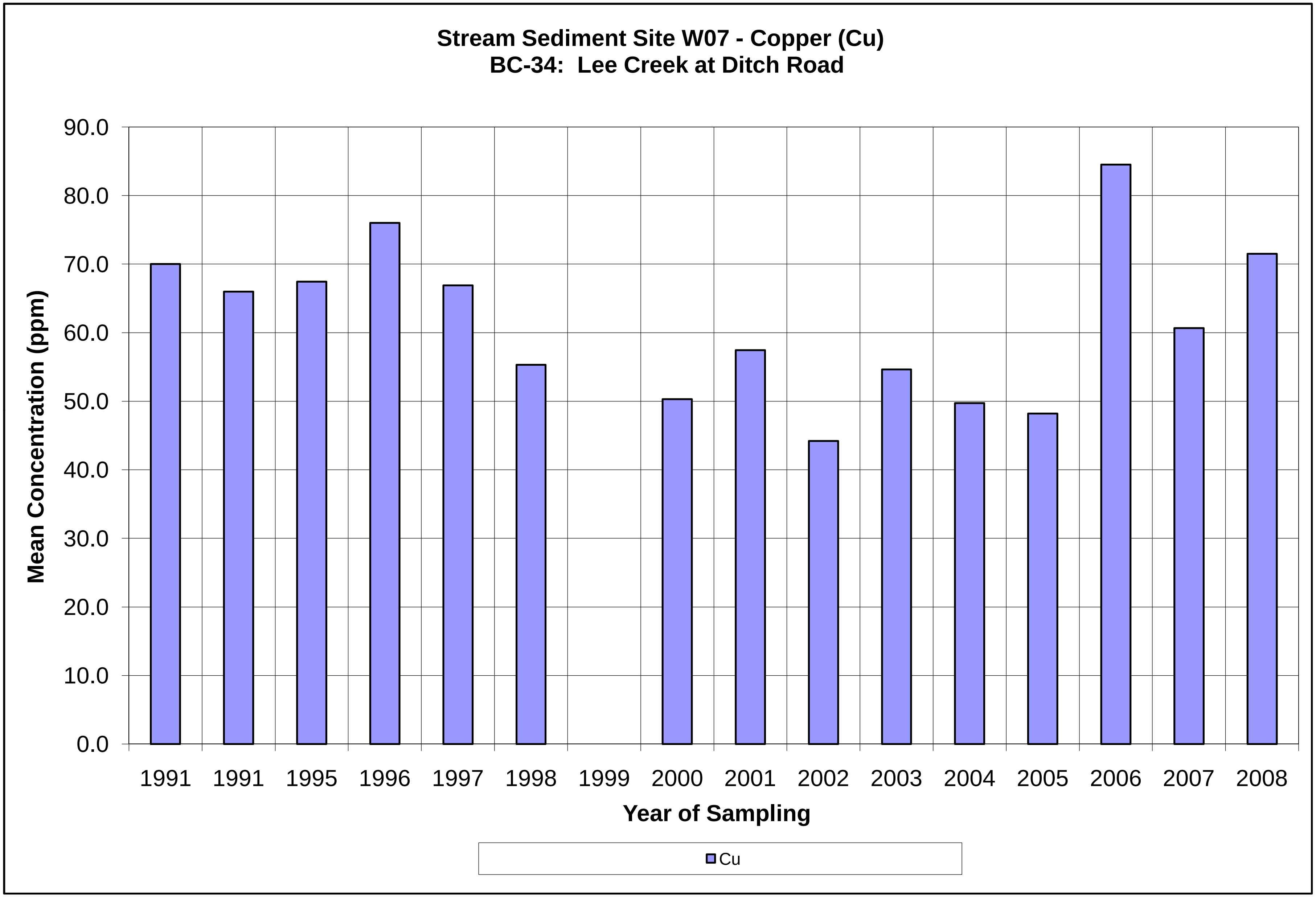

Stream Sediment Site W06A - Zinc (Zn)
BC-33: Lee Creek Above Pacific Creek
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Mean Concentration (ppm)
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

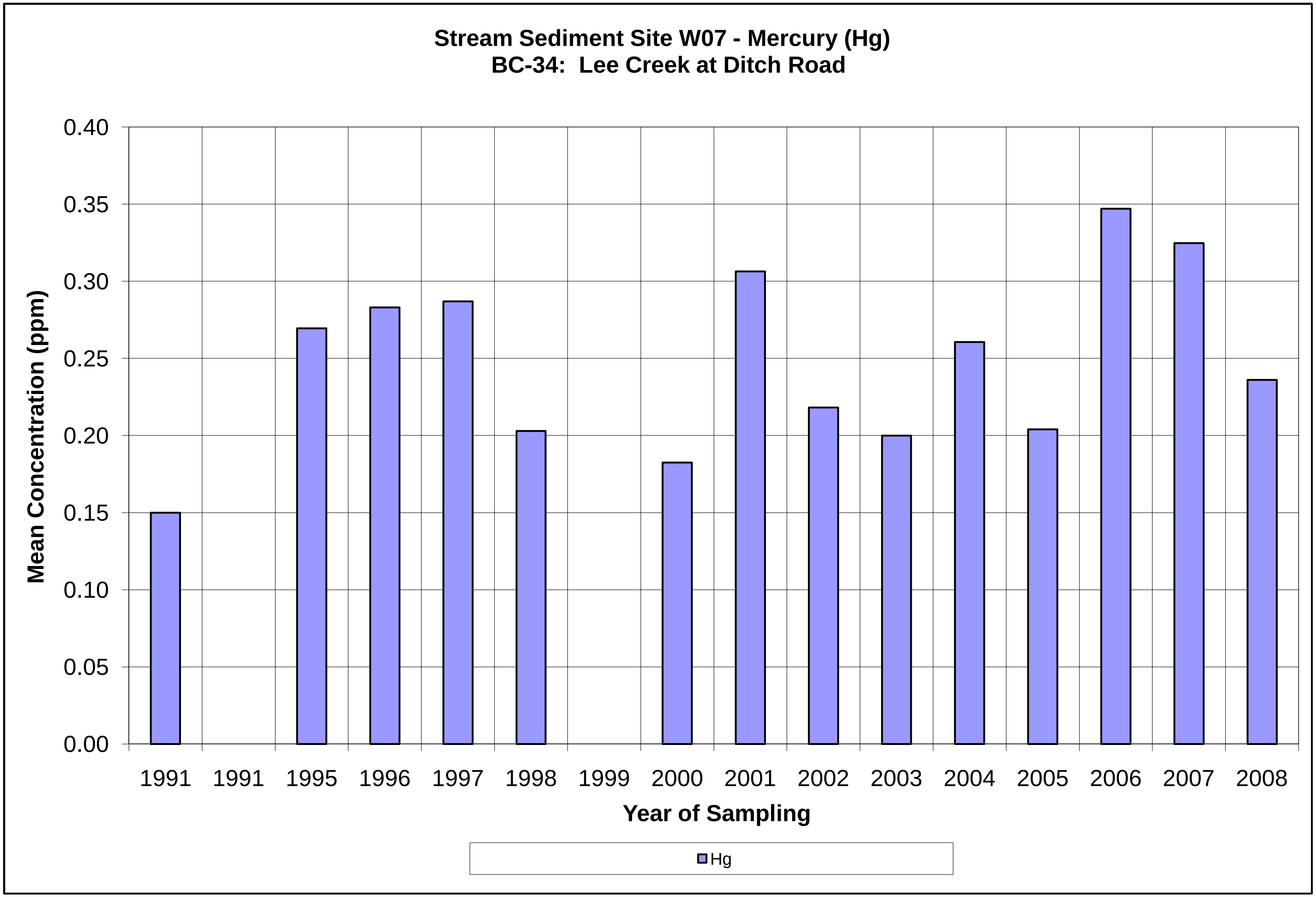


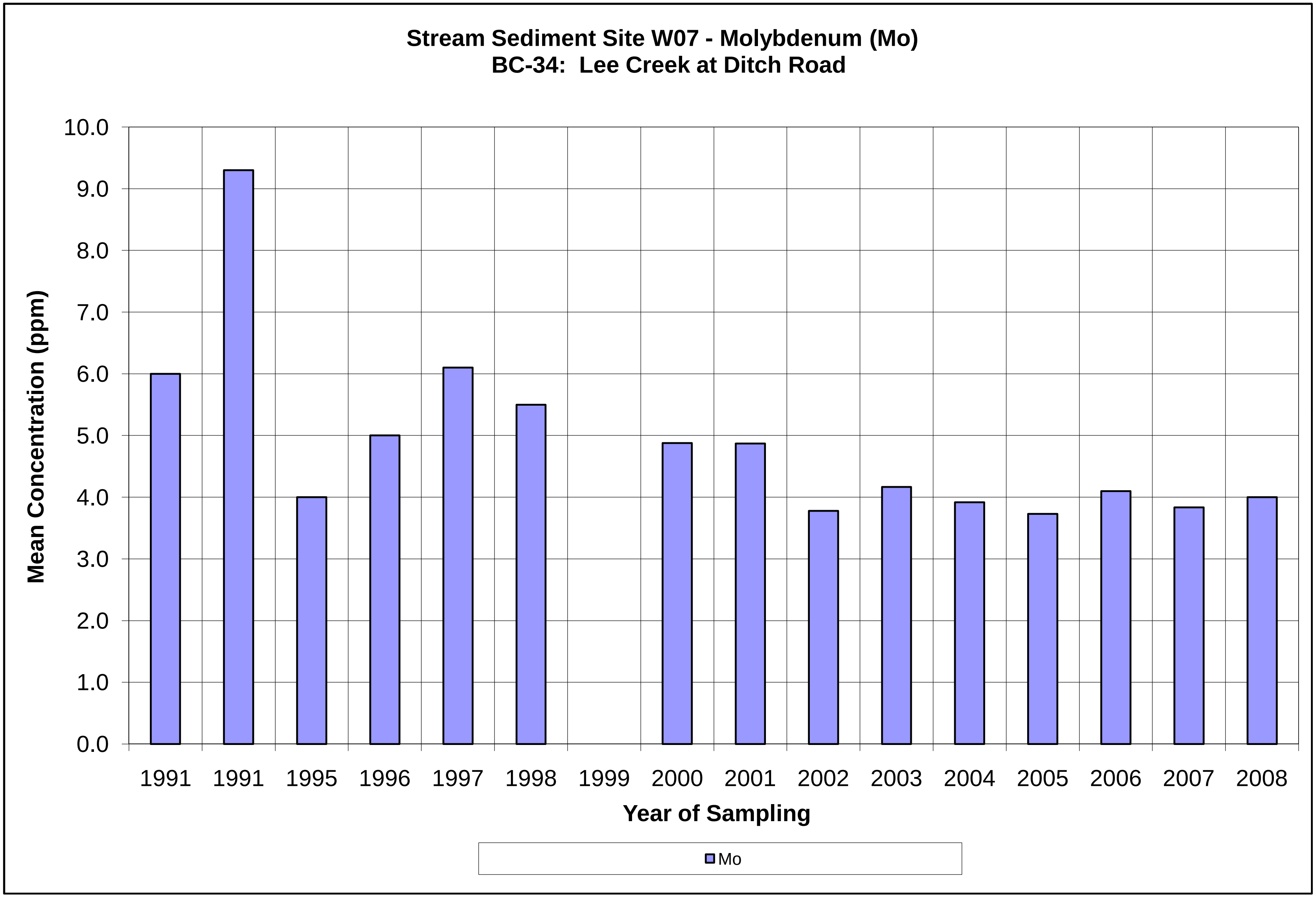
Stream Sediment Site W07 - Arsenic (As)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
As

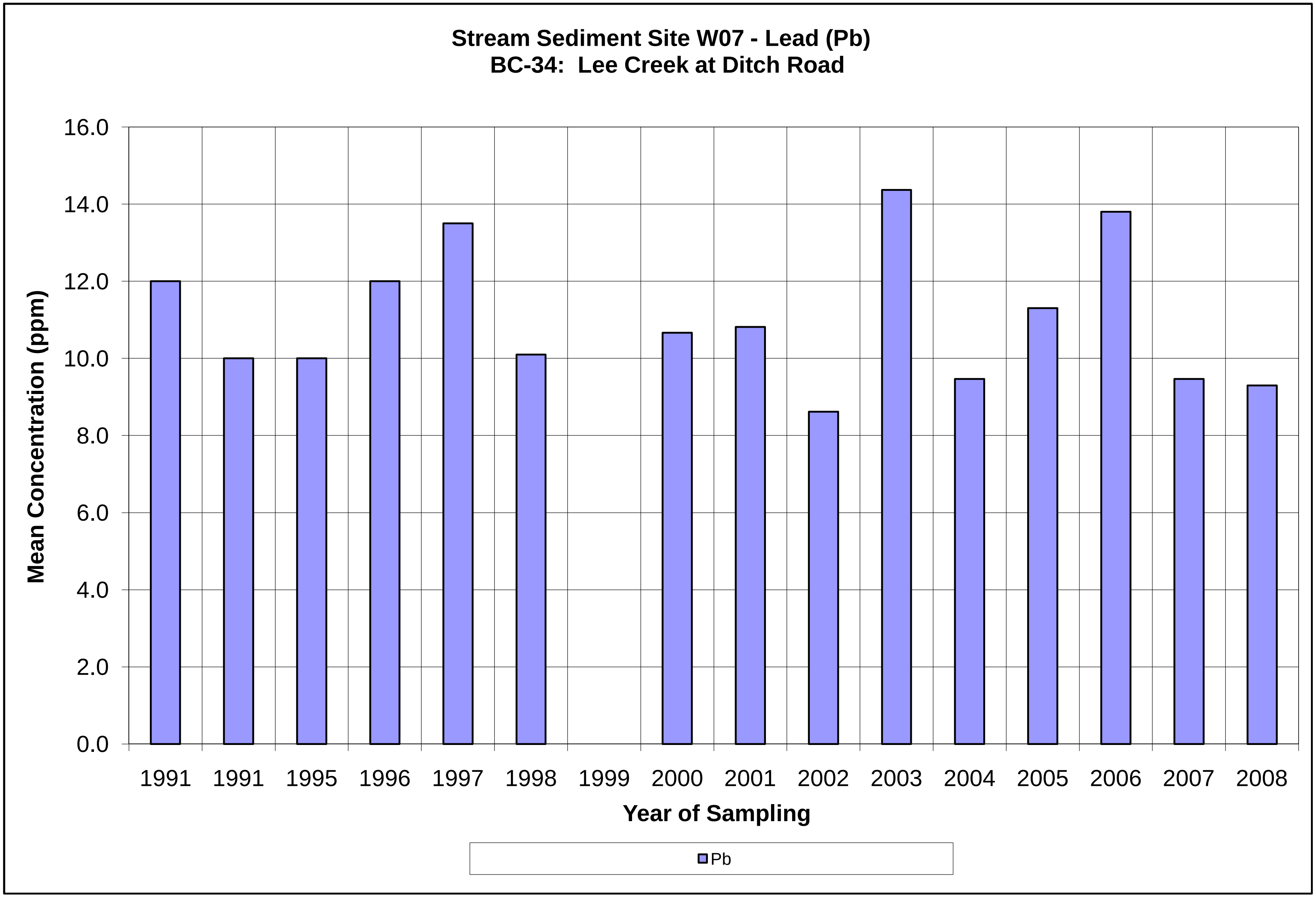

Stream Sediment Site W07 - Antimony (Sb)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Sb


Stream Sediment Site W07 - Cadmium (Cd)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cd


Stream Sediment Site W07 - Copper (Cu)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Cu


Stream Sediment Site W07 - Mercury (Hg)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Hg


Stream Sediment Site W07 - Molybdenum (Mo)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Mo


Stream Sediment Site W07 - Lead (Pb)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
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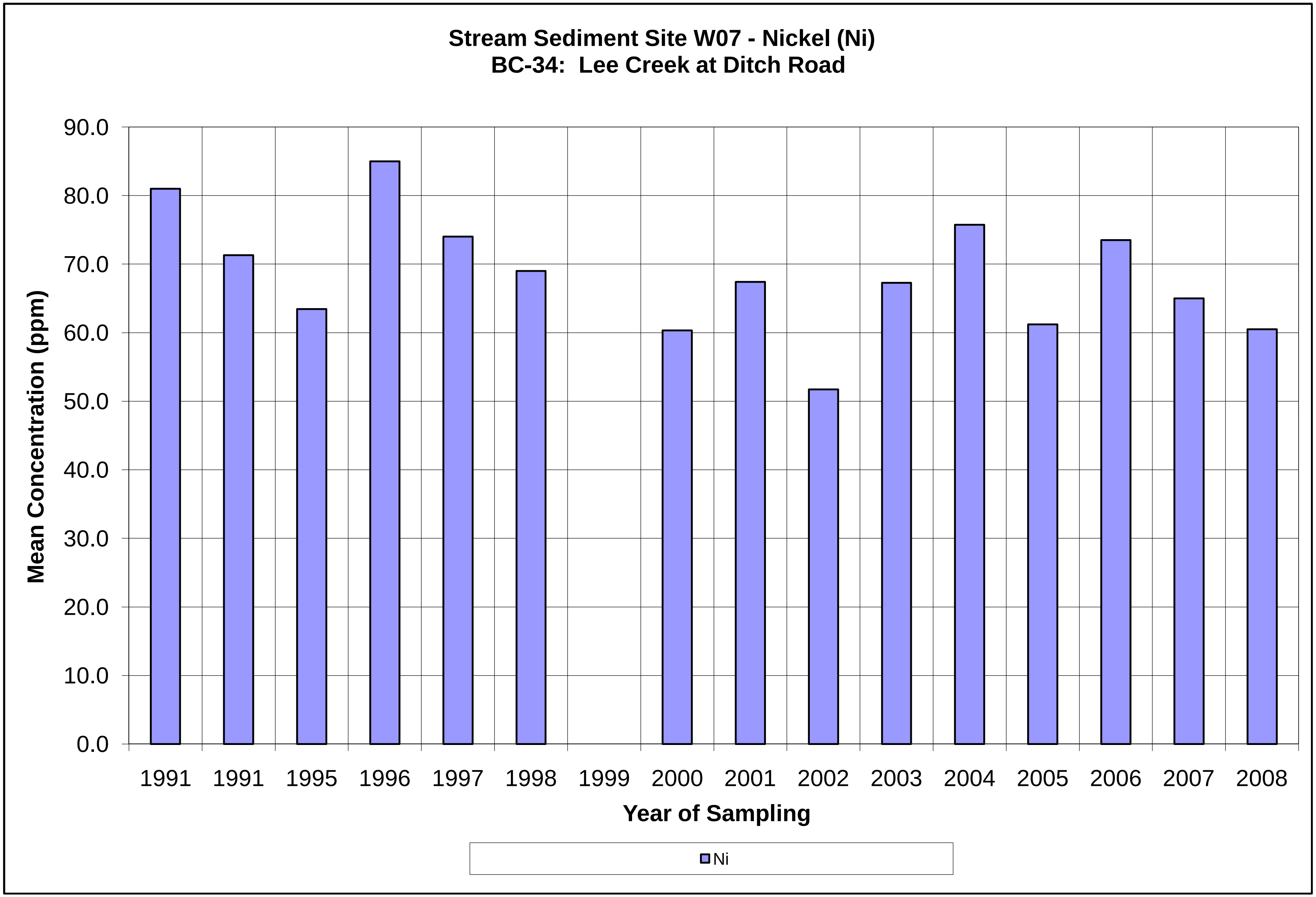
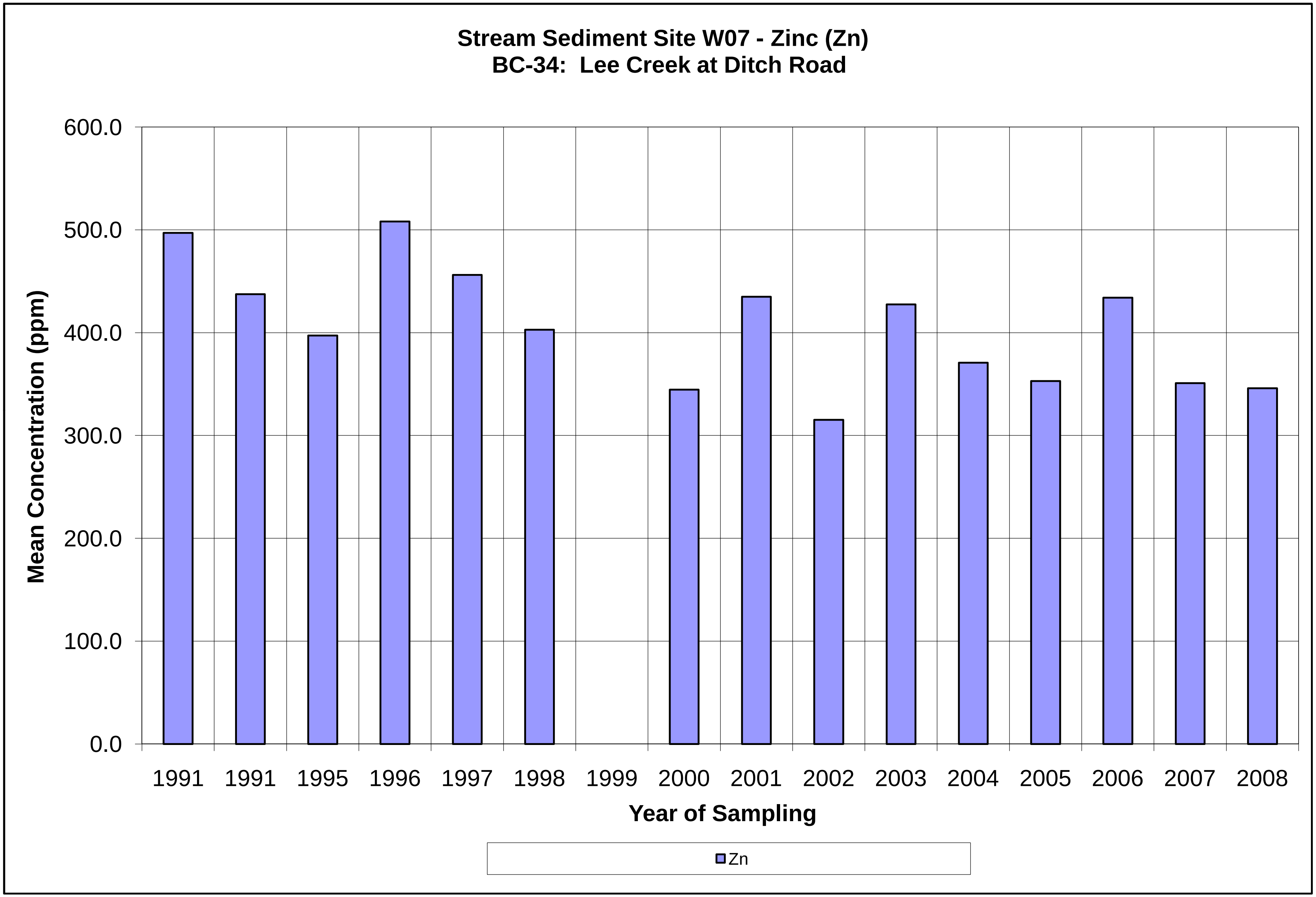
2004
2005
2006
2007
2008
Year of Sampling
Pb



Stream Sediment Site W07 - Nickel (Ni)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Ni



Stream Sediment Site W07 - Zinc (Zn)
BC-34: Lee Creek at Ditch Road
Mean Concentration (ppm)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
1991
1991
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year of Sampling
Zn

Appendix E

Reclamation Photos

Removal of liner in water treatment ponds

Final reclamation of water treatment pond

Removal of sludge and liner from preg pond

All sludge and liner removed from the preg pond

Final recontouring of preg pond

Liner removed from overflow pond

Final recontouring of overflow pond

<u>Appendix F</u>

Revegetation Assessment

Brewery Creek Mine
2008 Revegetation Assessment

Site Assessment Report Prepared for

Alexco Resources Corp.

ALEXCO

Laberge
ENVIRONMENTAL SERVICES

January 2009

Contents

LIST OF TABLES

1.0 Background

A revegetation program has been ongoing at the Brewery Creek Mine since 1997. Several seed mixes have been used. Earlier revegetation efforts were focused on the recontoured Canadian Zone waste rock dump and haul road, an area to the west of the Pacific Zone, and an area below the leach pad and reclaim ponds.

Two seed mixes were acquired by Viceroy Minerals Corporation in 2003.

The ‘wet site’ seed mix consisted of:

Common Name	Scientific Name	Percentage by Weight
Violet Wheatgrass	*Agropyron violaceum*	33%
Fowl Bluegrass	*Poa palustris*	33%
Alkaligrass	*Puccinellia distans*	13%
Tufted Hairgrass	*Deschampsia caespitosa*	13%
White Clover	*Trifolium repens*	8%

The ‘leach pad’ mix consisted of:

Common Name	Scientific Name	Percentage by Weight
Slender Wheatgrass	*Agropyron trachycaulus*	50%
Kentucky Bluegrass	*Poa pratensis*	20%
Red Fescue	*Festuca rubra*	20%
Alfalfa	*Medicago sativa*	10%

These two seed mixes were used to revegetate a number of areas of the mine site between 2003 and 2006 (see Sections 2.0 and 3.0).

A new seed mix was acquired by Alexco Resource Corp. in early 2006.

The ‘Brewery Creek Blend’ consisted of:

Common Name	Scientific Name	Percentage by Weight
Violet Wheatgrass	*Agropyron violaceum*	36%
Ticklegrass	*Agrostis scabra*	15%
Sheep Fescue	*Festuca ovina*	14%
Rocky Mountain Fescue	*Festuca saximontana*	14%
Glaucous Bluegrass	*Poa glauca*	11%
Alfalfa	*Medicago sativa*	10%

This seed mix was used to revegetate a number of areas of the mine site in 2006 and the spring of 2007(see Sections 3.0). No further revegetation work was carried out on the site in 2008.

As detailed in Section 7 of the Heap Leach Pad Cover and Facilities Monitoring Program, and Section 6 of the Blue Zone Monitoring and Assessment Program, annual terrestrial monitoring is to be conducted on the vegetation on the leach Pad and in the Blue Zone WRSA. Three 5m X 5m permanent monitoring plots were therefore established in 2005 at each of the following locations:

Blue Zone Waste Rock Storage Area
Leach Pad
Control (West of Pacific Zone)

The Blue Zone Waste Rock Storage Area and the Leach Pad were both seeded in the fall of 2003 with the 'leach pad' seed mix. The control plot was seeded in the fall of 2001 with the 'Brewery Creek' seed mix (see Section 2.2).

A survey of the permanent monitoring plots and other revegetated areas was carried out in July 2005, July 2006 and August 2007. Survey methods and results are presented in reports by Laberge Environmental Services (2006, 2007 and 2008). The permanent monitoring plots and other revegetated areas were resurveyed on July 15th and 17th, 2008. The results of the 2008 survey are presented in this report.

2.0 2008 Survey of Permanent Monitoring Plots

2.1 Survey Methods

At each plot the following information was recorded:

- UTM coordinates
- Elevation, slope and aspect
- Vegetative cover using the following 5 grades:
  0-1%
  1-12.5%
  12.5-25%
  25-50%
  50-100%
- Seeded species composition
- Natural colonization by other plant species
- Root depth penetration of seeded species
- In-situ soil pH
- In-situ soil moisture (% relative saturation at bottom of test pit)
- Evidence of erosion

Site photographs were also taken.

2.2 2008 Survey Results

Blue Zone Waste Rock Storage Area - Seeded in theFall of 2003

Seed mix included:	Slender Wheatgrass	(*Agropyron trachycaulus*)	50%
	Kentucky Bluegrass	(*Poa pratensis*)	20%
	Red Fescue	(*Festuca rubra*)	20%
	Alfalfa	(*Medicago sativa*)	10%

Table 1 Blue Zone WRSA Plots

	Plot 1	Plot 2	Plot 3
UTM Coordinates	07W 0633674E 7105241N	07W 0633716E 7105262N	07W 0633755E 7105257N
Elevation (m)	815	815	807
Estimated Slope (^{o})	30	35	35
Aspect	South	South	South
In-situ Soil pH	6.8	6.2	6.4
In-situ Soil Moisture (% relative saturation)	31	62	59
Vegetative Cover (%)	50-100	50-100	50-100
Species Composition (seeded species in order of dominance)	Red Fescue Slender Wheatgrass Kentucky Bluegrass Alfalfa	Slender Wheatgrass Alfalfa Red Fescue	Slender Wheatgrass Kentucky Bluegrass Red Fescue Alfalfa
Root Depth Penetration (mm)	S. Wheatgrass 90 R. Fescue 125 K. Bluegrass 120 Alfalfa 270	S. Wheatgrass 120 R. Fescue 105 Alfalfa 290	S. Wheatgrass 130 R. Fescue 105 K. Bluegrass 115 Alfalfa 285
Other Species	None	None	Arctic Lupine Annual Hawk's-beard Ticklegrass
Evidence of Erosion		Minor erosion gully gradually stabilizing and filling in	1 gully filling in (grass growing in gully)
Additional Comments	Plot located over lysimeter All seeded grass species in seed, Alfalfa in flower Litter from previous years' growth Spiders, mosquitoes and grasshoppers Photographs taken	No sign of Kentucky Bluegrass All seeded grass species in seed, Alfalfa in flower Litter from previous years' growth Mosquitoes Photographs taken	All seeded grass species in seed, Alfalfa in flower Bees Photographs taken

Leach Pad - Seeded in the Fall of 2003

Seed mix included:	Slender Wheatgrass	(*Agropyron trachycaulus*)	50%
	Kentucky Bluegrass	(*Poa pratensis*)	20%
	Red Fescue	(*Festuca rubra*)	20%
	Alfalfa	(*Medicago sativa*)	10%

Table 2 Leach Pad Plots

	Plot 1	**Plot 2**	**Plot 3**
UTM Coordinates	07W 0632807E 7104611N	07W 0632716E 7104655N	07W 0632856E 7104587N
Elevation (m)	859	849	853
Estimated Slope (^{o})	0	<10	20
Aspect	Neutral	North	Southeast
In-situ Soil pH	5.4	6.8	6.4
In-situ Soil Moisture (% relative saturation)	90	58	66
Vegetative Cover (%)	50-100	50-100	50-100
Species Composition (seeded species in order of dominance)	Red Fescue Slender Wheatgrass Alfalfa	Red Fescue Slender Wheatgrass Alfalfa	Kentucky Bluegrass Slender Wheatgrass Red Fescue
Root Depth Penetration (mm)	S. Wheatgrass 115 R. Fescue 160 Alfalfa 520	S. Wheatgrass 120 R. Fescue 125 Alfalfa 230	S. Wheatgrass 170 R. Fescue 150 K. Bluegrass 130
Other Species	Raspberry Common Horsetail Foxtail Barley	Annual Hawk's-beard Arctic Lupine Foxtail Barley Fireweed	Annual Hawk's-beard Tansy Mustard Common Dandelion
Evidence of Erosion	None	None	None
Additional Comments	All seeded grass species in seed, Alfalfa in flower No sign of Kentucky Bluegrass Grasshoppers, spiders Photographs taken	All seeded grass species in seed, Alfalfa in flower No sign of Kentucky Bluegrass Lots of litter from previous year's growth Photographs taken	All seeded grass species in seed No sign of Alfalfa Lots of litter from previous year's growth Spiders Photographs taken

Control (West of Pacific Zone) - Seeded in the Fall of 2001

Seed mix included:	Violet Wheatgrass	(*Agropyron violaceum*)	35%
	Slender Wheatgrass	(*Agropyron trachycaulus*)	13%
	Fowl Bluegrass	(*Poa palustris*)	16%
	Alpine Bluegrass	(*Poa alpina*)	13%
	Sheep Fescue	(*Festuca ovina*)	13%
	Rocky Mountain Fescue	(*Festuca saximontana*)	10%

Table 3 Control Plots

	Plot 1	Plot 2	Plot 3
UTM Coordinates	07W 0632890E 7105434N	07W 0632899E 7105457N	07W 0632920E 7105520N
Elevation (m)	837	838	835
Estimated Slope (^{o})	0	0	0
Aspect	Neutral	Neutral	Neutral
In-situ Soil pH	6.8	6.7	6.1
In-situ Soil Moisture (% relative saturation)	57	59	63
Vegetative Cover (%)	50-100	50-100	50-100
Species Composition (seeded species in order of dominance)	Fowl Bluegrass Violet/Slender Wheatgrass Rocky Mountain/ Sheep Fescue	Fowl Bluegrass Rocky Mountain/ Sheep Fescue Violet/Slender Wheatgrass Alpine Bluegrass	Fowl Bluegrass Rocky Mountain/ Sheep Fescue Alpine Bluegrass Violet/Slender Wheatgrass
Root Depth Penetration (mm)	V/S Wheatgrass 80 RM/S Fescue 115 F Bluegrass 100	V/S Wheatgrass 100 RM/S Fescue 120 F Bluegrass 135 Alpine Bluegrass 95	V/S Wheatgrass 105 RM/S Fescue 105 F Bluegrass 125 Alpine Bluegrass100
Other Species	Fireweed Tall Jacob's Ladder Arctic Lupine Willow	Fireweed Arctic Lupine Tall Jacob's Ladder Common Horsetail Common Timothy	Fireweed Willow
Evidence of Erosion	None	None	None
Additional Comments	All seeded grass species in seed No sign of Alpine Bluegrass Very dense vegetative growth and lots of grass	All seeded grass species in seed Lots of grass litter from previous years' growth Grasshoppers Mosquitoes	All seeded grass species in seed Photographs taken

	litter from previous years' growth Wood Frog Spiders Mosquitoes & Flies Photographs taken	Photographs taken	

2.3 Summary

- Soil moisture was higher at all plots at the time of the 2008 survey than during previous surveys. This was probably the result of the cool, wet weather that occurred during the 2008 summer.

- The grades of vegetative cover remained the same at each of the plots in 2008 except for an increase (50 to 100%) at Plot 3 of the Blue Zone WRSA.

- The most notable changes in species composition in 2008 were a decline in Kentucky Bluegrass at the Blue WRSA plots and the absence of Kentucky Bluegrass at Plots 1 and 2 at the leach pad plots. It appears that Kentucky Bluegrass (a non-native species) will not be a long-term survivor at the Brewery Creek Mine.

- The number of native plants colonizing the plots has not increased in 2008. This is probably the result of the very dense growth of the seeded species.

- The only evidence of erosion continues to be on the Blue Zone WRSA plots, and these small gullies appear to have stabilized. They are filling in and are revegetating.

3.0 2008 Revegetation Survey

3.1 Survey Methods

A brief visual survey of other seeded areas of the mine site was carried out. These areas included recontoured and scarified pit infills, waste rock dumps, and haul roads, as well as the areas around the reclaimed leach pad. The survey included an estimate of the overall vegetative cover, a non-quantitative seeded species composition and a record of other plant species observed colonizing the area.

3.2 2008 Survey Results

Pacific Pit

Approximately 11.7 ha were broadcast-seeded in the fall of 2001 using the second 'Brewery Creek' seed mix. This mix included:

Violet Wheatgrass	(*Agropyron violaceum*)	35%
Slender Wheatgrass	(*Agropyron trachycaulus*)	13%
Fowl Bluegrass	(*Poa palustris*)	16%
Alpine Bluegrass	(*Poa alpina*)	13%
Sheep Fescue	(*Festuca ovina*)	13%
Rocky Mountain Fescue	(*Festuca saximontana*)	10%

This slope has a patchy, variable (50 to 70%) vegetative cover.

The seeded cover is now a mix of Fowl Bluegrass and Wheatgrass, with lesser amounts of Rocky Mountain Fescue and Sheep Fescue. White Clover continues to occur in patches, although it was not seeded on this slope.

Colonizing species observed in 2008 include Black Spruce (*Picea mariana*), Alaska Birch (*Betula neoalaskana*), Balsam Poplar (*Populus balsamifera*), Trembling Aspen (*Populus tremuloides*), and Willow (*Salix* spp.) Raspberry (*Rubus idaeus*), Fireweed (*Epilobium angustifolium*), Fleabane (*Erigeron* sp.), Arctic Lupine (*Lupinus arcticus*), Common Dandelion (*Taraxacum officinale*), Blue-joint Reed Grass (*Calamagrostis canadensis*), Annual Hawk's-beard (*Crepis tectorum*) and Foxtail Barley (*Hordeum jubatum*).

Blue Inpit Backfill

Approximately 4.9 ha were drill-seeded in the fall of 2003 using the wet area seed mix.

Overall vegetative cover is about 90%, although a few areas have a thinner cover and a few spots were missed by the seeder.

The seeded cover is mostly Violet Wheatgrass and Tufted Hairgrass, with lesser amounts of Fowl Bluegrass and no sign of Alkaligrass. White Clover is sparse and patchy.

Colonizing species observed include Raspberry (*Rubus idaeus*), Foxtail Barley (*Hordeum jubatum*), Fireweed (*Epilobium angustifolium*) and Fleabane (*Erigeron* sp.).

The newly seeded access road to the Blue Zone pit (seeded with the new Brewery Creek blend in the spring of 2007) is now dominated by a thick growth of Violet Wheatgrass and Ticklegrass. There is also Rocky Mountain Fescue, Glaucous Bluegrass and a little Alfalfa.

There is a small erosion channel beside the access road near the bottom of the hill.

Moosehead

Approximately 3.0 ha were seeded (drill-seeded and broadcast-seeded by ATV) in the fall of 2003 using the wet area seed mix.

The vegetative cover is variable, ranging from about 20% in the east by the pit to about 80% on top of the hill.

The seeded cover is mostly Tufted Hairgrass, with lesser amounts of Violet Wheatgrass and Fowl Bluegrass. There is no evidence of Alkaligrass. White Clover occurs in small dense patches.

Colonizing species observed include Black Spruce (*Picea mariana*), White Spruce (*Picea glauca*), Alaska Birch (*Betula neoalaskana*), Balsam Poplar (*Populus balsamifera*), Willow (*Salix* spp.), Alder (*Alnus crispa*), Raspberry (*Rubus idaeus*), Prickly Rose (*Rosa acicularis*), Arctic Lupine (*Lupinus arcticus*) and Hawk's-beard (*Crepis nana*).

Moosehead Road and Main Haul Road West of Moosehead Zone

This area was seeded in the spring of 2006 with the new Brewery Creek Blend.

The area has a variable vegetative cover averaging about 70%. The seeded cover is dominated by Violet Wheatgrass, Ticklegrass and Alfalfa.

Canadian Waste Rock Storage Area

Approximately 9.2 ha were seeded in the fall of 1997 with a bulk mixer truck using the 'Brewery Creek' seed mix. This mix included:

Fowl Bluegrass	(*Poa palustris*)	17%
Kentucky Bluegrass	(*Poa pratensis*)	16%
Wild Rye	(*Elymus* ?)	16%
Sheep Fescue	(*Festuca ovina*)	16%
Red Fescue	(*Festuca rubra*)	12%
Common Timothy	(*Phleum pratense*)	10%
Alsike Clover	(*Trifolium hybridum*)	8%
Alfalfa	(*Medicago sativa*)	5%

This area has a variable cover, ranging from about 70% (there are still some barren areas) on the south slope to about 90% on the north slope.

The seeded cover now consists of Common Timothy and occasional Red Fescue, with large patches of Alsike Clover and Alfalfa.

Colonizing species observed include White Spruce (*Picea glauca*), Black Spruce (*Picea mariana*), Trembling Aspen (*Populus tremuloides*) – some > 3m tall-, Willow (*Salix* spp.), Alaska Birch (*Betula neoalaskana*), Alder (*Alnus crispa*), Rose (*Rosa acicularis*), Annual Hawk's-beard (*Crepis tectorum*), Fireweed (*Epilobium angustifolium*), Arctic Lupine (*Lupinus arcticus*), Common Yarrow (*Achillea millefolium*), Smooth Brome (*Bromus inermis*), Blue-joint Reed Grass (*Calamagrostis canadensis*) and Common Horsetail (*Equisetum arvense*).

Canadian Stockpile
Approximately 1.0 ha was drill-seeded in the fall 2003 using the wet area seed mix.

The area has a very good vegetative cover (80-90%).

The seeded cover is dominated by a dense growth of White Clover, which is choking out other species. Small amounts of Violet Wheatgrass, Tufted Hairgrass and Fowl Bluegrass are also found. Alkaligrass is not evident. There is also a great deal of litter from last year's growth, mostly Violet Wheatgrass.

Colonizing species observed include Alders (*Alnus crispa*), Willow (*Salix* spp.), Alaska Birch (*Betula neoalaskana*), Balsam Poplar (*Populus balsamifera*), Annual Hawk's-beard (*Crepis tectorum*) and Blue-joint Reed Grass (*Calamagrostis Canadensis*).

Flanks of Main Haul Road West of Canadian Zone at Stream Crossing
This area was seeded in the fall of 2005 with the leach pad mix and in the spring of 2006 with the new Brewery Creek blend.

It has a good vegetative cover (up to 80%).

The seeded cover continues to be dominated by a heavy cover of Alfalfa and Wheatgrass with lesser amounts of Red Fescue and Kentucky Bluegrass.

Upper Fosters
Approximately 8.0 ha were drill-seeded in the fall of 2003 using the wet area seed mix.

The area has good cover on the lower flats (70-80%), with a sparse growth (10-40%) on the upper slopes.

The seeded cover on the upper slopes is Bluegrass with lesser amounts of Tufted Hairgrass and small patches of White Clover. Violet Wheatgrass is no longer in evidence on the upper slope. Revegetation on the lower flat area is now almost all White Clover, with only very little Tufted Hairgrass and Fowl Bluegrass.

Colonizing species observed include Alaska Birch (*Betula neoalaskana*), Trembling Aspen (*Populus tremuloides*), Willow (*Salix* sp.), Annual Hawk's-beard (*Crepis tectorum*) and lots of Fireweed (*Epilobium angustifolium*).

Lower Fosters
Approximately 1.0 ha was drill-seeded in the fall 2003 using the wet area seed mix.

The area has a very good vegetative cover (80-90%).

The seeded cover is dominated by White Clover Tufted Hairgrass.

Colonizing species observed include Alders (*Alnus crispa*), Willow (*Salix* spp.), Alaska Birch (*Betula neoalaskana*), Balsam Poplar (*Populus balsamifera*), Annual Hawk's-beard (*Crepis tectorum*) and Blue-joint Reed Grass (*Calamagrostis Canadensis.*

A small erosion channel was noted at the base of the slope.

Kokanee Inpit Backfill
Approximately 5.0 ha were broadcast-seeded by ATV in the fall of 2003 using the wet area seed mix.

The vegetative cover is highly variable, ranging from very sparse (<10% on the west slope) to nearly 100% on the lower flat.

The upper slopes have a sparse growth of Fowl Bluegrass, Violet Wheatgrass and Tufted Hairgrass with patches of White Clover. The lower flat is densely covered with Fowl Bluegrass, Tufted Hairgrass and White Clover, with minor amounts of Violet Wheatgrass.

Colonizing species observed include Alaska Birch (*Betula neoalaskana*), Alder (*Alnus crispa*), Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*), Arctic Lupine (*Lupinus arcticus*), Common Yarrow (*Achillea millefolium*), Wormwood (*Artemisia* sp.), Fleabane (*Erigeron* sp.) and Glaucous Bluegrass (*Poa glauca*),

North Golden Inpit Backfill
Approximately 11.2 ha of the lower slopes were broadcast-seeded by ATV in the fall 2003 using the wet area seed mix. The upper slopes were seeded in the fall of 2005 with the wet area seed mix and reseeded in the spring of 2006 and again in the spring of 2007 with the new Brewery Creek blend.

The lower (eastern) area now has a very uniform cover, up to 95%, which includes Violet Wheatgrass, Tufted Hairgrass, Fowl Bluegrass and White Clover.

The vegetative cover on the lower slopes is a mix of Violet Wheatgrass, Fowl Bluegrass and Tufted Hairgrass with patches of White Clover. Alkaligrass was not observed at this site.

The newly seeded upper slopes now have a good cover (up to 90%). Areas not reseeded still have a rather sparse cover, although these areas have more volunteer colonizers.

This most recently seeded area has a vegetative cover dominated by Ticklegrass, Violet Wheatgrass, Glaucous Bluegrass, Sheep Fescue and Alfalfa. Areas not reseeded have sparse cover of Fowl Bluegrass, Tufted Hairgrass and White Clover.

Colonizing species observed include Balsam Poplar (*Populus balsamifera*), Felt-leaf Willow (*Salix alaxensis*), Annual Hawk's-beard (*Crepis tectorum*) and Fireweed (*Epilobium angustifolium*).

South Golden

This area, south of the haul road has not been reseeded, but has been colonized by Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*) and Fireweed (*Epilobium angustifolium*).

A small erosion channel was noted along the haul road.

Lucky

Approximately 4.3 ha, including the waste rock dump and the inpit backfill, were broadcast-seeded by ATV in the fall 2003 using the wet area seed mix. The waste rock dump, the pit bottom, the old Lucky haul road and the lower road to Bohemian were reseeded with the Brewery Creek blend in the spring of 2007.

The east slope of the inpit backfill has a dense vegetative cover, up to 100%.

The seeded cover in the inpit backfill is dominated by Tufted Hairgrass with some Violet Wheatgrass, Fowl Bluegrass and White Clover. The pit bottom has approximately 60% cover of Fowl Bluegrass, Violet Wheatgrass, Ticklegrass and Alfalfa.

The newly reseeded areas of the waste rock dump, the Lucky haul road and the lower road to Bohemian also now have a good cover (up to 90%).

The revegetation on these areas consists of Violet Wheatgrass, Tufted Hairgrass and White Clover from the earlier seeding (2003) and Ticklegrass, Glaucous Bluegrass, Sheep Fescue and Alfalfa from the recent seeding (2007).

Colonizing species observed in the Lucky zone area include Black Spruce (*Picea mariana*), Alaska Birch (*Betula neoalaskana*), Alder (*Alnus crispa*), Balsam Poplar (*Populus balsamifera*), Willow (*Salix* sp.), Raspberry (*Rubus idaeus*), Fireweed (*Epilobium angustifolium*), Arctic Dock (*Rumex arcticus*), Common Yarrow (*Achillea millefolium*), Siberian Yarrow (*Achillea sibirica*), Rock Cress (*Arabis* sp.), Blue-joint Reed Grass (*Calamagrostis Canadensis*), Fleabane (*Erigeron* sp.), Crepis (*Crepis nana*), Annual Hawk'sbeard (*Crepis tectorum*) and Horsetail (*Equisetum* sp.), Slough Grass (*Beckmannia syzigachne*).

Main Haul Road
Approximately 24.0 ha of the main haul road were broadcast-seeded by ATV in the spring of 2005 using the leach pad seed mix.

This part of the main haul road now has a good vegetative cover ranging from 70-90%.

The main haul road is now covered with a fairly even mix of Wheatgrass, Kentucky Bluegrass and dense patches of Alfalfa.

The steep sideslopes along some sections of the haul road remain quite barren. A few erosion channels were noted along the road, particularly towards the east end.

Colonizing species observed include Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*), Shepherd's-purse (*Capsella bursa-pastoris*) and Fireweed (*Epilobium angustifolium*).

Valve House Road
This area was seeded in the fall of 2005 and the spring of 2006 with the wet area seed mix.

This area now has a very good vegetative cover of about 90%.

The seeded cover largely consists mainly of Violet Wheatgrass and Tufted Hairgrass with some Fowl Bluegrass and White Clover.

Colonizing species include Common Yarrow (*Achillea millefolium*), Common Timothy (*Phleum pratense*), Annual Hawk's-beard (*Crepis tectorum*), and Foxtail Barley (*Hordeum jubatum*).

Pipe Laydown Area
This area was seeded in the spring of 2006 with the new Brewery Creek blend.

The area now has a vegetative cover of about 60%.

The seeded vegetation is dominated by Violet Wheatgrass and Rocky Mountain Fescue, with some Ticklegrass and patches of Alfalfa

Colonizing species include Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*), Common Timothy (*Phleum pretense*) and Foxtail Barley (*Hordeum jubatum*),

Laura Creek Road and Lysimeter Access
This area was seeded in the spring of 2006 with the new Brewery Creek blend.

Vegetation in this area is generally concentrated on the road edges (traffic has kept the middle of the road bare). The area on the road edges now has a vegetative cover of about 50%.

The seeded vegetation is primarily Sheep Fescue, Violet Wheatgrass and Alfalfa.

Colonizing species include Alaska Birch (*Betula neoalaskana*), Willow (*Salix* spp.), Fireweed (*Epilobium angustifolium*), Alaskan Knotweed ((*Polygonum alaskanum*), Common Yarrow (*Achillea millefolium*), White Clover (*Trifolium repens*), Common Timothy (*Phleum pratense*), Smooth Brome (*Bromus inermis*) and Common Horsetail (*Equisetum arvense*).

Pond Bypass Road
This area was seeded in the spring of 2006 with the wet area seed mix.

The area now has a vegetative cover of about 80%.

The seeded cover is now a fairly even mix of Violet Wheatgrass, Tufted Hairgrass, Fowl Bluegrass and dense patches of White Clover

Colonizing species include Alaskan Birch (*Betula neonlaskana*), Trembling Aspen (*Populus tremuloides*), Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*), Common Yarrow (*Achillea millefolium*), Red Clover (*Trifolium pratense*) and Common Timothy (*Phleum pratense*).

ADR Building Site
This area was seeded in the spring of 2006 with the wet area seed mix.

The area now has a vegetative cover of about 80% on the level ground with about 60% on the slope above.

The seeded cover is dominated by Tufted Hairgrass with Fowl Bluegrass and White Clover. There is not much Violet Wheatgrass.

Colonizing species include Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*), Common Yarrow (*Achillea millefolium*), Tansy Mustard (*Descurainia incana*), Foxtail Barley (*Hordeum jubatum*), Fireweed (*Epilobium angustifolium*) and Chickweed (*Stellaria* sp.).

Treatment Pond Area
This area was seeded in the fall of 2005 with the wet area seed mix.

The area has a variable vegetative cover, now averaging about 70%

The patchy seeded cover consists of Fowl Bluegrass, Tufted Hairgrass, Violet Wheatgrass and White Clover.

Colonizing species include Alaska Birch (*Betula neoalaskana*), Trembling Aspen (*Populus tremuloides*), Willow (*Salix* sp.), Raspberry (*Rubus idaeus*), Annual Hawk's-beard (*Crepis tectorum*), Crepis (*Crepis nana*), Fireweed (*Epilobium angustifolium*), Common Yarrow (*Achillea millefolium*), Alaskan Knotweed (*Polygonum alaskanum*), Red Clover (*Trifolium pratense*), Sheep Fescue (*Festuca ovina*) Ticklegrass (*Agrostis scabra*) and Common Timothy (*Phleum pratense*).

Shale Hill
This area was seeded in the spring of 2006 with the new Brewery Creek Blend.

The area now has a highly variable vegetative cover, ranging from 0 to 90%.

The seeded vegetation includes Rocky Mountain Fescue, Violet Wheatgrass, Ticklegrass, Glaucous Bluegrass and Alfalfa.

Colonizing plant species include Alaska Birch (*Betula neoalaskana*), Willow (*Salix* sp.), Annual Hawk's-beard (*Crepis tectorum*), Fireweed (*Epilobium angustifolium*), Alaskan Knotweed (*Polygonum alaskanum*), Common Yarrow (*Achillea millefolium*) and Foxtail Barley (*Hordeum jubatum*).

Corner of ER and Main Haul Road
This area was seeded in the spring of 2006 and again in 2007 with the new Brewery Creek Blend.

The vegetative cover on this area is now about 90%, excluding a few bare patches.

The vegetative cover includes Ticklegrass, Violet Wheatgrass, Glaucous Bluegrass and a little Alfalfa, along with the unseeded Tufted Hairgrass.

Colonizing species include Balsam Poplar (*Populus balsamifera*), Alaskan Birch (*Betula neoalsaskanum*), Willow (*Salix* spp.), Annual Hawk's-beard (*Crepis tectorum*), Arctic Lupine (*Lupinus arcticus*) and Foxtail Barley (*Hordeum jubatum*).

Area in Front of Shop
This area was seeded in the spring of 2006 with the new Brewery Creek Blend.

The vegetative cover on this area is now about 80%, including Violet Wheatgrass, Rocky Mountain Fescue, Ticklegrass, and thick patches of alfalfa.

The only colonizing species noted in this area is Foxtail Barley (*Hordeum jubatum*).

3.3 Revegetation Progress Assessment

An aggressive revegetation program has been ongoing at the Brewery Creek Mine since 2003, although some areas had been seeded as early as 1997. More than 130 ha have now been seeded with grasses and legumes. Most areas of the mine have now been reclaimed. Areas with the least vegetation continue to be the steep, but stable, back-walls of some of the former open pits and the steep side-slopes of the main haul road.

This assessment of the current status of revegetation at the Brewery Creek Mine takes into account the objectives set out in the 2004 Amendment to the Quartz Mining License. The General Standards set out in Schedule C, Section D, include:

1. Vegetation is self sustaining and comprises native seed mixes.

2. The vegetative cover is capable of self-regeneration without continued dependence on fertilizer or reseeding.

3. The establishment of a vegetative cover with sufficient density and species diversity to stabilize the surface against the effects of long term erosion.

4. The successive vegetation must be similar to naturally occurring habitats in the surrounding area.

Although most of the grasses seeded since 2003 are species naturally occurring in the Yukon, the seeds were acquired from suppliers in southern Canada, as Yukon-produced seeds were not available in the quantity required at the time of seeding. The non-native exceptions are Kentucky Bluegrass and Red Fescue. These sod-forming species were used in the Leach Pad Mix to help form a tighter cover. The Leach Pad Mix, although originally intended only for the leach pad cover, was also applied to a few other areas including the Blue Zone WRSA and the main haul road. Non-native legumes, white clover and alfalfa, were also used at Brewery Creek as the seeds of native species of legumes were not commercially available in large quantity at the time of seeding.

The vegetative cover on the reclaimed surfaces appears to be self-regenerating. The seeded species were mostly in flower or seed at the time of the 2008 survey. Self-sustainability of these species, however, can only be confirmed through further monitoring, particularly on those more recently seeded areas (seeded in 2006 and 2007). It should be noted that the long-term sustainability of the seeded species is not desirable, as these species should eventually give way to later successional species.

If observed closely, many native plant species can already be seen colonizing most areas of the reclaimed mine, as documented in Section 3.2. Table 4 shows the tree species observed on the reclaimed surfaces in 2008. Sixteen of the 23 areas that were assessed in 2008 now support the growth of at least one native species of willow. Alaska birch is also becoming a common invading tree species and was documented at 12 sites. It is anticipated that the vegetative succession to a climax forest similar to surrounding areas (the mature forest not disturbed by recent fires) will naturally occur, albeit slowly, if the area is left alone (*i.e.* if vehicle access is restricted).

Table 4 Native Tree Species Colonizing Reclaimed Sites at the Brewery Creek Mine in 2008

Revegetation Zone	White Spruce	Black Spruce	Alaska Birch	Balsam Poplar	Alder	Trembling Aspen	Willows
Pacific Pit		+*	+*	+*		+*	+
Moosehead	+	+ *	+ *	+*	+		+
Can. Waste Rock	+*	+*	+*		+*	+ *	+ *
Can. Stockpile			+*	+*	+*		+*
Upper Foster			+ *			+	+ *
Lower Foster			+	+	+		+
Kokanne Pit			+		+		+
North Golden				+ *			+ *
South Golden							+
Lucky		+*	+*	+	+		+ *
Pipe Laydown							+*
Pond By Pass Rd			+*			+*	+*
ARD bldg							*+
Treatment Pond Area			+			+	+
Shale Hill			+				+
Corner of ER and Haul Rd.			+*	+*			+*
+ * indicates that it was also documented in 2007.							

Natural revegetation at this latitude, particularly on the relatively dry upland slopes such as those at Brewery Creek, is a slow process (several decades will pass before the area returns to a climax forest). Further seeding with grasses will do little to hasten this process, and may even hinder it. Further disturbance to the soil could delay the revegetation process, and the resulting formation of a too dense ground cover may inhibit the colonizing of the area by indigenous species. The addition of more fertilizer or the further seeding of nitrogen-fixing legumes may help to improve soil nutrients; however the naturally occurring native species colonizing the area are already adapted to these nutrient-poor soil conditions.

The current vegetative cover now found on the reclaimed mine surfaces is obviously quite variable (from sparse to very dense). This unevenness reflects the local variations in terrain (roughness, slope, aspect, drainage patterns etc.), climate and soil conditions. It is also indicative of the challenges faced in obtaining a uniform application rate of seed and fertilizer in such terrain.

The best indication of how the reseeded areas of the Brewery Creek Mine will revegetate in the near future may be to look at the Canadian Knoll and Waste Rock Storage Area, the site of the first revegetation efforts at the mine in 1997. Eleven years after seeding, the vegetative cover on these slopes consists of a few of the seeded grass and legume species, but more significantly, an array of colonizing tree seedlings, shrubs and forbs (see Section 3.2). Although this area is still at an early successional stage, it is a demonstration how natural revegetation will slowly occur if it is left alone.

There may be areas of the reclaimed mine where soil erosion is occurring (these sites were not documented during this revegetation survey). Once such areas have been identified, they may have to be stabilized and reseeded. Further erosion control efforts should focus on significant erosion gullies and areas where the physical stability of slopes is obviously compromised and where further deterioration is anticipated.

Minimizing the disturbance footprint during the reworking of these erosion sites will be essential. The many small short-term erosion gullies and rills that are common throughout newly reclaimed surfaces will most likely stabilize without further intervention.

4.0 Recommendations

- An inventory of sites with obvious erosional or slope stability problems should take place during the summer of 2009. When (if) such sites are identified, recontouring and reseeding should be carried in the late summer or early fall. Additional seed and fertilizer may have to be acquired. The transplanting of locally occurring shrubs, or the staking of willow cuttings, may be beneficial at the more unstable sites.

- There is no need to reseed or add fertilizer to any of the previously seeded areas. These areas should be left alone to allow continued propagation of the seeded species as well as to permit the gradual invasion and colonization of native species.

- Vehicle access to the reclaimed surfaces of the former mine should remain restricted.

5.0 REFERENCES

Laberge Environmental Services. 2008. Brewery Creek Mine 2007 Revegetation Assessment. Site Assessment Report Prepared for Alexco Resources Corp.

Laberge Environmental Services. 2007. Brewery Creek Mine 2006 Revegetation Assessment. Site Assessment Report Prepared for Alexco Resources Corp.

Laberge Environmental Services. 2006. Brewery Creek Mine 2005 Revegetation Assessment. Site Assessment Report Prepared for Alexco Resources Corp.

Viceroy Minerals Corporation. March 2005. Blue Zone Monitoring and Assessment Program. Prepared under the Brewery Creek Mine Decommissioning and Reclamation Plan.

Viceroy Minerals Corporation. March 2005. Heap Leach Pad Cover and Facilities Monitoring Program. Prepared under the Brewery Creek Mine Decommissioning and Reclamation Plan.

APPENDIX A

SITE PHOTOGRAPHS, JULY 2008

Photo #1: Small erosion gully in Plot 2 of the Blue Zone WRSA gradually filling in with leaf litter and soil.

Photo #2: Gully in Plot 3 of the Blue Zone WRSA supporting thick growth of grasses.

Photo #3: Plot #1 on the top of the Leach Pad.

Photo #4: Plot #3 on the southeast slope of the Leach Pad.

Photo #5: Moosehead – willows and poplars are colonizing and becoming established in parts of this zone.

Photo #6: Willows, aspen and birch are colonizing the top of Canadian WRSA, looking toward Blue Zone.

Photo #7: White Clover dominates the vegetation of the Canadian Stockpile area.

Photo #8: Several species of willow are colonizing the flat section of Upper Fosters.

Photo #9: The Kokanee Inpit backfill area with the Haul Road in the foreground.

Photo #10: The slopes of North Golden support good growth of the recently seeded species.

Photo #11: The side walls of South Golden are gradually revegetating naturally.

Photo #12: A dense growth of aspen and willows have become established at the base of the wall of South Golden.

Photo #13: Willows are growing on the wall of Lucky Pit.

Photo #14: Caterpillars of *Nymphalis antiopa* eating willow and poplar leaves in the undisturbed forest by Lucky.

Photo #15: Treatment Pond Area.

Photo #16: Fireweed and shrubs are starting to colonize Shale Hill.

Appendix G

2008 Bioassay Reports

FILE:ACCESS/0801098.RTT

DATE: 1 February 2008

TO: Mr. Dave Desmarais
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0801098
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-07-BCM-01** **Project Name: Brewery Creek Mine**
Date collected:	24 January 2008
Date, time received:	27 January 2008
Collection Method:	Grab
Amount, Container:	2 x 20 L plastic container
Physical description:	Clear light yellow-green liquid
Date, time tested:	28 January 2008; 1315 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was greater than 96 hours (v/v sample).
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 15 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 11.0 mg/L at 15.0°C, the conductivity was 4110 µS/cm and the initial pH was 8.1. After pre-aerating the sample for 120 minutes, the dissolved oxygen level was 10.2 mg/L. Although the dissolved oxygen level was greater than 100% saturation the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was NL.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		HOURS 0	3.5	24	48	72	96
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.2		9.8	9.8	9.7	9.1
	Temperature (°C)	15.0		14.5	14.5	14.5	14.5
	PH	8.1		8.1	7.9	7.9	7.8
	Conductivity (µScm)	4110					4280
	Symptoms	1	2	2	2	1	1
	Loading Density (g/L)	0.44	0.44	0.44	0.44	0.44	0.44
CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	9.8		9.5	9.3	9.0	8.5
	Temperature (°C)	15.0		14.0	14.0	14.0	14.0
	PH	7.8		7.5	7.3	7.3	7.2
	Conductivity (µS/cm)	57					61
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.44	0.44	0.44	0.44	0.44	0.44
	Technician	NL	NL	RM	RM	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION

Date received:	12 December 2007	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	40.9 mm ± 6.2 mm
	Range:	35.0 mm – 50.0 mm
Wet weight:	Mean:	0.66 g ± 0.35 g
	Range:	0.35 g – 1.14 g
Condition Factor (100xWt/length^{3}cm):	0.97	

Acclimation History	
Acclimation temperature:	13.5 to 14.5°CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.13	07.07.24	"	12.00	8.00 to 18.00
07.07.13	07.08.09	"	10.16	8.41 to 12.08
07.07.27	07.08.10	"	6.93	4.80 to 10.00
07.07.13	07.08.24	"	7.64	6.18 to 9.14
07.07.27	07.09.10	"	10.56	8.00 to 12.00
07.08.28	07.09.10	"	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.0
LAB GEOMETRIC MEAN (LOG) ± 2 standard deviations:				10.45 mg/L ± 3.56
Warning Limits (Log Values):				6.89 mg/L to 14.01 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 13 g/L

Total Residual Chlorine: 10 µg/L

FILE:ACCESS/0803001.RTT

DATE: 5 March 2008

TO: Mr. Dave Desmarais
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0803001
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-07-BCM-01** **Project Name: BC28a Bioassay**
Date collected:	28 February 2008
Date, time received:	1 March 2008
Collection Method:	Grab
Amount, Container:	2 x 10 L plastic containers
Physical description:	Clear colorless liquid
Date, time tested:	1 March 2008; 1445 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was greater than 96 hours (v/v sample).
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 15 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 11.8 mg/L at 6.5°C, the conductivity was 4170 µS/cm and the initial pH was 8.2. After pre-aerating the sample for 120 minutes, and warming to 15.0°C, the dissolved oxygen level was 11.1 mg/L. Although the dissolved oxygen level was greater than 100% saturation, the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		HOURS 0	2	24	48	72	96
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	11.1		9.7	9.9	9.6	9.5
	Temperature (°C)	15.0		14.5	14.5	15.0	15.0
	PH	8.1		8.1	8.1	7.9	7.8
	Conductivity (µScm)	4100					4230
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.25	0.25	0.25	0.25	0.25	0.25
CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	9.9		9.8	10.1	9.9	9.8
	Temperature (°C)	14.0		14.5	14.5	14.5	15.0
	PH	7.8		7.7	7.6	7.5	7.3
	Conductivity (µS/cm)	62					66
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.25	0.25	0.25	0.25	0.25	0.25
	Technician	RM	RM	JC	NL	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION

Date received:	7 February 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	36.5 mm ± 3.6 mm
	Range:	30.0 mm – 42.0 mm
Wet weight:	Mean:	0.38 g ± 0.12 g
	Range:	0.19 g – 0.60 g
Condition Factor (100xWt/length^{3}cm):	0.78	

Acclimation History	
Acclimation temperature:	13.5 to 14.0°CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	1.83%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.13	07.07.24	“	12.00	8.00 to 18.00
07.07.13	07.08.09	“	10.16	8.41 to 12.08
07.07.27	07.08.10	“	6.93	4.80 to 10.00
07.07.13	07.08.24	“	7.64	6.18 to 9.14
07.07.27	07.09.10	“	10.56	8.00 to 12.00
07.08.28	07.09.10	“	10.56	8.00 to 12.00
07.09.21	07.09.25	“	12.62	10.47to 15.03
07.09.21	07.10.11	“	9.80	8.47 to 11.33
07.09.21	07.10.26	“	9.39	8.00 to 12.00
07.10.09	07.10.26	“	12.60	10.61 to 14.85
07.10.25	07.11.09	“	11.30	9.47 to 13.40
07.10.25	07.11.28	“	13.56	11.51 to 15.88
07.11.21	07.12.10	“	13.17	12.00 to 18.00
07.11.21	07.12.28	“	12.63	12.00 to 18.00
07.12.12	08.01.11	“	13.16	8.00 to 18.00
07.12.12	08.01.28	“	12.63	8.00 to 18.0
08.01.16	08.02.07	“	8.27	6.65 to 9.99
08.02.07	08.02.21	“	11.30	9.47 to 13.40
LAB GEOMETRIC MEAN (LOG) ± 2 standard deviations:				10.56 mg/L ± 3.58
Warning Limits (Log Values):				6.98 mg/L to 14.13 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 19 g/L

Total Residual Chlorine: 8 µg/L

FILE:ACCESS/0803047.RTT

DATE: 16 March 2008

TO: Mr. Dave Desmarais
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0803047
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-07-BCM-01** **Project Name: BC28a Bioassay**
Date collected:	9 March 2008
Date, time received:	11 March 2008; 1220 hrs.
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic containers
Physical description:	Clear colorless liquid
Date, time tested:	11 March 2008; 1550 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was greater than 96 hours (v/v sample).
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 15 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 12.1 mg/L at 7.5°C, the conductivity was 4170 µS/cm and the initial pH was 8.1. After pre-aerating the sample for 120 minutes, and warming to 14.5°C, the dissolved oxygen level was 10.9 mg/L. Although the dissolved oxygen level was greater than 100% saturation, the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		HOURS 0	2	24	48	72	96
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.9		9.9	9.3	8.8	8.5
	Temperature (°C)	14.5		14.5	14.5	15.0	15.0
	PH	8.1		8.0	8.0	7.9	7.7
	Conductivity (µScm)	4130					4200
	Symptoms	1	1	1	1	1	2
	Loading Density (g/L)	0.28	0.28	0.28	0.28	0.28	0.28

CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		9.8	9.3	9.3	9.0
	Temperature (°C)	15.0		14.5	14.5	14.5	15.0
	PH	7.7		7.5	7.5	7.5	7.4
	Conductivity (µS/cm)	60					61
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.28	0.28	0.28	0.28	0.28	0.28

Technician	RM	RM	RM	RM	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION

Date received:	7 February 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	36.2 mm ± 2.7 mm
	Range:	32.0 mm – 39.0 mm
Wet weight:	Mean:	0.42 g ± 0.07 g
	Range:	0.29 g – 0.51 g
Condition Factor (100xWt/length^{3}cm):	0.88	

Acclimation History	
Acclimation temperature:	13.5 to 14.0°CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.13	07.08.09	"	10.16	8.41 to 12.08
07.07.27	07.08.10	"	6.93	4.80 to 10.00
07.07.13	07.08.24	"	7.64	6.18 to 9.14
07.07.27	07.09.10	"	10.56	8.00 to 12.00
07.08.28	07.09.10	"	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.0
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.07	08.03.11	"	9.39	7.94 to 11.03
LAB GEOMETRIC MEAN (LOG) ± 2 standard deviations:				10.54 mg/L ± 3.54
Warning Limits (Log Values):				7.00 mg/L to 14.07 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 9 g/L

Total Residual Chlorine: 15 µg/L

FILE:ACCESS/0804083.RTT

DATE: 26 April 2008

TO: Mr. Dave Desmarais
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0804083
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-07-BCM-01** **Project Name: BC28a Bioassay**
Date collected:	18 April 2008
Date, time received:	22 April 2008; 1320 hrs.
Collection Method:	Grab
Amount, Container:	1 x 21 L plastic containers
Physical description:	Clear light yellow-green liquid
Date, time tested:	22 April 2008; 1600 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was greater than 96 hours.
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 21 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 10.9 mg/L at 11.5°C, the conductivity was 4180 µS/cm and the initial pH was 7.9. After pre-aerating the sample for 120 minutes, and warming to 14.5°C, the dissolved oxygen level was 10.5 mg/L. Although the dissolved oxygen level was greater than 100% saturation, the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

FILE:ACCESS/0804083.RTT

RAW DATA

TEST CONCENTRATION		**HOURS**					
		0	**0.75**	**24**	**48**	**72**	**96**
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.5		10.0	9.9	9.9	9.9
	Temperature (°C)	14.5		14.0	14.0	14.5	14.5
	PH	8.0		7.9	7.9	7.9	7.8
	Conductivity (µScm)	4170					4310
	Symptoms	1	1	1	2	2	1
	Loading Density (g/L)	0.43	0.43	0.43	0.43	0.43	0.43

CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		9.9	9.9	9.9	9.9
	Temperature (°C)	15.0		14.0	14.0	14.5	14.5
	PH	7.5		7.5	7.3	7.3	7.2
	Conductivity (µS/cm)	57					63
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.43	0.43	0.43	0.43	0.43	0.43

Technician	RM	RM	RM	RM	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION

Date received:	27 March 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	45.1 mm ± 5.8 mm
	Range:	38.0 mm – 58.0 mm
Wet weight:	Mean:	0.90 g ± 0.37 g
	Range:	0.51 g – 1.80 g
Condition Factor (100xWt/length^{3}cm):	0.98	

Acclimation History	
Acclimation temperature:	14.0 to 15.5°CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0.71%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.27	07.08.10	Phenol	6.93	4.80 to 10.00
07.07.13	07.08.24	"	7.64	6.18 to 9.14
07.07.27	07.09.10	"	10.56	8.00 to 12.00
07.08.28	07.09.10	"	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.0
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.03.27	08.04.22	"	9.39	8.00 to 12.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.525 mg/L ± 3.445
Warning Limits:				7.080 mg/L to 13.970 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness:	13 mg/L
Total Residual Chlorine:	11 µg/L

FILE:ACCESS/0805055.RTT

DATE: 20 May 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0805055
Sample Name:	**BC28 Bioassay** **Project ID: ALEX-06-BCM-01** **Project Name: BC28 Bioassay**
Date collected:	9 May 2008
Date, time received:	12 May 2008; 1100 hrs.
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic containers
Physical description:	Clear light yellow liquid
Date, time tested:	13 May 2008; 1220 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was greater than 96 hours.
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory “Standard Operating Procedure for Rainbow Trout Holding and Testing” RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 16 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 9.3 mg/L at 15.0°C, the conductivity was 2100 µS/cm and the initial pH was 7.4. After pre-aerating the sample for 60 minutes, and warming to 15.0°C, the dissolved oxygen level was 9.6 mg/L. As the dissolved oxygen level was greater than 70% saturation and less than 100% saturation, the test was initiated at this time. The test set up technicians were RM and DL.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

FILE:ACCESS/0805055.RTT

RAW DATA

TEST CONCENTRATION		HOURS 0	4	24	48	72	96
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	9.6		10.0	9.7	9.7	9.3
	Temperature (°C)	15.0		15.0	15.5	15.5	15.0
	PH	7.5		8.0	8.1	8.1	8.0
	Conductivity (µScm)	2100					2110
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.42	0.42	0.42	0.42	0.42	0.42
CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		10.0	9.7	9.8	9.7
	Temperature (°C)	15.5		15.0	15.0	15.5	15.0
	PH	7.5		7.4	7.4	7.2	7.3
	Conductivity (µS/cm)	48					51
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.42	0.42	0.42	0.42	0.42	0.42

Technician	DL	RM	RM	RM	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

FILE:ACCESS/0805055.RTT

TEST FISH STOCK INFORMATION

Date received:	16 April 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	40.7 mm ± 2.7 mm
	Range:	36.0 mm – 44.0 mm
Wet weight:	Mean:	0.67 g ± 0.11 g
	Range:	0.46 g – 0.79 g
Condition Factor (100xWt/length^{3}cm):	0.99	

Acclimation History	
Acclimation temperature:	14.5 to 15.0°CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0.20%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.27	07.08.10	Phenol	6.93	4.80 to 10.00
07.07.13	07.08.24	“	7.64	6.18 to 9.14
07.07.27	07.09.10	“	10.56	8.00 to 12.00
07.08.28	07.09.10	“	10.56	8.00 to 12.00
07.09.21	07.09.25	“	12.62	10.37to 15.03
07.09.21	07.10.11	“	9.80	8.47 to 11.33
07.09.21	07.10.26	“	9.39	8.00 to 12.00
07.10.09	07.10.26	“	12.60	10.61 to 14.85
07.10.25	07.11.09	“	11.30	9.47 to 13.40
07.10.25	07.11.28	“	13.56	11.51 to 15.88
07.11.21	07.12.10	“	13.17	12.00 to 18.00
07.11.21	07.12.28	“	12.63	12.00 to 18.00
07.12.12	08.01.11	“	13.16	8.00 to 18.00
07.12.12	08.01.28	“	12.63	8.00 to 18.0
08.01.16	08.02.07	“	8.27	6.65 to 9.99
08.02.07	08.02.21	“	11.30	9.47 to 13.40
08.02.07	08.03.11	“	9.39	7.94 to 11.03
08.02.18	08.03.24	“	9.38	7.68 to 11.16
08.03.12	08.04.07	“	11.40	8.00 to 18.00
08.03.27	08.04.07	“	10.56	8.00 to 18.00
08.03.27	08.04.22	“	9.39	8.00 to 12.00
08.04.16	08.04.29	“	12.00	8.00 to 18.00
08.04.16	08.05.15	“	9.80	8.00 to 12.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.618 mg/L ± 3.414
Warning Limits:				7.205 mg/L to 14.032 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 17 mg/L

Total Residual Chlorine: 20 µg/L

Integrated Resource Consultants Inc.

Suite 160, 14480 River Road
Richmond, BC, Canada V6V 1L4
Tel. 604-278-7714 • Fax 604-278-7741
www.ircintegratedresource.com

FILE:ACCESS/0805074.RTT

DATE: 27 May 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0805074
Sample Name:	**BC28 Bioassay**
Date collected:	14 May 2008
Date, time received:	17 May 2008; 1320 hrs.
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic container
Physical description:	Opaque white liquid with yellow sand
Date, time tested:	18 May 2008; 1400 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was 1.5 hours.
100% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 16 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 10.4 mg/L at 15.5°C, the conductivity was 2060 µS/cm and the initial pH was 8.0. After pre-aerating the sample for 90 minutes, the dissolved oxygen level was 10.0 mg/L. As the dissolved oxygen level was greater than 70% saturation and less than 100% saturation, the test was initiated at this time. The set up technician was JC.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kari Archer
Laboratory Biologist
b1/29.1
enclosure

IRC

FILE:ACCESS/0805074.RTT

RAW DATA

TEST CONCENTRATION		HOURS 0	1	24	48	72	96
100%	Percent Survival	100%	60%	0%	0%	0%	0%
	Dissolved Oxygen (mg/L)	10.0		9.8			
	Temperature (°C)	15.5		15.5			
	PH	7.9		8.0			
	Conductivity (µScm)	2020		2020			
	Symptoms	1	2	-	-	-	-
	Loading Density (g/L)	0.45	0.27	0.00	0.00	0.00	0.00

		0	1	24	48	72	96
CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		9.4	9.3	9.0	9.2
	Temperature (°C)	15.5		15.5	15.5	15.5	15.0
	PH	7.5		7.2	7.1	7.3	7.4
	Conductivity (µS/cm)	51					54
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.45	0.45	0.45	0.45	0.45	0.45

Technician	JC	JC	JC	DL	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	16 April 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	42.8 mm ± 4.9 mm
	Range:	35.0 mm – 49.0 mm
Wet weight:	Mean:	0.72 g ± 0.25 g
	Range:	0.37 g – 1.07 g
Condition Factor (100xWt/length^{3}cm):	0.91	

Acclimation History	
Acclimation temperature:	14.5 to 15.0 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0.24%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.27	07.08.10	Phenol	6.93	4.80 to 10.00
07.07.13	07.08.24	"	7.64	6.18 to 9.14
07.07.27	07.09.10	"	10.56	8.00 to 12.00
07.08.28	07.09.10	"	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.0
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.04.16	08.05.15	"	9.80	8.00 to 12.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.618 mg/L ± 3.414
Warning Limits:				7.205 mg/L to 14.032 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 17 mg/L
Total Residual Chlorine: 20 µg/L

FILE:ACCESS/0805074.RTT

DATE: 27 May 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0805074
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-06-BCM-01** **Project Name: BC28a Bioassay**
Date collected:	14 May 2008
Date, time received:	17 May 2008; 1320 hrs.
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic container
Physical description:	Opaque white liquid with yellow sand
Date, time tested:	18 May 2008; 1400 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was 1.5 hours.
100% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 16 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 10.4 mg/L at 15.5°C, the conductivity was 2060 µS/cm and the initial pH was 8.0. After pre-aerating the sample for 90 minutes, the dissolved oxygen level was 10.0 mg/L. As the dissolved oxygen level was greater than 70% saturation and less than 100% saturation, the test was initiated at this time. The set up technician was JC.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		HOURS 0	1	24	48	72	96
100%	Percent Survival	100%	60%	0%	0%	0%	0%
	Dissolved Oxygen (mg/L)	10.0		9.8			
	Temperature (°C)	15.5		15.5			
	PH	7.9		8.0			
	Conductivity (µScm)	2020		2020			
	Symptoms	1	2	-	-	-	-
	Loading Density (g/L)	0.45	0.27	0.00	0.00	0.00	0.00
CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		9.4	9.3	9.0	9.2
	Temperature (°C)	15.5		15.5	15.5	15.5	15.0
	PH	7.5		7.2	7.1	7.3	7.4
	Conductivity (µS/cm)	51					54
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.45	0.45	0.45	0.45	0.45	0.45
	Technician	JC	JC	JC	DL	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	16 April 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	42.8 mm ± 4.9 mm
	Range:	35.0 mm – 49.0 mm
Wet weight:	Mean:	0.72 g ± 0.25 g
	Range:	0.37 g – 1.07 g
Condition Factor (100xWt/length^{3}cm):	0.91	

Acclimation History	
Acclimation temperature:	14.5 to 15.0 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0.24%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC_{50} (mg/L)	95% Confidence Interval
07.07.27	07.08.10	Phenol	6.93	4.80 to 10.00
07.07.13	07.08.24	"	7.64	6.18 to 9.14
07.07.27	07.09.10	"	10.56	8.00 to 12.00
07.08.28	07.09.10	"	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.0
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.04.16	08.05.15	"	9.80	8.00 to 12.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.618 mg/L ± 3.414
Warning Limits:				7.205 mg/L to 14.032 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 17 mg/L

Total Residual Chlorine: 20 µg/L

FILE:ACCESS/0806095.RTT

DATE: 3 July 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

<u>SAMPLE DESCRIPTION:</u>

IRC Sample ID No.:	0806095
Sample Name:	**BC28a Bioassay**
Date collected:	19 June 2008
Date, time received:	23 June 2008; 0915 hrs.
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic container
Physical description:	Clear colourless liquid
Date, time tested:	23 June 2008; 1105 hrs.

<u>RAINBOW TROUT 96 HR RESULTS</u>:
The 96 hour (static) LT_{50} less than 1 hour.
100% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: <u>Aquatic Toxicology and Hazard Evaluation</u>, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 21 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 10.2 mg/L at 9.5°C, the conductivity was 3430 µS/cm and the initial pH was 7.6. After pre-aerating the sample for 30 minutes, the dissolved oxygen level was 10.3 mg/L. As the dissolved oxygen level was greater than 70% saturation and less than 100% saturation, the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

FILE:ACCESS/0806095.RTT

RAW DATA

TEST CONCENTRATION		HOURS 0	1	24	48	72	96
100%	Percent Survival	100%	0%	0%	0%	0%	0%
	Dissolved Oxygen (mg/L)	10.3		10.3			
	Temperature (°C)	14.0		14.0			
	PH	7.6		8.1			
	Conductivity (µScm)	3400	3430	3410			
	Symptoms	1	-	-	-	-	-
	Loading Density (g/L)	0.46	0.00	0.00	0.00	0.00	0.00
CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.1		9.8	9.6	9.3	9.4
	Temperature (°C)	15.5		14.0	14.5	15.0	15.0
	PH	7.6		7.5	7.5	7.5	7.4
	Conductivity (µS/cm)	50					54
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.46	0.46	0.46	0.46	0.46	0.46
	Technician	RM	KA	RM	RM	RM	RM

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	27 May 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	44.8 mm ± 4.0 mm
	Range:	39.0 mm – 52.0 mm
Wet weight:	Mean:	0.97 g ± 0.25 g
	Range:	0.72 g – 1.56 g
Condition Factor (100xWt/length^{3}cm):	1.08	

Acclimation History	
Acclimation temperature:	15.0 to 15.5 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	1.82%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
07.08.28	07.09.10	Phenol	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47 to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.00
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.547 mg/L ± 3.575
Warning Limits:				6.972 mg/L to 14.122 mg/L

CONTROL/DILUTION WATER QUALITY:
Hardness: 17 mg/L
Total Residual Chlorine: 16 µg/L

FILE:ACCESS/0806126.RTT

DATE: 4 July 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0806126
Sample Name:	**BC28a**
Date collected:	25 June 2008
Date, time received:	26 June 2008; 1315 hrs.
Collection Method:	Grab
Amount, Container:	2 x 10 L plastic container
Physical description:	Clear colourless liquid
Date, time tested:	26 June 2008; 1545 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} greater than 96 hours.
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 16 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 10.9 mg/L at 14.0°C, the conductivity was 3500 µS/cm and the initial pH was 7.6. After pre-aerating the sample for 120 minutes, the dissolved oxygen level was 10.3 mg/L. Although the dissolved oxygen level was greater than 100% saturation, the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		HOURS 0	1	24	48	72	96
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.3		9.9	9.7	9.6	9.4
	Temperature (°C)	14.5		15.0	15.0	15.0	15.0
	PH	7.8		8.0	8.1	8.0	8.0
	Conductivity (µScm)	3500					3560
	Symptoms	1	1,2	2	2	2	1,2
	Loading Density (g/L)	0.40	0.40	0.40	0.40	0.40	0.40

CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		9.8	9.4	9.4	9.5
	Temperature (°C)	15.5		15.0	15.0	15.0	15.0
	PH	7.6		7.3	7.4	7.6	7.5
	Conductivity (µS/cm)	50					55
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.40	0.40	0.40	0.40	0.40	0.40

Technician	RM	RM	RM	RM	JC	KA

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	27 May 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	40.7 mm ± 3.3 mm
	Range:	37.0 mm – 46.0 mm
Wet weight:	Mean:	0.64 g ± 0.20 g
	Range:	0.42 g – 0.93 g
Condition Factor (100xWt/length^{3}cm):	0.95	

Acclimation History	
Acclimation temperature:	14.5 to 15.5 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	1.36%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
07.08.28	07.09.10	Phenol	10.56	8.00 to 12.00
07.09.21	07.09.25	"	12.62	10.47 to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.00
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.547 mg/L ± 3.575
Warning Limits:				6.972 mg/L to 14.122 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 18 mg/L

Total Residual Chlorine: 18 µg/L

FILE:ACCESS/0807073.RTT

DATE: 18 July 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0807073
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-08-BCM-01** **Project Name: BC28a Bioassay**
Date collected:	9 July 2008
Date, time received:	14 July 2008; 1115 hrs.
Collection Method:	Grab
Amount, Container:	2 x 10 L plastic container
Physical description:	Clear colourless liquid
Date, time tested:	14 July 2008; 1410 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} was 5.20 hours with a 95% confidence interval between 1.5 hours and 18 hours.
100% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 20 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 9.0 mg/L at 10.9°C, the conductivity was 2660 µS/cm and the initial pH was 7.8. After pre-aerating the sample for 120 minutes, the dissolved oxygen level was 10.5 mg/L. Although the dissolved oxygen level was greater than 100% saturation, the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was DL.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

FILE:ACCESS/0807073.RTT

RAW DATA

TEST CONCENTRATION		HOURS 0	1.5	18	24	48	72	96
100%	Percent Survival	100%	100%	0%	0%	0%	0%	0%
	Dissolved Oxygen (mg/L)	10.5						
	Temperature (°C)	15.5						
	PH	7.9						
	Conductivity (µScm)	2640		2630				
	Symptoms	1	3	-	-	-	-	-
	Loading Density (g/L)	0.48	0.48	0.00	0.00	0.00	0.00	0.00

CONTROL	Percent Survival	100%	100	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0			9.6	9.6	9.5	9.5
	Temperature (°C)	15.5			15.5	15.5	15.5	15.5
	PH	7.9			7.5	7.5	7.5	7.5
	Conductivity (µS/cm)	54						57
	Symptoms	1	1	1	1	1	1	1
	Loading Density (g/L)	0.48	0.48	0.48	0.48	0.48	0.48	0.48

Technician	RM	KA	RM	RM	RM	JC	KA

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	18 June 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	45.1 mm ± 7.0 mm
	Range:	35.0 mm – 55.0 mm
Wet weight:	Mean:	0.96 g ± 0.42 g
	Range:	0.49 g – 1.78 g
Condition Factor (100xWt/length^{3}cm):	1.05	

Acclimation History	
Acclimation temperature:	15.0 to 15.5 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0.32%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
07.09.21	07.09.25	Phenol	12.62	10.39 to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.00
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
08.06.18	08.07.03	"	12.00	8.00 to 18.00
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.602 mg/L ± 3.600
Warning Limits:				7.002 mg/L to 14.202 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 22 mg/L

Total Residual Chlorine: 18 µg/L

FILE:ACCESS/0808001.RTT

DATE: 7 August 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0808001
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-08-BCM-01** **Project Name: BC28a Bioassay**
Date, time collected:	31 July 2008; 1129 hrs.
Date, time received:	2 August 2008; 1330 hrs.
Collection Method:	Grab
Amount, Container:	2 x 10 L plastic container
Physical description:	Clear colourless liquid
Date, time tested:	2 August 2008; 1540 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} greater than 96 hours.
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory “Standard Operating Procedure for Rainbow Trout Holding and Testing” RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 22 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 11.1 mg/L at 8.0°C, the conductivity was 2980 µS/cm and the initial pH was 7.7. After pre-aerating the sample for 120 minutes, the dissolved oxygen level was 10.1 mg/L. Although the dissolved oxygen level was greater than 100% saturation, the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION	**HOURS**	**0**	**0.3**	**24**	**48**	**72**	**96**
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.1		9.7	9.2	9.5	8.8
	Temperature (°C)	16.0		15.5	15.5	15.0	15.0
	PH	7.9		8.1	8.3	7.9	8.0
	Conductivity (µScm)	2960					2960
	Symptoms	1	1	2	2	2	1
	Loading Density (g/L)	0.40	0.40	0.40	0.40	0.40	0.40
CONTROL	Percent Survival	100%	100	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.0		9.8	9.3	9.8	9.3
	Temperature (°C)	15.5		15.5	15.5	15.5	15.5
	PH	7.9		7.4	7.7	7.5	7.5
	Conductivity (µS/cm)	53					55
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.40	0.40	0.40	0.40	0.40	0.40

Technician	RM	RM	JC	JC	LH	LH

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	9 July 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	44.3 mm ± 3.7 mm
	Range:	37.0 mm – 49.0 mm
Wet weight:	Mean:	0.88 g ± 0.19 g
	Range:	0.60 g – 1.28 g
Condition Factor (100xWt/length^{3}cm):	1.01	

Acclimation History	
Acclimation temperature:	14.0 to 15.5 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	0.12%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
07.09.21	07.09.25	Phenol	12.62	10.39 to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.00
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
08.06.18	08.07.03	"	12.00	8.00 to 18.00
08.07.09	08.07.15	"	12.00	8.00 to 18.00
08.07.09	08.07.30	"	10.83	8.82 to 12.83
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.666 mg/L ± 3.549
Warning Limits:				7.117 mg/L to 14.216 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 22 mg/L
Total Residual Chlorine: 8 µg/L

FILE:ACCESS/0808097.RTT

DATE: 18 August 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0808097
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-08-BCM-01** **Project Name: BC28a Bioassay**
Date, time collected:	12 August 2008
Date, time received:	14 August 2008; 1300 hrs.
Collection Method:	Grab
Amount, Container:	2 x 10 L plastic container
Physical description:	Clear yellow liquid with white solids
Date, time tested:	15 August 2008; 1200 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} greater than 96 hours.
0% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 12 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 9.8 mg/L at 15.0°C, the conductivity was 1410 µS/cm and the initial pH was 7.6. After pre-aerating the sample for 30 minutes, the dissolved oxygen level was 9.5 mg/L. As the dissolved oxygen level was greater than 70% saturation and less than 100% saturation the test was initiated at this time. The set up technician was LH.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

FILE:ACCESS/0808097.RTT

RAW DATA

TEST CONCENTRATION		HOURS 0	3	24	48	72	96
100%	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	9.5		9.5	9.8	9.1	9.2
	Temperature (°C)	15.0		15.5	15.5	15.0	15.5
	PH	7.6		7.9	7.8	7.9	8.1
	Conductivity (µScm)	3140					
	Symptoms	1	2	1	2	1,2	1,2
	Loading Density (g/L)	0.34	0.34	0.34	0.34	0.34	0.34
CONTROL	Percent Survival	100%	100	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	9.0		9.1	8.8	8.6	9.2
	Temperature (°C)	15.5		15.5	15.5	15.5	15.5
	PH	8.2		7.5	7.4	7.9	7.8
	Conductivity (µS/cm)	68					
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.34	0.34	0.34	0.34	0.34	0.34
	Technician	LH	LH	JC	RM	LH	LH

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	16 July 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	35.6 mm ± 3.1 mm
	Range:	32.0 mm – 40.0 mm
Wet weight:	Mean:	0.40 g ± 0.11 g
	Range:	0.29 g – 0.62 g
Condition Factor (100xWt/length^{3}cm):	0.89	

Acclimation History	
Acclimation temperature:	15.0 to 16.0 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	1.74%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
07.09.21	07.09.25	Phenol	12.62	10.39 to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.00
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
08.06.18	08.07.03	"	12.00	8.00 to 18.00
08.07.09	08.07.15	"	12.00	8.00 to 18.00
08.07.09	08.07.30	"	10.72	8.82 to 12.83
08.07.16	08.07.30	"	11.72	9.83 to 13.88
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.658 mg/L ± 3.549
Warning Limits:				7.109 mg/L to 14.207 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 18 mg/L
Total Residual Chlorine: 14 ug/L

FILE:ACCESS/0808123.RTT

DATE: 26 August 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0808123
Sample Name:	**Overflow Bioassay** **Project Name: BCM Bioassay**
Date, time collected:	19 August 2008
Date, time received:	22 August 2008; 1410 hrs.
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic container
Physical description:	Clear green- yellow liquid
Date, time tested:	22 August 2008; 1645 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} greater than 96 hours.
10% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 15 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 4.2 mg/L at 8.0°C, the conductivity was 1815 µS/cm and the initial pH was 8.8. After pre-aerating the sample for 120 minutes, the dissolved oxygen level was 10.4 mg/L. As the dissolved oxygen level was greater than 70% saturation and less than 100% saturation the test was initiated at this time. The set up technician was DC.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		HOURS					
		0	**17**	**24**	**48**	**72**	**96**
100%	Percent Survival	100%	100%	100%	100%	90%	90%
	Dissolved Oxygen (mg/L)	10.3		9.6	9.5	9.3	9.2
	Temperature (°C)	14.5		15.5	15.5	15.5	15.5
	PH	8.6		7.4	7.6	7.6	7.6
	Conductivity (µScm)	1819					1836
	Symptoms	1	1	1	1	1,2	1,2
	Loading Density (g/L)	0.26	0.26	0.26	0.26	0.24	0.24
CONTROL	Percent Survival	100%	100	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	9.8		9.7	8.8	9.0	9.1
	Temperature (°C)	15.5		15.5	15.5	15.5	15.5
	PH	7.5		7.1	7.6	7.5	7.4
	Conductivity (µS/cm)	61					63
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.26	0.26	0.26	0.26	0.26	0.26
	Technician	DC	RM	RM	JC	DC	DC

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	16 July 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	35.3 mm ± 3.5 mm
	Range:	32.0 mm – 44.0 mm
Wet weight:	Mean:	0.39 g ± 0.14 g
	Range:	0.27 g – 0.76 g
Condition Factor (100xWt/length^{3}cm):	0.89	

Acclimation History	
Acclimation temperature:	15.5 to 16.5 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	1.75%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
07.09.21	07.09.25	Phenol	12.62	10.39 to 15.03
07.09.21	07.10.11	"	9.80	8.47 to 11.33
07.09.21	07.10.26	"	9.39	8.00 to 12.00
07.10.09	07.10.26	"	12.60	10.61 to 14.85
07.10.25	07.11.09	"	11.30	9.47 to 13.40
07.10.25	07.11.28	"	13.56	11.51 to 15.88
07.11.21	07.12.10	"	13.17	12.00 to 18.00
07.11.21	07.12.28	"	12.63	12.00 to 18.00
07.12.12	08.01.11	"	13.16	8.00 to 18.00
07.12.12	08.01.28	"	12.63	8.00 to 18.00
08.01.16	08.02.07	"	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
08.06.18	08.07.03	"	12.00	8.00 to 18.00
08.07.09	08.07.15	"	12.00	8.00 to 18.00
08.07.09	08.07.30	"	10.72	8.82 to 12.83
08.07.16	08.07.30	"	11.72	9.83 to 13.88
08.07.16	08.08.21	"	9.74	7.96 to 11.65
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.650 mg/L ± 3.538
Warning Limits:				7.112 mg/L to 14.188 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness:	14 mg/L
Total Residual Chlorine:	15 µg/L

FILE:ACCESS/0812113.RTT

DATE: 28 December 2008

TO: Mr. Scott Keesey
ALEXCO
#3 Calcite Business Centre
151 Industrial Road
Whitehorse, Yukon Y1A 2V3

REPORT ON: RAINBOW TROUT BIOASSAY RESULTS

SAMPLE DESCRIPTION:

IRC Sample ID No.:	0812113
Sample Name:	**BC28a Bioassay** **Project ID: ALEX-08-BCM-01** **Project Name: BC28a Bioassay**
Date collected:	19 December 2008
Date, time received:	20 December 2008; 1245 hrs
Collection Method:	Grab
Amount, Container:	1 x 20 L plastic containers
Physical description:	Clear colourless liquid
Date, time tested:	20 December 2008; 1515 hrs.

RAINBOW TROUT 96 HR RESULTS:
The 96 hour (static) LT_{50} greater than 96 hours.
10% trout mortality in undiluted sample

The LT_{50} is defined as the median lethal time or the time at which there is 50% fish mortality. Results are calculated using the method described by Stephan (Methods for calculating an LC_{50} in: Aquatic Toxicology and Hazard Evaluation, American Society for Testing and Materials, 1977).

The method used for this test was as per the IRC laboratory "Standard Operating Procedure for Rainbow Trout Holding and Testing" RTver5. This procedure follows the "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" EPS 1/RM/13, Second Edition – December 2000. Test volume was 12 litres with 10 fish in each test vessel. Aeration was by forced air, through airstones at a rate of approximately 6.5 ± 1ml/L/min. The sample was not pH adjusted or filtered prior to testing.

The initial dissolved oxygen level was 12.8 mg/L at 5.5°C, the conductivity was 4380 µS/cm and the initial pH was 8.0. After pre-aerating the sample for 120 minutes, the dissolved oxygen level was 10.7 mg/L. Although the dissolved oxygen level was greater than 100% saturation the maximum aeration time had been reached and so the test was initiated at this time. The set up technician was RM.

Please call should you have any questions.

IRC Integrated Resource Consultants Inc.

Kori Archer
Laboratory Biologist
b129.1
enclosure

RAW DATA

TEST CONCENTRATION		**HOURS** 0	0.25	24	48	72	96
100%	Percent Survival	100%	100%	90%	90%	90%	90%
	Dissolved Oxygen (mg/L)	10.7		9.8	8.9	9.2	9.0
	Temperature (°C)	14.5		15.0	15.0	15.0	15.0
	PH	7.9		7.9	8.0	7.9	7.7
	Conductivity (µScm)	4240					4200
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.32	0.32	0.29	0.29	0.29	0.29

CONTROL	Percent Survival	100%	100%	100%	100%	100%	100%
	Dissolved Oxygen (mg/L)	10.2		9.7	7.6	6.4	9.0
	Temperature (°C)	14.0		15.0	14.5	15.0	15.0
	PH	7.8		7.4	7.5	7.5	7.6
	Conductivity (µS/cm)	52					60
	Symptoms	1	1	1	1	1	1
	Loading Density (g/L)	0.32	0.32	0.32	0.32	0.32	0.32

Technician	RM	RM	RM	DL/CW	CW	DL

KEY TO SYMPTOMS:

1 = no apparent effect
2 = fish showing signs of stress
3 = loss of equilibrium

TEST FISH STOCK INFORMATION:

Date received:	5 December 2008	
Source:	Sun Valley Trout Farm	
Species:	*Oncorhynchus mykiss* (Rainbow Trout)	
Fork Length:	Mean:	35.9 mm ± 3.3 mm
	Range:	30.0 mm – 40.0 mm
Wet weight:	Mean:	0.38 g ± 0.08 g
	Range:	0.27 g – 0.49 g
Condition Factor (100xWt/length^{3}cm):	0.82	

Acclimation History	
Acclimation temperature:	15.5 to 16.5 °CELSIUS
Treatments:	None
Water:	Dechlorinated tap water
Feeding:	Nutra 2000 fry feed
Mortality:	2.00%

RAINBOW TROUT REFERENCE TOXICANT DATA

Stock Arrival Date (y/m/d)	Test Date (y/m/d)	Toxicant	LC50 (mg/L)	95% Confidence Interval
08.01.16	08.02.07	Phenol	8.27	6.65 to 9.99
08.02.07	08.02.21	"	11.30	9.47 to 13.40
08.02.18	08.02.29	"	10.94	8.00 to 18.00
08.02.07	08.03.11	"	9.39	7.94 to 11.03
08.02.18	08.03.24	"	9.38	7.68 to 11.16
08.03.12	08.04.07	"	11.40	8.00 to 18.00
08.03.27	08.04.07	"	10.56	8.00 to 18.00
08.04.16	08.04.29	"	12.00	8.00 to 18.00
08.05.14	08.05.29	"	7.28	5.66 to 8.91
08.05.27	08.06.17	"	12.00	8.00 to 18.00
08.06.18	08.07.03	"	12.00	8.00 to 18.00
08.07.09	08.07.15	"	12.00	8.00 to 18.00
08.07.09	08.07.30	"	10.72	8.82 to 12.83
08.07.16	08.07.30	"	11.72	9.83 to 13.88
08.07.16	08.08.21	"	9.74	7.96 to 11.65
08.08.13	08.09.02	"	9.71	7.52 to 12.07
08.09.03	08.09.15	"	10.21	8.68 to 11.95
08.10.01	08.10.17	"	10.94	8.00 to 18.00
08.10.15	08.11.03	"	10.56	8.00 to 12.00
08.10.29	08.11.19	"	9.02	7.42 to 10.65
08.11.14	08.12.05	"	11.40	8.00 to 18.00
08.11.14	08.12.12	"	11.40	8.00 to 12.00
08.12.05	08.12.19		10.08	7.69 to 12.70
LAB GEOMETRIC MEAN ± 2 standard deviations:				10.76 mg/L ± 3.015
Warning Limits:				7.741 mg/L to 13.771 mg/L

CONTROL/DILUTION WATER QUALITY:

Hardness: 20 mg/L

Total Residual Chlorine: 16 µg/L

Appendix H

Outstanding Closure Liabilities Report

Outstanding Closure Liabilities at Brewery Creek Mine - September 2008

Report Prepared for

Alexco Resources Corp.

Report Prepared by

SRK Consulting
Engineers and Scientists

February 2009

Outstanding Closure Liabilities at Brewery Creek Mine - September 2008

Alexco Resources Corp.

Suite 2300, 200 Granville Street
Vancouver, B.C. V6C 1S4

SRK Project Number 1CA009.002
February 2009

SRK Consulting (Canada) Inc.
Suite 2200, 1066 West Hastings Street
Vancouver, B.C. V6E 3X2
Tel: 604.681.4196
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E-mail: vancouver@srk.com
Web site: www.srk.com

Compiled by:

Daryl Hockley, P.Eng.

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1 Introduction

SRK Consulting Inc. was retained to provide an independent engineer's review of the outstanding closure liabilities at the Brewery Creek Mine near Dawson, Yukon. This report presents the results of SRK's work.

The September 2008 review is the sixth in a series prepared under the terms of a reclamation security agreement between the Government of the Yukon and the site owners. The first two reports were prepared for Viceroy Minerals Corporation.

The methodology employed is consistent with that described in full in the first report, dated November 2003. Section 2 below summarizes the methods. Sections 3 and 4 present the resulting estimates of outstanding liabilities. Expected costs are covered in Section 3 and costs for possible mitigation measures are covered in Section 4. All of the calculations leading to the Section 3 and 4 estimates are presented in tables appended to this report. Section 5 presents a summary opinion of the outstanding closure liabilities at the Brewery Creek Mine, as of September 2008.

2 Methods

2.1 Site Visit

The 2008 inspection was completed by the undersigned on October 1, 2008. Mr. Brad Thrall, who oversees the site decommissioning and reclamation work for Alexco Resource Corporation, accompanied the undersigned during the inspection.

2.2 Development of Liability Estimate

As was the case in the previous reports, the outstanding closure liability for the site was estimated in two components:

- Costs for completing the expected decommissioning and reclamation measures.
- Costs for mitigation measures that might be required at some time in the future.

The methods and assumptions used in developing estimates for these two components are summarized in the following paragraphs, which are taken directly from the 2003 report.

Cost Estimate Spreadsheet

The cost estimates for both the currently planned decommissioning and reclamation measures and the mitigation measures were developed in a spreadsheet. For ease of comparison to earlier (and future) estimates, the spreadsheet was based on one presented in the "2001 Decommissioning and Reclamation Plan, Volume IV".

The spreadsheet, like the "Volume IV" version, assigns direct costs to eight "cost centers", namely Mine Area Reclamation, Site Facilities Removal and Reclamation, Leach Pad Detoxification, Manpower, General and Administration, Process Water Treatment, Leach Pad Reclamation, and Post-Closure Monitoring. This structure is common in closure cost estimates produced by industry, and is readily convertible to other structures such as the RECLAIM spreadsheet used by DIAND.

A printout of the cost estimate spreadsheet is attached to this report. Electronic copies are available upon request.

Current Status and Standards for Completion

The "Volume IV" estimates for most of the cost centers were modified to take into account the current extent of completion and any deficiencies observed during the site visit. More details are provided in Section 3 below.

In assessing what activities would be needed to complete the expected decommissioning and reclamation measures, two sets of standards were taken into consideration. The first was the commitments made in the "2001 Decommissioning and Reclamation Plan" (including Volume IV). The second was the general standard of good mine closure practice elsewhere in Canada, as it is known to the undersigned. The "Draft Terrestrial Reclamation Standards for the Brewery Creek Mine" were also reviewed, and found to be generally consistent with both the plans set out in the "2001 Decommissioning and Reclamation Plan" and the standards of good practice elsewhere in Canada.

Viceroy Costs vs. Contractor Costs

The "Volume IV" estimates were based on productivities and unit costs achieved by Viceroy Minerals Corporation. However, the independent estimate of closure liabilities is to consider the case where Viceroy is no longer on the site, and the Government of the Yukon needs to bring a local contractor in to complete the work. The productivities and unit costs assumed in the "Volume IV" estimates were therefore reviewed and adjusted to values that are more typical of Yukon contractors. For most tasks, it was assumed that the equipment used by local contractors would be one to two classes smaller than that used by Viceroy.

Unit costs for equipment were obtained from the 2003-2004 edition of "The Blue Book", an equipment rate rental guide produced by the B.C. Road Builders and Heavy Construction Association. All-found rates, which include all costs, expenses and profit were used. When the guide indicated a difference between rates for new and older equipment, an average rate was used. All of the unit rates were increased by 10% as a northern allowance. Costs for mobilizing the equipment to the site were also added to the estimates as a separate line item.

Contingencies

The "Volume IV" estimates applied contingencies of between 10% and 20% to the estimated total costs from each cost center. It is important to understand what is meant by "contingencies". In common usage, contingencies are provisions for something that might never come to pass. However, the contingencies in these estimates are likely to be required. They are included to account for a number of costs and uncertainties that cannot be more explicitly detailed in this level of estimate.

The contingency percentages suggested in "Volume IV" are generally consistent with good practice elsewhere, particularly given the fact that there is now direct experience carrying out most of the required activities at this site. Some thought was given to increasing the contingency for Site Facilities Removal and Reclamation, on the grounds that there is as yet no site experience with this type of work and because costs of demolition projects elsewhere have proven difficult to estimate accurately. However, it was also noted that the current estimate takes no account of value that might be recovered from re-use or salvage of the site buildings. If that value were taken into account, it would act to offset cost overruns. The "Volume IV" contingency percentages were therefore accepted for all of the cost centers.

Net Present Value Calculations

In preparing cost estimates for activities that can take place many years in future, it is important to take into account the effects of interest and inflation. The conventional way to do that is to use a Net Present Value or "NPV" calculation. In simple terms, the NPV calculation shows how much money one would need to set aside today in order to have enough money to carry out the future activities.

To complete the NPV calculations, all of estimated costs were set out on a timeline extending from 2004 to 2018. Costs were generally put in the earliest year when an activity might be required. That approach has the effect of resulting in a cautiously high estimate of the NPV.

The timeline of costs was then used to calculate the NPV of the estimates for each cost center and each mitigation measure, i.e. how much money would need to be set aside under each cost category. The interest rate used in such calculations is a question of policy, rather than engineering. Most corporate investors would use a relatively high rate, which would result in a lower NPV. In SRK's experience, Canadian governments commonly use a much lower interest rate, roughly equivalent to the rate of return on long-term Government of Canada Savings Bonds.

The "Volume IV" estimates included an escalator for inflation. The escalator was applied to each year's cost estimates. However, a simpler method is to recognize that inflation acts counter to interest, i.e. it requires one to put aside more money now to allow for the increased future costs. Inflation can then be accounted for within the NPV calculations. For example, an apparent interest rate of x % and an annual inflation of y % can be accounted for by simply assuming an "effective interest rate" of x-y % in the NPV calculation.

That approach was used for the independent engineer's estimate of the outstanding liability. An apparent interest rate of 5% was selected from tables of long term bond rates, and adjusted downward by an assumed inflation rate of 2%, resulting in the effective interest rate of 3% that was used in the NPV calculations.

Mitigation Measures and Likelihood

Most of the closure activities at the Brewery Creek site are low risk. However, in the opinion of the undersigned, there are three areas where the uncertainties are greater. The three areas are the heap, the Lucky Haul road, and the Blue Dump. For each of those areas, mitigation measures that conceivably might be required at some time in the future were assessed and cost estimates were developed. Further details are provided in Section 4 below.

The likelihood that each of the mitigation measures will be required was then described using the terms "possible", "unlikely" and "very unlikely". The definitions of these terms were taken from SRK experience with qualitative risk assessments on similar projects:

- *"Possible" implies that the event has happened elsewhere, perhaps several times, and could happen here;*
- *"Unlikely" implies that the event may have happened elsewhere, but only under conditions that are less favourable than here; and,*

- *"Very unlikely" implies that the event is theoretically possible, or at least cannot be ruled out given currently available information, but would require a remote combination of circumstances.*

Provision for Mitigation Measures in Outstanding Closure Liability

It could be argued that the estimate of outstanding liability should include provision for all of the above mitigation measures, regardless of their likelihood. The problem with such reasoning is that it is always possible to imagine a lower probability outcome requiring a more costly mitigation measure. Ultimately a policy decision is required to determine whether a probability is low enough that the risk can be accepted without a provision in the liability estimate. There is no single answer as to where the line should be drawn. It is clear that governments are less willing to accept risk than investors, and the line is drawn more cautiously when government is to be left holding the risk.

To come up with a basis for determining which mitigation costs should be included in the independent engineer's estimate of the outstanding liability, reference was made to SRK's experience with precedents involving government accepting mine closure-related risks. The precedents are three cases in British Columbia where the provincial government has participated in negotiations of final securities for closed mines.

- *In the case of Equity Silver Mine, the negotiated security provides for perpetual collection and treatment of contaminated water, which is certainly "possible", but does not provide for "unlikely" or "very unlikely" increases in contaminant concentrations.*

- *In the case of Britannia Mine, the provincial government negotiated with former owners of the property to pay for construction and operation of a water treatment plant. Again the plant was sized to handle "possible" current flows and chemistry, but not "unlikely" increases in either.*

- *In the third case, which is confidential, the owner was transferring the property to a third party and wanted an "exit ticket" from the provincial government. The negotiated security included provision for "possible" activities such as groundwater cleanup and collection of acidic pit water, but did not require provision for "unlikely" increases in acid generation.*

On the basis of these precedents, only "possible" mitigation measures were included in the independent engineer's estimate of outstanding liability for the Brewery Creek Mine.

3 Estimated Costs for Expected Activities

Table 1 presents a summary of the estimated costs for the expected decommissioning and reclamation activities in each of the cost centers. The table shows both the undiscounted (no interest, no inflation) estimates and the NPV estimates.

The only remaining cost items under the Mine Area Reclamation estimate is:

- Scarification and re-contouring of the perimeter roads.

High summer rainfall led to significant improvements in vegetation cover in 2008. For example, areas of the Blue Dump that had poor or no vegetation were covered with healthy grasses in 2008. The improved vegetation ameliorates erosion concerns noted in the previous inspections. (A provision for additional erosion repairs and revegetation is now included in the mitigation measures discussed in the next section.)

The remaining cost items under Site Facilities Removal and Reclamation are:

- Approximately 50% of the removal of the Warehouse & Maintenance Shop Building;
- Removal of the land application pipes; and,
- Shipment of 70 pallets of pregnant pond sludge to a reprocessing facility.

In 2008, reprocessing of the pregnant pond sludge more than paid for the off-site shipping costs. It is expected that net revenues from reprocessing of the remaining sludge will be on the order of $100,000, but the cost estimate conservatively assumes no revenues.

Final re-grading of the pond area was nearing completion at the time of the 2008 inspection. The liners had been removed and/or partially buried. The remainder of these activities was expected to be completed in early October 2008.

The Process and Water Treatment estimate was set to zero in the 2005 estimate, and any further costs for treating heap effluent continue to be accounted for as mitigation measures (see Section 4 below). The General and Administration estimate was set to zero for the base estimate, but remains in the contingencies. Work under Leach Pad Detoxification was complete in 2003.

The Manpower estimate was decreased in each of the previous estimates and set to zero in the current estimate. Any future work at the site is expected to be on a contract basis.

The only remaining cost items under the Leach Pad Reclamation estimate for 2007 was the construction of a breach and ditches to allow free drainage from the heap to the former barren pond. That work was underway at the time of the 2008 inspection and was expected to be completed in early October 2008. However, equipment problems made it impossible to complete the breach, so cots for excavation and armouring of the breach remain in the estimate.

Post-Closure Monitoring began in 2004. The “Volume IV” estimates for the remaining years were generally retained, and are incremented forward by one year after each inspection. An additional allowance for preparing monthly and annual reports and an additional $10,000 for monitoring of the Blue Dump was added in 2005. The cost for long-term nutrient addition to the BTC, which was in the original estimate, was moved to a mitigation measure in 2003.

Table 1. Cost Estimates for Expected Decommissioning and Reclamation Activities

Cost Center	Undiscounted Costs	Net Present Value Costs
Mine Area Reclamation	$ 61,000	$ 59,000
Site Facilities Removal and Reclamation	$ 98,000	$ 94,000
Leach Pad Detoxification	-	-
Manpower	-	-
General and Admin	-	-
Process Water Treatment	-	-
Leach Pad Reclamation	$ 15,000	$ 15,000
Post-Closure Monitoring	$ 368,000	$ 285,000
Subtotal Direct Costs	$ 542,000	$ 466,000
Contingency	$ 60,000	$ 55,000
Total	$ 602,000	$ 521,000

4 Estimated Costs for Mitigation Measures

Table 2 presents a summary of the estimated costs for possible mitigation measures, and the likelihood that each mitigation measure will be needed. The terminology used to describe likelihood is defined in Section 2.2.

Figure 1 summarizes water quality analyses of heap effluent and direct discharges from the ponds, and demonstrates that concentrations continued to be stable in 2008. Contaminant concentrations in the heap effluent samples (Station BC-28a) and the pond discharge have generally been in compliance with direct discharge criteria since 2004. Various mitigation measures for the heap drainage were considered in earlier reports, and a biological treatment cell (BTC) was constructed and operated for one year. As Table 2 indicates, any additional treatment is now considered to be “very unlikely”.

The slope instability below the Lucky Haul Road is continuing. The scarps are up to 2 m in height and extend over about 100 m of the slope. The root cause appears to be either undercutting by earlier exploration roads or thawing of permafrost along the slope toe, or a combination of the two. The only feasible mitigation measure is additional resloping. However, the previous attempts at re-sloping have not completely solved the problem, and additional work would disturb the now well-established vegetation. Also, there appears to be adequate room for any failures to run out at the toe of the slope, without reaching Lucky Creek. Monitoring should be continued until the extent of the instability is clear, but significant further work is “unlikely”.

Vegetation growth on the Blue Dump improved markedly in 2008, probably due to the wet conditions. As discussed in the 2007 report, four years of monitoring indicated that the average infiltration was about 6% of precipitation, and water quality results remained within the original water quality predictions. Therefore it continues to be “very unlikely” that any substantial modifications of the Blue WRSA cover will be required.

In previous estimates, additional erosion repairs and revegetation were assigned to each area. The improved vegetation growth in 2008 makes it difficult to identify particular areas that might need further work, but it is quite possible that areas of the site will need additional work over the next few years. A provision for that work has been added to Table 2.

Table 2: Cost and Likelihood Estimates for Possible Mitigation Measures

Mitigation Measure	Undiscounted Costs	Discounted Costs (NPV)	Likelihood that Measure will be Needed
Operate BTC for one year	$ 152,000	$ 146,000	Very unlikely
Operate BTC for two years	$ 303,000	$ 286,000	Very unlikely
Operate BTC for five years	$ 758,000	$ 675,000	Very unlikely
Lucky Dump - Additional stabilization	$ 36,000	$ 35,000	Unlikely
Blue Dump cover improvements	$ 1,074,000	$ 1,033,000	Very unlikely
Misc. erosion repairs & revegetation	$ 52,000	$ 50,000	Possible

5 Estimate of Outstanding Liability

Table 3 summarizes the undersigned independent engineer's opinion as to the outstanding closure liabilities at the Brewery Creek Mine, as of September 2008. The estimate includes the full cost of the expected decommissioning and reclamation activities, as well as provision for the "possible" mitigation measures.

Table 3: Outstanding Closure Liability at Brewery Creek Mine as of September 2008

Category	Outstanding Undiscounted Liability	Outstanding Net Present Value Liability
Expected Decommissioning and Reclamation Activities	$ 602,000	$ 521,000
Possible Mitigation Measures (Additional stabilization of Lucky Dump)	$ 52,000	$ 50,000
Total Outstanding Closure Liability	$ 654,000	$ 571,000

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Figures

Attachment 1
Liability Estimate Spreadsheet

Table 1
Undiscounted Summary of All Items

Cost Center	Estimates from Sept 2003 Review	Estimates from Sept 2004 Review	Estimates from Sept 2005 Review	Estimates from Sept 2006 Review	Estimates from Sept 2007 Review	Estimates from Sept 2008 Review	Contingency Factors	Notes and references
Mine Area Reclamation	$ 528,894	$ 201,269	$ 135,258	$ 132,304	$ 99,465	$ 60,840	20%	See Table 6. Table 5 complete.
Site Facilities Removal and Reclamation	$ 576,829	$ 219,515	$ 140,851	$ 118,545	$ 113,673	$ 97,831	10%	See Table 7.
Leach Pad Detox	$ -	$ -	$ -	$ -	$ -	$ -	20%	Complete.
Manpower	$ 260,550	$ 64,125	$ 92,813	$ 92,813	$ 26,190	$ -	10%	Complete.
General and Admin	$ 444,915	$ 44,626					10%	
Process Water Treatment	$ 58,500	$ -	$ -	$ -	$ -	$ -	20%	Complete.
Leach Pad Reclamation	$ 120,485	$ 60,054	$ 53,142	$ 37,294	$ 21,446	$ 15,110	10%	See Table 8.
Post-Closure Monitoring	$ 584,600	$ 562,773	$ 551,720	$ 512,280	$ 438,840	$ 368,260	10%	See Table 12.
Direct Costs	$ 2,574,774	$ 1,152,362	$ 973,784	$ 893,236	$ 699,614	$ 542,041		
Contingency	$ 316,217	$ 135,363	$ 110,904	$ 102,554	$ 79,908	$ 60,288		
Inflation Allowance								Now covered in NPV calculation
Total	$ 2,890,990	$ 1,287,725	$ 1,084,688	$ 995,790	$ 779,522	$ 602,329		
NPV								

Mitigation Measures								
Operate BTC for one year			$ 151,675	$ 151,673	$ 151,673	$ 151,673		See Table 3
Operate BTC for two years		$ 303,346	$ 303,346	$ 303,346	$ 303,346	$ 303,346		See Table 3
Operate BTC for five years	$ 1,362,560	$ 758,365	$ 758,365	$ 758,365	$ 758,365	$ 758,365		See Table 3
Lucky Dump Areas - Additional stabilization	$ 83,064	$ 34,603	$ 36,061	$ 36,061	$ 36,061	$ 36,061		See Table 3
Blue Dump cover improvement	$ 1,074,239	$ 1,074,239	$ 1,074,239	$ 1,074,239	$ 1,074,239	$ 1,074,239		See Table 3
Miscellaneous site repairs						$ 52,000		

Cases							
Base case	$ 2,890,990	$ 1,287,725	$ 1,084,688	$ 995,790	$ 779,522	$ 602,329	Likely
Base case with Miscellaneous site repairs						$ 654,329	Possible
Base case with Lucky area stabilization					$ 815,583	$ 638,391	Unlikley
Base case with BTC for one year			$ 1,236,363	$ 1,147,463	$ 931,195	$ 754,003	Very unlikely
Base case with BTC for one year and Lucky area stabilization				$ 1,183,524	$ 967,256	$ 790,064	Very unlikely
Base case with BTC for two years		$ 1,591,071	$ 1,388,034	$ 1,299,136	$ 1,082,868	$ 905,676	Very unlikely
Base case with BTC for two years and Lucky area stabilization		$ 1,625,674	$ 1,424,096	$ 1,335,197	$ 1,118,930	$ 941,737	Very unlikely
Base case with BTC for five years	$ 4,253,550	$ 2,046,090	$ 1,843,054	$ 1,754,155	$ 1,537,887	$ 1,360,695	Very unlikely
Base case with BTC for 5 years and Lucky area stabilization	$ 4,336,614	$ 2,080,693	$ 1,879,115	$ 1,790,216	$ 1,573,949	$ 1,396,756	Very unlikely
Base case with BTC for 5 years, Lucky area and Blue Dump	$ 5,410,853	$ 3,154,932	$ 2,953,354	$ 2,864,455	$ 2,648,188	$ 2,470,995	Very unlikely

Table 2
NPV Discounted Summary 4%

Cost Center	NPV	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mine Area Reclamation	$ 58,500	$ 60,840	$ -	$ -	$ -	$ -	$ -	e 6. Table 5 (	$ -	$ -	$ -	$ -
Site Facilities Removal and Reclamation	$ 94,068	$ 97,831	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Leach Pad Detox	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Manpower	$ -	$ -	$ -	$ -	$ -	$ -	$ -	Complete.	$ -	$ -	$ -	$ -
General and Admin	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -
Process Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Leach Pad Reclamation	$ 14,529	$ 15,110	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Post-Closure Monitoring	$ 284,794	$ 54,740	$ 30,440	$ 30,440	$ 39,440	$ 30,440	$ 30,440	$ 39,440	$ 30,440	$ 30,440	$ 30,440	$ 21,560
Direct Costs	$ 465,896	$ 228,521	$ 30,440	$ 30,440	$ 39,440	$ 30,440	$ 30,440	$ 39,440	$ 30,440	$ 30,440	$ 30,440	$ 21,560
Contingency	#VALUE!	$ 28,936	$ 5,474	$ 3,044	$ 3,044	$ 3,944	$ 3,044	#VALUE!	$ 3,944	$ 3,044	$ 3,044	$ 3,044
Inflation Allowance	$ -											
Total	#VALUE!	$ 257,457	$ 35,914	$ 33,484	$ 42,484	$ 34,384	$ 33,484	#VALUE!	$ 34,384	$ 33,484	$ 33,484	$ 24,604
NPV												

Mitigation Measures	NPV	2009	2010	2011	2012	2012
Operate BTC for one year	$ 145,839	$ 151,673				
Operate BTC for two years	$ 286,070	$ 151,673	$ 151,673			
Operate BTC for five years	$ 675,222	$ 151,673	$ 151,673	$ 151,673	$ 151,673	$ 151,673
Lucky Dump Areas - Additional stabilization	$ 34,674	$ 36,061				
Blue Dump cover improvement	$ 1,032,922	$ 1,074,239				
Miscellaneous site repairs	$ 50,000	$ 52,000				

Cases		
Base case	#VALUE!	Likely
Base case with Miscellaneous site repairs	#VALUE!	Possible
Base case with Lucky area stabilization	#VALUE!	Unlikely
Base case with BTC for one year	#VALUE!	Very unlikely
Base case with BTC for one year and Lucky area stabilization	#VALUE!	Very unlikely
Base case with BTC for two years	#VALUE!	Very unlikely
Base case with BTC for two years and Lucky area stabilization	#VALUE!	Very unlikely
Base case with BTC for five years	#VALUE!	Very unlikely
Base case with BTC for 5 years and Lucky area stabilization	#VALUE!	Very unlikely
Base case with BTC for 5 years, Lucky area and Blue Dump	#VALUE!	Very unlikely

Contingency Factors	
Mine Area Reclamation	20%
Site Facilities Removal and Reclamation	10%
Leach Pad Detox	20%
Manpower	10%
General and Admin	10%
Process Water Treatment	20%
Leach Pad Reclamation	10%
Post-Closure Monitoring	10%

Table 3
Mitigation Measures

Heap Area

Operate land application for additional two years

Operating cost	$	-	See Table 12
G&A cost	$	136,673	See Table 11
Annual total	$	136,673	
Additional years	$	2	
Total	$	273,346	

Operate BTC for one year

Construct BTC			Complete in Sept 2004	
Operate BTC	$	15,000	For nutrients and maintenance.	
G&A cost	$	136,673	See Table 11	
Annual total	$	151,673		
Additional years	$	1		``
Total	$	151,673		

Operate BTC for two years

Construct BTC			Complete in Sept 2004	
Operate BTC	$	15,000	For nutrients and maintenance.	
G&A cost	$	136,673	See Table 11	
Annual total	$	151,673		
Additional years	$	2		``
Total	$	303,346		

Operate BTC for five years

Construct BTC			Complete in Sept 2004	
Operate BTC	$	15,000	For nutrients, maintenance & monitoring.	
G&A cost	$	136,673	See Table 11	
Annual total	$	151,673		
Additional years	$	5		``
Total	$	758,365		

Mine Area

Lucky Dump Areas - Additional stabilization

Regrade with backhoe		80	hours
Unit Cost	$	300.77	From Table 5
Removal cost	$	24,061	
Re-seed (2 ha @ $2000/ha)	$	4,000	
Engineering & Supervision	$	10,000	
Mob/Demob	$	2,000	
Total	$	36,061	

Blue Dump cover improvement

Strip and compact curent cover. Add 2 m new material. Revegetate. Assume borrow source available!

Improve cover over total area	m^2	106,000						
Strip vegetation	m^2	106,000	2000	53	$	359	$	19,003
Compact	m^2	106,000	1000	106	$	441	$	46,754
2m new cover over total area	m^2	106,000						
Load growth media with front end loader (so	m^3	212,000	389	545	$	322	$	175,570
Haul growth media with haultrucks	m^3	212,000	100	2120	$	292	$	618,913
Spread growth media with dozer	m^3	212,000	1000	212	$	359	$	76,012
Broadcast seed and fertilizer	hectare	10.60			$	400	$	4,240
Regrade borrow area	m^2	50,000	1000	50	$	135	$	6,749
Re-seed and fertilize borrow area	hectare	5.00			$	400	$	2,000
Engineering & Supervision							$	75,000
Mob/Demob							$	50,000
Total							$	1,074,239

General

Miscellaneous site repairs

Mob/Demob	$	2,000	
Backhoe and Operator	$	30,000	hours
Supervision / inspection	$	10,000	From Table 5
Re-seed (5 ha @ $2000/ha)	$	10,000	
Total	$	52,000	

Table 4
Unit Cost Table

Contractor Equipment Rates as Revised in Sept 2003

Revised Equipment Rates / Unit of Equipment	Cost per Op Hour	Basis	All-Found Rates New	10-Year Old	Source	Average	With 10% Northern Increase
Smaller fleet		**Smaller fleet**					
D9 Bulldozer	$ 283	D9 Bulldozer	$ 269	$ 245	(B.C.)	$ 257	$ 283
D8 Bulldozer	$ 216	D8 Bulldozer	$ 205	$ 187	(B.C.)	$ 196	$ 216
12H Grader	$ 124	12H Grader	$ 117	$ 109	(B.C.)	$ 113	$ 124
769 Haul truck (35 tonne)	$ 194	769 Haul truck	$ 177	$ 177	(B.C.)	$ 177	$ 194
990 Front end loader	$ 275	990 Front end loader	$ 250	$ 250		$ 250	$ 275
365 Backhoe	$ 301	365 Backhoe	$ 286	$ 261	(B.C.)	$ 273	$ 301
Large fleet		**Viceroy fleet**					
D10N Bulldozer	$ 359	D10N Bulldozer	$ 341	$ 311	(B.C.)	$ 326	$ 359
14G Grader	$ 135	14G Grader	$ 127	$ 118	(B.C.)	$ 123	$ 135
777 Haul truck (70 tonne)	$ 292	777 Haul truck	$ 265	$ 265	(B.C.)	$ 265	$ 292
992 FEL	$ 322	992 FEL	$ 293	$ 293	(Sask.)	$ 293	$ 322
375 Backhoe	$ 317	365/385 Backhoe	$ 301	$ 275	(B.C.)	$ 288	$ 317
Compactor	$ 83	Compactor	$ 76	$ 74	(B.C.)	$ 75	$ 83

Viceroy Minerals Corporation Owned and Operated Equipment Rates

Unit of Equipment	Cost per Op Hour
D10N Bulldozer	$ 88
16G Grader	$ 50
Haul truck (100 ton)	$ 92
992 Front end loader	$ 118
375 Backhoe	$ 88
Labour	$ 25

Operating costs include operator, fuel, maintenance, room and board

Volume IV Equipment Rates / Unit of Equipment	Cost per Op Hour
D10N Bulldozer	$ 164
14G Grader	$ 77
Haul truck (100 ton)	$ 189
992 FEL	$ 235
375 Backhoe	$ 194
Compactor	$ 44

Operating costs for Dozer, Grader, Compactor based on quoted 1999 Leach Pad Construction inflated by 3% annually through 2002. Costs include operator, fuel and maintenance. Other equipment is 50% above Viceroy Minerals Costs for owning/operating for a conservative value for estimating Contractor Rates.

Table 4
Unit Cost Table

Actual Brewery Creek Mine Production Figures

Task Description	Unit of Measure	Production per Hour	Actual BCM $/m3	Plan Costs $/m3
Stockpile to Dump Location (500 m) FEL/Backhoe (164,000 m^3 @ 422 hrs)	m^3	389	$ 0.30	$ 0.83
Blue WRSA in April/May 2001 D10N dozer (62,100 m^3 @ 202 hours)	m^3	307	$ 0.29	$ 1.17
Blue In-pit Backfill D10N dozer (19,200 m^3 @ 65 hours)	m^3	295	$ 0.30	
North Golden WRSA Recontour May 2002 D10N & 375 Backhoe (74,885 m3 @150 Dozer hours, 15 Backhoe hours)	m3	453	$ 0.23	$ 0.38

Broadcast (includes seed and fertilizer)	hectare	$ 400	Open Pits
Hydroseed (includes mulch/seed/etc.)	hectare	$ 5,000	Open Pits
Broadcast (includes seed and fertilizer)	hectare	$ 750	Leach Pad

All production rates are actual machine hours that included idle running time.

Broadcast seed and feritlizer rates from August 2002 quotation - Pickseed Edmonton, AB

Hydroseed rates are quoted rates from Adorna Flowers and Landscaping Ltd.

Note: This table corresponds to Table 7-4 in "Volume IV".

Table 5

Open Pit Mining and Waste Rock Storage Areas

Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
Mobilization/Demobilization	Season	1			$ 80,000	$ 80,000		100%	$ -	
Future Mobilization		0			$ 20,000	$ -		0%	$ -	
Subtotal							$ 80,000			$ -
Metal Uptake Study										
Field sampling, analysis, and reporting	lot	1			$ 20,000	$ 20,000		100%	$ -	
Subtotal							$ 20,000			$ -
Upper Fosters Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	2,400	307	complete	$ 359	complete				
Backhoe work to pull back slopes	m^3	2,900	300	complete	$ 317	complete				
Dozer recontouring areas	m^2	3,800	600	complete	$ 359	complete				
Total area to be reseeded	m^2	36,700								
Load growth media with front end loader	m^3	-	389	0	$ 322	$ -		100%	$ -	
Haul growth media with haultrucks	m^3	-	195	0	$ 292	$ -		100%	$ -	
Spread growth media with dozer	m^3	-	389	0	$ 359	$ -		100%	$ -	
Broadcast seed and fertilizer	hectare	3.67			$ 400	$ 1,468		100%	$ -	
2004-5 Erosion Repairs (5%)	m^2	1,835								
Erosion repairs with dozer	m^3	918	150	6	$ 283	$ 1,695		100%	$ -	
Re-Seeding (2 ha)	m^2	20,000								
Broadcast seed and fertilizer	hectare	2.00			$ 400	$ 800		100%	$ -	
Subtotal							$ 3,963			$ -
The Canadian Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	63,200	295	214	$ 359	$ 76,729		100%	$ -	
Dozer work to construct diversion ditches	lot				$ 359	$ -		100%	$ -	
Construct cap for waste landfill area	lot					$ 5,000		100%	$ -	
Total area to be reseeded	m^2	91,500								
Load growth media with front end loader	m^3	31,050	389	80	$ 322	$ 25,772		100%	$ -	
Haul growth media with haultrucks	m^3	31,050	195	159	$ 292	$ 46,418		100%	$ -	
Spread growth media with dozer	m^3	87,627	389	225	$ 359	$ 80,673		100%	$ -	
Broadcast seed and fertilizer	hectare	9.15			$ 400	$ 3,660		100%	$ -	
2004-5 Erosion Repairs (5%)	m^2	4,575								
Erosion repairs with dozer	m^3	2,288	150	15	$ 283	$ 4,238		100%	$ -	
Re-Seeding (0%)	m^2	54,900								
Broadcast seed and fertilizer	hectare	5.49			$ 400	$ 2,196		100%	$ -	
Subtotal							$ 244,685			$ -

Table 5
Open Pit Mining and Waste Rock Storage Areas
Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
The Blue Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	19,200	295	complete	$ 359	complete				
Dozer recontouring areas	lot			30	$ 359	$ 10,756		100%	$ -	
Dozer/Backhoe work to construct diversion ditches	lot			complete	$ 359	complete				
Construction of overflow sediment control works	lot					$ 4,700		100%	$ -	
Total area requiring seds/silt cap	m^2	4,000						100%	$ -	
Load seds/silt with front end loader	m^3		389	0	$ 322	$ -		100%	$ -	
Haul seds/silt with haultrucks	m^3	-	195	0	$ 292	$ -		100%	$ -	
Spread seds/silt with dozer	m^3	-	389	0	$ 359	$ -		100%	$ -	
Compact seds/silt with roller	m^2			0	$ 83	$ -		100%	$ -	
Total area to be reseeded	m^2	49,300								
Load growth media with front end loader	m^3	-	389	0	$ 322	$ -		100%	$ -	
Haul growth media with haultrucks	m^3	-	195	0	$ 292	$ -		100%	$ -	
Spread growth media with dozer	m^3	-	389	0	$ 359	$ -		100%	$ -	
Broadcast seed and fertilizer	hectare	4.93			$ 400	$ 1,972		100%	$ -	
2004-5 Erosion Repairs (5%)	m^2	2,465								
Erosion repairs with dozer	m^3	1,500	150	10	$ 283	$ 2,825		100%	$ -	
Re-Seeding (80%)	m^2	39,440								
Broadcast seed and fertilizer	hectare	3.94			$ 400	$ 1,578		100%	$ -	
Subtotal							$ 21,831			$ -

Table 5
Open Pit Mining and Waste Rock Storage Areas
Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
<u>The Blue Waste Rock Storage Area</u>										
Equipment work to recontour Waste Rock Storage Area										
Dozer cut to fill slopes	m^3	62,100	307	complete	$ 359	complete				
Dozer recontouring areas	m^2			complete		complete				
Dozer work to construct diversion ditches	lot			complete	$ 359	complete				
Backhoe work to re-construct collection ditch	lot			complete	$ 317	complete				
Total area requiring seds/silt cap	m^2									
Load seds/silt with front end loader	m^3		389	0	$ 322	$ -		100%	$ -	
Haul seds/silt with haultrucks	m^3		195	0	$ 292	$ -		100%	$ -	
Spread seds/silt with dozer	m^3		389	0	$ 359	$ -		100%	$ -	
Compact seds/silt with roller	m^2				$ 83	$ -		100%	$ -	
Construct monitor locations downstream of WRSA	lot			20	$ 317	complete				
Supplies and labour to set up monitor sites	lot					complete				
Complete Blue WRSA Field Program										
Recontour Canadian Creek Control Structure	lot					$ 25,000		100%	$ -	
Backhoe	lot			30	$ 317	$ 9,504		100%	$ -	
Dozer	lot			30	$ 359	$ 10,756		100%	$ -	
Revegetation	lot					$ 1,000		100%	$ -	
Total area to be reseeded	m^2	106,000								
Load growth media with front end loader (soil cover)	m^3	53,000	389	136	$ 322	$ 43,812		100%	$ -	
Haul growth media with haultrucks	m^3	53,000	195	272	$ 292	$ 79,408		100%	$ -	
Spread growth media with dozer	m^3	53,000	389	136	$ 359	$ 48,762		100%	$ -	
Broadcast seed and fertilizer	hectare	10.60			$ 400	$ 4,240		100%	$ -	
Erosion Repairs										
Erosion repairs with dozer	m^3	4,500	150	30	$ 283	$ 8,476		100%	$ -	
Re-Seeding (2ha+50%)	m^2	73,000								
Re-till compacted areas	hectare	1.00	0.1	10	$ 283	$ 2,825		100%	$ -	
Broadcast seed and fertilizer	hectare	7.30			$ 400	$ 2,920		100%	$ -	
Blue Dump ARD studies	lump					$ 10,000		100%	$ -	
Blue Dump cover monitoring	lump							0%	$ -	
Subtotal							$ 246,703			$ -

Table 5

Open Pit Mining and Waste Rock Storage Areas

Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
The Kokanee Open Pits										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	39,800	295	complete	$ 359	complete				
Dozer recontouring areas	m^2	70,400	600	complete	$ 359	complete				
Dozer work to construct diversion ditches	lot				$ 359	$ -		100%	$ -	
Construction of overflow sediment control works	lot					$ 4,700		100%	$ -	
Maintenance of outflow channel	lot					$ 2,500		100%	$ -	
Total area to be reseeded	m^2	168,500								
Load growth media with front end loader	m^3	14,079	389	36	$ 322	complete				
Haul growth media with haultrucks	m^3	2,079	195	11	$ 292	complete				
Spread growth media with dozer	m^3	19,679	389	51	$ 359	complete				
Broadcast seed and fertilizer	hectare	16.85			$ 400	complete				
2004-5 Erosion Repairs (15%)	m^2	25,275								
Erosion repairs with dozer	m^3	12,638	400	32	$ 283	$ 9,041		100%	$ -	
Re-Seeding (25%)	m^2	42,125								
Broadcast seed and fertilizer	hectare	4.21			$ 400	$ 1,685		100%	$ -	
Subtotal							$ 17,926			$ -
The North Golden Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	23,200	295	79	$ 359	complete				
Dozer recontouring areas	m^3	15,000	600	25	$ 359	complete				
Dozer work to construct diversion ditches	lot				$ 359	$ -				
Total area to be reseeded	m^2	112,200								
Load growth media with front end loader	m^3	9,985	389	26	$ 235	complete				
Haul growth media with haultrucks	m^3	6,615	195	34	$ 189	complete				
Spread growth media with dozer	m^3	7,441	389	19	$ 359	complete				
Broadcast seed and fertilizer	hectare	11.22			$ 400	complete				
Bench dump to southeast of Pit	m^3	15,000								
Small Backhoe	m^3	15,000	200	75	$ 301	$ 22,558		100%	$ -	
2004-5 Erosion Repairs (15%)	m^2	16,830								
Erosion repairs with dozer	m^3	8,415	400	21	$ 283	$ 5,933		100%	$ -	
Swale maintenance	lot					$ 2,500		100%	$ -	
Re-Seeding (50%)	m^2	56,100								
Broadcast seed and fertilizer	hectare	5.61			$ 400	$ 2,244		100%	$ -	
Subtotal							$ 33,235			$ -

Table 5
Open Pit Mining and Waste Rock Storage Areas
Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
The South Golden Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	5,600	295	19	$ 359	complete				
Backhoe cut to fill slopes	m^3	9,100	300	30	$ 317	complete				
Dozer recontouring areas	m^2			60	$ 359	complete				
Dozer work to construct highwall/road access berms	lm			10	$ 359	complete				
Dozer work to construct diversion ditches	lm				$ 359	$ -				
Construction of overflow sediment control works	lot					$ 4,700		100%	$ -	
Total area to be reseeded	m^2	13,800								
Load growth media with front end loader	m^3	9,985	389	26	$ 235	complete				
Haul growth media with haultrucks	m^3	9,985	195	51	$ 189	complete				
Spread growth media with dozer	m^3	11,459	389	29	$ 359	complete				
Broadcast seed and fertilizer	hectare	1.38			$ 400	complete				
2004-5 Erosion Repairs (5%)	m^2	690								
Erosion repairs with dozer	m^3	345	150	2	$ 322	$ 644		100%	$ -	
Re-Seeding (25%)	m^2	3,450								
Broadcast seed and fertilizer	hectare	0.35			$ 400	$ 138		100%	$ -	
Subtotal							$ 5,482			$ -

Table 5

Open Pit Mining and Waste Rock Storage Areas

Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
The Lucky Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	1,000	295	complete	$ 359	complete				
Dozer recontouring areas	m^2	40,800	600	68	$ 359	complete				
Backhoe work to recontour stream channel	m3	1,900	300	complete	$ 317	complete				
Construction of overflow sediment control works	lot			complete		complete				
Total area to be reseeded	m^2	42,500								
Load growth media with front end loader	m^3	5,500	389	14	$ 235	complete				
Haul growth media with haultrucks	m^3	5,500	195	28	$ 189	complete				
Spread growth media with dozer	m^3	5,900	389	15	$ 359	complete				
Broadcast seed and fertilizer	hectare	4.25			$ 400	complete				
2004-5 Erosion Repairs (15%)	m^2	6,375								
Erosion repairs with dozer	m^3	3,188	400	8	$ 283	$ 2,260		100%	$ -	
Re-Seeding (50%)	m^2	21,250								
Broadcast seed and fertilizer	hectare	2.13			$ 400	$ 850		100%	$ -	
Stabilization of Haul Road										
Remove 100 m x 20 m x 6 m	m^3	12,000								
Load with backhoe	m^3	12,000	300	40	$ 275	$ 11,000		100%	$ -	
Haul with haultrucks	m^3	12,000	150	80	$ 194	$ 15,532		100%	$ -	
Subtotal							$ 29,642			$ -
The Lower Fosters Open Pit										
Equipment work to recontour partially backfilled open pit										
Dozer recontouring areas	m^2	44,300	1000	complete	$ 359	complete				
Dozer work to construct highwall/road access berms	lot			complete	$ 359	complete				
Dozer work to construct diversion ditches	lot			complete	$ 359	complete				
Total area to be reseeded	m^2	44,300								
Broadcast seed and fertilizer	hectare	4.43			$ 400	$ 1,772		100%	$ -	
2004 Erosion Repairs (5%)	m^2	2,215								
Erosion repairs with dozer	m^3	1,108	150	7	$ 283	$ 1,978		100%	$ -	
2004 Re-Seeding (25%)	m^2	11,075								
Broadcast seed and fertilizer	hectare	1.11			$ 400	$ 443		100%	$ -	
Subtotal							$ 4,193			$ -

Table 5

Open Pit Mining and Waste Rock Storage Areas

Note: This table corresponds to Table 7-5 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2008	Estimated Remaining Cost	Estimated Remaining Subtotals
<u>The Pacific Open Pit & Silt Borrow Area</u>										
Equipment work to recontour partially backfilled open pit										
Dozer cut to fill slopes	m^3	12,545	307	41	$ 359	$ 14,700		100%	$ -	
Dozer recontouring areas	m^2	24,800	600	41	$ 359	$ 14,700		100%	$ -	
Backhoe work to pull back veg/gm from trees in borrow area	lot			complete	$ 317	complete				
Dozer work to construct diversion ditches	lot				$ 359	$ -				
Construction of overflow sediment control works	lot					$ 4,700		100%	$ -	
Total area to be reseeded	m^2	116,500								
Load growth media with front end loader	m^3	4,800	389	12	$ 235	complete				
Haul growth media with haultrucks	m^3	4,800	195	25	$ 189	complete				
Spread growth media with dozer	m^3	7,100	389	18	$ 359	complete				
Broadcast seed and fertilizer	hectare	11.65			$ 400	complete				
2004 Erosion Repairs (5%)	m^2	5,825								
Erosion repairs with dozer	m^3	2,913	150	19	$ 322	$ 6,121		100%	$ -	
2004 Re-Seeding (25%)	m^2	29,125								
Broadcast seed and fertilizer	hectare	2.91			$ 400	$ 1,165		100%	$ -	
Subtotal							$ 41,386			$ -
<u>The Moosehead Open Pit</u>										
Equipment work to recontour partially backfilled open pit				complete	$ 359	complete				
Dozer work to construct highwall/road access berms	lot			complete	$ 359	complete				
Dozer work to construct diversion ditches	lot				$ 359	$ -				
Construct cap for waste landfill area	lot					$ 5,000		100%	$ -	
Construction of overflow sediment control works	lot					$ 4,700		100%	$ -	
Total area to be reseeded	m^2	29,600								
Load growth media with front end loader	m^3		350	0	$ 235	$ -				
Haul growth media with haultrucks	m^3		175	0	$ 189	$ -				
Spread growth media with dozer	m^3	1,435	350	4	$ 359	$ 1,434		100%	$ -	
Broadcast seed and fertilizer	hectare	2.96			$ 400	$ 1,184		100%	$ -	
2004 Erosion Repairs (5%)	m^2	1,480								
Erosion repairs with dozer	m^3	740	150	5	$ 283	$ 1,413		100%	$ -	
Haul road	m^2	22,500								
Scarify with dozer	m^2	22,500	1200	19	$ 283	$ 5,368		100%	$ -	
Load growth media with front end loader	m^3	4,500	300	15	$ 275	$ 4,125		100%	$ -	
Haul growth media with haultrucks	m^3	4,500	150	30	$ 194	$ 5,825		100%	$ -	
Spread growth media with dozer	m^3	4,500	200	23	$ 283	$ 6,498		100%	$ -	
Re-Seeding (2 ha + haul road + landfill)	m^2	40,000								
Broadcast seed and fertilizer	hectare	4.00			$ 400	$ 1,600		100%	$ -	
Subtotal							$ 37,147			$ -
Total Estimated Cost in Reclaiming Open Pits and WSRA's							**$ 786,195**			**$ -**

Table 6
Haul Road and Perimeter Access Road Reclamation
Note: This table corresponds to Table 7-6 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2006	Estimated Remaining Cost	Estimated Remaining Subtotals
Scarify & Recontour Perimeter Roads (11,000 meters)										
Grader	m	11,000	100	110	$ 124	$ 13,634		0%	$ 13,634	
Dozer (25% of total)	m	2,750	50	55	$ 301	$ 16,542		0%	$ 16,542	
Backhoe (25% of total)	m	2,750	50	55	$ 283	$ 15,539		0%	$ 15,539	
Front end loader (25% of total)	m	2,750	50	55	$ 275	$ 15,125		0%	$ 15,125	
Subtotal							$ 60,840			$ 60,840
Removal of Main Haul Road Side Berms (8,000 meters)										
Length	m	8,000								
Height	m	3.0								
Base	m	4.2								
Total Volume	m^3	50,400								
Adjusted Volume (10% of berms remain to prevent highwall a	m^3	45,360								
FEL (10% of adjusted volume)	m^3	4,536	300	15	$ 275	$ 4,125		100%	$ -	
Backhoe (80% of adjusted volume)	m^3	36,288	200	181	$ 283	$ 51,139		100%	$ -	
Dozer (30% of adjusted volume)	m^3	13,608	100	136	$ 301	$ 40,904		100%	$ -	
Haul (25% of adjusted volume)	m^3	11,340	150	76	$ 194	$ 14,755		100%	$ -	
Subtotal							$ 110,924			$ -
General Recontour of Haulroad Slopes (90% of existing haulroads)										
(10% of existing slopes remain same above pit walls)										
length	m	7,200								
depth (6 m @ 2H : 1V)	m^2	11								
Volume	m^3	79,200								
Consists of sloping top 6 meters back to haul road at 2H:1V										
Backhoe (100% of total length)	m^3	79,200	200	396	$ 283	$ 111,884		100%	$ -	
Haul (25% of total material)	m^3	19,800	150	132	$ 194	$ 25,628		100%	$ -	
Dozer (75% of total)	m^3	59,400	307	193	$ 301	$ 58,048		100%	$ -	
Broadcast Seed and Fertilizer (4000 ft @ 13.4 meters of slope	hectares	5.40			$ 1,000	$ 5,400		100%	$ -	
Hydroseed (4000 ft @ 13.4 meters of slope)	hectares	5.40			$ 5,000	$ 27,000		100%	$ -	
Subtotal							$ 227,960			$ -

Table 6
Haul Road and Perimeter Access Road Reclamation
Note: This table corresponds to Table 7-6 in "Volume IV".

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2006	Estimated Remaining Cost	Estimated Remaining Subtotals
Upper Lucky Creek Crossing										
Volume of material overlaying riprap	m^3									
Volume of material to bring both slopes to 2H:1V with channel	m^3									
Material volume subtotal	m^3	10,864								
Total riprap in channel	m^3	1,420								
100% of riprap currently in place	m^3									
Material overlaying riprap and side slopes										
Backhoe (100% of adjsuted volume)	m^3	10,864	300	36	$ 283	$ 10,171		100%	$ -	
Haultrucks (50% of adjusted volume)	m^3	5,432	150	36	$ 194	$ 6,989		100%	$ -	
Dozer Assist (100% of adjusted volume)	m^3	10,864	300	36	$ 301	$ 10,828		100%	$ -	
Place riprap										
Backhoe	m^3	-	100	0	$ 317	$ -				
Subtotal							$ 27,988			$ -
Six Culverts on Main Haul Road										
Excavation to remove culverts and establish drainage channe (6 culverts)	m^3	59,450								
Backhoe (100% of adjusted volume)	m^3	59,450	200	297	$ 283	$ 83,913		100%	$ -	
Haul trucks (50% of adjusted volume)	m^3	29,725	100	297	$ 194	$ 57,663		100%	$ -	
Dozer (100% of adjusted volume)	m^3	59,450	300	198	$ 301	$ 59,552		100%	$ -	
Load, Haul & Place riprap	m^3	3,200								
Make riprap	m^3	3,200	17.5	183	$ 100	$ 18,300		100%	$ -	
FEL	m^3	3,200	200	16	$ 275	$ 4,400		100%	$ -	
Haul trucks	m^3	3,200	100	32	$ 194	$ 6,213		100%	$ -	
Backhoe	m^3	3,200	100	32	$ 301	$ 9,625		100%	$ -	
Subtotal							$ 239,665			$ -
Total Estimated Cost of Reclaiming Haul and Perimeter Roads							**$ 667,377**			**$ 60,840**

Table 7

Site Facilities Removal and Reclamation

Note: This table corresponds to Table 7-7 in "Volume IV".

Area and Task Description	Estimated Hours	Unit Rate	Estimated Cost		Percent Complete	Subtotal Liability	Total Liability
Building Dismantling and Salvaging							
Accommodation Camp - Prefabricated Modular Trailer Units							
These units have been sold "as is where is" and are being prepared by buyer							
General cleanup of site	0	$ 30	$ -	complete	100%	$ -	
Subtotal				$ -			$ -
Administration Office Complex							
These units have been sold "as is where is" and are being prepared by buyer							
General cleanup of site	0	$ 30	$ -	complete	0%	$ -	
Subtotal				$ -			$ -
Engineering Office Complex							
These units have been sold "as is where is" and are being prepared by buyer							
General cleanup of site	0	$ 30	$ -	complete	0%	$ -	
Subtotal				$ -			$ -
Environmental Trailer							
This unit has been sold "as is where is" and has left the property							
General cleanup of site	0	$ 30	$ -	complete	0%	$ -	
Subtotal				$ -			$ -
Warehouse & Maintenance Shop Building (Steel Frame Building on Concrete Slab)							
Remove hazardous materials	96	$ 30	$ 2,880		50%	$ 1,440	
Remove salvageable materials and fittings	240	$ 30	$ 7,200		50%	$ 3,600	
Remove and dispose of steel roof & wall panelling & insulation	480	$ 38	$ 18,240		50%	$ 9,120	
Disassemble steel frame of building	480	$ 38	$ 18,240		50%	$ 9,120	
Disassemble interior steel framing	240	$ 38	$ 9,120		50%	$ 4,560	
Disconnect service piping and electrical cabling	120	$ 38	$ 4,560		50%	$ 2,280	
Remove scrap to landfill	192	$ 38	$ 7,296		50%	$ 3,648	
Prepare salvaged steel for shipment	72	$ 38	$ 2,736		50%	$ 1,368	
Freight to ship building	lot		$ 15,000		50%	$ 7,500	
Crane support	144	$ 100	$ 14,400		50%	$ 7,200	
General cleanup of site	24	$ 30	$ 720		0%	$ 720	
Haul and place soil cover over slab (m^3)	1100	$ 2.25	$ 2,475		0%	$ 2,475	
Subtotal				$ 102,867			$ 53,031
Surface Shop - Atco Fold Away - 12.2 m long x 9.1 m wide on concrete slab							
Remove hazardous materials	12	$ 30	$ 360		100%	$ -	
Remove salvageable materials and fittings	48	$ 30	$ 1,440		100%	$ -	
Disassemble steel frame of building	192	$ 38	$ 7,296		100%	$ -	
Disconnect service piping and electrical cabling	48	$ 38	$ 1,824		100%	$ -	
Remove scrap to landfill	24	$ 30	$ 720		100%	$ -	
Freight to ship building	lot		$ 5,000		100%	$ -	
Crane support	48	$ 100	$ 4,800		100%	$ -	
General cleanup of site	12	$ 30	$ 360		100%	$ -	
Haul and place soil cover over slab (m^3)	150	$ 2.25	$ 338		100%	$ -	
Subtotal				$ 22,138			$ -

Table 7

Site Facilities Removal and Reclamation

Note: This table corresponds to Table 7-7 in "Volume IV".

Area and Task Description	Estimated Hours	Unit Rate	Estimated Cost		Percent Complete	Subtotal Liability	Total Liability
Camp Potable Water Tank - 455 m3 steel tank							
Drain tank & disconnect piping	24	$ 30	$ 720		100%	$ -	
Disconnect steel tank	192	$ 38	$ 7,296		100%	$ -	
Haul scrap steel to landfill	24	$ 30	$ 720		100%	$ -	
Haul and place soil over foundation (m3)	100	$ 2.25	$ 225		100%	$ -	
Subtotal				$ 8,961			$ -
Exploration Office & Core Logging Facility - Wood Frame & Truss Building - 9.8m wide x 12.5 m long							
Remove hazardous materials	6	$ 30	$ 180		100%	$ -	
Remove salvageable materials and fittings	48	$ 30	$ 1,440		100%	$ -	
Disassemble wood frame of building	192	$ 30	$ 5,760		100%	$ -	
Disconnect service piping and electrical cabling	24	$ 38	$ 912		100%	$ -	
Remove scrap to landfill	24	$ 30	$ 720		100%	$ -	
General cleanup of site	12	$ 30	$ 360		100%	$ -	
Subtotal				$ 9,372			$ -
Exploration Office Shipping Containers - Two 6.1 m shipping containers with wood roof cover							
Remove salvageable materials and fittings	0	$ 30	$ -	complete	0%	$ -	
Disassemble wood frame of roof cover	0	$ 30	$ -	complete	0%	$ -	
Load and ship two containers off site	0	$ 38	$ -	complete	0%	$ -	
Freight cost to ship containers off site	0			complete	100%	$ -	
General cleanup of site	12	$ 30	$ 360		100%	$ -	
Subtotal				$ 360			$ -
ADR Plant Building - Engineered Steel Frame Building - 70 m long x 21 m wide							
Remove hazardous materials & clean plant interior	96	$ 30	$ 2,880		100%	$ -	
Remove salvageable materials, equipment & fittings	480	$ 30	$ 14,400		100%	$ -	
Remove and dispose of steel roof & wall panelling & insulation	480	$ 38	$ 18,240		100%	$ -	
Disassemble steel frame of building	384	$ 38	$ 14,592		100%	$ -	
Disassemble interior steel framing	240	$ 38	$ 9,120		100%	$ -	
Disconnect service piping and electrical cabling	240	$ 38	$ 9,120		100%	$ -	
Remove scrap to landfill	192	$ 30	$ 5,760		100%	$ -	
Prepare salvaged steel for shipment	72	$ 30	$ 2,160		100%	$ -	
Freight to ship building	lot		$ 20,000		100%	$ -	
Crane support	192	$ 100	$ 19,200		100%	$ -	
General cleanup of site	24	$ 30	$ 720		100%	$ -	
Haul and place soil cover over slab (m^3)	1875	$ 2.25	$ 4,219		100%	$ -	
Revegetation - 75m x 25m	1875	$ 0.50	$ 938		100%	$ -	
Subtotal				$ 121,348			$ -

Table 7
Site Facilities Removal and Reclamation
Note: This table corresponds to Table 7-7 in "Volume IV".

Area and Task Description	Estimated Hours	Unit Rate	Estimated Cost		Percent Complete	Subtotal Liability	Total Liability
Assay Lab Building - Engineered Steel Frame Building - 29.3 m long x 8.5 m wide							
Remove hazardous materials & clean lab interior	48	$ 30	$ 1,440		100%	$ -	
Remove salvageable materials, equipment & fittings	240	$ 30	$ 7,200		100%	$ -	
Remove and dispose of steel roof & wall panelling & insulation	144	$ 38	$ 5,472		100%	$ -	
Disassemble steel frame of building	144	$ 38	$ 5,472		100%	$ -	
Disconnect service piping and electrical cabling	48	$ 38	$ 1,824		100%	$ -	
Remove scrap to landfill	96	$ 30	$ 2,880		100%	$ -	
Prepare salvaged steel for shipment	24	$ 38	$ 912		100%	$ -	
Freight to ship building	lot		$ 10,000		100%	$ -	
Crane support	48	$ 100	$ 4,800		100%	$ -	
General cleanup of site	24	$ 30	$ 720		100%	$ -	
Haul and place soil cover over slab (m^3)	300	$ 2.25	$ 675		100%	$ -	
Revegetation - 30m x 10m	300	$ 0.50	$ 150		100%	$ -	
Subtotal				$ 41,545			$ -
Heap Leach Valve Houses - 7 Modular Steel Frame Buildings each 3.4 m x 3.7 m							
Remove salvageable materials, equipment & fittings	96	$ 30	$ 2,880		100%	$ -	
Remove and dispose of steel roof & wall panelling & insulation	120	$ 30	$ 3,600		100%	$ -	
Disassemble steel frame of building	120	$ 38	$ 4,560		100%	$ -	
Disconnect service piping and electrical cabling	96	$ 38	$ 3,648		100%	$ -	
Remove scrap to landfill	96	$ 30	$ 2,880		100%	$ -	
Crane support	48	$ 100	$ 4,800		100%	$ -	
General cleanup of site	24	$ 30	$ 720		100%	$ -	
Subtotal				$ 23,088			$ -
Lime Silo - Bolted Steel Tank - 36 m high x 10 m diameter							
Remove salvageable materials, equipment & fittings	96	$ 30	$ 2,880		100%	$ -	
Disassemble bolted steel silo	192	$ 38	$ 7,296		100%	$ -	
Disconnect and remove service piping and electrical cabling	48	$ 38	$ 1,824		100%	$ -	
Remove scrap to landfill	24	$ 30	$ 720		100%	$ -	
Crane support	48	$ 100	$ 4,800		100%	$ -	
General cleanup of site	12	$ 30	$ 360		100%	$ -	
Haul and place soil cover over slab (m^3)	200	$ 2.25	$ 450		100%	$ -	
Revegetation (m^2)	200	$ 0.50	$ 100		100%	$ -	
Subtotal				$ 18,430			$ -
ADR Plant Fresh Water Tank - Steel Welded Tank - 637 m3 Capacity							
Drain tank and disconnect piping	24	$ 38	$ 912		100%	$ -	
Disassemble steel tank	192	$ 38	$ 7,296		100%	$ -	
Haul scrap steel to land fill	24	$ 30	$ 720		100%	$ -	
Haul and place soil cover over slab (m3)	50	$ 2.25	$ 113		100%	$ -	
Revegetation (m2)	50	$ 0.50	$ 25		100%	$ -	
Subtotal				$ 9,066			$ -

Table 7

Site Facilities Removal and Reclamation

Note: This table corresponds to Table 7-7 in "Volume IV".

Area and Task Description	Estimated Hours	Unit Rate	Estimated Cost		Percent Complete	Subtotal Liability	Total Liability
Laura Creek Pumphouse - Steel Frame Building							
Remove salvageable materials, equipment & fittings	96	$ 30	$ 2,880		100%	$ -	
Remove and dispose of steel roof & wall panelling & insulation	96	$ 38	$ 3,648		100%	$ -	
Disassemble steel frame of building	48	$ 38	$ 1,824		100%	$ -	
Disconnect and remove service piping and electrical cabling	48	$ 38	$ 1,824		100%	$ -	
Remove scrap to landfill	48	$ 30	$ 1,440		100%	$ -	
Crane support	24	$ 100	$ 2,400		100%	$ -	
General cleanup of site	24	$ 30	$ 720		100%	$ -	
Haul and place soil cover over slab (m3)	50	$ 2.25	$ 113		100%	$ -	
Revegetation (m2)	50	$ 0.50	$ 25		100%	$ -	
Subtotal				$ 14,874			$ -
Electrical Distribution System							
Remove above ground electrical distribution cabling	240	$ 38	$ 9,120		100%	$ -	
Remove electrical transformers and switch gear	240	$ 38	$ 9,120		100%	$ -	
Subtotal				$ 18,240			$ -
Surface Piping							
Flush surface piping	96	$ 30	$ 2,880		100%	$ -	
Disassemble and remove surface piping	480	$ 30	$ 14,400		100%	$ -	
Dozer/FEL support	60	$ 150	$ 9,000		100%	$ -	
Subtotal				$ 26,280			$ -
Removal of Site Fencing Around Heap Leach Facilities							
Removal and disposal of fencing	336	$ 30	$ 10,080		100%	$ -	
Subtotal				$ 10,080			$ -
Removal of Land Application Piping System							
Removal and disposal of land application piping	160	$ 30	$ 4,800		0%	$ 4,800	
Subtotal				$ 4,800			$ 4,800
General Site Regrading/ Growth Media Placement/Runoff and Erosion Control							
Regrading of general site with grader	52	$ 123	$ 6,396		100%	$ -	
Survey of underground cable terminations	1	$ 1,000	$ 1,000		100%	$ -	
Haul and place soil cover over surface (0.15 meter)	7800	$ 2.25	$ 17,550		100%	$ -	
Revegetation (hectares)	5.18	$ 1,000	$ 5,180		100%	$ -	
Removal of culverts and resloping of culvert crossings	lot	$ 2,500	$ 17,500		100%	$ -	
Runoff ditch maintenance and rock armouring	lot	$ 50	$ 12,500		100%	$ -	
Removal of wash bay sediment control pond	lot	$ 500	$ 500		100%	$ -	
Subtotal				$ 60,626			$ -

Table 7

Site Facilities Removal and Reclamation

Note: This table corresponds to Table 7-7 in "Volume IV".

Area and Task Description	Estimated Hours	Unit Rate	Estimated Cost		Percent Complete	Subtotal Liability	Total Liability
Fuel and Reagent Storage Facilities							
Bulk Diesel Fuel Storage Tanks at Maintenance Shop Facility							
Drain and remove remaining fuel inventory to ADR facility	lot	$ 750	$ 750		100%	$ -	
Disassemble storage tanks	192	$ 38	$ 7,296		100%	$ -	
Remove fueling equipment and steel platforms	96	$ 38	$ 3,648		100%	$ -	
Crane support	72	$ 100	$ 7,200		100%	$ -	
Clean out concrete containment berm	24	$ 30	$ 720		100%	$ -	
Dispose of oil residue	lot	$ 1,000	$ 1,000		100%	$ -	
Remove concrete containment berm to landfill	12	$ 110	$ 1,320		100%	$ -	
Haul and place soil over foundation (m^3)	50	$ 2.25	$ 113		100%	$ -	
Revegetation (m^2)	50	$ 0.50	$ 25		100%	$ -	
Subtotal				$ 22,072			$ -
Bulk Diesel Fuel Storage Tanks at ADR Plant Facility							
Drain and remove remaining fuel inventory	lot	$ 1,000	$ 1,000		100%	$ -	
Disassemble storage tanks	192	$ 38	$ 7,296		100%	$ -	
Remove fueling equipment and steel platforms	48	$ 38	$ 1,824		100%	$ -	
Crane support	72	$ 100	$ 7,200		100%	$ -	
Clean out concrete containment berm	24	$ 30	$ 720		100%	$ -	
Dispose of oil residue	lot	$ 1,000	$ 1,000		100%	$ -	
Remove concrete containment berm to landfill	12	$ 110	$ 1,320		100%	$ -	
Haul and place soil over foundation (m^3)	50	$ 2.25	$ 113		100%	$ -	
Revegetation (m^2)	50	$ 0.30	$ 15		100%	$ -	
Subtotal				$ 20,488			$ -
Shipment of Remaining Inventory of Other Hydrocarbon Products	lot	$ 3,500	$ 7,000		100%	$ -	
Subtotal				$ 7,000			$ -
Shipment of Remaining Inventory of Reagents, Chemicals and Wastes							
70 pallets of remaining pond sludges	70	$ 500	$ 35,000		0%	$ 35,000	
Subtotal				$ 35,000			$ 35,000
Land Farming of Hydrocarbon Contaminated Soils							
Grader to turn over soils	52	$ 85	$ 4,420		100%	$ -	
Analysis	lot	$ 100	$ 2,600		100%	$ -	
Ammonium Nitrate or other fertilizer	lot	$ 50	$ 100		100%	$ -	
Subtotal				$ 7,120			$ -
Close Out of Site Sewage Septic Systems - 3 Systems							
Pump out sludge holding tanks and transport to sludge trench	lot	$ 250	$ 750		100%	$ -	
Excavate and remove three septic tanks to landfill	lot	$ 500	$ 1,500		100%	$ -	
Bury sewage sludge trench	lot	$ 1,000	$ 1,000		100%	$ -	
Subtotal				$ 3,250			$ -

Table 7

Site Facilities Removal and Reclamation

Note: This table corresponds to Table 7-7 in "Volume IV".

Area and Task Description	Estimated Hours	Unit Rate	Estimated Cost		Percent Complete	Subtotal Liability	Total Liability
Cleanup Site Boneyard							
Decontaminate scrapped equipment in boneyard	lot	$ 500	$ 500		100%	$ -	
Remove non-salvageable scrap to landfill	lot	$ 2,500	$ 2,500		100%	$ -	
Subtotal				$ 3,000			$ -
Close Out Site Landfill Area							
Clean up landfill with dozer	10	$ 327	$ 3,270		100%	$ -	
Load silt into trucks with FEL	4	$ 293	$ 1,172		100%	$ -	
Haul in silt for cover	8	$ 345	$ 2,760		100%	$ -	
Spread silt with dozer	4	$ 327	$ 1,308		100%	$ -	
Compact silt	4	$ 77	$ 308		100%	$ -	
Growth Media Placement (FEL @4 hrs., Haul Trucks @ 8 hrs., Dozer @ 4 hrs.)	lot		$ 3,108		100%	$ -	
Revegetate cover	1000	$ 0.50	$ 500		100%	$ -	
Subtotal				$ 12,426			$ -
Close Out Pond Areas							
Mobilization of D9	lot	$ 2,000	$ 2,000		100%	$ -	
Cut and fold over liners	lot	$ 5,000	$ 5,000		100%	$ -	
Cut outflow from lowest pond	20	$ 283	$ 5,651		100%	$ -	
Regrade with dozer	50	$ 283	$ 14,127		100%	$ -	
Revegetate area (m2)	lot	$ 5,000.00	$ 5,000			$ 5,000	
Subtotal				$ 31,777			$ 5,000
Contaminated Soil Survey							
Field and lab testing	lot	$ 15,000	$ 15,000		100%	$ -	
Subtotal				$ 15,000			$ -
Total Estimated Cost of Reclaiming Ancillary and Support Facilities				**$ 649,206**			**$ 97,831**

Table 8
Heap Leach Pad Reclamation

Area and Task Description	Unit of Reclamation Measure	Estimated # of Units	Production Rate	Estimated Hours	Unit Cost	Estimated Task Cost		Percentage Complete Sept. 2006	Estimated Remaining Cost	Estimated Remaining Subtotals
Leach Pad Resloping and Drainage Ditches										
Dozer cut to fill slopes	m^3	20,000	307	65	$ 359	$ 23,305		100%	$ -	
General recontour prior to cap placement	lot			50	$ 359	$ 17,927		100%	$ -	
Dozer work to construct drainage ditches	lot				$ 359	$ -				
Backhoe work to construct ditches	lot			20	$ 317	$ 6,336		100%	$ -	
Place riprap/gravel in channels/ditches	m^3									
Load material	m^3		200	0	$ 322	$ -				
Haul material	m^3		100	0	$ 292	$ -				
Spread material	m^3		200	0	$ 317	$ -				
Breach leach pad dike material	m3	3,250	50	65	$ 194	$ 12,610		0%	$ 12,610	
Place riprap/gravel in dike breach	m3	500			$ 5	$ 2,500		0%	$ 2,500	
Subtotal							$ 62,679			$ 15,110
Leach Pad Soil Cover Construction										
Total area requiring seds/silt cap	m^2	-								
Load seds/silt with front end loader	m^3		389	0	$ 322	$ -				
Haul seds/silt with haultrucks	m^3	-	195	0	$ 292	$ -				
Spread seds/silt with dozer	m^3		389	0	$ 359	$ -				
Compact seds/silt with roller	m^2				$ 83	$ -				
Subtotal							$ -			$ -
Leach Pad Revegetation										
Total area to be reseeded (sloped surface area)	m^2	323,000								
Load growth media with FEL (100% of area, 0.25 m)	m^3	80,750	389	208	$ 322	$ 67,006		100%	$ -	
Haul growth media	m^3	80,750	130	621	$ 292	$ 181,295		100%	$ -	
Spread growth media	m^3	80,750	389	208	$ 359	$ 74,577		100%	$ -	
Broadcast seed and fertilizer	hectares	32.3			$ 750	$ 24,225		100%	$ -	
Subtotal							$ 347,103			$ -
Previously Projected Cells 8 -10 (Northeast of Leach Pad)										
Dozer work to recontour surface area	m^2	30,000	600	50	$ 359	$ 17,927		100%	$ -	
Total area to be reseeded	m^2	172,800								
Load growth media with front end loader	m^3	-	389	0	$ 322	$ -		100%	$ -	
Haul growth media with haultrucks	m^3	-	130	0	$ 292	$ -		100%	$ -	
Spread growth media with dozer	m^3	25,800	200	129	$ 283	$ 36,447		100%	$ -	
Broadcast seed and fertilizer	hectares	17.3			$ 400	$ 6,912		100%	$ -	
Subtotal							$ 92,982			$ -
2005-6 Reclamation Repairs										
2005 Erosion Repairs (10%)	m^2	49,580								
Erosion repairs with dozer	m^3	24,790	300	83	$ 322	$ 26,738		100%	$ -	
2005 Re-Seeding (25%)	m^2	123,950								
Broadcast seed and fertilizer	hectare	12.40			$ 400	$ 4,958		100%	$ -	
							$ 31,696			$ -
Total Leach Pad Earthworks							**$ 534,461**			**$ 15,110**

Note: This table corresponds to Table 7-8 in "Volume IV".

Table 12
Post Closure Monitoring & Maintenance

Category	Area Total
Post Closure Monitoring & Maintenance	
Revegetation Inspections	$ 16,496
Reclamation Maintenance	$ 3,996
Annual Geotechnical Inspections	$ 10,504
Environmental Studies	$ -
Long Term Nutrients BTC/IG	$ -
Contract Services Labor	$ 52,500
Lab Analysis	$ 189,312
Support Equipment (Helicopter)	$ 23,252
Laura Creek AMP	$ 2,400
Blue Dump	$ 2,400
Monthly & Annual Reports	$ 67,400
Total Monitoring & Maintenance	$ 368,260

Annual totals	$ 368,260

Note: This table corresponds to Table 7-14 in "Volume IV".

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2009	Feb 2009	Mar 2009	Apr 2009	May 2009	Jun 2009	Jul 2009	Aug 2009	Sep 2009	Oct 2009	Nov 2009	Dec 2009
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458	$ 458
Reclamation Maintenance	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333
Annual Geotechnical Inspections	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292	$ 292
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750	$ 750
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333
Laura Creek AMP	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Blue Dump	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 4,245	$ 8,045	$ 4,245	$ 4,245	$ 4,245	$ 4,245	$ 4,245	$ 4,245	$ 4,245	$ 4,245	$ 4,245	$ 4,245

Annual totals 54740

Note: This table corresponds to Table 7-14 in "Volu

Table 12

Post Closure Monitoring & Maintenan

Category	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Jun 2011	Jul 2011	Aug 2011	Sep 2011	Oct 2011	Nov 2011	Dec 2011
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12

Post Closure Monitoring & Maintenan

Category	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,500	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,500	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 11,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 39440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,500	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,500	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 11,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 39440

Note: This table corresponds to Table 7-14 in "Volu

Table 12

Post Closure Monitoring & Maintenan

Category	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018
Post Closure Monitoring & Maintenance												
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP												
Blue Dump												
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 30440

Note: This table corresponds to Table 7-14 in "Volu

Table 12
Post Closure Monitoring & Maintenan

Category	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019
Post Closure Monitoring & Maintenance								
Revegetation Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reclamation Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Geotechnical Inspections	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Environmental Studies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Long Term Nutrients BTC/IG	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contract Services Labor	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375	$ 375
Lab Analysis	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479	$ 1,479
Support Equipment (Helicopter)	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166	$ 166
Laura Creek AMP								
Blue Dump								
Monthly & Annual Reports	$ 200	$ 4,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200
Total Monitoring & Maintenance	$ 2,220	$ 6,020	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220	$ 2,220

Annual totals 21560

Note: This table corresponds to Table 7-14 in "Volu

<u>Appendix I</u>

Pond Reclamation Design

ALEXCO

May 22, 2008

Mr. Robert Holmes
Director, Mineral Resources
Energy Mines and Resources
Yukon Government

Dear Mr.Holmes:

Re: Brewery Creek QML A99-001 (Amendment 04-001)

Further to my letter dated April 15, 2008, Alexco proposed the following reclamation activities in accordance with the approved Decommissioning and Reclamation Plan:

1. Removing and burying the liners in the solution ponds
2. Recontouring and shaping the perimeter edges of the solution ponds
3. Scarifying, seeding and fertilizing the pond perimeter edges
4. Constructing a rip/rap channel on the discharge of the overflow pond;
5. Constructing the overflow notch in the leach pad dyke;
6. Redirecting the surface water flow from the leach pad around the ponds; and
7. Reclaiming the water treatment contingency ponds.

The reclamation activities for each of these areas are discussed below. In addition, based on recent discussions with you, we are also including our reclamation plans for the Brewery Creek Mine access road. As you are aware Alexco held public meetings at site and consulted with the public and First Nation on the reclamation of the mine access pad. A public consultation report was sent to Yukon Government Energy, Mines and Resources as per Quartz Mining License A99-001. The majority of those that responded favored reducing the existing mine access road to a limited use trail.

To assist with the presentation of our reclamations activities the following figures and attachments are provided:

- Figure 1 – Area Overview
- Figure 2 – Heap Leach Pad Pond Reclamation
- Figure 3 – Access Road Reclamation
- Attachment 1 – Design Memorandum CCL-BCM5
- Attachment 2 – Sitka Corp Heap Leach Stability at Brewery Creek Mine

Details of the reclamation activities follow.

1. **Removing and burying the liners in the solution ponds.** Refer to Figure 2 which provides a plan view of the solutions ponds and an existing and typical pond cross section showing the reclamation works for removing and burying the pond liners. The Biological Treatment Cell

Head Office T. 604 633 4888

Alexco Resource Corp. F. 604 633 4887
200 Granville Street
Suite 1150
Vancouver, BC V6C 1S4

ALEXCO

(barren pond) will remain in place and available for future operations as a contingency measure. The pregnant and overflow ponds would be drawn down and the solutions released from the ponds. Water quality sampling will be done in advance to ensure that pond quality meets water licence discharge standards. Sludges within the pregnant ponds will be collected and analyzed for precious metals recovery and levels of contaminants. Pending the financial economics, the sludges may be recovered and placed in shipping containers and shipped to a processing facility for metals recovery. As the overflow pond was never used during operations, pond sludges are not expected in the overflow pond. The liner material will then be cut up, taken off the pond side walls and folded over and placed within the bottom of the solution pond and buried with material from the pond perimeter and edges. An excavator will be used to place granular material over the liner. If feasible, some of the liner may be salvaged and taken off site.

2. **Recontouring and shaping the perimeter edges of the solution ponds.** Refer to Figure 2 which provides a plan view of the solution ponds. Once the pond liner material is removed, the pond edges will be shaped using existing granular material to create more natural pond features. An excavator will be used to remove material from the top edges from one area and place this material in another creating a more undulating feature.

3. **Scarifying, seeding and fertilizing the pond perimeter edges.** Refer to Figure 2 which provides a plan view of the solution ponds and an existing and typical pond cross section showing the reclamation works for scarifying, seeding and fertilizing the pond area. An excavator will be used to scarify the surface. A revegetation application rate of 25 kg/ha seed and 300 kg/ha of fertilizer will be used. The decreased application rate was recommended as a means to promote invasion of natural species such as willow. The seed mix used in the majority of the mines area revegetated slopes is summarized below:

    - 36% Violet Wheatgrass
    - 14% Sheep Fescue
    - 14% Northern Fescue
    - 11% Fowl Bluegrass
    - 11% Glaucous Bluegrass
    - 7% Tickle Grass
    - 7% Legumes

4. **Constructing a rip/rap channel on the discharge of the overflow and pregnant ponds.** Figure 2 identifies the locations for the rip rap channels and Section A-A provides a cross section of the channel. Clearwater Consultants Ltd. previously produced a design memorandum regarding the design criteria for the haul road stream crossing. A similar design has been adopted for the solutions pond channels. Attachment 1 provides Clearwater's design memorandum.

5. **Constructing the overflow notch in the leach pad dyke.** As part of the approved Decommissioning and Reclamation Plan Sitka Corp. completed the design for a notch in the heap embankment and conducted stability analyses of the heap embankment at closure. Attachment 2 provides this design report. The works will be conducted in accordance with the Sitka Corp design.

ALEXCO

6. **Redirecting the surface water flow from the leach pad around the ponds.** Figure 2 provides a plan for the surface water ditch and a cross section. The ditch is already in existence and will be excavated further and the channels tied into the rip rap channels from the pregnant and overflow ponds. The existing ditch from the leach pad to the pregnant pond will remain in place and lined with rip rap material. Surface and freshet runoff from the leach pad will flow into the pregnant which will serve as a solids settling pond. Fresh water from the pregnant pond will eventually overflow through the newly constructed channel described above.

7. **Reclaiming the water treatment contingency ponds.** Similar to item #1, #2, and #3 above the water treatment contingency ponds will have the liner removed and folded back, pond side walls graded and flattened and the area scarified, seed and fertilized. Since these ponds were never commissioned for water treatment there should be no sludges in the bottom. Details are shown in Figure 2.

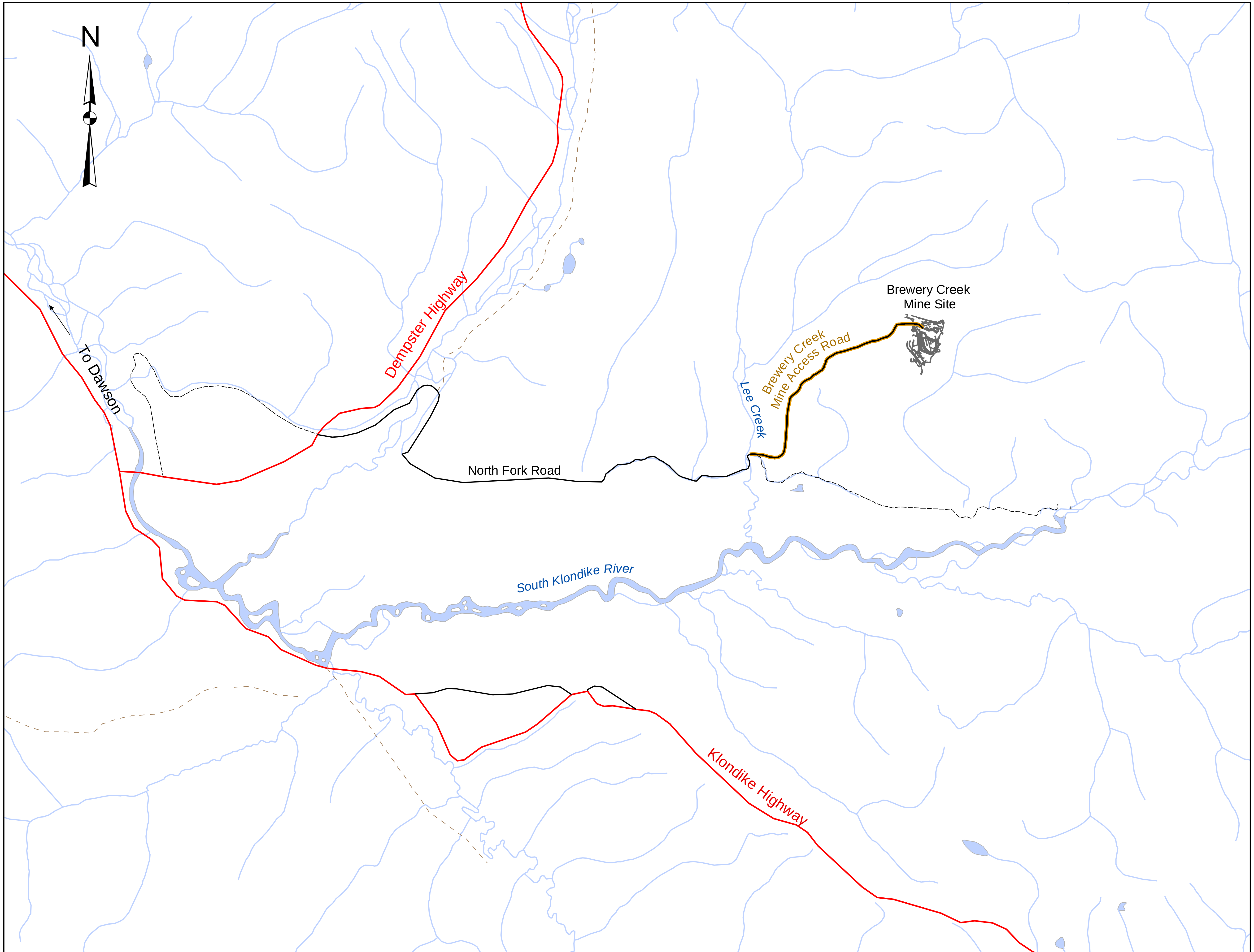
8. **Access road reclamation.** Figure 1 shows the Brewery Creek mine access road that is proposed for reclamation. Figure 3 shows a typical cross section of the road. The road side slopes will be graded and resloped, scarified, seeded and fertilized (using the reclamation application rates and seed mixtures noted in item #3 above). Road culverts will be removed and the road resloped to provide for a limited trail crossing. No stream crossings are encountered and therefore no rip rap channels are provided for. However in areas with known spring runoff, these areas will be stabilized with rip rap. We may not complete the final reclamation of the access road this season but still seek authorization for the future.

Should you have any questions with our planned reclamation activities, please contact me. Thank you for your timely response to these requests and if you have any questions please contact me at 604-633-4881.

Sincerely,

Brad Thrall
Chief Operating Officer

Cc: Dan Cornett, Access
Rob Savard, Water Resources



Brewery Creek Mine

Decommissioning and Reclamation Plan

ALEXCO

Legend:

- Brewery Creek Mine Access Road
- Road
- Secondary Road
- Limited-used Road
- Trail
- Water Course
- Water Body

Albers NAD83

Figure 1

Area Overview

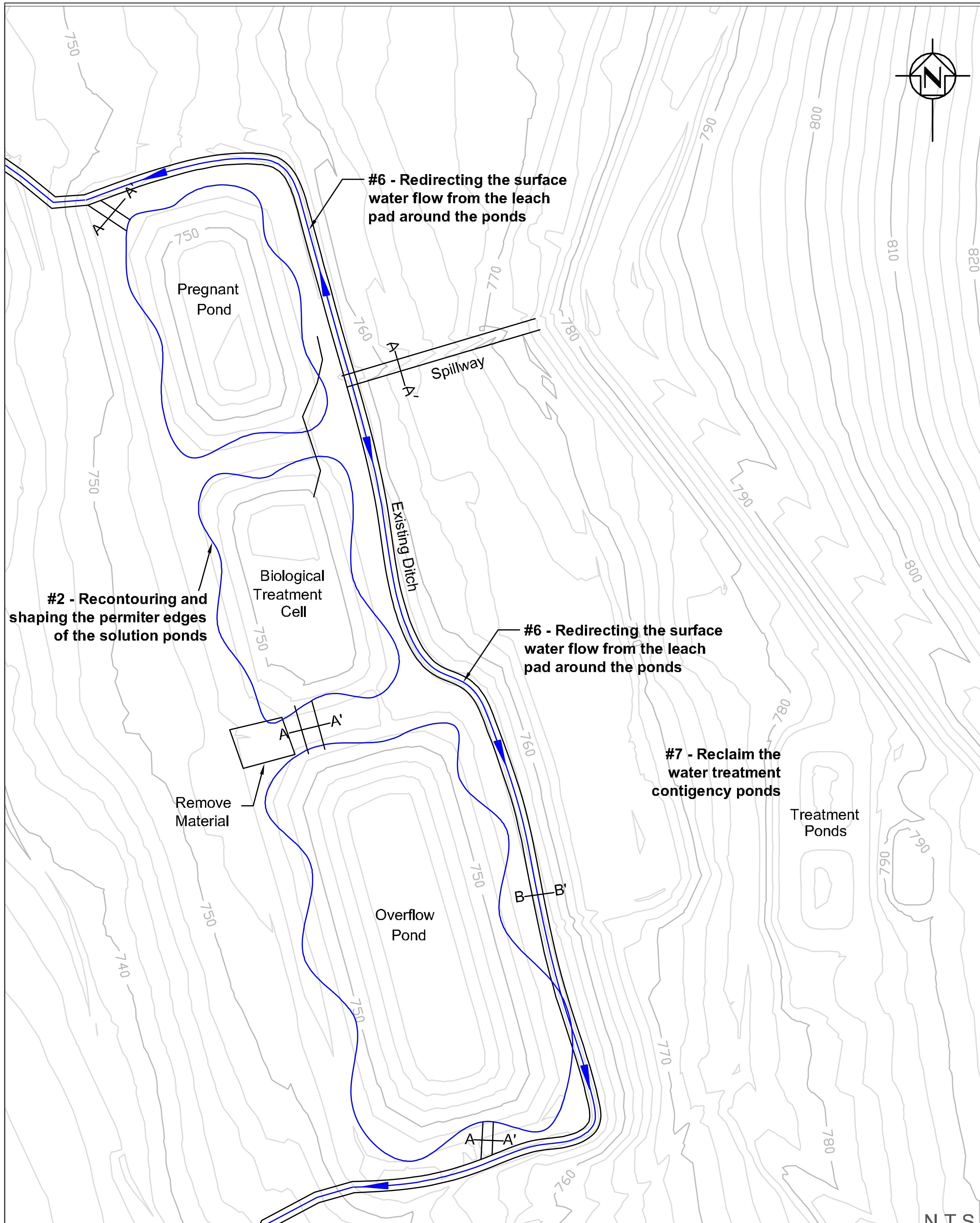
Scale:

0 0.5 1 2 3 4 km

ACCESS CONSULTING GROUP

Drawn by: HD | Checked by: DC

Date: May 2008

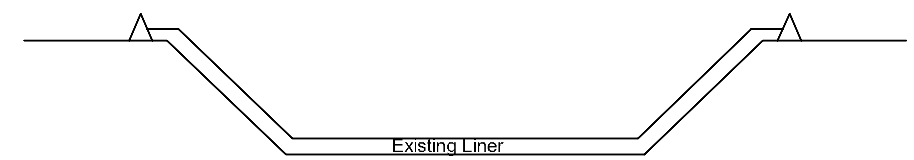


#1 - Remove and bury the liners in the solution ponds

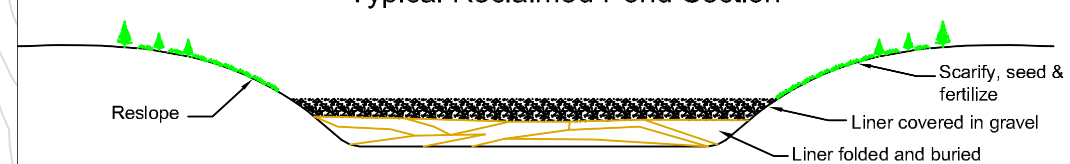
#2 - Recontour and shape the perimeter edges of the solution ponds (see also map beside)

#3 - Scarify, seed and fertilize the pond perimeter edges

Typical Existing Pond Section



Typical Reclaimed Pond Section



#4 - Constructing a riprap channel on the discharge of the overflow pond - See Attachment #1 - CCL Design memo

#5 - Constructing the overflow notch in the leach pad dyke - see Attachment #2 - Sitka Corp

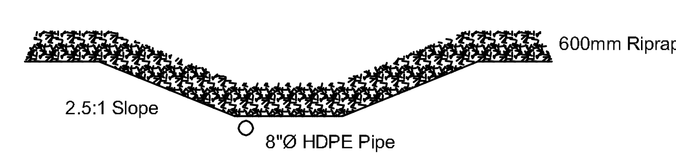
Table 1 - Riprap Specifications - Outlet Channels

Minimum Diamter	D15	D50	D85	Maximum Diamter	Layer Thickness
100	150	300	400	450	600

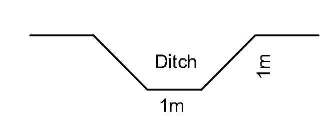
#6 - Redirecting the surface water flow from the leach pad around the ponds (see map beside)

#7 - Reclaiming the water treatment contingency ponds (see map beside)

Section A-A'



Section B-B'



N.T.S.

Brewery Creek Mine

Decommissioning and Reclamation Plan

ALEXCO

Note: Drawing is for illustrative purposes only, NOT FOR CONSTRUCTION

DRAFT

Original drawing from Viceroy
Drawing Not to Scale

Heap Leach Pad Pond Reclamation

Figure Number: 2

ACCESS CONSULTING GROUP

Revised by: HD | Checked by: DC/BT

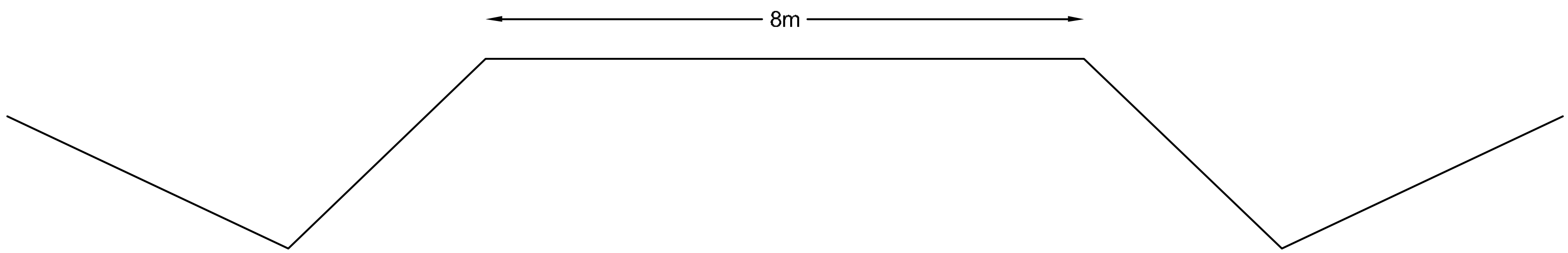
Date: May 2008

File:D:\Project\AllProjects\ALEX-05-01\cad\BreweryCreekReclamation\PondReclamation.dwg

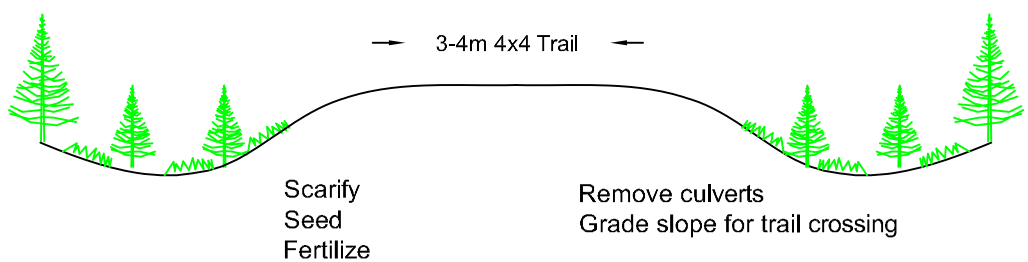
Road Decommissioned to Minimal Use Trail

- Remove culverts and replace with trail crossing
- Scarify 50% fo surface and revegetate
- Provides for minimum site access

Existing Road



Reclaimed Road



Brewery Creek Mine

Decommissioning and Reclamation Plan

ALEXCO

Note: Drawing is for illustrative purposes only,
NOT FOR CONSTRUCTION

DRAFT

Drawing Not to Scale

Access Road Reclamation

Figure Number:
3

ACCESS CONSULTING GROUP

Revised by: HD	Checked by: DC/BT
Date: May 2008	

ATTACHMENT 1

DESIGN MEMORANDUM CCL-BCM5

Date: June 28, 2002

To: Viceroy Resources – Brad Thrall (bthrall@viceroyresource.com)

From: Clearwater Consultants Ltd. - Peter S. McCreath (pmccreath@cs.com)

Subject: Brewery Creek Project Closure – Pit and WRSA Water Management Issues

Our File: 013.06

As part of closure planning for the Brewery Creek Mine site, Viceroy Resources have developed preliminary concepts for water management around the decommissioned open pits and waste rock storage areas (WRSA). Reviews of the concepts by DIAND and their consultants indicated that, among other concerns, the level of detail provided by Viceroy was inadequate.

Clearwater Consultants Ltd. have reviewed the series of drawings (Figures J1-1 to J1-25 inclusive) provided by Viceroy covering the reclamation plans for the open pits and the WRSA's. This memorandum presents general responses to the DIAND review comments as well as pit-specific comments and suggestions for water management as part of the decommissioning and reclamation plan. Preliminary design details are provided where appropriate.

General

In general terms, the water management concepts for decommissioned open pits should involve, as far as possible, the restoration of natural flow paths with minimal use of artificial channels and ditches. Where pre-existing natural flow paths have been obliterated by pit and road development, site regrading should be developed so as to prevent runoff from concentrating in areas where significant erosion gullies could develop. Flows from rainfall-runoff and from snowmelt should be encouraged to be uniformly distributed through the natural vegetation or reclaimed land until the water reaches the natural undisturbed creek channels.

Several of the pits are presently serving as sedimentation ponds and will continue to do so in the future. Whether or not an individual pit will fill to overflowing will depend on the local pit water balance of precipitation and runoff inflows, evaporation losses, and losses due to infiltration into the local groundwater system. None of the pits has overflowed to date: infiltration and evaporation losses have been greater than inflows. For feasibility planning purposes, it should be assumed that each of these pits would ultimately fill. Therefore, erosion protection measures will be required at the designated outlet/overflow area for each pit. Due to the small catchment areas of the pits and the availability of storage within the pits, a generic outlet channel design is proposed and is described following the pit-specific comments.

Prior to construction, the final location, layout and extent of all proposed water management structures should be determined in the field by a water resources specialist in consultation with Viceroy personnel. The final configuration and design of a structure (ditch, outlet channel) will be subject to the criteria agreed-upon in the overall decommissioning and reclamation plan for the site.

The following provides pit-specific comments, suggestions and details:

4264 196B Street, Langley, British Columbia, Canada V3A 1B1 Phone/FAX 604-534-2411

Pacific Pit

- No diversion ditches are required above the northern highwall. The regraded Moosehead haul road will divert most upslope runoff away from the pit. Any ditches constructed during operations should be removed or backfilled, regraded and reclaimed.
- The connecting road at the east end of the pit between the Main and Moosehead haul roads should be regraded to shed water uniformly downslope.
- The berm across the Main haul road south of the pit should allow runoff to pass down the road on the upslope side towards the pit outlet (below).
- The pit bottom (point BC-51) will serve as a sediment-control pond. Assuming that the pond will ultimately fill, a riprap-lined channel outlet should be constructed at the southwest edge of the pit across the haul road discharging downslope towards the natural creek. The final layout and extent of riprap protection required should be determined in the field by a water resources specialist. Typical riprap specifications are provided later in this Memorandum (see Table 1).

Blue Pit and WRSA

- No diversion ditches are required above the northern highwall. The regraded Main haul road will divert most upslope runoff away from the pit highwall. Any ditches constructed during operations should be removed or backfilled, regraded and reclaimed.
- The Blue Pit Diversion Ditch east of the pit should be removed and flow restored to the natural creek channel. The extent of riprap protection required should be determined in the field.
- After internal regrading, the pit bottom (point BC-12) will serve as a sediment-control pond. Assuming that the pond will ultimately fill, a riprap-lined channel outlet should be constructed at the southeast edge of the pit discharging downslope towards Blue Pit Creek. The final layout and extent of riprap protection required should be determined in the field by a water resources specialist. Typical riprap specifications are shown in Table 1.
- After revegetation of the Blue external overburden area is complete, runoff will be naturally shed from the slopes: no upslope diversion is required.

Moosehead Pit

- No diversion ditches are required above the pit highwall: there is no significant upslope area draining towards the pit.
- The pit bottom (point BC-15) will serve as a sediment-control pond and a riprap-lined outlet channel will be constructed. The channel will be designed to spread pit outflows uniformly through the natural vegetation. The final layout and extent of riprap protection required should be determined in the field by a water resources specialist. Typical riprap specifications are shown in Table 1.

Canadian Pit

- No diversion ditches are required above the pit highwall: there is no significant upslope area to divert. The pit cannot be used as a sediment control pond.

- The need for additional riprap erosion protection along the small water management ditches leading to Laura Creek downslope of the reclaimed areas should be reviewed in the field by a water resources specialist. If required, riprap should conform to the specifications in Table 1.

Upper Fosters Pit

- The already-constructed water management ditch above the northwest section of the highwall should be inspected in the field by a water resources specialist. Given the reported stability of the highwall since the completion of mining in 1997, it may be possible to eliminate the ditch by regrading and allow natural runoff from the small upslope area to pass uniformly over the highwall. That decision should be made in the field. The ditch should not be extended beyond its present length.

Lower Fosters Pit

- No water management structures are required for this pit after completion of recontouring and revegetation activities. Runoff will travel uniformly across the regraded area similar to naturally vegetated slopes.

Kokanee Pit

- No diversion ditches are required above the northern highwall of the Phase 3 Kokanee Pit.
- The Phase 3 pit bottom (point BC-10) will serve as a sediment-control pond. Assuming that the pond will ultimately fill, a riprap-lined channel outlet should be constructed across the main haul road. The channel should be designed to spread pond outflows through the natural vegetation towards the headwaters of Laura Creek. The outlet could be a riprap-lined swale with side slopes flat enough to allow vehicle passage across the channel. The final layout and extent of riprap protection required should be determined in the field by a water resources specialist. Typical riprap specifications are provided later in this Memorandum (see Table 1).
- The access road to the western internal overburden area should be regraded to encourage local runoff to flow into the sediment control pond.

Golden Pit

- The water management ditch already placed above the north highwall of the North Golden Pit should be removed and the land regraded and reclaimed to allow uniform flow down the highwall. There is virtually no upslope catchment area draining towards the pit;
- The South Golden Pit (point BC-17) will serve as a sediment-control pond. Assuming that the pond will ultimately fill, a riprap-lined channel outlet should be constructed discharging towards the headwaters of Lucky Creek. The final layout and extent of riprap protection required should be determined in the field by a water resources specialist. Typical riprap specifications are shown in Table 1.

Lucky Pit

- The small settling pond depression at the south lobe of the Lucky Pit already has a riprap-lined overflow outlet constructed in 2001. The riprap sizes, layout and extent should be assessed in the field by a water resources specialist.

Pit Outlet Channels – Channel Size and Riprap Specifications

Outlet channels from the sediment control ponds formed in pit bottoms (Pacific, Blue, Moosehead, Kokanee, South Golden, and Lucky) must be erosion resistant over the long-term. For ease of construction a single channel design was developed that would be applicable to all pit outlet channels. The design was based on the maximum pit pond catchment area (approximately 43 ha for South Golden) and runoff from a 200 year return period storm event (approximately 80 mm rainfall in 24 hours). Allowances were made for peak flow attenuation due to the available storage in the ponds.

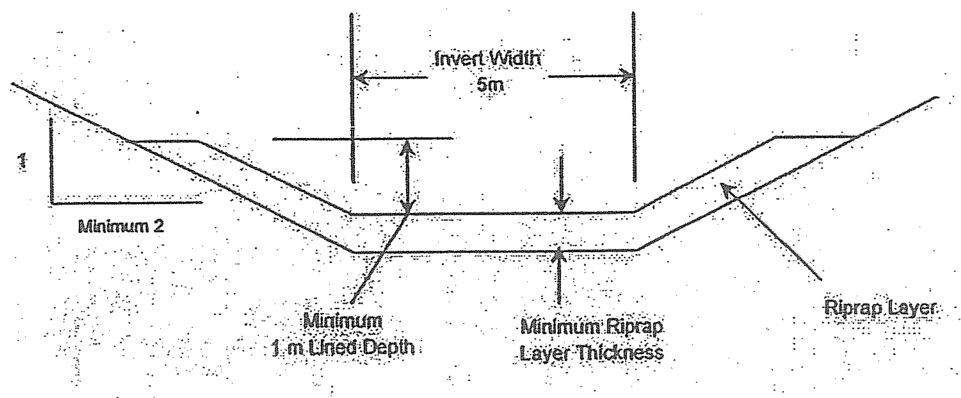
Maximum flow velocities and flow depths in outlet channels of about 3 m/s and less than 0.5 m (respectively) were conservatively estimated. Riprap specifications are shown in Table 1 and the generic channel design is shown on Figure 1.

Table 1 – Riprap Specifications – Pit Outlet Channels

Minimum Diameter	D15	D50	D85	Maximum Diameter	Layer Thickness
100	150	300	400	450	600

NOTES
1) All riprap dimensions are shown in millimeters.
2) D15, D50 and D85 correspond to equivalent spherical diameters with percentages based on % Finer by weight assuming typical rock specific gravity of 2.4 to 2.9
3) Layer thickness measured at right angles to the slope

Figure 1 – Typical Riprap Placement – Pit Outlet Channels



The 2H:1V (horizontal : vertical) side slopes shown on Figure 1 should be the steepest side slopes used for riprap placed at the pit outlet channels. Flatter slopes would be used where the channel is a swale across a road (Pacific Pit and Kokanee Pit) and vehicle access across the channel must be provided.

The final layout and extent of riprap protection required for each pit outlet channel should be determined in the field by a water resources specialist in consultation with Viceroy personnel. In general, riprap should extend across the full 5 m invert width of each outlet channel and should extend vertically up the banks to provide a minimum 1 m armoured flow depth within the channel as shown on Figure 1. If competent bedrock is encountered at an outlet channel location, then riprap placement may only be required to protect the channel banks and keep flows confined within the channel.

Channels either should discharge to a natural creek or should be constructed so as to spread outflows from the pits uniformly through the natural vegetation. Again, site-specific field decisions should be made for each location by a water resources specialist in consultation with Viceroy personnel.

Material selected for use as riprap should be hard, durable, angular rock. Individual stones should be as near to cubical as possible avoiding thin, slab-shaped rocks. The riprap should be placed in a manner so as to insure that the larger rock fragments are uniformly distributed and the smaller fragments serve to fill the voids between larger fragments. The intent is to produce a well-keyed, densely-placed uniform layer of riprap of the specified thickness.

CLEARWATER CONSULTANTS LTD.

Peter S. McCreath P.Eng.

ATTACHMENT 2

SITKA CORP
HEAP LEACH STABILITY AT BREWERY CREEK MINE

SITKA CORP

June 12, 2002

Our File: L55.7

Mr. Brad Thrall
Viceroy Minerals Corporation
Suite 220, 1066 West Hastings St
Vancouver, BC, Canada V6E 3X2

Re: Closure Heap Stability at Brewery Creek Mine

Dear Brad:

At your request, we have reviewed the stability of the Brewery Creek heap at two locations: the southwest corner where a notch through the containment dike is proposed, and at Cell 7. We understand that you will use this information in the heap closure plan.

Southwest corner

We understand that you plan to cut a notch through the containment dike at about the same location as the overflow pipes in the southwest corner of the heap. The notch will be 1–2 m wide at the base of the cut and extend down through the liner system to provide gravity drainage from the heap. Removing a part of the dike will reduce support for the toe of the heap, and we understand the regulatory agencies are concerned about this.

Figure 1 is a plan of the southwest corner of the heap. It shows the contours of the heap surface and dike from your survey at the end of 2001. It also shows the liner contours and the section that we analyzed for stability.

Figure 2 shows the section through the heap along the alignment of the proposed notch. It is immediately apparent that the heap has not be built to the full limits of the design. In particular the heap slope above the containment dike in the this corner is closer to 4h:1v than the 2h:1v in the original design. Also, there is a wide, flat area between the upslope crest of the dike and the heap slope.

For our analysis, we assumed the notch extended to the upslope toe of the dike and that the heap was graded down to this point at a slope of 2.5h:1v. We assumed the liner and foundation were saturated to a height of 1 m above the liner, and we used the material strengths from the design analysis. As shown on Figure 2, the factors of safety against sliding for this configuration are all greater than 1.3.

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Our analysis was on a 2-dimensional section so there was no consideration of the narrowness of the notch. Any failure surface with a significant volume would not be confined to the width of the notch and, thus, would be at least partially supported by the dike on either side of the notch. The factors of safety shown are, therefore, conservative.

Cell 7

We understand that the regulatory agencies are concerned that the shear strength of the geosynthetic clay liner (GCL) in Cells 6 and 7 will decrease over time as the fibers that hold together the two geotextile layers degrade. With the fibres intact, the shear strength of the GCL is considerably higher than pure bentonite; without the fibres, the shear strength could drop to that of pure bentonite.

Figure 3 is a plan of Cells 6 and 7. It shows the contours of the heap surface and the liner, as well as the location of the section that we analyzed for stability. We only considered Cell 7 because the lower portion of Cell 6 is lined with PVC—only the back portion of Cell 6 is lined with GCL.

Figure 4 shows the stability section through Cell 7. It is apparent at this section as well that the heap has not been loaded to its designed limit.

We found that lowering the GCL friction angle from the 13 degrees used in our design to 8 degrees (a typical value for bentonite) produced a factor of safety against sliding slightly below 1.1. As for the section at the southwest corner of the heap, we assumed the heap was saturated to a height of 1 m above the liner.

The contours in Figure 3 show a ditch between the dike crest and the heap toe that is about 2 m deep. By filling the heap so this ditch is only 1 m deep, more weight is placed on the dike slope which helps to stabilize the heap. We suggest regrading the heap so the ditch is 1 m deep and the heap slopes up at 2h:1v to a height 6 m above the dike crest. From that point there should be a horizontal bench back to the existing heap surface. With this regrading at Cell 7, the factor of safety with the lower GCL friction angle is 1.3.

Summary

Our analyses show that the notch can be excavated through the southwest corner of the containment dike while maintaining an adequate factor of safety against sliding. They also show that a small amount of regrading at Cell 7 will provide an adequate factor of safety against sliding even if the friction angle of the GCL decreases to 8 degrees.

Please let us know if you have any questions about this work.

Sincerely,
SITKA CORP

Roy T. Mayfield, P. E.
Principal

encl: Figures 1–4

DATE: 6/13/02
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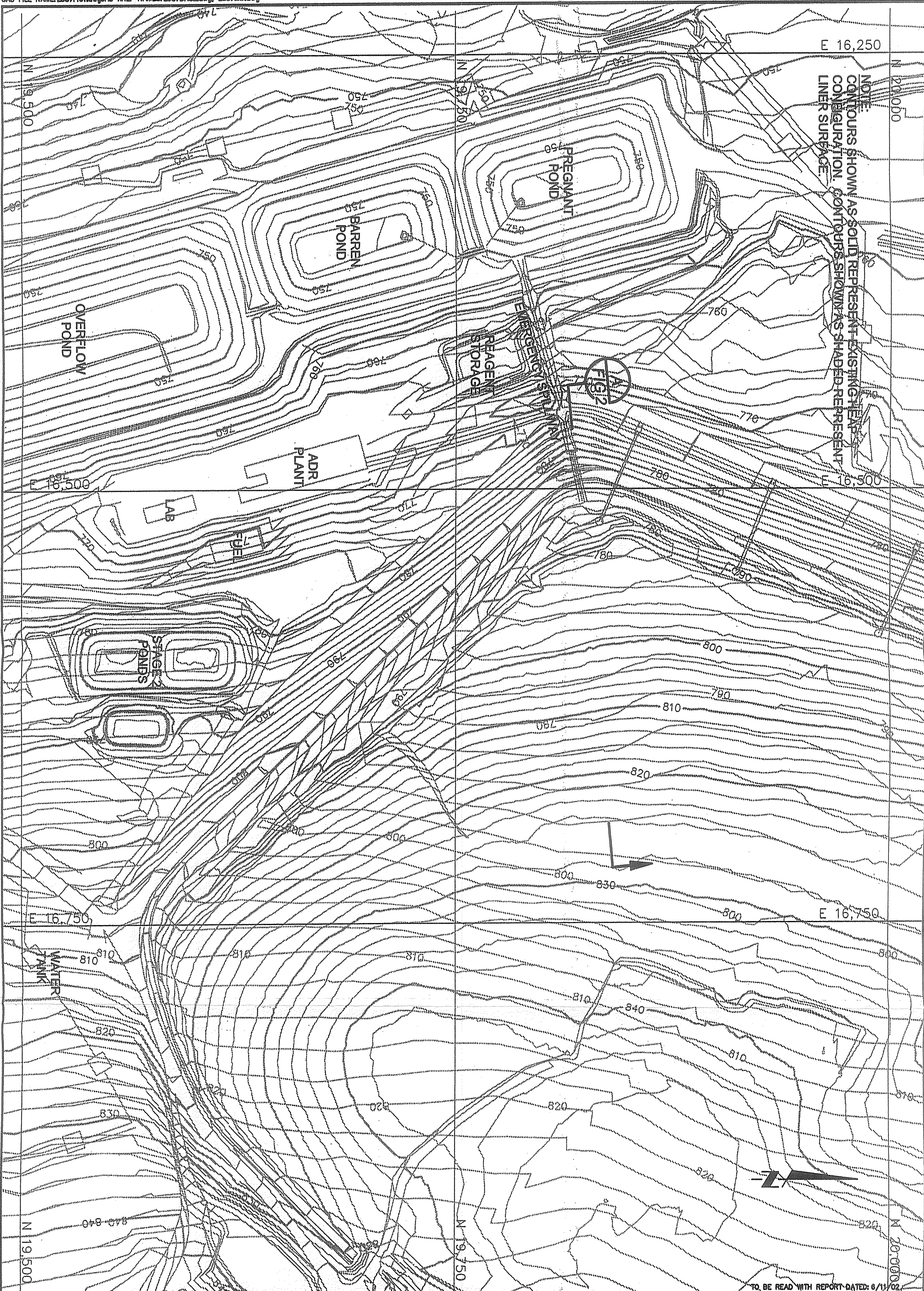
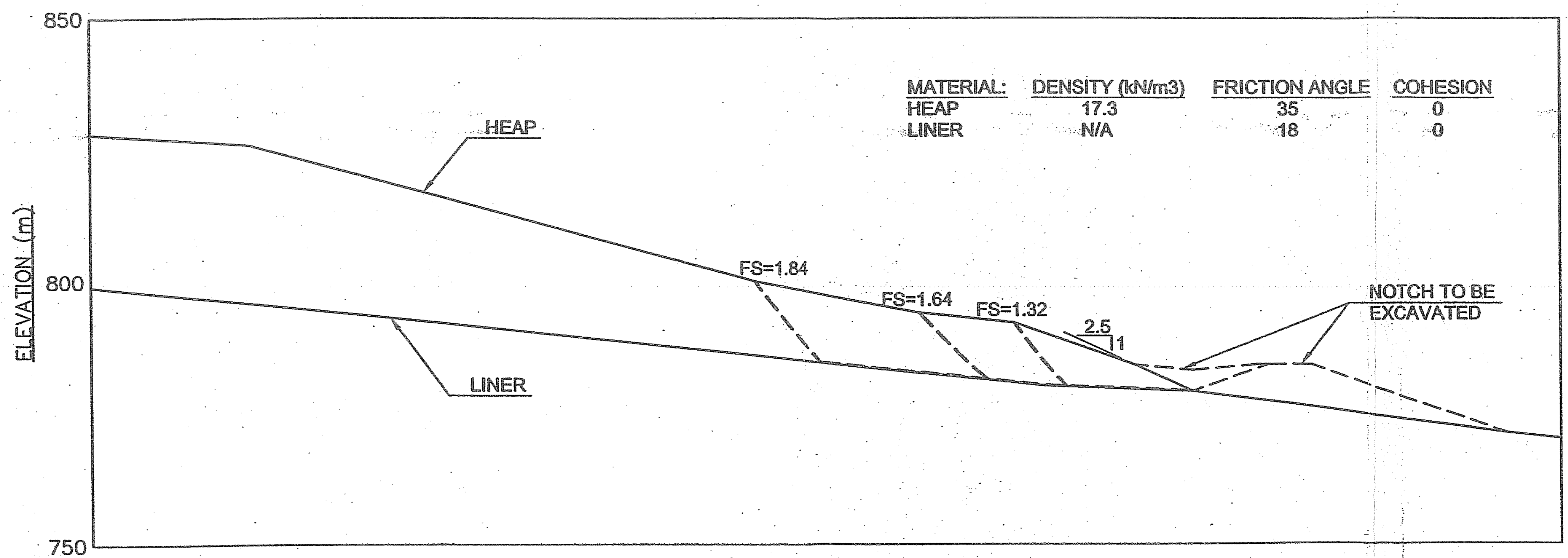


DRAWING FIG 1	DESIGNED R.T.M.	PLAN OF SOUTHWEST CORNER	SITKA CORP
JOB NUMBER L55.7	DRAWN H.D.	HEAP CLOSURE	
	CHECKED R.T.M.		
	DATE 6/7/02	BREWERY CREEK MINE YUKON	VICEROY MINERALS CORP.

NO.	DATE	REVISIONS	BY	CK.



STABILITY

SECTION A

FIG 1

TO BE READ WITH REPORT DATED: 6/11/02

NO.	DATE	REVISIONS	BY	CK.

SITKA CORP

VICEROY MINERALS CORP.

YUKON

STABILITY SECTION A
HEAP CLOSURE
BREWERY CREEK MINE

DESIGNED R.T.M.
DRAWN M.D.
CHECKED R.T.M.
DATE 6/7/02

DRAWING FIG 2

JOB NUMBER L55.7

DATE: 6/13/02
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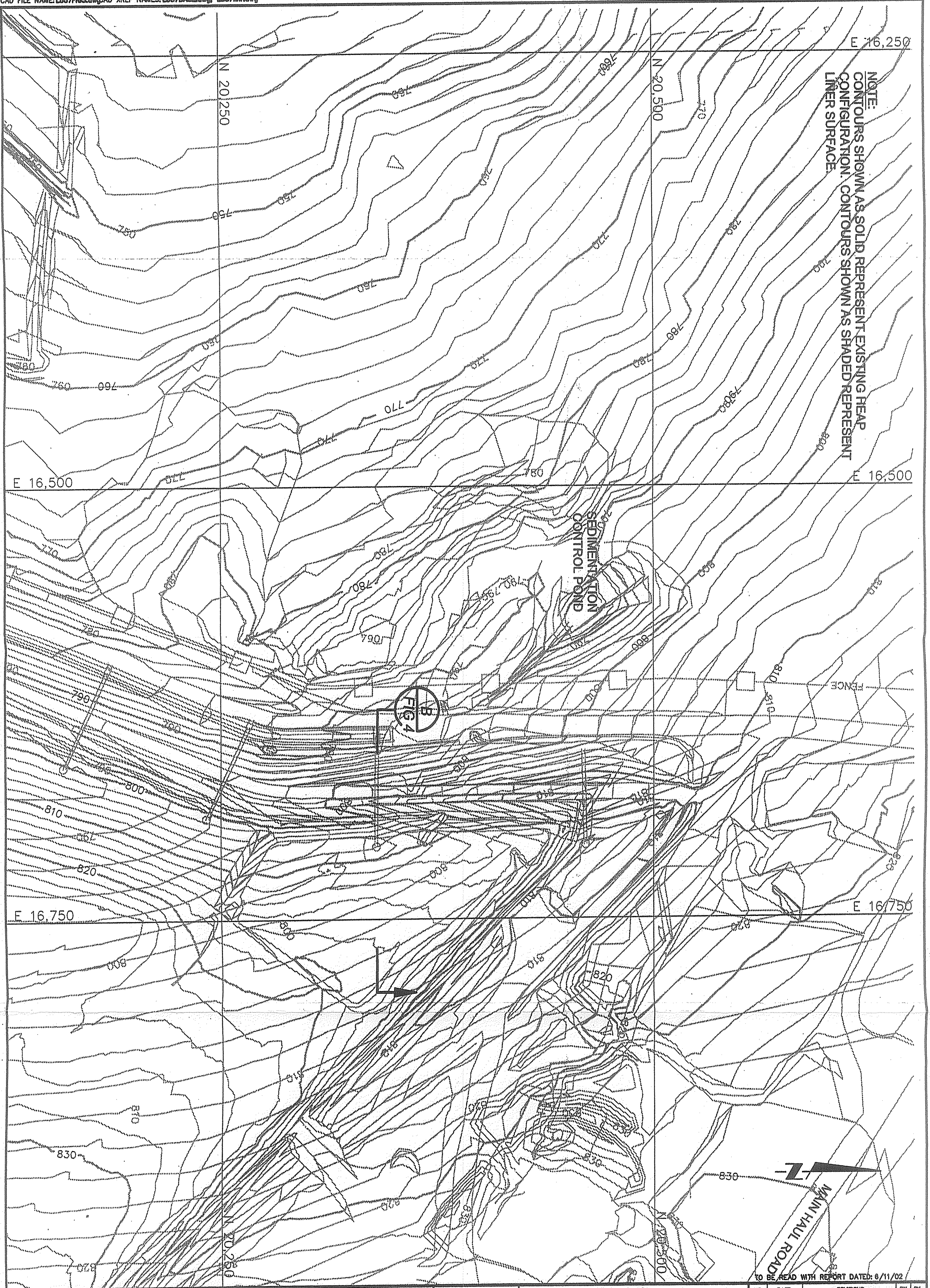
DATE: 6/13/02
CAD FILE NAME: L557FIG3.dwg CAD XREF NAMES: L557BASE.dwg; L557lnr.dwg



TO BE READ WITH REPORT DATED: 6/11/02

NO.	DATE	REVISIONS	BY	CK.

JOB NUMBER L55.7

DRAWING FIG 3

DESIGNED B.T.M.
DRAWN H.D.
CHECKED B.T.M.
DATE 6/7/02

PLAN OF CELL 7

HEAP CLOSURE

BREWERY CREEK MINE **YUKON**

AS A MUTUAL PROTECTION TO OUR CLIENTS, THE PUBLIC, AND SITKA CORP., ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS, OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

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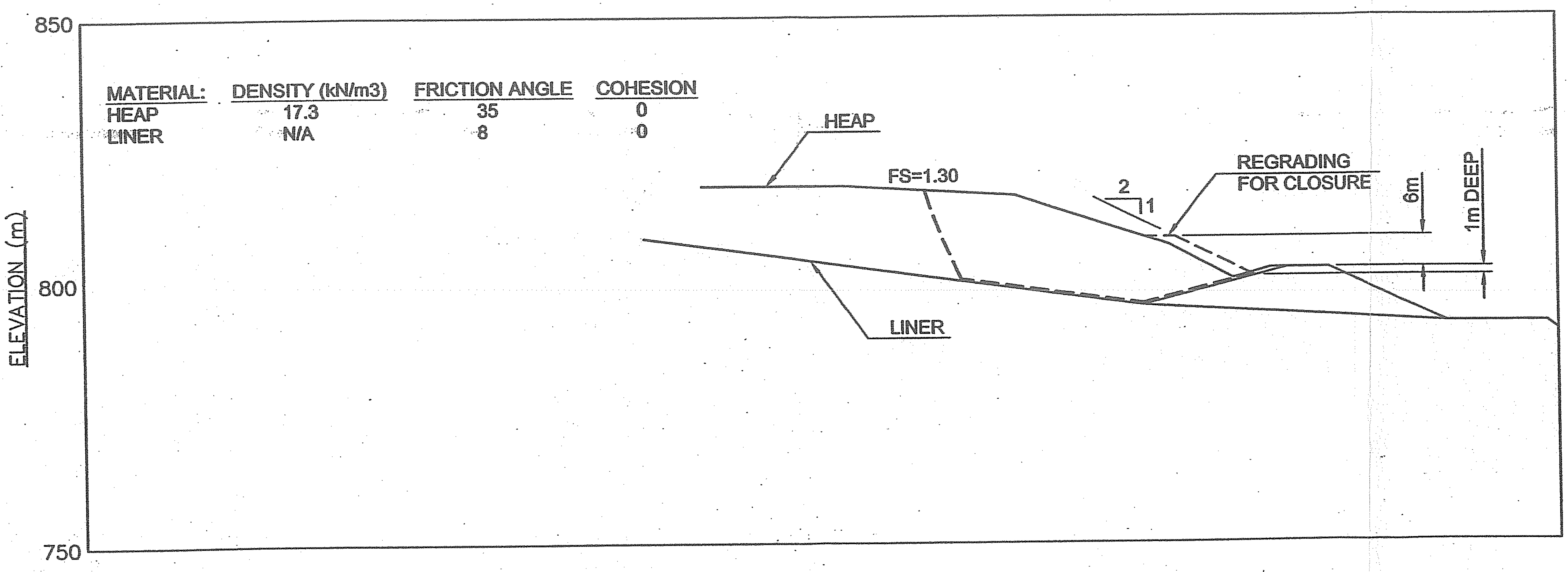

STABILITY SECTION B FIG 1

DATE: 6/13/02
CAD FILE NAME: L557FIG4.dwg CAD XREF NAMES: L557sscb.dwg

TO BE READ WITH REPORT DATED: 6/11/02

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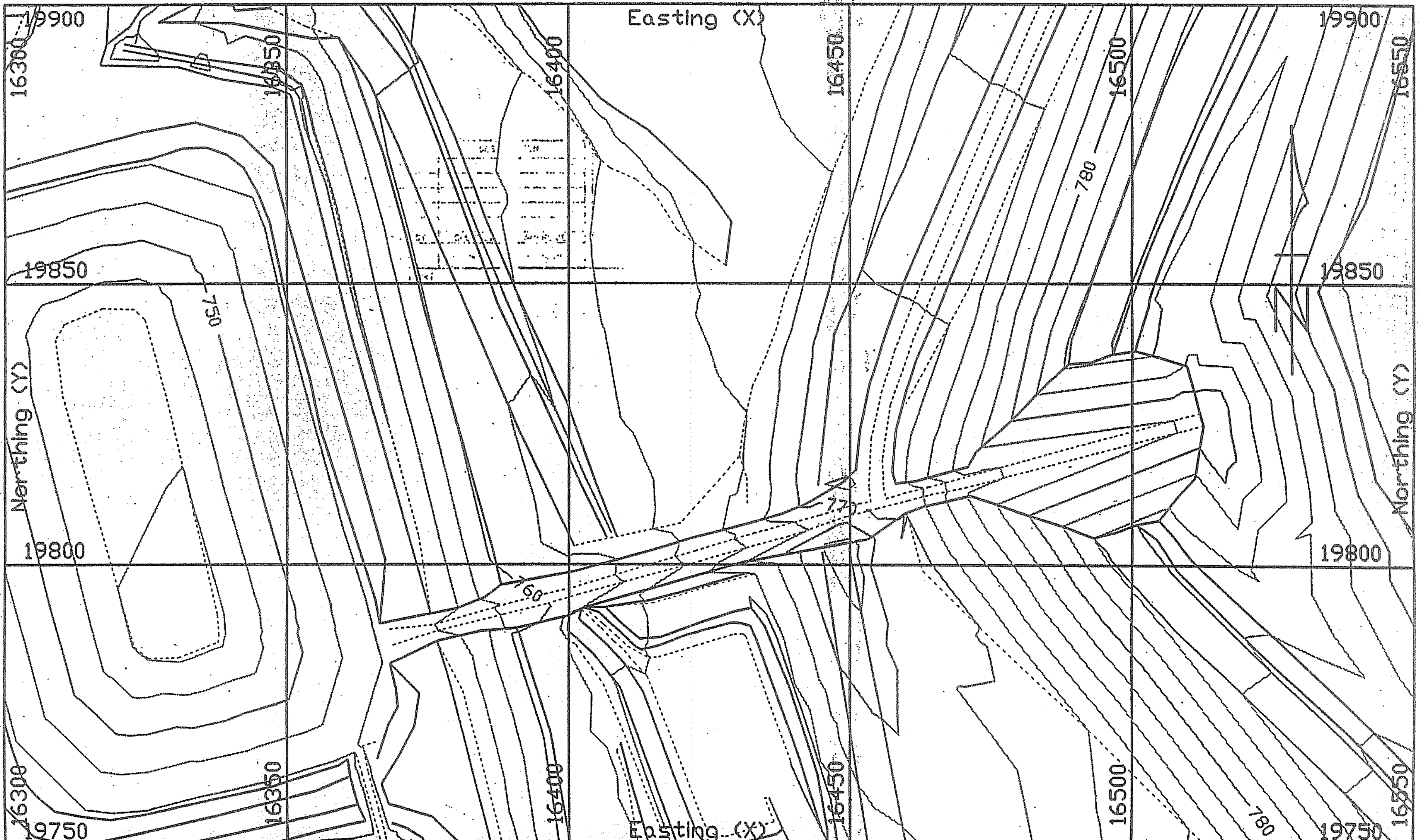
YUKON

STABILITY SECTION B
HEAP CLOSURE
BREWERY CREEK MINE

DESIGNED R.T.M.
DRAWN M.A.
CHECKED R.T.M.
DATE 6/7/02

DRAWING FIG 4

JOB NUMBER L55.7



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REVISIONS NO	DATE	MADE BY	DESCRIPTION
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2			
3			
4			
5			

DATE	DRAWN BY	CHECKED	APPROVED
6/26/02	N. Caley	B. Thrall	B. Thrall

Viceroy Minerals Corporation

Brewery Creek Mine

OFFICE	DEPARTMENT
Minesite	Engineering

Prepared by Brewery Creek Mine

Preliminary Leach Pad
Dike Breach

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1:1000	Figure 6

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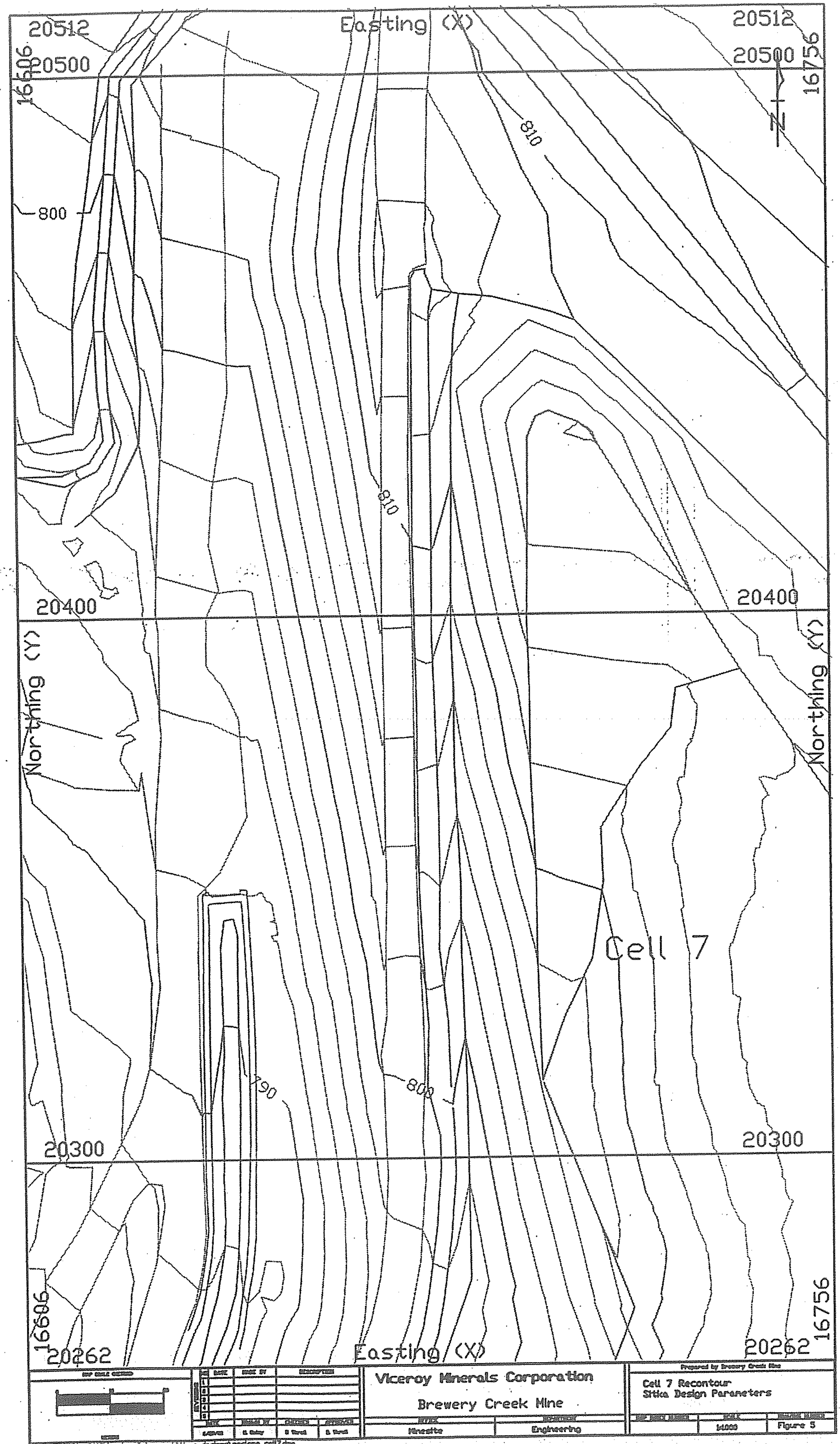

Easting (X)
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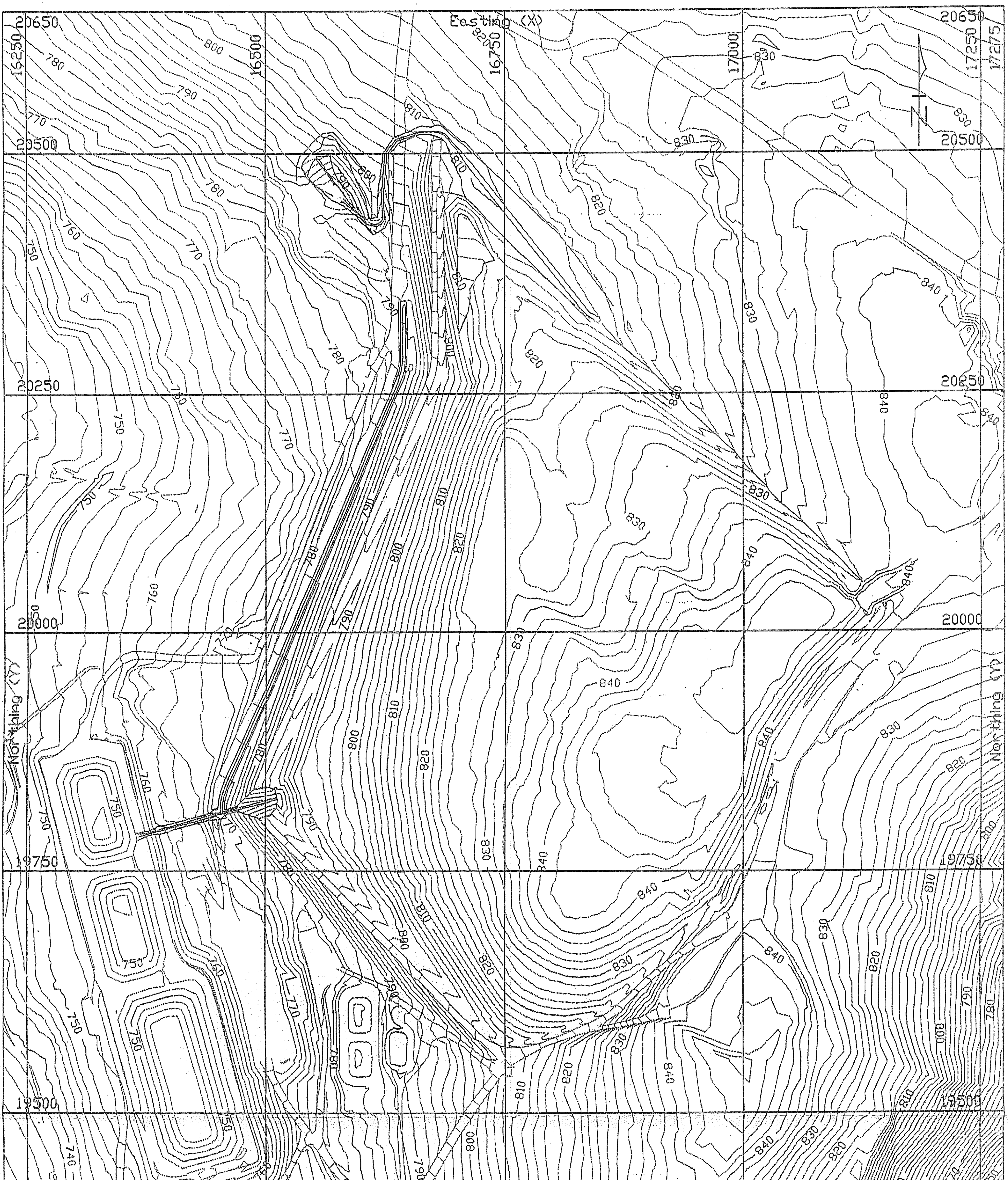
20512
20500
20500
16606
16756
810
800
810
20400
20400
Northing (Y)
Northing (Y)
Cell 7
790
800
20300
20300
16606
16756
20262
20262
Easting (X)
Viceroy Minerals Corporation
Brewery Creek Mine
Minesite
Engineering
Cell 7 Recontour
Sitka Design Parameters
Figure 5



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METERS

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DATE	DRAWN BY	CHECKED	APPROVED
6/26/02	H. Caley	B. Thrall	B. Thrall

Viceroy Minerals Corporation

Brewery Creek Mine

OFFICE	DEPARTMENT
Minesite	Engineering

Prepared by Brewery Creek Mine

Leach Pad & Process Area

Final Reclaimed Surface

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
BC-ENG-01	1:4000	Figure 7

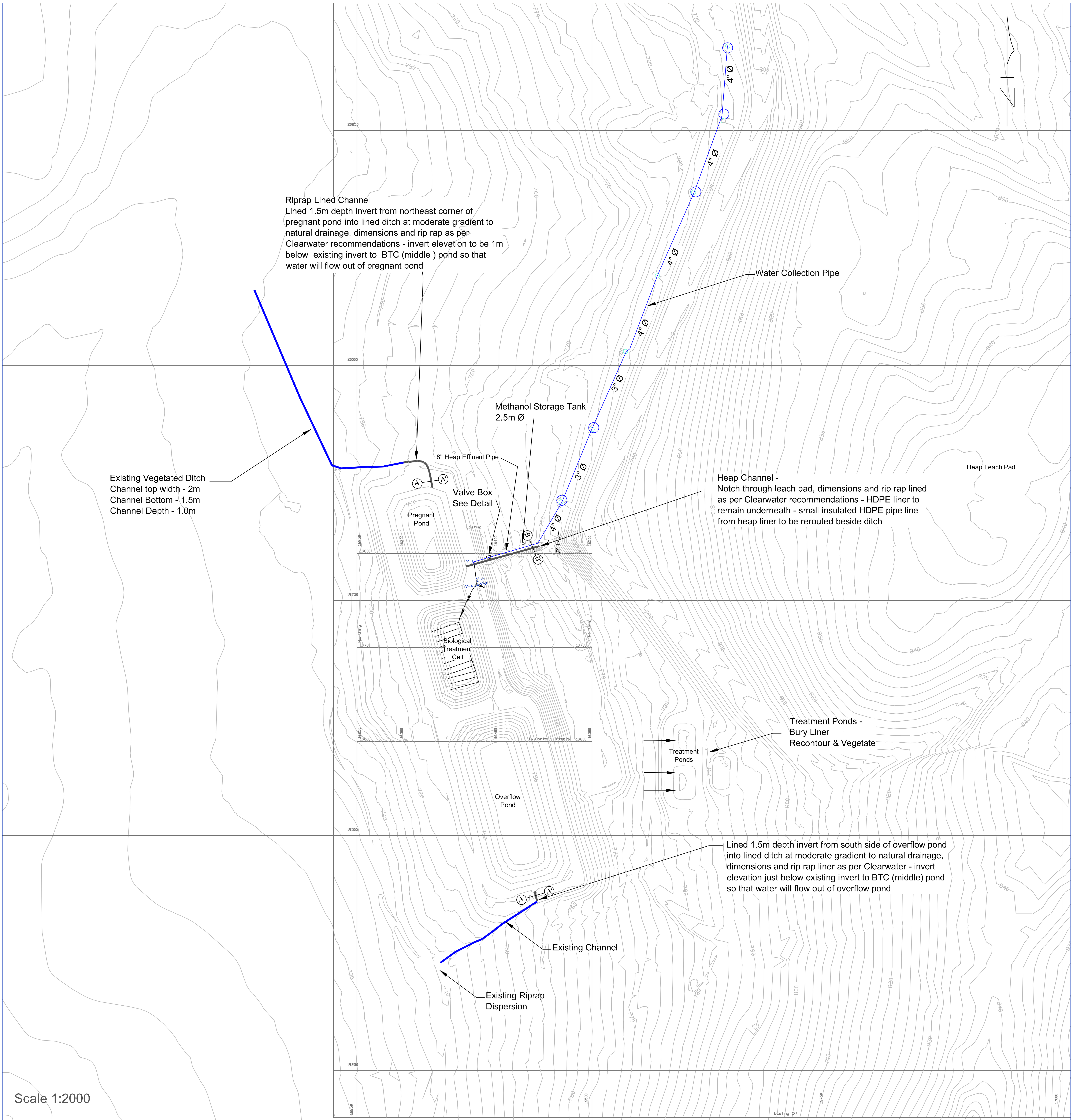
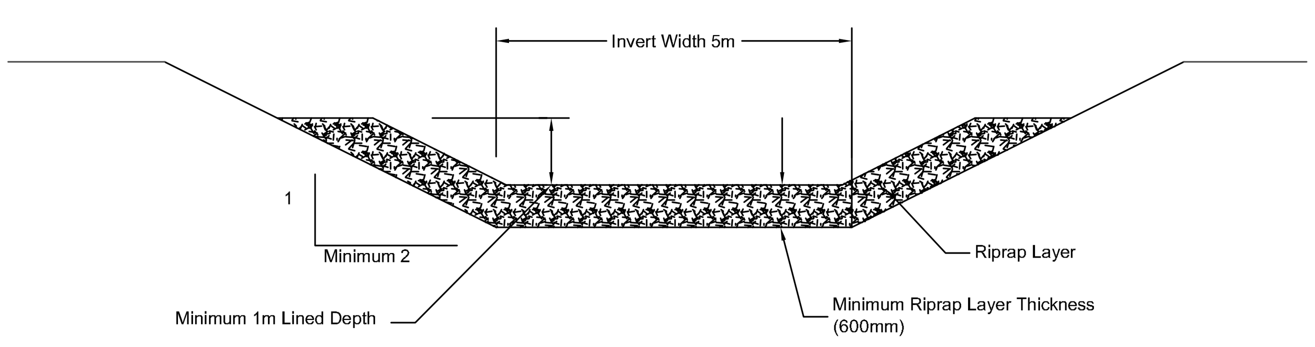


Table 1 - Riprap Specifications - Outlet Channels					
Minimum Diamter	D15	D50	D85	Maximum Diamter	Layer Thickness
100	150	300	400	450	600

NOTES:

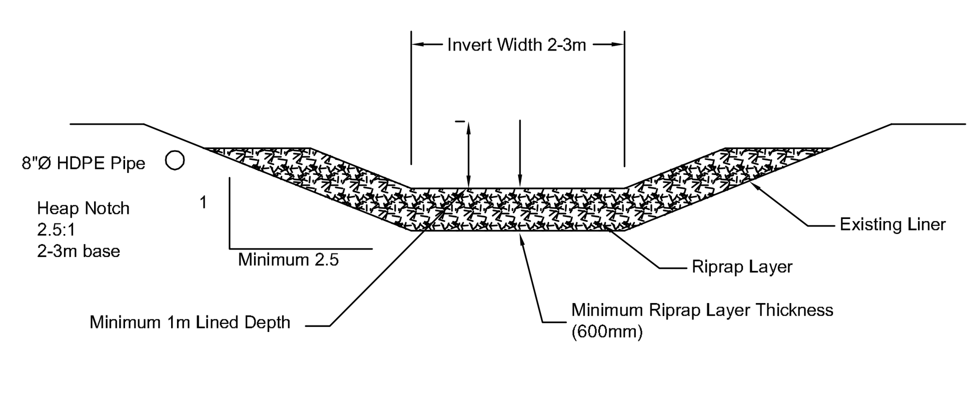
1) All riprap dimensions are shown in millimeters
2) D15, D50 and D85 correspond to equivalent spherical diameters with percentages based on % Finer by weight assuming typical rock specific gravity of 2.4 to 2.9
3) Layer thickness measured at right angles to the slope

Typical Riprap Placement - Pond Outlet Channels
A-A'



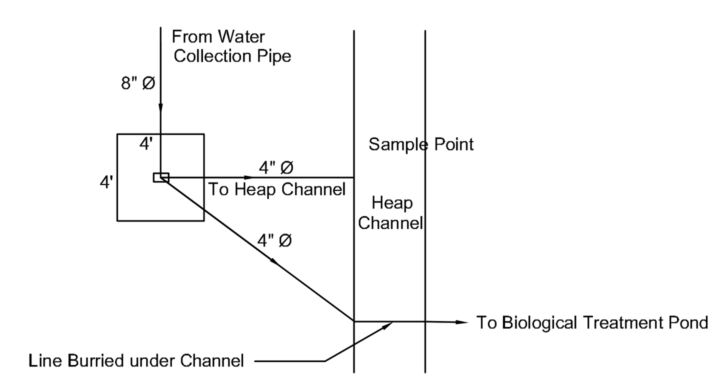
N.T.S.

Typical Riprap Placement - Heap Channel
B-B'



N.T.S.

Valve Box Detail



N.T.S.

PROFESSIONAL ENGINEER
YUKON TERRITORY
RANDY CLARKSON

Client:

ALEXCO

ACCESS
CONSULTING GROUP

Alexco Resource Corp.

Brewery Creek Mine Reclamation

Heap Leach Pad Pond Reclamation

Drawn: HD	Checked: DC/PJ/RC	Date: Aug/08

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