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**ANVIL RANGE MINING CORPORATION
(Interim Receivership)**

**1999 FARO ANNUAL ENVIRONMENTAL REPORT
WATER LICENCE QZ95-003**

MARCH 2000

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SUMMARY

Water quality, biological, physical and closure monitoring programs were performed during 1999 in accordance with Water Licence QZ95-003. This report is the annual environmental report required by Water Licence QZ95-003.

Anvil Range Mining Corporation entered into receivership in April 1998 and, since that time, management of the minesite has been under the direction of Deloitte and Touche Inc. acting as court appointed interim receiver.

Surface water monitoring was conducted in 1999 according to the schedule for "temporary cessation of operations" as appropriate. The biological monitoring program was not required in 1999 and was not performed. The required annual geotechnical monitoring programs were carried out. A report describing the annual geotechnical performance review as prepared by Golder Associates Ltd. accompanies this report under separate cover. Seepage and groundwater monitoring programs were also performed during 1999.

The concentrator plant and all milling activities were shut down in February 1998 and remained shut down through 1999. No tailings and process water were deposited into the mined out Faro Main Pit or into the Down Valley tailings impoundments. The backfilled Faro Zone II Pit was dewatered into the Faro Main Pit as required to maintain an acceptable water level in the Zone II pit.

The recycle water system which delivers water from the Faro Main pit to the mill for processing purposes or for discharge via the Down Valley tailings impoundments was used to deliver water from the Faro Main pit for treatment and discharge to Rose Creek. The water level in the Faro Main pit was maintained within an acceptable range during 1999.

Water quality at the two effluent discharge locations (Cross Valley Pond outflow and Cross Valley Dam seepage) was in compliance with the water licence with the exception of several isolated and relatively minor events. There was no indication of surface water contamination in the North Fork of Rose Creek in the area of the Zone II pit.

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1. INTRODUCTION

This annual environmental report for the year 1999 has been prepared as required per Part A, Section 13 of Water Licence QZ95-003. This report provides water quantities used during the year and an interpretation of trends and variations in the water quality data. Anvil Range Mining Corporation entered into receivership in April 1998 and, since that time, management of the minesite has been performed by the firm of Deloitte and Touche Inc. as court appointed interim receiver.

This report presents results of water quality monitoring per Schedule A. The biological monitoring program described in Schedule B was not required in 1999 and was not performed. The physical monitoring program described in Schedule C was performed and is summarized herein with the full consultant report filed as an accompanying document under separate cover. Closure monitoring per Schedule 'D' was performed during 1999 and is described herein.

No milling and tailings deposition activities took place during 1999 following the suspension of mining and milling activities in February 1998. No freshwater from Rose Creek was required or used during 1999.

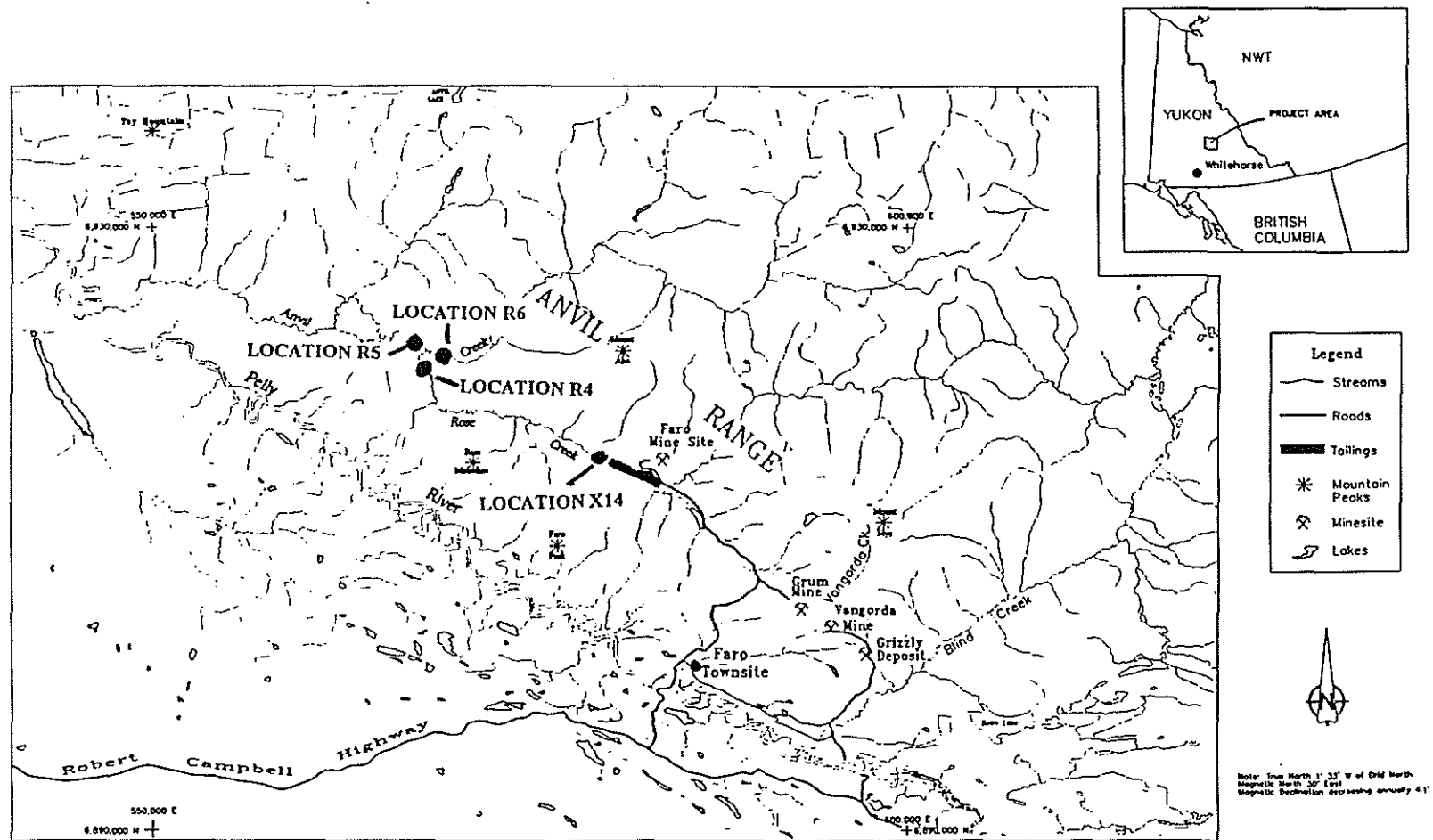
The recycle water system which provides water from the Faro Main pit to the mill for processing or for discharge was utilized during 1999 to pump water from the Faro Main pit for treatment and discharge to Rose Creek. The summer pumping program achieved the goal of lowering the water level in the Faro Main pit to a level where no further dewatering was scheduled until spring/summer of 2000.

The pumping well in the backfilled Zone II pit was operated during 1999 as required to maintain the water level in the Zone II pit within an acceptable range. Water from the Zone II pit was pumped into the Main pit. Water quality data for the North Fork of Rose Creek did not show any positive indications of the presence of contaminated seepage from the Zone II pit.

Surface drainage from the Faro mine site, some seepage from the Main and Intermediate rock dumps and water discharged from the Faro Main pit via the recycle water system reported to the Down Valley tailings impoundments (now unused for tailings deposition). Treatment for metals was achieved by either adding lime slurry into water pumped from the Faro Main pit and utilizing the Intermediate pond as a settlement pond or by adding lime slurry into the decant from the Intermediate Pond and utilizing the Cross Valley Pond as a settlement pond.

The quality of treated effluent entering Rose Creek was within the maximum allowable discharge limits with only infrequent excursions as described herein. Groundwater monitoring results as described herein continued to indicate low metal concentrations in the groundwater regime downstream of the tailings impoundments even in light of some elevated concentrations of sulphate. Groundwater monitoring results as described herein also indicated the continued presence of some metals and elevated sulphate in shallow groundwater below the Intermediate rock dump as has been observed in previous years.

Water quality monitoring was performed according to the water licence following the schedule for temporary cessation of operations as appropriate. Water monitoring locations are illustrated on Figures 1.1 and 1.2 and are listed on Table 1.1. Water quality analytical results for 1999 for all parameters analysed are listed with statistical summaries in Appendix 1 for surface water and Appendix 2 for groundwater.



Note: Map derived from 1:250,000 scale
NTS Mapsheet 105 H
North American Datum 1922
Transverse Mercator Projection

0 2500 5000 7500 10000 12500 METERS



FIGURE 1.1
FARO MINESITE DRAINAGE
AND MONITORING LOCATIONS

(INTERIM RECEIVERSHIP)

TABLE 1.1 WATER QUALITY MONITORING LOCATIONS

LOCATION	DESCRIPTION
X1	Point of discharge over the second impoundment
X2	North Fork of Rose Creek at road bridge
X3	Rose Creek at freshwater pumphouse
X4	Intermediate dam decant, prior to water treatment
X4a	Intermediate dam decant, below water treatment
X5	Cross Valley dam decant
X10	Rose Creek diversion canal below weirs
X11	Seepage from north toe of the Cross Valley dam
X12	Seepage from south toe of the Cross Valley dam
X13	Combined seepage flows downstream from the culvert and upstream of confluence with the decant
X14	Rose Creek after mixing downstream of the diversion canal confluence
X16a	Groundwater monitor well - K1 at depth of 5m
X16b	Groundwater monitor well - K1 at depth of 30m
X17a	Groundwater monitor well - K2 at depth of 5m
X17b	Groundwater monitor well - K2 at depth of 20m
X18a	Groundwater monitor well - K3 at depth of 10m
X18b	Groundwater monitor well - K3 at depth of 20m
X19a	Groundwater monitor well - K4 at depth of 12m
X19b	Groundwater monitor well - K4 at depth of 27m
X20	Groundwater monitor well - K5
X21a	Groundwater monitor well - K6 at depth of 10m
X21b	Groundwater monitor well - K6 at depth of 27m
X22b	Main Pit water
X22c	Main Pit at point of discharge
X23	Old Faro Creek channel near the toe of the south west rock dumps
X24a	Groundwater monitor well Intermediate Dam, North Abutment-shallow sample
X24b	Groundwater monitor well Intermediate Dam, North Abutment-deep sample
X25a	Groundwater monitor well Intermediate Dam, South Abutment-shallow sample
X25b	Groundwater monitor well Intermediate Dam, South Abutment-deep sample
X26	Zone II pit water
BH-1, BH-2, &BH-4	Boreholes southeast of Zone II pit, west of North Fork of Rose Creek
R4	Rose Creek just above Anvil Creek
R5	Anvil Creek just below the confluence of Rose Creek
R6	Anvil Creek immediately upstream of Rose Creek
R7	North Fork of Rose Creek upstream of the confluence with the Faro diversion - background sample
R8	North Fork of Rose Creek, 100 metres downstream of confluence with Faro Creek diversion
R9	North Fork of Rose Creek, adjacent to BH-1 & BH-2
R10	North Fork of Rose Creek, at least 100 metres upstream from maximum elevation of water impounded behind North Fork rock drain and 100 metres downstream of R9

2. WATER USE

2.1 FRESH WATER

The fresh water supply system remained in place through 1999 but was not used.

Water can be supplied to the mill from the Pumphouse Pond located near the confluence of the South and North Forks of Rose Creek. The pond can be supplied from three sources:

1. Water stored in the fresh water reservoir which is recharged from the South Fork of Rose Creek. In previous years, some control of the reservoir has been exercised with the use of stoplogs across the overflow spillway. Withdrawal of reservoir storage water during the winter season is through a control valve and a conduit, located at the base of the reservoir dam (riparian outlet).
2. The North Fork of Rose Creek. Flow is through the natural channel into the Pumphouse Pond.
3. Two groundwater wells, PW3 and PW6, located in the Rose Creek valley near the Pumphouse Pond.

During 1999, flow out of the pumphouse pond into the Rose Creek diversion channel was maintained at a rate greater than the minimum licence requirement of 4.5 m³/min.

2.2 RECYCLE WATER

The recycle water system which provides water from the Faro Main pit to the mill was installed during the summer of 1997 and was utilized to provide an estimated average 95% of the water required for processing while the mill was operating prior to February 1998. The system was utilized in 1999 to discharge water from the Faro Main pit to the Down Valley in order to maintain the in-pit water level within an acceptable range.

The recycle water system is made up of the following primary components:

1. 3 electric pumps mounted on a floating barge in the pit rated at providing 5,000 USgpm each to the mill,
2. 30" scilar pipeline from the barge to the water storage tank in the mill with flexible sections near the barge which prevent damage to the pipeline which might otherwise result from vertical movement of the barge,
3. 20" and 12" discharge pipelines which are tied into the 30" pipeline in and near the mill and which pass water into the drop box near the mill,
4. drop box near the mill which collects any water or solids which are to be discharged to the Down Valley including: water discharged from the Faro Main pit, lime slurry mixed in the mill which is added into the water, emergency short duration tailings discharges, and various surface flows near the mill,
5. 20" pipeline from the drop box which passes water across the previous emergency tailings area and into the ditch leading to the Intermediate Impoundment,
6. ditch which passes flow from the drop box and 20" pipeline into the Intermediate Impoundment.

The measured 1999 Faro Main pit water levels are illustrated on Figure 2.1. The filling curve shows the rate of filling prior to activation of the recycle water system in late July 1997 and the subsequent changes in the water level resulting from pumping for supply of water for processing and/or discharge.

The targeted maximum elevation of 3750ft UTM (3859ft mine datum) as illustrated on Figure 2.1 is approximately 15.2 metres (approximately 50 feet) below the known overflow elevation where water would overflow from the Main pit into the Zone II pit. This safety margin was incorporated into the design of the recycle water system in order to prevent a potential increase in seepage into the Zone II pit through the fractured and faulted wallrock separating the two pits which could have resulted from a higher water elevation in the Main pit. Recent data regarding water volumes pumped from the Zone II pit on an annual basis indicate that there has not been a significant increase in the rate of seepage from the Main pit into the Zone II pit to date.

2.3 EFFLUENT DISCHARGE

Effluent discharge to Rose Creek from the Faro minesite is limited to surface outflow from the Cross Valley pond (monitoring location X5) and seepage from the Cross Valley Dam (monitoring location X13). The surface outflow at location X5 may be via overflow or syphon. Groundwater quality on and near the minesite is monitored and is described herein but is not considered an effluent discharge for these reporting purposes.

The primary source of water entering the Cross Valley pond is surface inflow from the Intermediate pond which may include seepage from the Faro rock dumps, runoff from the millsite, runoff from the local drainage area, and/or water discharged from the Faro Main pit. Other sources of water entering the Cross Valley pond are local area runoff, direct precipitation, and suspected groundwater discharge into the pond.

There was no discharge of effluent in 1999 until May following start up of the Faro Pit pumping system. However, physical conditions in the Intermediate and Cross Valley ponds and chemical conditions of the lime being utilized prevented the effective removal of zinc from the effluent and, therefore, effluent discharge was immediately halted. This event and the actions taken to resolve the problematic issues are described in the incident reports contained in Appendix 3.

Effluent discharge via location X5 was intermittent from May 17 to June 25 and was continuous from June 25 through September 20. At the time of shut down of the syphon discharge on September 20, the pond water level had been drawn down to approximately 1.5 metres below the spillway invert elevation.

The total volume of effluent discharged to Rose Creek via location X5 during 1999 was 1.76 million m³ with the flow rate varying from 0 to 325 Lps. The total volume discharged via location X5 in 1999 was approximately 31% of the volume reported for 1998 (5.68 million m³). The decrease in 1999 was primarily due to the discharge of a smaller quantity of water from the Faro Main pit. Instantaneous flow rates are listed in Appendix 1.

Effluent flow at location X13 was continuous through 1999 as usual and a general trend was observed in which a greater flow rate was observed at location X13 corresponding to higher water levels in the Cross Valley Pond. This is logical given the assumption that the head of water stored behind the Cross Valley dam is the dominant driving force for seepage through the dam. The total volume of effluent discharged to Rose Creek via location X13 during 1999 was 1.71 million m³ with a range from 44 Lps to 82 Lps and an average for the year of 55 Lps. The total volume discharged via location X13 in 1999 was approximately 76% of that reported for 1998 (2.25 million m³). The reduced flow volume in 1999 may be related to natural variations and to reduced periods of overflow from the Cross Valley pond with a suspected reduction in seepage from the spillway towards location X13. Instantaneous flow rates are listed in Appendix 1.

Figure 2.1a Main Pit Filling Curve - Complete to end 1999

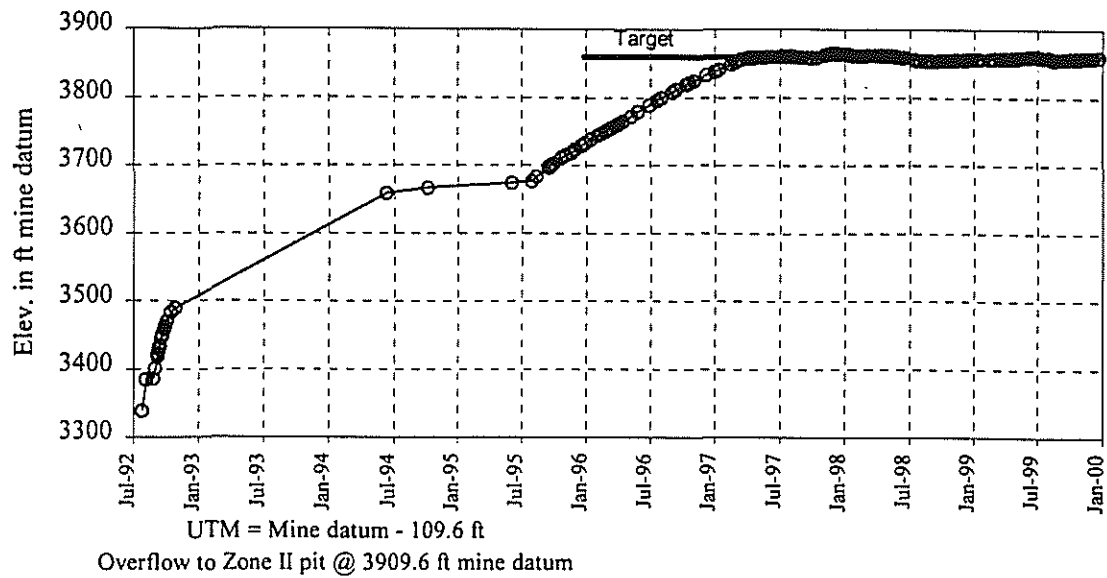
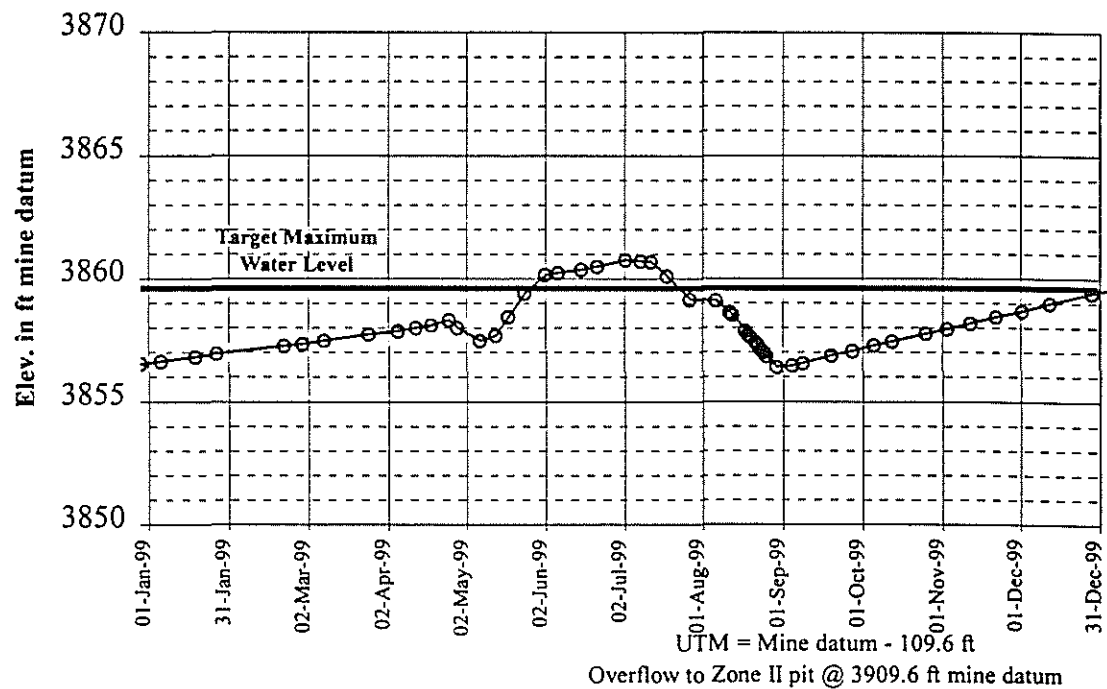


Figure 2.1(b) Main Pit Water Level - 1999 Detail



The total effluent discharge to Rose Creek during 1999 (combined X5 and X13) was 3.47 million m³ which is approximately 44% of that reported for 1998 (7.93 million m³). The decrease is due primarily to the discharge of a smaller quantity of water from the Faro Main pit.

A simplified water balance can be described for the Cross Valley pond wherein the known parameters are the quantities of: water pumped from the Faro Main pit, inflows from location X23, decanted outflow, seepage outflow (if assumed that all flow at location X13 originates from the Cross Valley pond), Int. Pond inflow calculated from net annual changes in the Intermediate pond water elevation, and net inflow calculated from net annual changes in the Cross Valley pond water elevation. The unknown water quantities could be referred to as "net uncontrolled inflows" and would include: run-off into and direct precipitation onto the Intermediate and Cross Valley ponds, seepage inflows from the Intermediate pond, seepage inflows from the groundwater regime, and other possible sources. The simplified water balance could be expressed as follows with application of the following notes:

$$\text{Faro Pit Inflow} + \text{X23 Inflow} + \text{Net Uncontrolled Inflows} - \text{Decant} - \text{Seepage} + \text{Int. Pond Inflow} = \text{Net Inflow}$$

therefore, the 1999 water balance for the Cross Valley Pond can be expressed as:
 $1.06 + 0.05 + \text{Net Uncontrolled Inflows} - 1.76 - 1.71 + 0.00 = 0.00$ (in millions m³)

and the "Net Uncontrolled Inflows" for 1999 is estimated at 2.36 million m³

Notes:

1. The "Faro Pit Inflow" volume is described herein in Section 2.4 and includes all water used for mixing lime.
2. The "X23 Inflow" volume is calculated from the individual flow rates listed in Appendix 1.
3. The "Decant" and "Seepage" outflow volumes are described above.
4. The "Intermediate Pond Inflow" volume is nil in 1999 because there was no net annual change in the pond water level from Jan01 to Dec31, 1999.
5. The "Net Inflow" is nil for 1999 because there was no net annual change in the pond water level from Jan01 to Dec31, 1999.
6. Crude estimates of the "net uncontrolled inflows" for recent years indicate that the 1999 estimate is close to the crudely estimated observed range (i.e. 1995 est. ~4.5-5.0 million m³, 1996 est. ~3.0-3.5 million m³, 1997 est. ~3.5-4.0 million m³, 1998 est. ~4.70 million m³).

2.4 FARO MAIN AND ZONE II PITS

A simplified water balance can be described for the Faro Main pit wherein the known parameters are the quantities of: tailings water inflow, tailings solids inflow, Zone II water inflow, net uncontrolled inflows (seepage in/out, runoff, precipitation, etc.) estimated from observed changes in the pit pond water elevation during strategic periods, and net inflow calculated from the net annual change in the Main pit water elevation. The unknown water quantities could be referred to as "water discharged" and would include water pumped from the main pit and discharged to the tailings impoundments. The simplified water balance could be expressed as follows with application of the following notes:

$$\text{Tailings Water} + \text{Tailings Solids} + \text{Zone II Water} + \text{Net Uncontrolled Inflows} - \text{Water Discharged} = \text{Net Inflow}$$

therefore the 1999 water balance for the Faro Main pit can be expressed as:
 $0.00 + 0.00 + 0.07 + 1.48 - \text{Water Discharged} = 0.49$ (in millions m³)

and the "Water Discharged" for 1999 is estimated at 1.06 million m³

Notes:

1. No mill tailings were discharged into the Faro Pit during 1999.
2. Water was pumped from the Zone II Pit into the Faro Pit during 1999. An open pipe was installed in the pumping well in March 1997 which allowed direct water level measurements. The measured pumping hours are listed in Appendix 4 and the measured water levels are illustrated on Figure 2.2. The total volume pumped during 1999 was estimated at 73,457 m³ based on recorded pump hours of 850.2 hours and an average pumping rate of 0.024 m³/s (375 USgpm). The pumping volume recorded for 1999 follows a reasonable trend wherein the trend of the volume pumped corresponds to the trend of annual precipitation.
 1995: precip 101% normal; ZII volume pumped = 139,000 m³
 1996: precip 86% normal; ZII volume pumped = 75,000 m³
 1997: precip 71% normal; ZII volume pumped = 51,000 m³
 1998: precip 56% normal; ZII volume pumped = 43,070 m³
 1999: precip 108% normal; ZII volume pumped = 73,457 m³
3. The calculated net volume of uncontrolled inflows entering the Main pit from direct precipitation, evaporation, local run off, seepage inflow and seepage losses was 1.48 million m³ for 1999 (avg. 4,045 m³/day). This estimate was developed from direct measurements of the in-pit water level during periods in 1999 where the only inflows/outflows were the uncontrolled water and inflow pumped from the Zone II pit. The estimate of net uncontrolled water inflows for 1999 is within the range of calculated values from 1995 to 1998 (1.2 to 1.9 million m³). Further information regarding this note is provided in Table 2.1 below. The Faro Creek diversion channel was partially breached into the Faro Main pit for a brief period in 1999 from May 14 to June 2. An estimated 299,154 m³ of water entered the pit from this source in excess of the usual uncontrolled inflows described above.
4. The net inflow of material entering the Main pit is accurately tracked via the elevation change in water level. The water level elevation relates to a pit volume determined for that elevation from previously performed pit surveys. The total net volume entering the pit includes tailings slurry, tailings solids, Zone II dewatering, direct precipitation, evaporation, local run off, seepage inflow, seepage losses, leakage from the Faro Creek diversion, and water discharged to the Down Valley. The average filling rate in the Main pit for 1999 was +1,343 m³/day (net average inflow) or +490,168 m³ total (net inflow) for the year. The detailed filling curve for 1999 is illustrated on Figure 2.1.
5. Water was discharged from the Main pit to the Down Valley via the recycle water system in 1999. The total volume of water discharged from the Main pit in 1999 is estimated at 1.06 million m³ based on the known or assumed parameters described in notes 1 through 4 above. The average pumping rate achieved during the period of active pumping was 3,188 USgpm. Further information regarding this note is provided in Table 2.1 below.

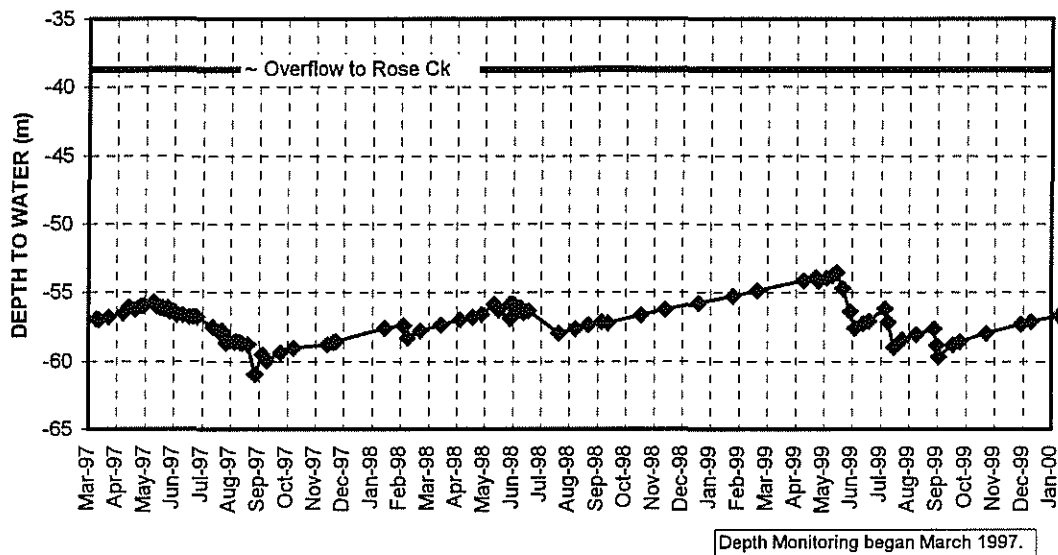
In addition to the water balance information shown above, Table 2.1 provides further information regarding individual periods within the year 1999.

TABLE 2.1 INFORMATION RE. FARO PIT WATER BALANCE

Period	Elevation Change (ft mine dat)	Net Volume Change	Net Uncontrolled Inflows	Tailings (Water&Solids) Inflow	ZoneII Water Inflow	Water Discharged OUT
Jan01- Apr26 (116)	3856.53 - 3858.31 (+0.18 in/day)	+296,769 m ³ (+2,558m ³ /day)	+296,769 m ³ (+2,558m ³ /day)	nil	nil	nil
Apr26- May08 (12)	3858.31 - 3857.49 (-0.82 in/day)	-136,714 m ³ (-11,393m ³ /day)	+48,696 m ³ (+4,058m ³ /day) assumed	nil	2,799 m ³	-188,209 m ³ (-15,684m ³ /day) (-2,877 USgpm)
May08- May14 (6)	3857.49- 3857.69 (+0.40 in/day)	+33,345 m ³ (+5,557m ³ /day)	+33,345 m ³ (+5,558m ³ /day)	nil	nil	nil
May14- Jun02 (19)	3857.69 - 3860.15 (+1.55 in/day)	+410,141 m ³ (+21,586m ³ /day) incl. Faro Ck	+380,569 m ³ (+20,030m ³ /day) incl. Faro Ck	nil	29,572m ³	nil
Jun02- Jul03 (31)	3860.15 - 3860.77 (+0.24 in/day)	+103,369 m ³ (+3,334m ³ /day)	+93,369 m ³ (+3,012m ³ /day)	nil	10,000m ³	nil
Jul03- Jul29 (26)	3860.77 - 3859.04 (-0.80 in/day)	-288,432 m ³ (-11,094m ³ /day)	+53,612 m ³ (+2,062m ³ /day) assumed	nil	20,736m ³	-362,780 m ³ (-13,953m ³ /day) (-2,560 USgpm)
Jul29- Aug07 (9)	3859.04 - 3859.10 (+0.08 in/day)	+10,003 m ³ (+1,111m ³ /day)	+10,003 m ³ (+1,111m ³ /day)	nil	nil	nil
Aug07- Aug30 (23)	3859.10 - 3856.41 (-1.40 in/day)	-448,487 m ³ (-19,499m ³ /day)	+60,490 m ³ (+2,630m ³ /day) assumed	nil	nil	-508,977 m ³ (-22,129m ³ /day) (-4,060 USgpm)
Aug30- Dec31 (123)	3856.41 - 3859.47 (+0.30 in/day)	+510,175 m ³ (+4,148m ³ /day)	+499,825 m ³ (+4,064m ³ /day)	nil	10,350m ³	nil
Total 1999	3856.53 - 3859.47 (+0.10 in/day)	+490,168 m ³ (+1,343m ³ /day)	1,476,678 m ³ (+4,045m ³ /day)	nil	73,457m ³ (+201m ³ /day)	-1,059,966 m ³ (-2,904m ³ /day) (-533 USgpm)

NOTES to Table 2.1:

1. Mill did not operate in 1999.
2. Pumping/Discharge from Main pit from Apr26-May08, from Jul03-Jul29 and from Aug07-Aug30.
3. The Zone II pumping hours listed in Appendix 3.
4. Faro Creek diversion partially breached into Faro Main pit from May14-Jun02.

Figure 2.2 Measured Water Level in the Faro Zone II Pit to end 1999

2.5 ROSE CREEK AT X14

The water level at location X14 in Rose Creek downstream of the confluence with mine effluent discharged via locations X5 and X13 is monitored on a continuous basis using a pressure transducer and datalogger. A new datalogger and transducer were installed in June 1999 by Laberge Environmental Services of Whitehorse as a replacement for the previous unit which had ceased data collection for unknown reasons but which are suspected to have been related to Y2K issues. As a result of the datalogger malfunction, a gap in the data record exists from February 1998 to June 1999.

Data collection proceeded normally from June 1999 to October 1999 when it was discovered that the shack containing the datalogger had been vandalized. The battery and solar battery charger were stolen and, as a result, the datalogger internal back-up battery ran down and data collection ceased. New batteries were installed and data collection resumed in December. This resulted in a brief gap in the data record from October 1999 to December 1999.

The X14 flow record up to October 1999 is illustrated on Figure 2.3. Note that a new stage discharge curve was developed and used for calculation of flows post June 1999 and this curve is contained in Appendix 4.

2.6 NORTH FORK OF ROSE CREEK AT R7

Continuous flow recording at location R7 was re-initiated in September 1996 with installation of a new datalogger/transducer and recordings continued through to October 1999 (the most recent download date). The streamflow record for location R7 is illustrated on Figure 2.4. The rating curve used for calculating flows from the transducer readings is included in Appendix 4.

FIGURE 2.3 X-14 STREAMFLOW RECORD

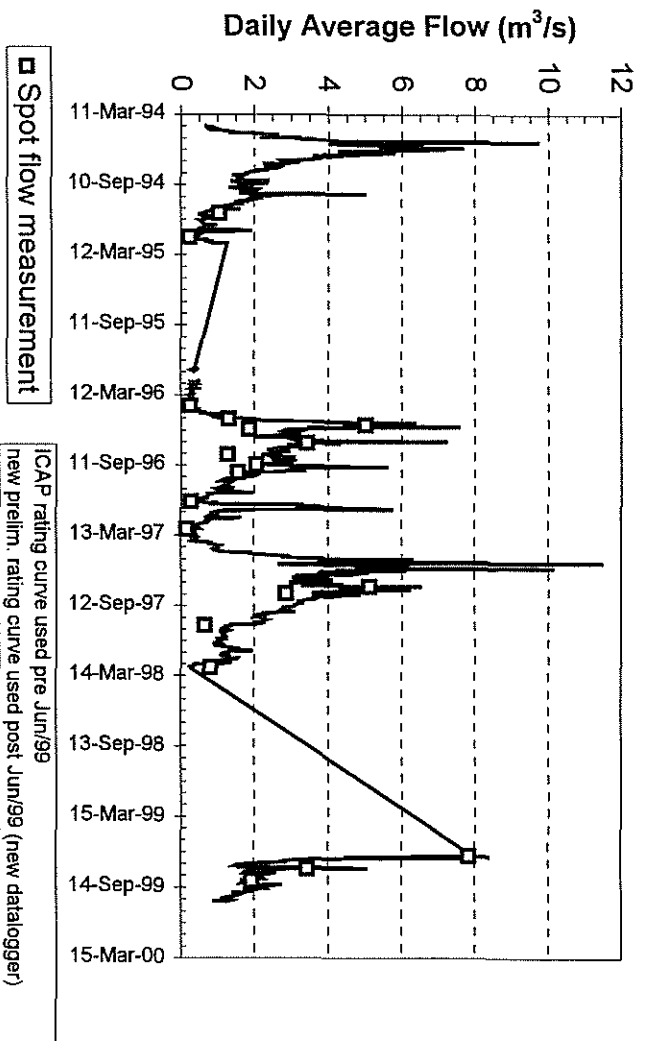
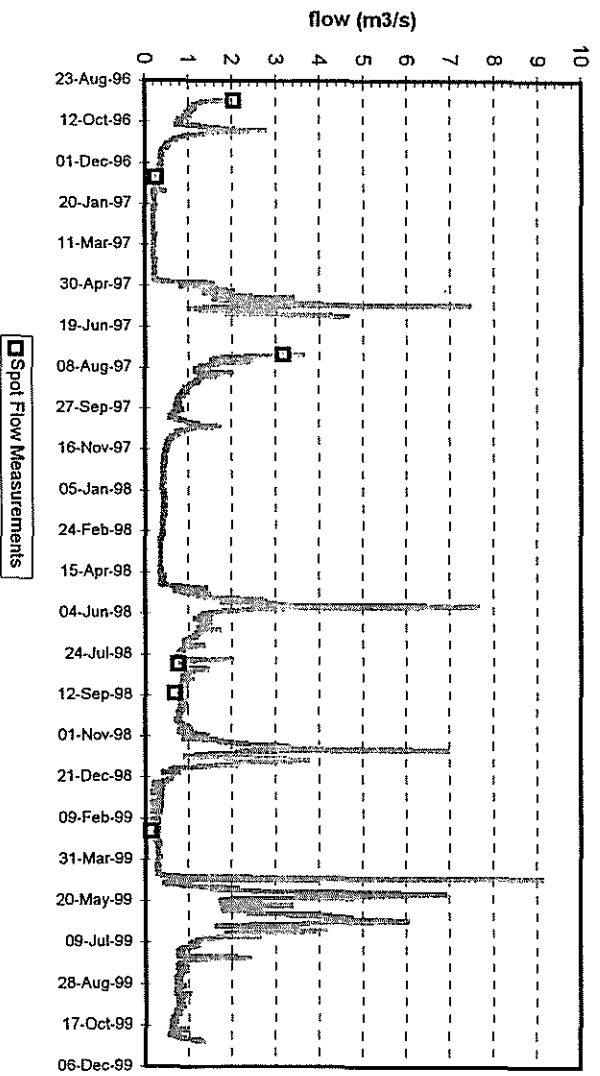


Figure 2.4 R7 Streamflow Record



3. WATER QUALITY MONITORING PER SCHEDULE 'A'

3.1 OVERVIEW OF WATER QUALITY MONITORING PROGRAM

Schedule A of the water licence requires the collection of samples from various locations around the mine, mill and tailings areas. These sites are listed in Table 1.1 and illustrated on Figures 1.1 and 1.2. All samples collected were grab samples with analyses carried out by Cavendish Analytical Laboratory Ltd. of Vancouver. Schedule A of the licence specifies a modified monitoring program which is to be applied during periods of temporary cessation of operations. The modified program was generally followed or exceeded in 1999.

The two surface effluent discharge points from the Faro mine site are locations X5 and X13, Cross Valley Pond outflow and collected seepage from the Cross Valley Dam, respectively. Surface drainage from the minesite and water discharged from the Faro Main pit passes through the Intermediate tailings pond prior to discharge via one of these two locations. The largest regularly monitored inputs to the Intermediate tailings pond are location X23 in the old Faro Creek channel below the main rock dump and location X22B which is Faro Main pit water. Other miscellaneous inflows are not monitored individually but collect behind the Intermediate Dam. Location X4 is the decant from the Intermediate Dam and provides information on the quality of surface water in the Intermediate tailings pond.

Rose Creek is monitored at numerous locations in both the North Fork and the Main Fork upstream and downstream of the minesite/tailings areas as reported in Section 3 of this report. Annual surface seep surveys collect information on numerous surface seepage locations within the mine area as described in Section 6 of this report. Bi-annual groundwater monitoring surveys provide information regarding groundwater quality in critical areas within and downstream of the minesite/tailings areas as reported in Sections 3 and 6 of this report.

The 1999 water quality data is listed in Appendices 1 and 2 with statistical summaries for each parameter. The data listing includes all parameters for which analyses were performed including data collected in excess of the licence requirements. Surface water quality data is listed in Appendix 1. Groundwater quality data is listed in Appendix 2.

3.2 FARO PITS AND ROCK DUMPS (X22B, X23, X26, BH1, BH2, BH4)

Near surface water chemistry in the Faro Main Pit is monitored at location X22B and is generally indicative of buffered acid rock drainage with elevated metals and sulphate at neutral pH. This type of water chemistry is as expected for this location given the presence of mineralized rock dumps and pit walls in the drainage area and the inflow (to February 1998) of lime treated tailings slurry. It is possible that the elimination of the substantial inflow of high pH water via the tailings slurry in February 1998 could result in a long term deterioration of water quality.

Although sampling at location X22B is not required under the licence schedule for temporary cessation of operations, nine samples were collected at location X22B in 1999. Water pH at location X22B was neutral in 1999 and ranged from 6.8 to 7.7 with an average of 7.3. The concentration of total ammonia was elevated above background (0.3 to 1.4 mg/L in 1999 with an average of 0.8 mg/L) due, likely, to leaching of residual blasting agents from surrounding rock dumps and tailings slurry.

The concentrations of total zinc and sulphate at location X22B ranged from 2.6 to 17.0 mg/L and from 190 to 692 mg/L, respectively, in 1999 with average annual concentrations of 7.2 and 530 mg/L, respectively. The concentrations of sulphate observed in 1999 were approximately the same as those observed in 1998.

The concentrations of zinc observed at location X22B in 1999, however, were greater than and exhibited a wider variation than those observed in 1998. The direct causes of the increase and wider variations in zinc concentrations observed during 1999 are unclear but may include the effects of the continued presence of two chemically distinct layers in the pit as observed in depth profiles conducted by DIAND personnel. The recent (1996 to 1999) concentrations of total zinc and sulphate at location X22B are illustrated on Figures 3.1 and 3.2, respectively.

Depth profiling in the Faro Main pit was conducted on one occasion in 1999 by DIAND in July. The preliminary results indicated that the pit is not mixed below about 10 metres depth and that the concentration of dissolved oxygen was near zero below about 25 metres depth and was near saturation above about 6 metres depth. Additionally, the 1999 profiling indicated that a new separation in the concentrations of zinc and iron was present between the upper and lower layers which was not observed in previous profiles performed in 1994, 1996 and 1998. Water chemistry data for the DIAND Faro Main pit profiles is not included in this report.

Figure 3.1 Faro Main Pit (X22B) Total Zinc

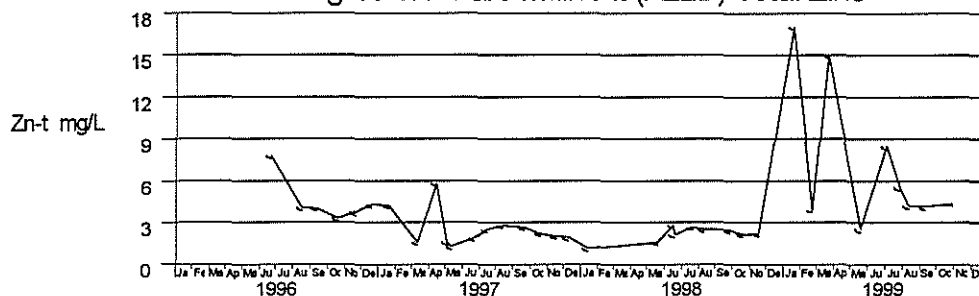
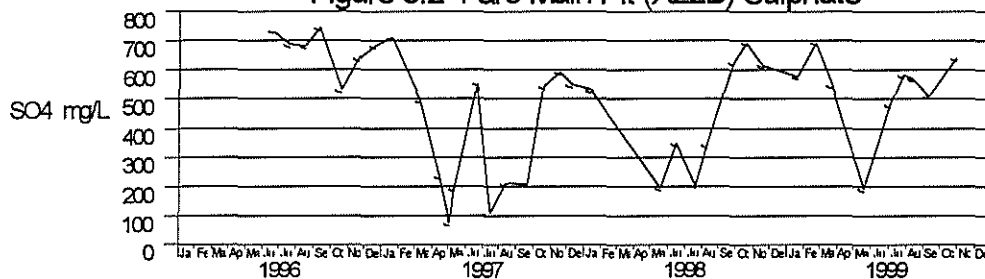


Figure 3.2 Faro Main Pit (X22B) Sulphate



Water chemistry in the backfilled Zone II Pit is monitored at location X26 which is water pumped from the Zone II Pit into the Main Pit. Although sampling at location X26 is not required under the licence schedule for temporary cessation of operations, two samples were collected at location X26 in 1999. In 1999, the water chemistry showed elevated metals and sulphate at neutral pH as was observed in the Main Pit. However, water quality was poorer in the Zone II Pit due, likely, to the absence of a substantial alkaline inflow into the Zone II pit. The concentration of total zinc ranged from 50.1 to 95.4 mg/L and pH ranged from 5.8 to 6.8 during 1999 at location X26. The concentration of sulphate during 1999 ranged from 1751 to 2630 mg/L. The concentration of total ammonia was elevated (ranged from 1.7 to 2.3 mg/L in 1999) due, likely, to leaching of residual blasting agents from surrounding rock dumps.

The available data for the Zone II pit suggests that the concentration of total zinc has been generally increasing from 1994 to 1999 and that water quality may undergo seasonal influences with higher concentrations of total zinc and sulphate and lower pH observed in the winter season. However, any analysis of variations in water quality would have to include the potential effects of changes in the in-pit water level due to pumping. The available data for total zinc and sulphate are illustrated on Figures 3.3 and 3.4, respectively.

Figure 3.3 Faro Zone II Pit (X26) Total Zinc

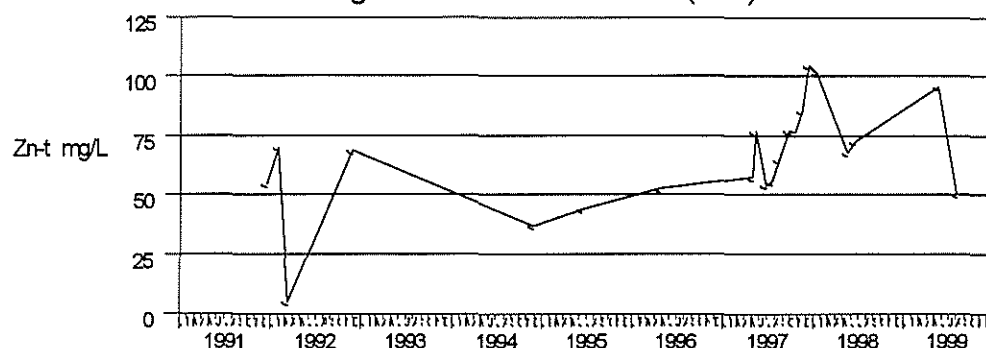
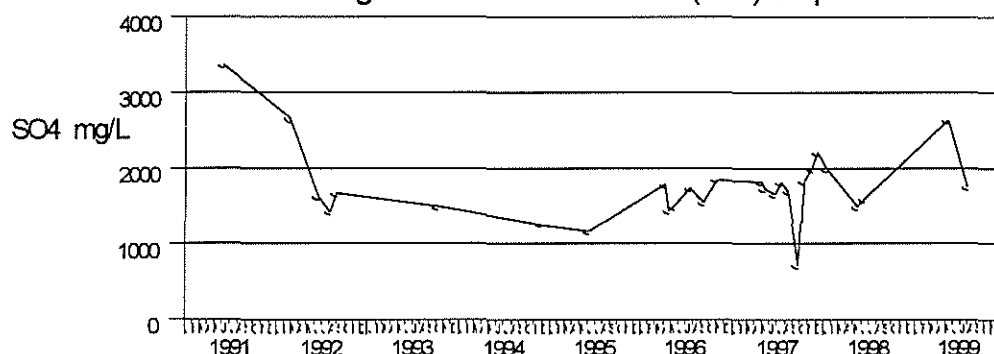


Figure 3.4 Faro Zone II Pit (X26) Sulphate



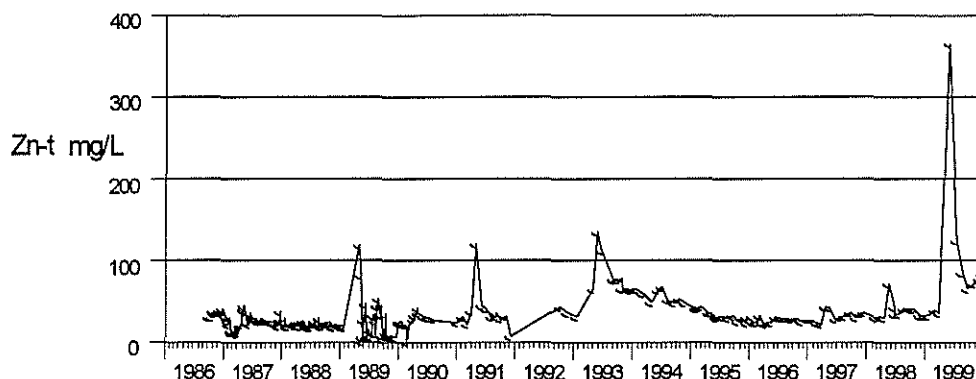
Surface seepage from the toe of the main rock dump area is sampled at location X23 located in the old Faro Creek channel where a large portion of the seepage from the Main and Intermediate rock dumps collects. This water is passed into the Intermediate Impoundment and receives treatment prior to discharge. Water quality is typical of buffered acid rock drainage with elevated metals and sulphate at neutral pH. Location X23 is included on the licence monitoring schedule for temporary cessation of operations and 10 samples were collected in 1999.

The pH at location X23 ranged from 5.9 to 7.5 during 1999 with an average for the year of 6.7 and the concentration of total zinc in 1999 ranged from 32.6 to 363.4 mg/L with an average for the year of 97.3 mg/L. The concentration of sulphate in 1999 ranged from 3032 to 3757 mg/L with an average for the year of 3211 mg/L. The concentration of total ammonia was slightly elevated above background (0.2 to 1.5 mg/L in 1999) due, likely, to leaching of residual blasting agents from surrounding rock dumps.

Concentrations of iron and copper at location X23 were relatively low in 1999 and the concentration of copper at X23 during 1999 was within the maximum allowable discharge limit of 0.20 mg/L (total).

The longer term trend in the concentration of total zinc at X23 is illustrated on Figure 3.5. The concentration of zinc was generally stable in a range from about 30 to 40 mg/L for two periods from 1986 through 1988 and from 1995 through 1998. During the intervening period, however, from 1989 through 1993, the concentration of zinc was more erratic and high spikes were observed up to about 125 mg/L. Active dewatering of the Faro pit during mine operations may have been the cause of these observed trends. An increasing trend in the concentration of zinc appears to be occurring in 1999. The spring peak in total zinc observed in 1999 of 363.4 mg/L is the greatest concentration on record.

Figure 3.5 Faro Rock Dumps (X23) Total Zinc



A stepped increase in the concentration of sulphate at location X23 is observed from around 1500 mg/L during the period from 1986 to 1991 to around 2500 mg/L from 1993 to 1998 as illustrated on Figure 3.6. The low 'troughs' in sulphate concentrations during early 1987 and second half 1989 may be related to dewatering of the Faro Main Pit which would have resulted in some "extra" water passing location X23. An increasing trend in sulphate may be occurring in 1999 as was observed above for zinc.

The available flow information for location X23 indicates that flows during the period from 1989 to 1992 were highly variable and peaks were observed as high as 17.5 L/s (litres per second) as illustrated on Figure 3.7. This is in sharp contrast to the flow record observed since 1994 where flows are generally consistent at around 2.0 L/s. The flow record may be indicating that additional sources of water (including, possibly, dewatering of the Faro Main Pit) passed location X23 prior to 1992 which are no longer present. If this indication were correct, then it would support the concept that active dewatering of the Faro Main Pit during mine operations prior to 1992 could have had the effect on zinc and sulphate concentrations described above. The stage-discharge curve developed for the X23 weir and which has been used since the stilling pond was cleaned out in September 1996 is included in Appendix 4.

Figure 3.6 Faro Rock Dumps (X23) Sulphate

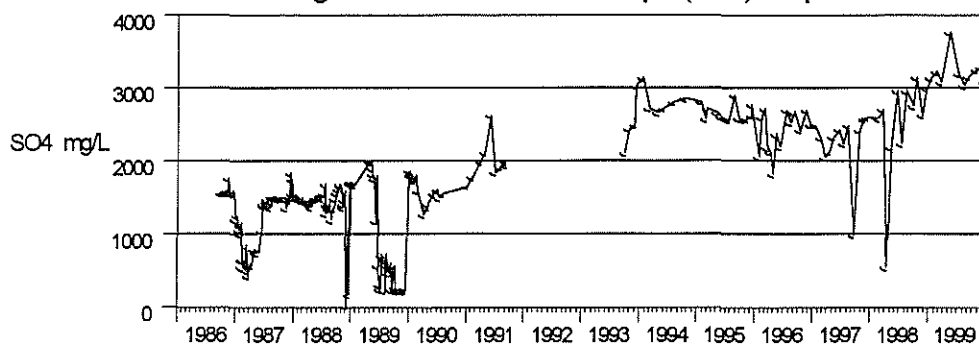
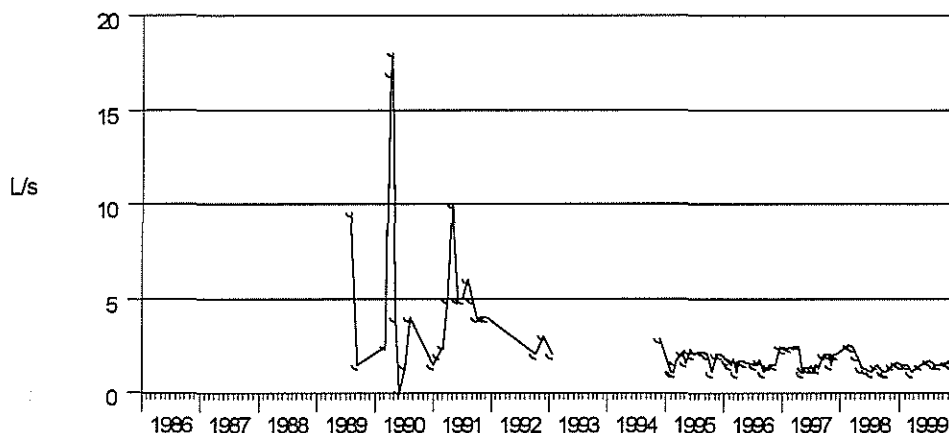


Figure 3.7 Faro Rock Dumps (X23) Flow



Shallow groundwater seepage between the Zone II Pit and the North Fork of Rose Creek was monitored on two occasions during 1999 at piezometers BH1 and BH2 and on one occasion in 1999 at piezometer BH4. These piezometers are not included in the licence schedule for temporary cessation of operations. Piezometer BH3 was damaged at some time in the past and is no longer operable. The static water levels in these piezometers are below the level of Rose Creek. Piezometer BH2 is closest to the Zone II Pit and BH4 is closest to the North Fork of Rose Creek.

Water quality in all three piezometers (BH1, BH2 and BH4) were similar in October 1999 which supports the observed trend of improved groundwater quality in piezometer BH4. Prior to about 1996, water quality in piezometer BH4 was significantly poorer than that in piezometers BH1 and BH2. From 1996 to 1999, however, water quality in the fall appears to be similar for the three piezometers. Piezometer BH4 was frozen during the summer 1999 survey and was not sampled. However, it is likely that the trend observed in 1996, 1997 and 1998 would continue wherein summer peaks in metal and sulphate concentrations were much greater in piezometer BH4 than in piezometers BH1 and BH2. The summer peaks in metal and sulphate concentrations which were observed in 1999 in piezometers BH1 and BH2 were within or close to the ranges observed since 1996.

In July 1999, the concentrations of dissolved zinc in piezometers BH1 and BH2 were 25.9 mg/L and 9.8 mg/L, respectively, and the concentrations of sulphate were 399 mg/L and 259 mg/L, respectively. In October 1999, the concentrations of dissolved zinc in piezometers BH1, BH2 and BH4 were 3.5 mg/L, 4.2 mg/L and 1.3 mg/L, respectively, the concentrations of sulphate were 150 mg/L, 206 mg/L and 158 mg/L, respectively, and the pH's were 5.8, 5.8 and 6.0, respectively.

When water chemistry in piezometers BH1, BH2 and BH4 is viewed in light of surface water chemistry in the North Fork of Rose Creek (locations R7 through R10), the surface water chemistry data suggests that there is currently no significant impact in Rose Creek from the elevated levels of contaminants observed in the piezometers. Water chemistry for locations R7 through R10 is described in Section 3 of this report.

3.3 INTERMEDIATE POND (X4)

Following the cessation of tailings deposition into the Down Valley Tailings facility in 1992 and until 1997, there was a general increase in the concentration of zinc in water flowing through the Intermediate pond. This was likely due to the absence of alkalinity previously added to the tailings pond via the tailings slurry. Beginning in 1997, the effects of periodic inflows of pre-treated water from the Faro Main pit are observed as periodic lower concentrations of total zinc at location X4 which is the outflow from the Intermediate pond. Location X4 is included in the licence schedule for temporary cessation of operations.

Water treatment in the Down Valley was started in 1992 in order to ensure that surface outflow from the Cross Valley pond met the maximum allowable discharge limits. Initially, lime slurry was trucked to the facility and added to the Intermediate Dam spillway. During 1994 sodium hydroxide was added for a short time. From 1995 through 1997, lime slurry which was mixed in the mill was piped to the Intermediate Dam spillway in a 3 inch overland plastic pipe. This method was successfully utilized until fall 1997 when winter treatment was required which could not be accomplished by the overland pipe because of freezing conditions. Periodically as required beginning in the fall of 1997, lime slurry has been trucked from the mill to a large (~15,000 USgal) stock tank located at the Intermediate Pond spillway from which the lime slurry is added into the spillway at a controlled rate via gravity feed. The lime slurry mixes with outflow from the Intermediate pond and the Cross Valley pond serves as a settlement pond prior to discharge. Also periodically beginning in fall 1997, water pumped from the Faro Main pit has been treated with lime at the mill prior to passage into the Intermediate pond with the result that decant from the Intermediate Pond contains reduced concentrations of metals which have been, on occasion, in compliance with the water licence.

The concentration of total zinc at location X4 ranged from 0.5 to 4.5 mg/L during 1999 and the concentration of dissolved zinc ranged from 0.3 to 3.2 mg/L. The long term trend in the concentration of total zinc at location X4 is illustrated on Figure 3.8.

Water pH at location X4 was neutral to alkaline in 1999 (range from 6.5 to 8.5) and was influenced by the inflow of lime treated water pumped from the Faro Main pit. The long term trend in pH is illustrated on Figure 3.9. Precipitation or snowmelt which temporarily ponds on the tailings surface in small isolated puddles can be acidic.

The concentration of sulphate at location X4 ranged from 51 to 776 mg/L during 1999 with an average of 534 mg/L. The wide variation in the concentration of sulphate is related to the summer inflow of a relatively large volume of water from the Faro Main pit containing an average sulphate concentration of 530 mg/L. The concentration of total suspended solids at location X4 remained low in 1999 at less than 16 mg/L (the concentration of 24 mg/L reported for October 1999 was during a period of no outflow).

Figure 3.8 Intermediate Pond (X4) Total Zinc

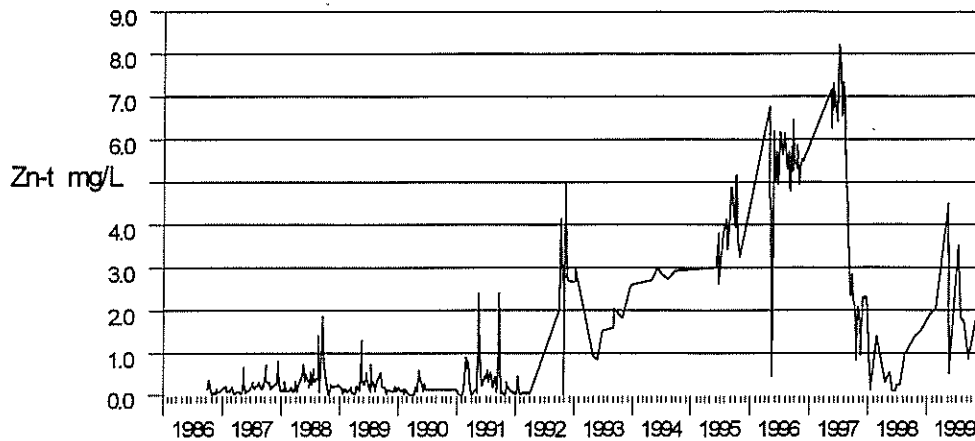
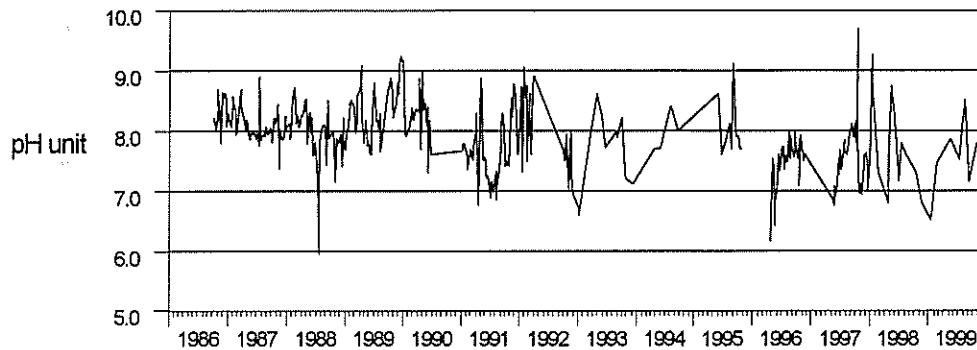


Figure 3.9 Intermediate Pond (X4) PH



The concentration of ammonia at location X4 in 1999 was similar to the concentration of ammonia in the Faro Main pit. This is logical given that a relatively large quantity of water was pumped from the Faro Main pit to the Intermediate pond in 1999. The average concentration of ammonia in water from the Faro Main pit (X22B) during 1999 was 0.8 mg/L with a range from 0.3 to 1.4 mg/L while the range in concentrations of ammonia at location X4 during 1999 was from 0.1 to 1.4 mg/L with an average of 1.0 mg/L.

3.4 EFFLUENT DISCHARGE (X5 AND X13)

The two surface effluent discharge locations are locations X5 and X13 and these are included in the licence schedule for temporary cessation of operations. Additional information regarding flows at these locations is described in Sections 2 and 5 of this report.

The analytical results received for samples at locations X5 and X13 show that these discharges were within the maximum allowable discharge limits in 1999 with only rare excursions. Figures 3.10 and 3.11 show pH and total zinc, respectively, during 1999 for both location X5 and location X13. Numerous in-house analyses for zinc were also performed for location X5 during periods of discharge. Note that the data points shown on Figures 3.10 and 3.11 for location X5 include analyses of the pond water even during periods of no discharge.

Figure 3.10 1999 Effluent (X5&X13) PH

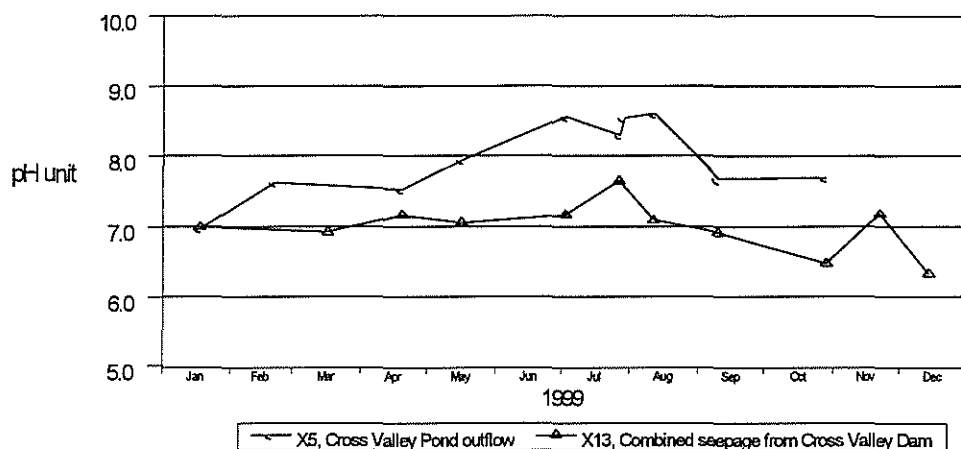
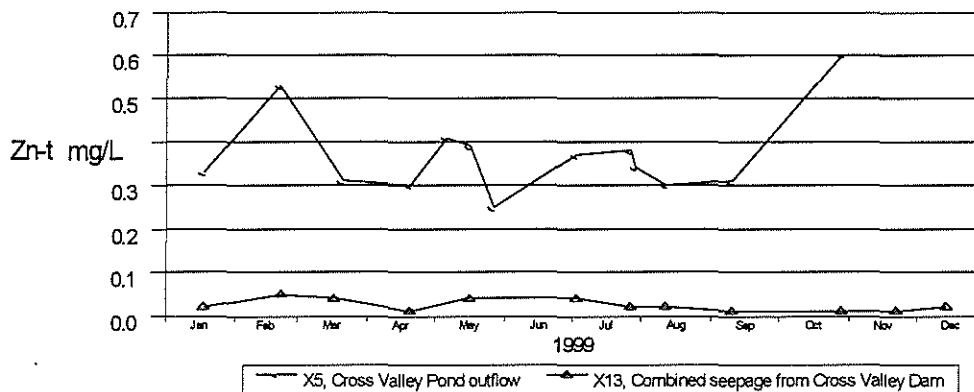


Figure 3.11 1999 Effluent (X5&X13) Total Zinc



The first discharge of effluent via location X5 in 1999 was early in May following start up of the Faro Main pit pumping system. The concentration of total zinc was indicated to be greater than the maximum allowable discharge limit of 0.5 mg/L by in-house analysis and discharge was immediately halted. Discharge was not resumed until May 17 when intermittent discharge via pump and syphon pipes commenced. Continuous discharge related to pumping from the Faro Main pit commenced on June 25 and continued through September 20 with only brief periods of no discharge. There was no discharge of effluent in 1999 post September 10.

The series of incident reports related to the brief May 1999 discharge of effluent are contained in Appendix 3. It is thought that several problems related the commencement of pumping from the Faro

Main pit in April 1999 were the cause of the elevated zinc concentration at location X5. The problems included the initial use of lime which had been stored in the silo over winter and which, as a result, had degraded in quality and thick ice covers on the Intermediate and Cross Valley ponds which reduced retention time to the degree where settlement of treatment sediments was not taking place. The elevated zinc concentrations were remedied by treatment with lime in the Cross Valley pond and at the Intermediate Dam spillway such that the concentration of total zinc at location X5 was reduced to less than 0.5 mg/L later in May.

The concentration of total suspended solids (TSS) at location X5 on July 27 was 19 mg/L which was greater than the maximum allowable discharge limit of 15 mg/L. The concentration of TSS had fallen to 7 mg/L on July 29. The cause of this brief exceedance is unknown.

There were no other reported exceedances of the maximum allowable discharge limits at location X5 in 1999. Note that the concentrations of total suspended solids, total zinc and total barium which are reported in Appendix 1 for location X5 on October 29 represent a period when there was no effluent discharge. Similarly, the concentrations of total zinc which is reported in Appendix 1 for location X5 on February 21 also represents a period when there was no effluent discharge.

Effluent seepage discharge via location X13 was continuous through 1999. The flow rates appeared to be directly related to the elevation of water in the Cross Valley pond which would confirm that the water in the Cross Valley pond is the primary driving force for seepage reporting to location X13. It is also suspected that seepage from the Cross Valley dam spillway during periods of overflow also contributes flow to location X13. The significance of flow rates measured in 1999 at location X13 as regards the geotechnical performance of the Cross Valley dam is described herein in Section 5.

The pH at location X13 on December 14 was 6.3 which was less than the minimum allowable discharge limit of 6.5. Also, the concentration of ammonia (NH₃) at location X13 on December 14 was 1.37 which is greater than the maximum allowable discharge limit of 1.3 mg/L. The cause of these isolated exceedances is unknown. There were no other reported exceedances of the maximum allowable discharge limits at location X13 in 1999.

All of the bioassay tests performed during 1999 for locations X5 and X13 were passed and all tests were non-lethal (no mortalities). There were three tests performed for location X5 (May, June and September) and four tests performed for location X13 (March, June, September and December). The bioassays were 96 hour LC₅₀ tests using rainbow trout in which a pass is considered to be greater than 50% of the fish alive in 100% solution strength after 96 hours. All bioassay test results are included in Appendix 5.

There are three individual seepages which report to location X13 which are locations X11, X12 and WEIR3. Location X11 is the primary seepage stream and collects seepage from the north abutment of the Cross Valley dam and is suspected to also collect some seepage from the Cross Valley dam spillway during periods when there is overflow from the pond. Location X12 collects seepage from the south abutment of the Cross Valley dam. Location WEIR3 collects seepage from the central area between locations X11 and X12. Flow information and the implications of the flow information as regards the geotechnical performance of the Cross Valley dam are described in Section 5 of this report.

Locations X11 and X12 are included in the licence monitoring schedule for temporary cessation of operations. Location WEIR3 is not included in the licence schedule but was sampled once in 1999. All analytical results are listed in Appendix 1.

Water quality at locations X11, X12 and WEIR3 is generally consistent with that at location X13 (combined seepages). Concentrations of total zinc, sulphate and ammonia are typically greatest at

location X11. Water quality at location X13 most closely resembles that at contributory location X11 because of the greater proportion of flow which originates from location X11.

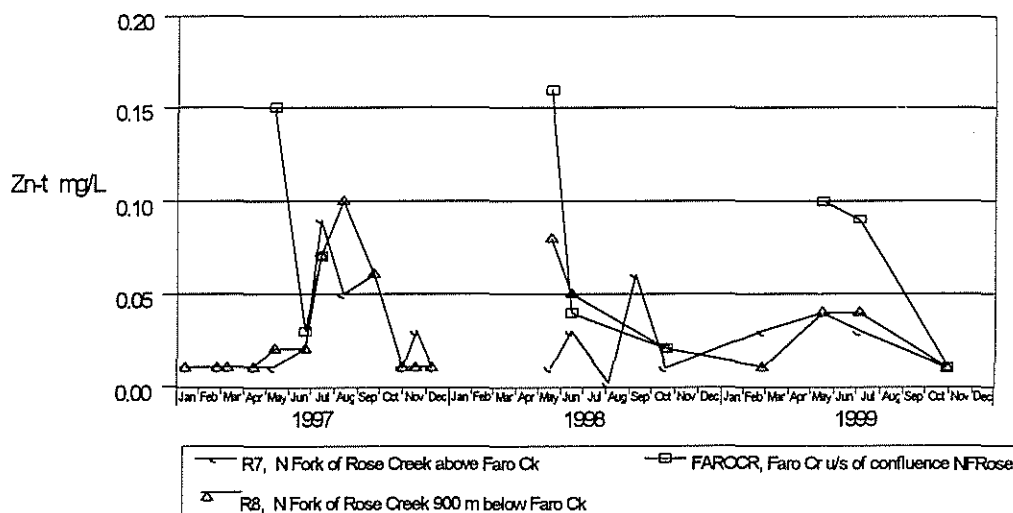
3.5 ROSE AND ANVIL CREEKS

3.5.1 North Fork of Rose Creek (R7, R8, R9, R10, X2)

The potential for impacts on surface water in the North Fork of Rose Creek from the Faro Creek diversion, seepage from the Zone II Pit, and some rock dumps is monitored at locations R7 through R10 and location X2 in the North Fork of Rose Creek. Locations R7 and R8 are immediately upstream and downstream, respectively, of the confluence with the Faro Creek diversion. Location R9 is approximately adjacent to the area of the Zone II pit. Location R10 is downstream of the Zone II pit area and upstream of the rock drain in the Vangorda ore haul road. Location X2 is below the rock drain at the crossing of the mine access road. Location X2 is the only one of these locations which is included in the licence monitoring schedule for temporary cessation of operations.

A comparison of water quality at locations R7 and R8 suggests that, in 1997, 1998 and 1999, a spring spike in the concentration of total zinc in the Faro Creek diversion caused a brief observable response at location R8. This was most pronounced in 1998. The concentrations of total zinc at locations R7, R8 and in the Faro Creek diversion on May 19, 1999 were 0.03, 0.04, and 0.09 mg/L, respectively. The data as illustrated on Figure 3.12 indicate that this was a brief event and that the concentrations of total zinc at locations R7 and R8 were at similar low levels (0.01 mg/L) in October 1999. There have been no corresponding spring peaks in the concentration of sulphate nor any corresponding spring dips in pH at location R8 as compared to location R7 in 1997, 1998 or 1999. Further information regarding water quality in the Faro Creek diversion is described herein in Section 6.

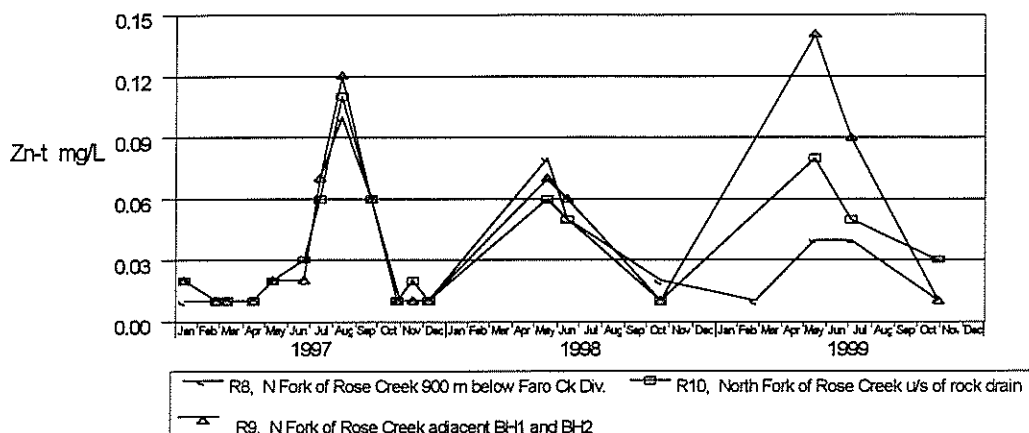
Figure 3.12 N. Fork Rose Creek (R7&R8) Zinc



A comparison of water quality at locations R8, R9 & R10 suggests that there is no significant impact on surface water in the North Fork of Rose Creek from the north east rock dumps or from the Zone II pit area with the possible exception of a new trend which may be emerging in 1999. The concentrations of total zinc, sulphate, pH and other parameters are very similar at these three locations. Recent concentrations of total zinc at locations R8, R9 and R10 are illustrated on Figure 3.13. Note that the elevated concentrations of total zinc shown on Figure 3.13 in August 1997 appear to relate to a corresponding

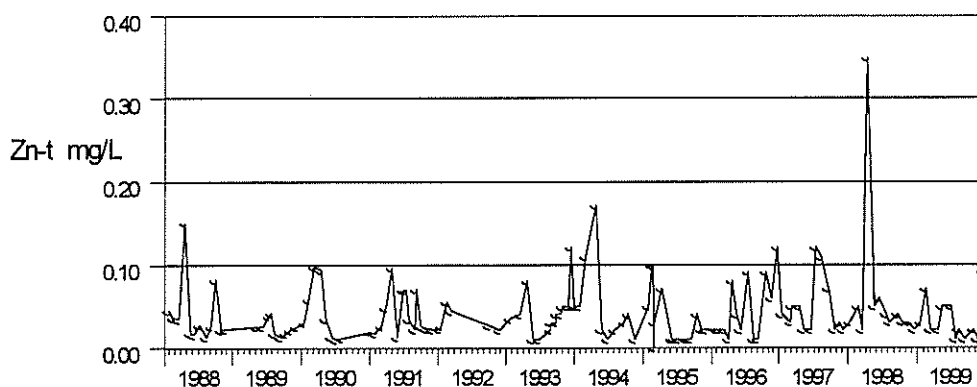
event at upstream reference location R7. The elevated concentrations of total zinc shown on Figure 3.13 in May 1998 appear to be related to a spring event in the Faro Creek diversion as described above. The causes of the elevated concentrations of total zinc shown on Figure 3.13 in May and July 1999 are unknown and this event appears atypical in that the greatest concentrations appear at location R9 and the lowest concentrations appear at location R8.

Figure 3.13 N. Fork Rose Creek (R8,R9&R10)



The North Fork of Rose Creek is monitored at location X2 prior to joining with the South Fork. The additional minesite influences at location X2 which may not be present at upstream location R10 are surface run off and seepage from the eastern portion of the main rock dump and the rock drain in the Vangorda ore haul road. The concentration of total zinc at location X2 during 1999 was generally within the range observed since 1988 (0.01 to 0.35 mg/L) as illustrated on Figure 3.14. The concentration of total zinc at X2 ranged from 0.01 to 0.09 mg/L during 1999 with an average concentration of total zinc during 1999 of 0.03 mg/L. Note that the range in concentration of dissolved zinc in 1999 at location X2 was much lower from 0.01 to 0.03 mg/L with an average concentration for the year of 0.01 mg/L.

Figure 3.14 N. Fork Rose Creek (X2) Zinc



3.5.2 Rose Creek Diversion Channel (X3, X10)

Rose Creek is monitored at the upstream and downstream extents of the constructed diversion channel which passes Rose Creek around the tailings impoundments at locations X3 and X10, respectively. Neither location X3 nor location X10 are included in the licence monitoring schedule for temporary cessation of operations.

Rose Creek is monitored immediately upstream of the diversion channel which passes water around the tailings impoundments at location X3 which is the outflow from the pumphouse pond. The water monitored at location X3 includes all flow from the South Fork of Rose Creek via the freshwater reservoir and a large portion the flow from the North Fork of Rose Creek via location X2. A small portion of the flow from the North Fork of Rose Creek (primarily during high flow events) bypasses the pumphouse pond via a secondary channel which was constructed in previous years. This flow enters the Rose Creek diversion channel immediately downstream of the pumphouse pond.

Water chemistry at location X3 in 1999 was monitored on 11 occasions and was generally similar to that observed in recent years with low metal and sulphate concentrations. The concentrations of total and dissolved zinc at location X3 in 1999 ranged from 0.01 to 0.06 mg/L and from 0.01 to 0.03 mg/L, respectively, with averages for the year of 0.03 and 0.01 mg/L, respectively. The concentration of sulphate at location X3 in 1999 ranged from 4 to 27 mg/L with an average for the year of 17 mg/L.

Rose Creek was monitored near the downstream end of the diversion channel at location X10 on 3 occasions in 1999. The potential influences on water quality between locations X3 and X10 are inflows from two side creeks and possible lateral seepage from the tailings impoundments. The water quality at location X10 in 1999 was similar to that at upstream location X3 although the concentrations of zinc and sulphate were very slightly greater at location X10 as was observed in previous recent years. The concentrations of total and dissolved zinc at location X10 in 1999 ranged from 0.04 to 0.08 mg/L and from 0.01 to 0.04 mg/L, respectively, with averages for the year of 0.06 and 0.02 mg/L, respectively. The concentration of sulphate at location X10 in 1999 ranged from 5 to 23 mg/L with an average for the year of 13 mg/L.

3.5.3 Rose Creek Immediately Downstream of Mine Discharges (X14)

Rose Creek immediately downstream of the confluence with effluent discharges (locations X5 and X13) and downstream of the diversion channel (location X10) is monitored at location X14. Water chemistry at location X14 typically shows the presence of effluent discharge through concentrations of sulphate, total zinc and ammonia which are elevated above background. The highest concentrations of these parameters generally correspond to periods of peak volume discharge from the Cross Valley Pond. Although location X14 is not included on the licence monitoring schedule for temporary cessation of operations, this location was sampled on 12 occasions in 1999.

The concentration of sulphate at location X14 during 1999 ranged from 23 to 326 mg/L with an average for the year of 142 mg/L. The concentrations of total and dissolved zinc at location X14 in 1999 ranged from 0.02 to 0.08 mg/L and from <0.01 to 0.03 mg/L, respectively, with averages for the year of 0.05 and 0.01 mg/L, respectively.

The peak concentration of total zinc in 1999 (0.08 mg/L) at location X14 occurred in December and corresponded to an elevated concentration at upstream location X10 (there was no effluent discharge at that time via location X5).

The long term trends for concentrations of total zinc and sulphate at location X14 as illustrated on Figures 3.15 and 3.16, respectively, show a somewhat seasonal cycling with higher concentrations often observed

during the winter seasons. The higher winter concentrations are considered to be the result of lower dilution flows in Rose Creek during periods of effluent discharge. The long term data also illustrate several significant isolated events over the history of the operation including the tailings spill in the mid-1970's. Additionally, a general reduction in typical zinc concentrations can be observed post 1992 due to discontinuation of tailings discharge to the Down Valley in 1992.

Figure 3.15 Rose Creek below mine (X14) Zinc

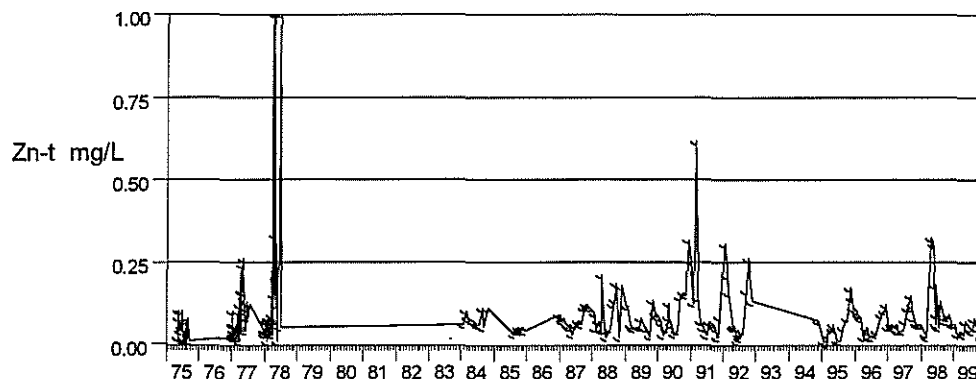
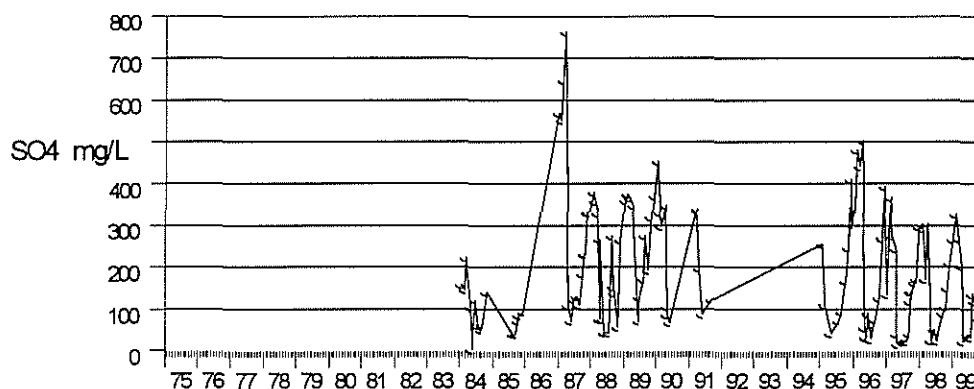


Figure 3.16 Rose Creek below mine (X14) SO4



The average annual and peak concentrations of ammonia at location X14 were 0.16 and 0.35 mg/L, respectively, during 1999 which were slightly lower than those reported for 1998. These levels of total ammonia are well within the Canadian Water Quality Guidelines for the protection of Freshwater Aquatic Life as reproduced in Table 3.1. The Guidelines show that the lowest recommended limit for Rose Creek in the course of a typical year would be 0.93 mg/L for pH about 8 and temperature about 20°C. The guidelines take into consideration the effects of temperature and pH on the toxicity and proportion of unionized ammonia.

All of the 6 analyses for total cyanide in 1999 at location X14 were less than 0.02 mg/L and two were less than the method detection limit of 0.01 mg/L. All of the 6 analyses for WAD cyanide were less than the method detection limit of 0.01 mg/L.

TABLE 3.1
RECOMMENDED GUIDELINES FOR TOTAL AMMONIA (NH₃) IN mg/L

pH	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C
6.50	2.5	2.4	2.2	2.2	1.49	1.04	0.73
6.75	2.5	2.4	2.2	2.2	1.49	1.04	0.73
7.00	2.5	2.4	2.2	2.2	1.49	1.04	0.74
7.25	2.5	2.4	2.2	2.2	1.50	1.04	0.74
7.50	2.5	2.4	2.2	2.2	1.50	1.05	0.74
7.75	2.3	2.2	2.1	2.0	1.40	0.99	0.71
8.00	1.53	1.44	1.37	1.33	0.93	0.66	0.47
8.25	0.87	0.82	0.78	0.76	0.54	0.39	0.28
8.50	0.49	0.47	0.45	0.44	0.32	0.23	0.17
8.75	0.28	0.27	0.26	0.27	0.19	0.16	0.11
9.00	0.16	0.16	0.16	0.16	0.13	0.10	0.08

Source: Canadian Water Quality Guidelines

3.5.4 Rose Creek to Anvil Creek / Anvil Creek (R2, R3, R4, R5, R6)

These locations are not included on the licence monitoring schedule for temporary cessation of operations and no samples were collected in 1999 with the exception of one sample collected at location R4 in March 1999.

Location R2 approximately coincides with routine monitoring location X14 in Rose Creek below the effluent mixing zone. Location R2 is approximately 100 metres downstream from location X14 with no significant surface inflows in between.

Location R3 is in Rose Creek approximately mid-distance from location R2 to the mouth of Rose Creek at the confluence with Anvil Creek.

Locations R4, R5 and R6 are the farthest downstream monitoring locations at the confluence of Rose and Anvil Creeks approximately 26 km downstream of the Down Valley Tailings facility. The sampling locations are Rose Creek just above Anvil Creek (R4), Anvil Creek just below Rose Creek (R5), and Anvil Creek just above Rose Creek (R6).

One sample was collected at location R4 in March 1999 by a local trapper who was accessing the area for other purposes. The water chemistry for this sample displays good water quality with a moderate concentration of sulphate (149 mg/L) and a low concentration of ammonia (<0.05 mg/L). The concentrations of total and dissolved zinc were 0.05 and <0.01 mg/L, respectively. The source of the total zinc at location X4 is unknown. There was no discharge of effluent via location X5 at that time.

3.6 DOWN VALLEY GROUNDWATER QUALITY

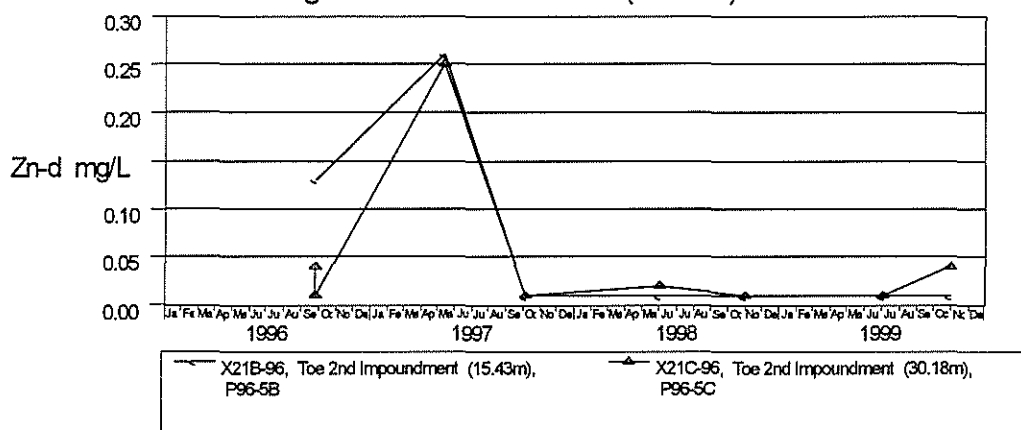
Groundwater in the aquifer underlying and downstream of the Down Valley tailings impoundments was monitored during 1999 at piezometers X16 through X19, X21-96, X24-96, and X25-96. The "-96" label indicates that these piezometers were installed in 1996 as replacements for previously destroyed installations. These groundwater monitoring locations are illustrated on Figure 1.2. Additional sampling of these and other piezometers was conducted in September 1999 by Environment Canada personnel.

Piezometers X16, X17, X18, X21, X24 and X25 are included in the licence schedule for temporary cessation of operations as is piezometer X20. However, piezometer X20 has not been located in the field and is assumed to be destroyed. Piezometer X19 is not included in the schedule.

Piezometers X21-96 (three installations) are located at the toe of the Second tailings impoundment and provide an indication of groundwater chemistry within and immediately underlying the tailings mass. Piezometer X21A-96 is installed in the tailings mass and is used for static water level measurements and is not equipped with a sampler. Piezometers X21B-96 and X21C-96 are installed in the underlying aquifer with X21C-96 at the greatest depth.

The concentrations of dissolved zinc were very similar in piezometers X21B-96 and X21C-96 in 1999 and were low ranging from <0.01 mg/L in the spring to 0.04 mg/L in the fall. The concentrations of sulphate displayed a different trend wherein the concentrations were not similar in piezometers X21B-96 and X21C-96 in 1999. The spring/fall 1999 concentrations of sulphate were 405/504 mg/L and 10/942 mg/L in piezometers X21B-96 and X21C-96, respectively. The high concentration of sulphate in piezometer X21C-96 in fall 1999 (942 mg/L) is atypical for this location where concentrations of less than about 50 mg/L have been recorded in the past. Concentrations of dissolved zinc and sulphate for piezometers X21B-96 and X21C-96 are illustrated on Figures 3.17 and 3.18, respectively. The causes of the isolated spikes in the concentrations of dissolved zinc in piezometers X21B-96 and X21C-96 in spring 1997 is unknown.

Figure 3.17 Groundwater (X21-96) Diss. Zinc



Piezometers X24-96 (four installations) and X25-96 (two installations) are located at the toe of the Intermediate dam and are installed at various depths up to 28 metres into the aquifer. Groundwater chemistry in these piezometers is generally characterized by neutral pH, moderately elevated sulphate concentration and low but occasionally measurable dissolved zinc concentration. A slight increasing trend with depth may exist for sulphate. Groundwater quality in the X24 piezometers appears to be slightly poorer than that in the X25 piezometers.

The concentrations of dissolved zinc and sulphate for locations X24-96 and X25-96 are illustrated on Figures 3.19 through 3.22. The causes of the isolated spike in the concentration of dissolved zinc in piezometers X24A-96 in January 1997, and of the atypical low concentration of sulphate in piezometer X24C-96 in fall 1999 are unknown.

Figure 3.18 Groundwater (X21-96) Sulphate

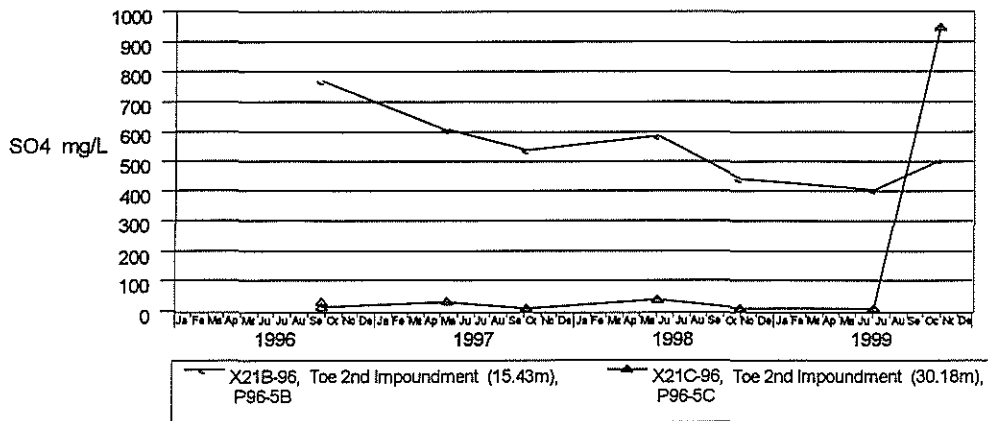


Figure 3.19 Groundwater (X24-96) Diss. Zinc

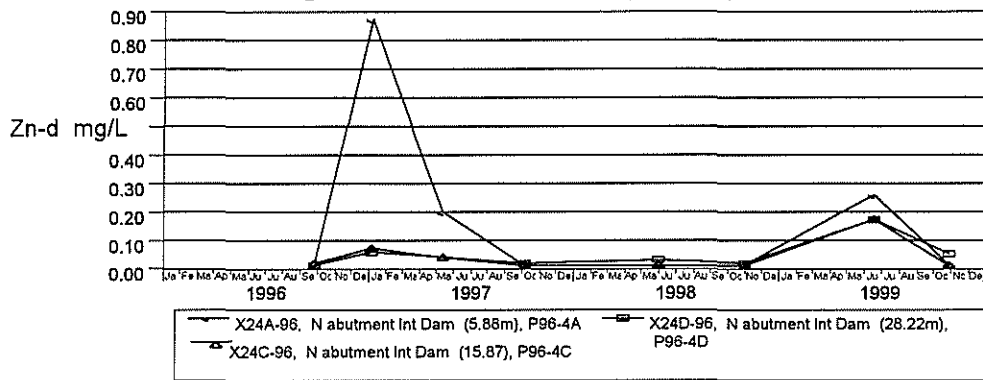


Figure 3.20 Groundwater (X24-96) Sulphate

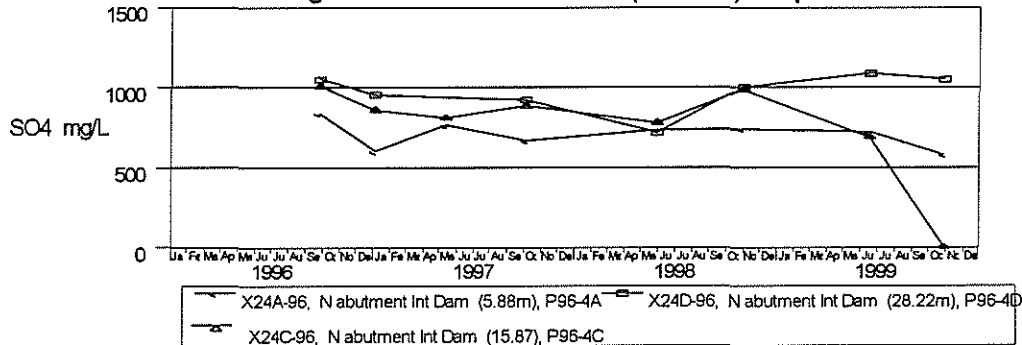


Figure 3.21 Groundwater (X25-96) Diss. Zinc

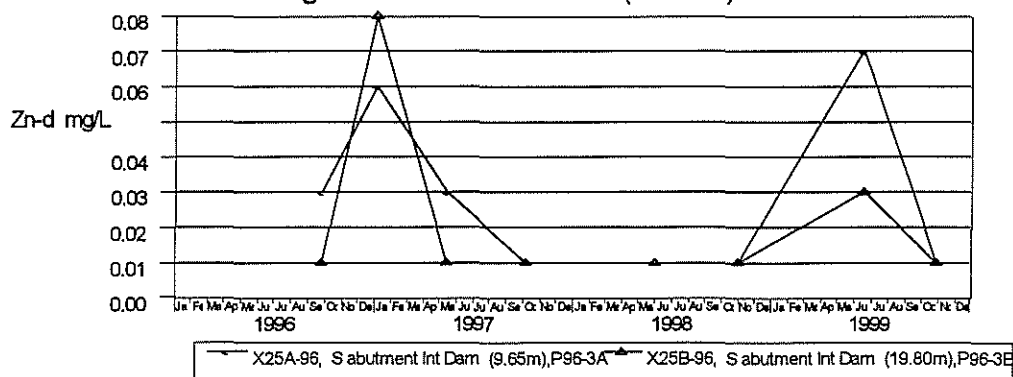
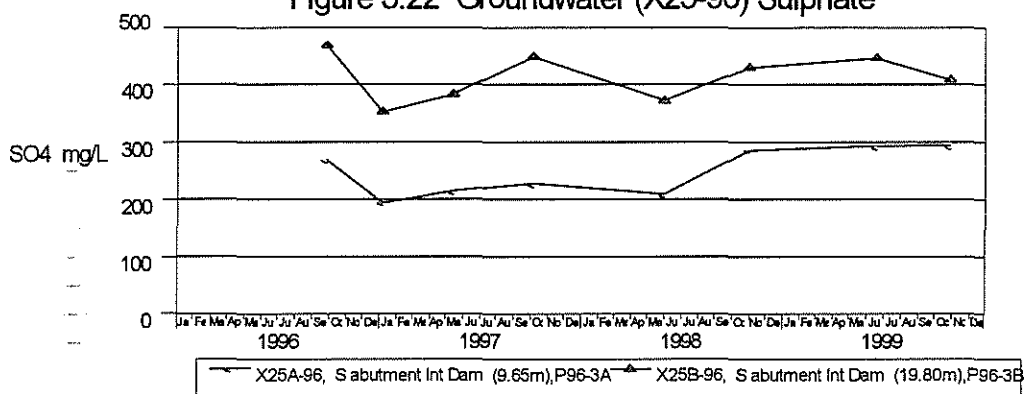


Figure 3.22 Groundwater (X25-96) Sulphate



Piezometers X16 through X19 (two installations each) are located downstream of the Cross Valley Dam and water chemistry data from regular monitoring is available since 1987 although one data set is available from 1981. Piezometers X16, X17 and X19 form a crude line along the valley bottom with X19 closest to the Cross Valley dam and X16 farthest. Piezometer X18 is located to the north of the valley bottom near and below the Cross Valley Dam.

The concentrations of sulphate in the X16 and X17 piezometers were all below 44 mg/L in 1999 which is similar to the concentrations observed in 1998. The concentrations of sulphate in the X19 piezometers were slightly higher in 1999 in a range from 159 to 373 mg/L. The concentrations of dissolved zinc were all less than 0.01 mg/L in fall 1999 in the X16, X17 and X19 piezometers and in spring at the X16 piezometers. An unexplained event resulted in elevated concentrations of dissolved zinc in spring 1999 in the X17 and X19 piezometers, however, when the concentrations of dissolved zinc ranged from 0.13 to 0.45 mg/L with the greatest concentration recorded at piezometer X17A (shallow). These elevated spring 1999 concentrations of dissolved zinc correspond to the elevated concentrations observed at upstream piezometers X24-96 and X25-96.

Both the shallow (10m) and deep (20m) installations in piezometer X18 continued to contain moderately elevated concentrations of sulphate in 1999. The concentrations of sulphate have generally increased from concentrations around 210 mg/L during the period from 1987 to 1992 to around 400 mg/L during the period from 1996 to 1999. The concentrations of dissolved zinc, however, remained low in the deep

installation and at the shallow installation in fall 1999 at less than 0.02 mg/L. As was observed in piezometers X17, X19, X24-96 and X25-96, an unexplained elevated concentration of dissolved zinc of 0.32 mg/L was recorded for piezometer X18A (shallow) in spring 1999. The presence of this elevated concentration of dissolved zinc at piezometer X18A is important since it remains uncertain as to whether the groundwater present in piezometer X18 is related to the tailings impoundments or is "natural" seepage from the north slopes of the Rose Creek valley.

The available data for concentrations of sulphate in the X16, X17, X18 and X19 piezometers are illustrated on Figures 3.23 through 3.26. Isolated spikes in the concentration of sulphate in piezometer X16A (shallow) were recorded in 1987 and 1990 which are unexplained. The concentration of sulphate in piezometer X17B (deep) was elevated above "normal" in 1996 which is also unexplained. The record for location X19 is less complete than that for the other locations.

The available data for concentrations of dissolved zinc in the X16, X17, X18 and X19 piezometers are illustrated on Figures 3.27 through 3.30. The elevated concentrations of dissolved zinc in these piezometers in 1991 is unexplained.

Figure 3.23 Groundwater (X16) Sulphate

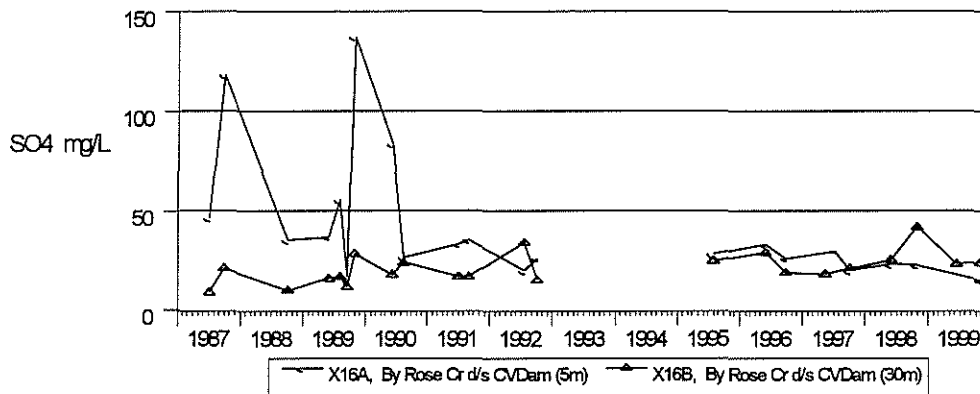


Figure 3.24 Groundwater (X17) Sulphate

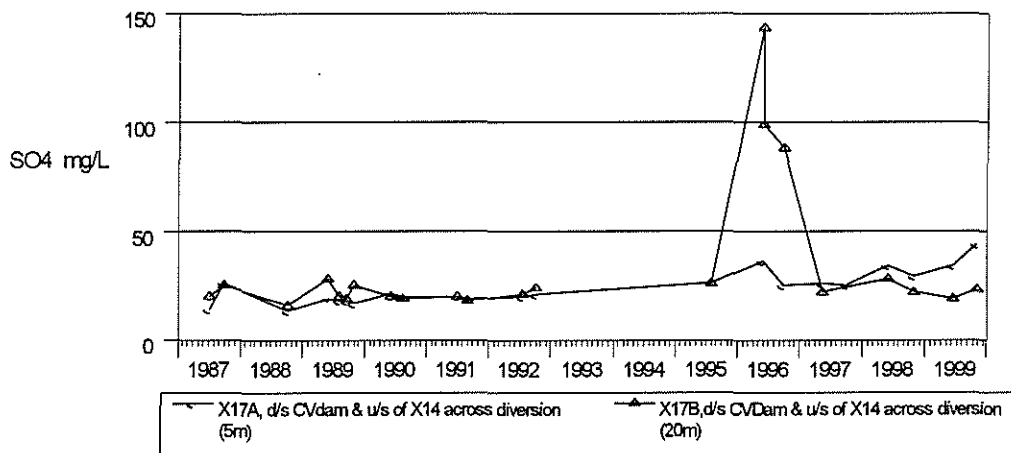


Figure 3.25 Groundwater (X18) Sulphate

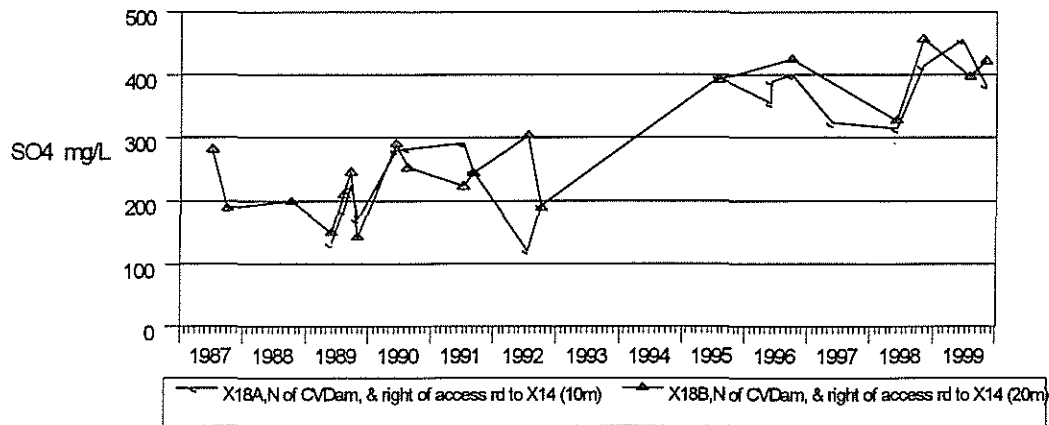


Figure 3.26 Groundwater (X19) Sulphate

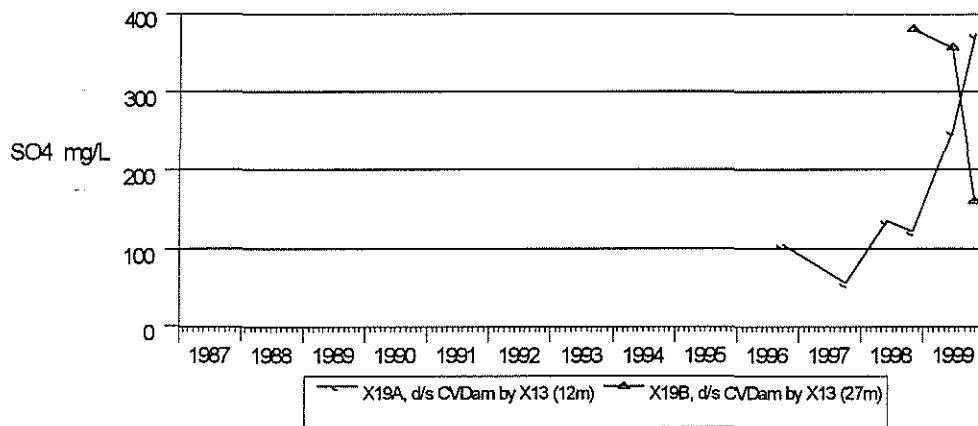


Figure 3.27 Groundwater (X16) Diss. Zinc

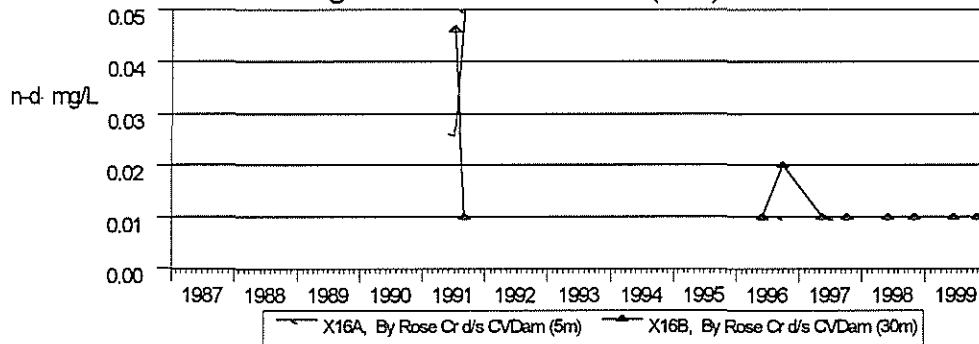


Figure 3.28 Groundwater (X17) Diss. Zinc

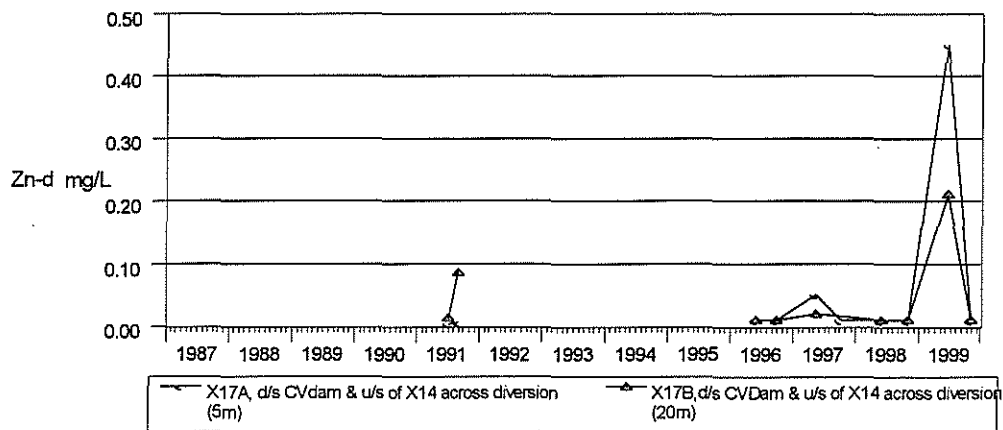


Figure 3.29 Groundwater (X18) Diss. Zinc

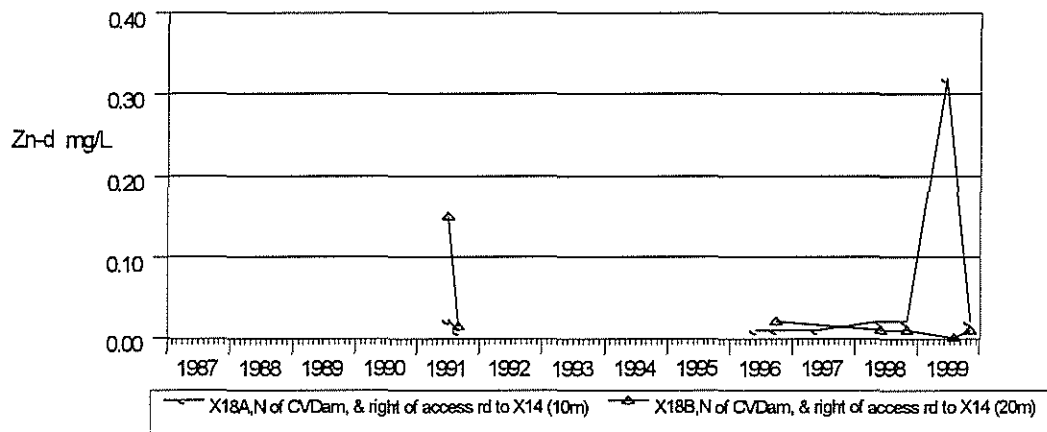
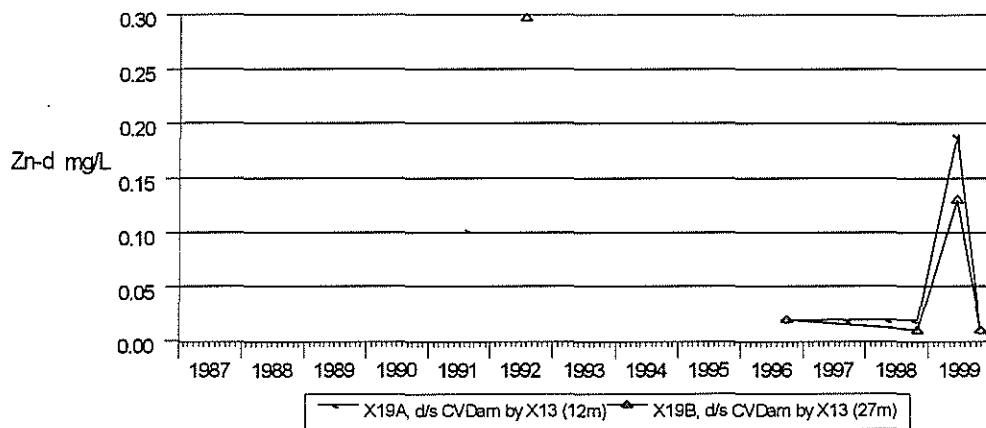


Figure 3.30 Groundwater (X19) Diss. Zinc



4. BIOLOGICAL MONITORING PER SCHEDULE 'B'

The biological monitoring program described under Schedule 'B' of the water licence is required to be performed every second year and was not performed in 1999 since it was performed in 1998. The program is scheduled to be performed in 2000.

5. GEOTECHNICAL MONITORING PER SCHEDULE 'C'

The geotechnical monitoring program described under Schedule 'C' of the water licence was performed during 1999 by Golder Associates Ltd. Calgary office. The full report prepared by Golder Associates Ltd. accompanies this report under separate cover. The field memo which was prepared by Golder Associates Ltd. at the time of their September 1999 site inspection and which lists the most important observations and recommendations resulting from the inspection is included in Appendix 6 of this report.

The geotechnical instrumentation installed in and around the Rose Creek Diversion Canal, the Intermediate Dam, the Cross Valley Dam and the Freshwater Dam was measured by Anvil Range Mining Corp. personnel according to the monitoring schedule recommended by Golder Associates Ltd. and the results were interpreted by Golder Associates Ltd. and are included in their report.

The field inspection memo included in Appendix 6 of this report states that "the project components are in satisfactory condition to perform their required function". A summary of the recommendations in the Golder field inspection memo is as follows:

- perform maintenance work on Rose Creek diversion canal dyke and backslope,
- perform maintenance work on Intermediate dam (additional rip rap near north end),
- upgrade North Wall interceptor ditch dyke in three locations,
- perform maintenance work on various trenches, weirs and culverts,
- monitor water level in the pond upstream of the rock drain,
- inspect lower level pipe in the Freshwater dam,
- conduct regular inspections of the facilities.

Several of the recommendations presented in the 1999 field memo or in the 1998 report were acted on in 1999 as follows and some of these tasks are described in more detail in Section 7 of this report:

- an initial attempt was made to locate and inspect the lower level pipe in the Freshwater Supply Dam (which is scheduled to be followed up on in 2000),
- maintenance on the crest of the Rose Creek diversion canal dyke was performed,
- the Intermediate Dam spillway dyke approach to the north end of the dam was restored to satisfactory condition,
- a small sump above the south side of the Cross Valley pond was removed,
- regular site inspections were performed and a documented inspection guide was developed including monitoring of dam seepages and the inspection logbook was reviewed by Golder Associates during their site inspection in September 1999,
- a photo record of the water level in the pond upstream of the rock drain was collected per the requirements of the water licence and was forwarded to Golder Associates.

In addition to the above work, a written comment was received from Golder Associates in April 1999 regarding the surveys of the Cross Valley and Intermediate Dam spillways which had been performed in fall 1998. The Golder Associates memo is included in Appendix 6 of this report. The memo confirmed that certain portions of the Cross Valley Dam spillways were higher than design and field measurements had shown that the width of the channels was less than design in certain locations. In response to this information, the two Cross Valley Dam decant channels were restored to design configuration in 1999 by excavation of excess material and placement of fresh rip rap rock. The work concentrated on the upstream portion of the channels near the dam. The work was surveyed during and following completion and is further described in Section 7 of this report.

6. MINE CLOSURE MONITORING

6.1 1999 SURFACE SEEP SURVEY

A surface sampling campaign was performed in 1999 as continuation of the seep surveys which were performed in previous years. The sites included Faro Creek Diversion, North Fork of Rose Creek, old Faro Creek channel above the Main pit, Upper Guardhouse Creek, Guardhouse Creek, North Wall Interceptor ditch, and seepage towards the North Fork of Rose Creek. The analytical results are included in Appendix 7.

The following general observations may be made from the 1999 surface water chemistry data:

1. water quality continues to show significant deterioration upon passage through the Faro Valley rock dump (locations FCO to A30) exhibiting substantial increases in the concentrations of total zinc and sulphate accompanied by lower pH (pH<4 at location A30).
2. the concentration of dissolved zinc increased along the length of the Faro Creek diversion in May 1999 from 0.06 mg/L at location FDU (above the Faro Valley rock dump) to 0.41 mg/L at location FCD (adjacent to the NE rock dumps) to 0.08 mg/L at location FAROCR (above the confluence with the North Fork of Rose Creek) although the increase was not consistent with the central location (FCD) showing the greatest concentration; there was also a corresponding slight increase in the concentration of sulphate in May 1999 from 2 mg/L at location FDU to 34 mg/L at location FAROCR; the concentrations of total and dissolved zinc were all less than 0.01 mg/L at locations FDU and FAROCR in October 1999.
3. water chemistry at location GHSCR2 in lower Guardhouse Creek which reports to the Intermediate tailings impoundment was consistent in July 1999 with that observed since 1996; the concentrations of total and dissolved zinc in July 1999 were 1.7 and 4.0 mg/L, respectively.
4. water chemistry at location IDSEEP at the south abutment of the Intermediate dam which reports to the Cross Valley pond was good in July 1999; the concentrations of dissolved zinc and sulphate were 0.02 and 278 mg/L, respectively.
5. water quality at three small intermittent surface flows below the north east rock dumps (locations NE1, NE2 and NE3) showed one slightly elevated concentration of dissolved zinc in May 1999 of 0.24 mg/L at location NE3; the remaining concentrations of dissolved zinc in May 1999 were within the range observed at these locations since 1997 of less than 0.07 mg/L; the concentrations of dissolved zinc in July and October 1999 were all less than 0.01 mg/L where water was present; the concentrations of sulphate ranged from 69 to 560 mg/L during 1999 which were within the range observed at these locations since 1996.
6. water chemistry upstream and downstream of the Vangorda haul road rock drain (locations NF1 and NF2) showed that the rock drain was not impacting on surface water chemistry; the concentrations of total suspended solids were 8 mg/L in July 1999 at both locations and decreased from 18 to 16 mg/L in October 1999; the concentrations of total and dissolved zinc at both locations were all less than or equal to 0.03 mg/L in 1999.
7. the concentrations of total and dissolved zinc at location NWINT in the North Wall Interceptor ditch in April 1999 were 0.04 and 0.02 mg/L, respectively; the concentration of sulphate in April 1999 was 19 mg/L although the concentration of total suspended solids was elevated at 71 mg/L.
8. water chemistry at location SP5-6 (intermittent surface flow from the north east rock dumps which reports to the main pit) in May 1999 was slightly poorer than that observed in 1998; the concentrations of dissolved zinc and sulphate in April 1999 were 27.0 and 733 mg/L, respectively, with pH of 5.8.
9. water chemistry for locations W10 and W8 in Upper Guardhouse Creek showed that water quality was not significantly affected by passage through a corner of the north west rock dump in July 1999; from location W10 to location W8, pH decreased slightly from 8.0 to 7.6, the concentration of total zinc increased slightly from 0.03 to 0.07 mg/L, and the concentration of sulphate increased very slightly from 3 to 5 mg/L.

6.2 1999 GROUNDWATER SEEP MONITORING

Selected piezometers around the Faro site were monitored during 1999 as a continuation of the groundwater surveys performed in previous years. The analytical results are included in Appendix 2 and the piezometer locations are illustrated on Figure 1.2. The groundwater chemistry in some of these piezometers which are referenced in Part B or Schedule A of the licence are described in Section 3 of this report. Specifically, the 'X' series piezometers in the Down Valley and the 1990 'BH' series piezometers (BH1, BH2 and BH4) are described in Section 3 of this report.

Groundwater seepage at the toe of the northeast rock dump above the North Fork of Rose Creek is monitored at piezometers BH12, BH13 and BH14 (two installations each with one installation at BH13 blocked/inaccessible). The concentrations of sulphate at these piezometers remained within or close to the range observed since 1994 with a range in 1999 from 259 to 1063 mg/L. The concentrations of dissolved zinc in these piezometers in 1999 remained within the range observed since 1994 at equal to or less than 0.07 mg/L in 1999 with the exception of installation BH12B where the concentration of dissolved zinc was 0.21 mg/L in October 1999. Groundwater pH remained neutral in 1999 in a range from 5.4 to 6.8 with the lowest pH's recorded at locations BH14A and BH14B. The potential impact of this groundwater flow on surface water is monitored at surface locations R8 and R9 as described in Section 3 of this report.

Lateral groundwater seepage from the main and intermediate rock dumps towards the North Fork of Rose Creek is monitored immediately above the Vangorda haul road at piezometer P96-6 (one installation). The ranges in concentrations of sulphate and dissolved zinc at this location in 1999 were from 341 to 428 mg/L and from 0.41 to 0.76 mg/L, respectively. The groundwater pH at this location remained neutral in 1999 from 5.8 to 6.0. The concentrations of sulphate measured in 1999 were slightly higher than those measured in 1998 and a general increasing trend may be suggested. However, the concentrations of dissolved zinc measured in 1999 were similar to those measured in 1998. The potential impact of this groundwater flow on surface water is monitored at surface locations R10 and X2 as described in Section 3 of this report.

Lateral groundwater seepage from the main and intermediate rock dumps towards the North Fork of Rose Creek is also monitored immediately below the Vangorda haul road at piezometers S1 (two installations), S2 (two installations) and S3 (one installation). The range in concentrations of sulphate and dissolved zinc at these locations in 1999 was from 345 to 2,533 mg/L and from <0.01 to 0.21 mg/L, respectively, with the exception of an unusually high spike in the concentration of dissolved zinc of 0.61 mg/L at installation S1A in July 1999. These concentrations are within or close to the ranges observed for these piezometers since 1996 with the exception of the unusual spike for dissolved zinc at installation S1A described above. The groundwater pH at these locations remained neutral in 1999 in a range from 5.6 to 7.7. The potential impact of this groundwater flow on surface water is monitored at surface locations R10 and X2 as described in Section 3 of this report.

Groundwater seepage from the central portion of the main and intermediate rock dumps is monitored close to the toe of the dumps at piezometer P96-7 (one installation). The concentrations of sulphate and dissolved zinc at this location in October 1999 were 1606 mg/L and <0.01 mg/L, respectively, and an increasing trend in the concentration of sulphate may be suggested. The groundwater pH at this location remained neutral in October 1999 at 6.8.

Groundwater seepage from the majority of the main and intermediate rock dumps and, possibly, other rock dumps, is monitored at piezometer P96-8 (two installations) located near the old Faro Creek channel and near surface monitoring location X23. Groundwater at this location is of poorer quality than at other seepage locations due, likely, to the concentration of seepage flow in the old Faro Creek channel. The

range in concentrations of sulphate and dissolved zinc in the P96-8 piezometers in 1999 was from 2290 to 3218 mg/L and from 2.2 to 11.2 mg/L, respectively. While the concentrations of dissolved zinc are within the range observed for these piezometers since 1996, an increasing trend in the concentration of sulphate may be suggested. The groundwater pH remained neutral in 1999 in a range from 6.2 to 6.7.

7. SITE MAINTENANCE

7.1 GLACIATION

Glaciation in the Rose Creek Diversion Canal was monitored on a daily basis through spring breakup in 1999. No active intervention was necessary during breakup although a small channel was cut into the ice along the centre of a portion of the diversion canal in February in order to avoid any overflow problems during breakup.

The Faro Creek diversion overflowed the containment dyke along its upstream reach in May 1999 due to runoff water flowing on top of an extensive ice cap. This resulted in an increased flow volume passing through the Faro Valley rock dump and into the Faro Main pit for a brief period while equipment was mobilized to clear a channel through the ice cap.

Various culverts under the mine access road and some on-site roads were steamed out in spring as is customary practice in order to ensure that spring run off water is appropriately channeled. The icing of culverts was significantly worse in 1999 than in recent previous years for unexplained reasons.

7.2 BLOCKAGE AND CLEARING OF SPILLWAYS

The Intermediate and Cross Valley dam spillways were temporarily blocked with loose material for a period in summer 1999 in order to prevent a discharge of non-compliant water. The spillways were subsequently cleared and restored to their pre-blockage condition.

The temporary blockages were a part of the action plan initiated in response to non-compliant effluent total zinc concentrations (refer to Section 3.4 for a description of effluent water quality issues). The non-compliant concentrations were successfully remediated and the spillway blockages were removed. The Cross Valley dam spillway was blocked with loose dirt and fine rock placed by a front end loader such that there was only a small intermittent seep visible through the blockage. The Intermediate dam spillway was blocked with loose dirt placed by a front end loader and backhoe such that seepage through the blockage was reduced to the order of 1 Lps.

The water level in the Cross Valley pond rose to a maximum of 38 cm against the temporary dyke. The water level in the Intermediate pond rose to a maximum of 49 cm against the temporary dyke. No concerns regarding the physical stability of the dams were noted during inspections of the dam crests, toes and seepages.

The cleared spillways were surveyed following removal of the temporary dykes and were also inspected by Golder Associates Ltd. as part of their annual site inspection and no concerns were raised at that time. The inspection by Golder Associates is described in Section 5 of this report.

7.3 RESTORATION OF CROSS VALLEY DAM SPILLWAYS TO DESIGN

Surveys of the two Cross Valley Dam spillways in fall 1998 and later analysis of the data by Golder Associates in April 1999 confirmed that the outer decant spillway was not at design invert elevation and that the spillway widths were less than design at their entrances. This had been the case for several years going back to at least 1996. Specifically, the invert of the outer decant spillway was approximately 0.3 metres higher than design which put it at the same elevation as the larger inner spillway rather than at a lower elevation.

In conjunction with removal of the temporary dyke which had been placed across the entrances to the two spillways at the Cross Valley Dam in summer 1999, the spillways were restored to design elevations and widths in their upstream reaches near the dam.

Additionally, fresh rip rap rock was placed in the upper reach of the outer decant spillway. The rip rap rock was obtained and screened at the gravel/rock borrow area which had been previously established during construction of the dams.

The work was surveyed during and following completion to ensure that the spillway inverts were not overexcavated. Additionally, the work was inspected by Golder Associates during their annual site geotechnical inspection which was conducted in September 1999 and no issues regarding the work were raised at that time.

7.4 PROTECTION OF ROSE CREEK DIVERSION CANAL BANK

On-Going erosion of the soil from the inside (north) bank of the Rose Creek diversion canal at it's lowest reach where the canal turns to the north to re-enter the natural Rose Creek channel (near surface monitoring location X10 per Figure 1.2) was remediated in 1999. The soil bank was flattened to the degree where large rip rap rock could be placed and remain in place and then rip rap rock was placed on the soil.

The rip rap rock used was obtained from a nearby stockpile which had been created during construction of the diversion canal and the source of the rock was the now inaccessible rock quarry located on the south side of the canal. The rock was blocky and angular. Large sized rip rap rock (>1 metre diameter) was placed along the bottom of the soil bank at and near the typical water level.

The work was inspected by Golder Associates Ltd. as part of their annual geotechnical inspection which was conducted in September 1999 and no issues regarding the work were raised at that time although the suggestion was made to monitor for any increased erosion along the outer curve of the turn in the diversion canal as this may result from the transference of water energy from the rip rap rock on the now remedied inner bank. The Golder Associates inspection is described in Section 5 of this report.

7.5 ROSE CREEK DATALOGGER INSTALLATION

A new datalogger was installed in June 1999 at location X14 in Rose Creek downstream of the tailings impoundments by Laberge Environmental Services of Whitehorse. The installation was required to replace the previous datalogger which was outdated and which had ceased data collection due to unknown problems.

In October 1999, it was discovered that the datalogger location had been vandalized and that data collection had ceased due to a stolen primary battery and low auxiliary battery. A new battery was installed and normal data collection was resumed in December 1999.

7.6 INTERMEDIATE DAM SPILLWAY DYKE RESTORATION

In September 1999, the upper portion of the Intermediate Dam spillway dyke was restored to an acceptable elevation per the recommendations of Golder Associates. Clay soil was trammed from a spoil pile at the toe of the Intermediate Dam which was presumably left over from construction of the dam. Rocks larger than approximately 6 inches were hand picked from the soil. The soil was spread in thin layers and compacted in place under the weight of the front end loader.

The work was inspected by Golder Associates during their annual site inspection in September and no issues regarding the work were identified.

7.7 REMOVAL/DISPOSAL OF LABORATORY CHEMICALS

All laboratory chemicals were removed from the minesite or appropriately disposed of on site in September 1999 by the specialty firm of CEDA Reactors of Vancouver.

8. SUMMARY OF OTHER REGULATORY ISSUES

8.1 SURVEYS/QUESTIONNAIRES

The following surveys or questionnaires were completed during 1999:

- National Pollutants Release Inventory, Environment Canada (1998 reporting year)
- Survey of Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures, Natural Resources Canada
- Environment Canada survey re. chemicals in industrial solvents

8.2 PCB INVENTORY

An updated inventory for PCB materials on the minesite was developed in fall 1999 in response to comments and recommendations made by Environment Canada personnel during their PCB inspection in summer 1999. The PCB storage container was opened and inspected during the Environment Canada site inspection and one capacitor was added into the storage container at that time.

All transformers which were not installed or in-line were identified and most were sampled for PCB's in 1999. All of the transformers which were sampled were found to contain less than 50 ppm PCB.

A thorough inspection of the mill, administration, warehouse, maintenance shop and ancillary buildings was conducted in September 1999 by Access Mining Consultants of Whitehorse. All items on the existing site PCB inventory were identified and numerous changes to the current inventory were recommended. The final report for the inventory inspection is expected early in 2000.

8.3 REGISTRATION OF STORAGE TANKS

A total of 16 above ground and one partially buried storage tanks were registered in April 1999 per the requirements of the "Regulation of Storage Tank Systems for Petroleum Products and Allied Petroleum Products on Federal Lands Regulations". The tanks were on both the Faro and Vangorda Plateau minesites.

8.4 DIAND SCRAP STEEL RECLAMATION PROJECT

A DIAND funded scrap steel reclamation project was carried out at the Faro minesite during September and October 1999. Several "boneyards" and scrap storage areas were reclaimed by cutting, sorting and shipping metal items from the sites. Wood debris was burned on site. Garbage and materials not suitable for shipping was placed in the landfill site. Oil and grease drums and transformers were relocated to appropriate locations on the minesite for inclusion into future suitable reclamation programs.

8.5 ENVIRONMENT CANADA RESEARCH TESTS

Contributions were made to two Environment Canada research projects during 1999. In March, 18 pails of rock were collected from the crusher stockpile area for use in a kinetic test program being conducted by Environment Canada. In October, several pails of tailings were collected from the Down Valley original tailings impoundment for use in a thesis program at the University of Alberta which was coordinated by Environment Canada.

APPENDIX 1
1999 SURFACE WATER QUALITY LISTING

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X2, N Fork of Rose Creek u/s of mine access road

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
18/01/99	6.73		31	<1	<0.05						
22/02/99	6.61	0	32	5	<0.05						
17/03/99	6.93	0	26	2	<0.05						
20/04/99	7.06	1	24	1	<.05						
17/05/99	7.35	1	4	4	<0.05				21		some ice
03/07/99	7.71	7	8	7	<0.05	<0.01	<0.01		43		
27/07/99	7.89	6	7	24	<0.05						
29/07/99								1561			
12/08/99	7.68	12	11	4	<0.05	<0.01	<0.01				
31/08/99								1004			
10/09/99	7.58	4	10	2	<0.05	<0.01					
29/10/99	6.99	0	19	<1	<0.05	<0.01				<5	66
22/11/99	6.65	0	23	9	<0.05	<0.01					iced over
14/12/99	7.21	0	21	1	<0.05	<0.01					

JAN 1999 - DEC 1999

Mean	7.2	3	18	5	0.05	0.01	0.01	1282	32	5	66
Std. Devia	0.44	4	10	7	0	0	0	394	16	0	0
Minimum	6.61	0	4	1	0.05	0.01	0.01	1004	21	5	66
Maximum	7.89	12	32	24	0.05	0.01	0.01	1561	43	5	66
Num. Valu	12	11	12	12	12	6	2	2	2	1	1

STATION: X3, S Fork Rose Creek at the pumphouse reservoir

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
18/01/99	6.91		26	2	<0.05				154		
22/02/99	6.62	0	27	3	<0.05				180		
17/03/99	7.41	0	23	2	<0.05	<0.01	<0.01		144		
20/04/99	8.27	0	21	2	<.05	<.01	<.01				
17/05/99	6.99	1	4	2	<0.05				31		
03/07/99	7.95	9	8	3	<0.05	<0.01	<0.01		53		
27/07/99	7.97	9	8	4	<0.05				52		
12/08/99	7.7	12	10								
31/10/99	7.18	0	18							<5	121
22/11/99	7.05	0	21	1	<0.05						
14/12/99	7.62	0	20	1							

JAN 1999 - DEC 1999

Mean	7.42	3	17	2	0.05	0.01	0.01		102	5	121
Std. Devia	0.52	5	8	1	0	0	0		64	0	0
Minimum	6.62	0	4	1	0.05	0.01	0.01		31	5	121
Maximum	8.27	12	27	4	0.05	0.01	0.01		180	5	121
Num. Valu	11	10	11	9	8	3	3		6	1	1

STATION: X4, Intermediate Dam decant

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
18/01/99	6.51		673	7	1.15						
21/02/99	7.47	0	776	9	1.43			0			no flow; 2' ice
06/05/99			509	6	0.74			180			no outflow
17/05/99	7.86	2	51	7	0.1	<.01	<.01	0			no outflow
03/07/99	7.52	15	487	6	0.89	<0.01	<0.01				
27/07/99	8.05	12	563	3	1.11	<0.01	<0.01	179			
12/08/99	8.49	15	545	16	1.2	0.01	<0.01	169			
10/09/99	7.15	9	552	4	1.22	<0.01		0		<5	66
29/10/99	7.79	0	647	24	1.11	<0.01		1			

JAN 1999 - DEC 1999

Mean	7.61	8	534	9	0.99	0.01	0.01	76		5	66
Std. Devia	0.6	7	203	7	0.39	0	0	94		0	0
Minimum	6.51	0	51	3	0.1	0.01	0.01	0		5	66
Maximum	8.49	15	776	24	1.43	0.01	0.01	180		5	66
Num. Valu	8	7	9	9	9	6	4	7		1	1

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X5, Cross Valley Pond outflow

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
18/01/99	6.97		611	4	1.11						no flow; 2' ice
21/02/99	7.62	0	629	10	1.15			0			no outflow
21/03/99			538		1.03	0.01	<0.01				no discharge
20/04/99	7.52	4	442	11	0.78	<.01	<.01				no outflow
06/05/99			377	1	0.56			0			no outflow
17/05/99	7.94	2	181	2	0.31	<.01	<.01	0.5			seep
27/05/99			228		0.27			40			bioassay; qa/qc dup
03/07/99	8.55	14	430	8	0.85	<0.01	<0.01	126			bioassay
27/07/99	8.29	11	541	19	0.93	<0.01	<0.01	163			
29/07/99	8.53	12	480	7	0.86	<0.01	<0.01	163			
12/08/99	8.59	15	493	6	1.1	<0.01	<0.01	197.5			
10/09/99	7.67	9	536	7	1.03	<0.01		325			bioassay
29/10/99	7.69	0	627	26	1.03	<0.01		0			
JAN 1999 - DEC 1999											
Mean	7.94	7	470	9	0.85	0.01	0.01	101.5			
Std. Devia	0.54	6	141	7	0.29	0	0	111.7			
Minimum	6.97	0	181	1	0.27	0.01	0.01	0			
Maximum	8.59	15	629	26	1.15	0.01	0.01	325			
Num. Valu	10	9	13	11	13	9	7	10			

STATION: X10, Rose Creek Diversion Channel below weirs

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
17/05/99	8.09	1	5	7	<0.05				35		
27/07/99	8.1	8	11	22	<0.05				61		
14/12/99	7.49	0	23	2							
JAN 1999 - DEC 1999											
Mean	7.89	3	13	10	0.05				48		
Std. Devia	0.35	4	9	10	0				18		
Minimum	7.49	0	5	2	0.05				35		
Maximum	8.1	8	23	22	0.05				61		
Num. Valu	3	3	3	3	2				2		

STATION: X11, Seepage from north toe of Cross Valley Dam

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
17/05/99	6.98	3	767	16	1.1			36			
12/08/99	7.14	8	669	13	0.94	<0.01	<0.01	34.5			
10/09/99	6.92	4	705	10	0.9	<0.01		27			
28/09/99								17			
29/10/99	6.31	2	810	15	0.94	<0.01		19			
22/11/99	7.05	1	825	11	0.47	<0.01		19			
14/12/99	6.73	0	739	14	1.73	<0.01		19			
JAN 1999 - DEC 1999											
Mean	6.86	3	752	13	1.01	0.01	0.01	24.5			
Std. Devia	0.3	3	60	2	0.41	0	0	8			
Minimum	6.31	0	669	10	0.47	0.01	0.01	17			
Maximum	7.14	8	825	16	1.73	0.01	0.01	36			
Num. Valu	6	6	6	6	6	5	1	7			

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X12, Seepage from south toe of Cross Valley Dam

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L	
17/05/99	7.39	3	306	21	0.05			1				initially input as WEIR3
12/08/99	7.34	8	313	4	<0.05	0.01	<0.01	1				
10/09/99	6.89	4	308	2	<0.05	<0.01		1				
28/09/99								1				
29/10/99	7.02	2	329	6	<0.05	<0.01		1				
22/11/99	7.34	2	340	7	<0.05	<0.01		1				
14/12/99	6.98	1	295	3	0.25	<0.01		1				
JAN 1999 - DEC 1999												
Mean	7.16	3	315	7	0.08	0.01	0.01	1				
Std. Devia	0.22	3	16	7	0.08	0	0	0				
Minimum	6.89	1	295	2	0.05	0.01	0.01	1				
Maximum	7.39	8	340	21	0.25	0.01	0.01	1				
Num. Valu	6	6	6	6	6	5	1	7				

STATION: WEIR3, seepage from central area of X-Valley Dam

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L	
17/05/99	6.94	4	460	10	0.86			10				initially input as X12
JAN 1999 - DEC 1999												
Mean	6.94	4	460	10	0.86			10				
Std. Devia	0	0	0	0	0			0				
Minimum	6.94	4	460	10	0.86			10				
Maximum	6.94	4	460	10	0.86			10				
Num. Valu	1	1	1	1	1			1				

STATION: X13, Combined seepage from Cross Valley Dam

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L	
18/01/99	6.99		717	8	0.9			45				120 days @ 46.8 = 485.6 km ³
27/01/99								45				
22/02/99		2	642	15	0.9			45				
17/03/99	6.93	1	493	8	0.7	<0.01	<0.01	49				
24/03/99								49				
03/04/99								49				bioassay
20/04/99	7.16	4	650	8	0.76			49				92 days @ 72.0 = 572.7 km ³
17/05/99	7.05	4	682	13	0.97			70				
04/06/99								70				
08/06/99								62				
03/07/99	7.16	7	566	7	0.9			82				
27/07/99	7.64	6	588	12	0.87			70				bioassay
12/08/99	7.09	8	600	10	1.16	<0.01	<0.01	63				92 days @ 52.9 = 420.5 km ³
10/09/99	6.91	4	580	10	0.83	<0.01		52				
28/09/99								44				
29/10/99	6.46	1	603	10	0.72	<0.01		49				
22/11/99	7.18	0	684	12	0.51	<0.01		49				
14/12/99	6.33	0	547	7	1.37	<0.01		50				61 days @ 49.5 = 260.7 km ³
JAN 1999 - DEC 1999												
Mean	6.99	3	613	10	0.88	0.01	0.01	55				1,739.5 km ³ (+ 29.5)
Std. Devia	0.35	3	65	3	0.22	0	0	11				
Minimum	6.33	0	493	7	0.51	0.01	0.01	44				
Maximum	7.64	8	717	15	1.37	0.01	0.01	82				
Num. Valu	11	11	12	12	12	6	2	18				

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X14, Rose Cr downstream of the diversion channel

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
18/01/99	6.72		265	3	0.29				387		
22/02/99	5.94	0	326	3	0.35				413		
17/03/99	7.09	1	268	7	0.3	<0.01	<0.01		398		
20/04/99	7.24	2	201	6	0.07	0.02	<.01		304		
17/05/99	7.29	1	23	15	0.09	<.01	<.01		51		
25/06/99								7820			
03/07/99	8.53	8	38	4	<0.05	0.02	<0.01		86		
27/07/99	8.17	9	32	27	0.08	<0.01	<0.01		89		
29/07/99								3421			
12/08/99	8.18	11	135			0.01	<0.01		199		
31/08/99								1912			
10/09/99	7.95	6	119						177		
29/10/99	8.06	0	76								
22/11/99	7.49	0	104	1	<0.05				156		
14/12/99	7.81	0	114	10					243		

JAN 1999 - DEC 1999

Mean	7.54	3	142	8	0.16	0.01	0.01	4384	228		
Std. Devia	0.73	4	101	8	0.13	0.01	0	3070	132		
Minimum	5.94	0	23	1	0.05	0.01	0.01	1912	51		
Maximum	8.53	11	326	27	0.35	0.02	0.01	7820	413		
Num. Valu	12	11	12	9	8	6	6	3	11		

STATION: X22B, Faro Pit water while filling with tailings

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
19/01/99	6.87		574	<1	0.53						2.5' ice
22/02/99	7.42	0	692	6	1.35						no outflow
22/03/99			546		0.74	0.01	<0.01				
17/05/99	6.91	2	190	2	0.33	<.01	<.01				pond
03/07/99	7.26	13	478	6	0.94	0.01	<0.01				
27/07/99	7.74	13	581	3	1.15	0.03	<0.01				
12/08/99	7.72	12	567								
10/09/99	7.58	10	507						15	98	surf @ barge
30/10/99	6.85	1	638								

JAN 1999 - DEC 1999

Mean	7.29	7	530	4	0.84	0.01	0.01		15	98	
Std. Devia	0.38	6	143	2	0.38	0.01	0		0	0	
Minimum	6.85	0	190	1	0.33	0.01	0.01		15	98	
Maximum	7.74	13	692	6	1.35	0.03	0.01		15	98	
Num. Valu	8	7	9	5	6	4	4		1	1	

STATION: X23, Old Faro Creek channel at toe of waste dumps

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
19/01/99	7.15		3132	3	0.21			1.5			
22/02/99	6.87	0	3220	35	0.2			1.5			
17/03/99	7.52	1	3074	8	0.2	0.02	<0.01	1.1			
17/05/99	5.88	6	3757	5	0.92			1.5			
03/07/99	6.61	7	3179	30	0.56	0.03	0.01	1.7			
12/08/99		11	3032	11	0.8			1.5			
10/09/99	6.34	4	3150	31	0.58			1.5			
29/10/99	6.61	2	3239	48	0.59			1.6			
22/11/99	6.32	2	3272	33	0.32			1.5			
13/12/99	6.89		3056	30	1.49			1.7			

JAN 1999 - DEC 1999

Mean	6.69	4	3211	23	0.59	0.02	0.01	1.5		15	98
Std. Devia	0.49	4	208	15	0.41	0.01	0	0.2		0	0
Minimum	5.88	0	3032	3	0.2	0.02	0.01	1.1		15	98
Maximum	7.52	11	3757	48	1.49	0.03	0.01	1.7		15	98
Num. Valu	9	8	10	10	10	2	2	10		1	1

$120 \text{ days @ } 1.3 = 13.5 \text{ K}^{\text{m}^3}$
 $92 \text{ days @ } 1.6 = 12.7 \text{ K}^{\text{m}^3}$
 $92 \text{ days @ } 1.5 = 11.9 \text{ K}^{\text{m}^3}$
 $15 \quad 98$
 $61 \text{ days @ } 1.6 = \frac{8.4 \text{ K}^{\text{m}^3}}{4.5}$
 $(-)$

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X26, Zone II Pit water (from well)

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
17/05/99	5.79	2	2630	81	2.29						
27/07/99	6.77	4	1751	133	1.72						
JAN 1999 - DEC 1999											
Mean	6.28	3	2190	107	2						
Std. Devia	0.69	1	622	37	0.4						
Minimum	5.79	2	1751	81	1.72						
Maximum	6.77	4	2630	133	2.29						
Num. Valu	2	2	2	2	2						

STATION: R4, Rose Creek upstream of Anvil Creek

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	TOTAL mg/L	ALK-T mg/L
17/03/99			149	3	<0.05				262		sampled by others
JAN 1999 - DEC 1999											
Mean			149	3	0.05				262		
Std. Devia			0	0	0				0		
Minimum			149	3	0.05				262		
Maximum			149	3	0.05				262		
Num. Valu			1	1	1				1		

STATION: R7, N Fork of Rose Creek above Faro Ck Diversion

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
25/02/99			13	3	0.09				153		
17/05/99	7.46	2	6	16	<0.05				21		
04/07/99	7.17	9	5						54		
30/10/99	7.82	0	10								
JAN 1999 - DEC 1999											
Mean	7.48	4	8	10	0.07				76		
Std. Devia	0.33	5	4	9	0.03				69		
Minimum	7.17	0	5	3	0.05				21		
Maximum	7.82	9	13	16	0.09				153		
Num. Valu	3	3	4	2	2				3		

STATION: R8, N Fork of Rose Creek 900 m below Faro Ck Div.

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
25/02/99			12	<1	<0.05				124		
17/05/99	7.47	2	2	21	<0.05						
04/07/99	7.68	8	5								
30/10/99	7.82	0	9								
JAN 1999 - DEC 1999											
Mean	7.66	3	7	11	0.05				124		
Std. Devia	0.18	4	4	14	0				0		
Minimum	7.47	0	2	1	0.05				124		
Maximum	7.82	8	12	21	0.05				124		
Num. Valu	3	3	4	2	2				1		

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: R9, N Fork of Rose Creek adjacent BH1 and BH2

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
17/05/99	6.91	1	6	35	<0.05						
04/07/99	7.38	7	8								
30/10/99	6.67	0	15								

JAN 1999 - DEC 1999

Mean	6.99	3	10	35	0.05						
Std. Devia	0.36	4	5	0	0						
Minimum	6.67	0	6	35	0.05						
Maximum	7.38	7	15	35	0.05						
Num. Valu	3	3	3	1	1						

STATION: R10, North Fork of Rose Creek u/s of rock drain

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	CN-T mg/L	CN-WAD mg/L	FLOW L/s	HARD mg/L	ACIDITY mg/L	ALK-T mg/L
17/05/99	6.81	1	3	28	<0.05						
04/07/99	7.42	7	7						55		
30/10/99	6.85	0	15								

banks flooded

JAN 1999 - DEC 1999

Mean	7.03	3	8	28	0.05				55		
Std. Devia	0.34	4	6	0	0				0		
Minimum	6.81	0	3	28	0.05				55		
Maximum	7.42	7	15	28	0.05				55		
Num. Valu	3	3	3	1	1				1		

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X2, N Fork of Rose Creek u/s of mine access road

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18/01/99	<0.03	0.06	<0.05	0.18	0.098	<0.01	<0.04	52.3	0.001	<0.05	0.066	0.034	0.17	1	<0.05	11.6	0.07	0.014	5	<0.05	<0.04	<0.01	10	<0.03	<0.03	5.9	<0.01	0.245	0.019	<0.05	<0.03	0.03
22/02/99	0.03	0.32	<0.05	0.48	0.147	<0.01	<0.04	59.1	0.002	<0.05	0.101	0.027	1.77	1	0.015	13.1	0.12	0.022	5	0.005	0.79	<0.01	11	<0.03	<0.03	6.6	<0.01	0.308	0.087	0.008	<0.03	0.07
17/03/99	<0.03	0.33	<0.05	0.28	0.091	<0.01	<0.04	49.4	<0.01	<0.05	0.299	0.049	1.58	<1	<0.05	10	0.1	0.021	5	<0.05	0.42	<0.01	9	<0.03	<0.03	5.6	<0.01	0.227	0.053	<0.05	<0.03	0.02
20/04/99	<0.03	0.15	0.023	0.26	0.087	<0.01	<0.04	44.4	<0.01	<0.05	<0.05	0.026	2.12	1	<0.05	10.1	0.08	0.041	4	<0.05	0.24	<0.01	7	<0.03	<0.03	4.9	<0.01	0.212	0.078	<0.05	<0.03	0.02
17/05/99	<0.03	<0.05	<0.05	<0.05	0.118	0.002	<0.04	9.7	<0.01	<0.05	0.019	0.016	0.51	2	<0.05	1.9	0.03	<0.002	1	<0.05	<0.04	<0.01	<0.03	<0.03	1	<0.01	0.06	<0.05	0.009	<0.03	0.05	
03/07/99	<0.03	0.29	<0.05	0.35	0.043	<0.01	<0.04	13.9	<0.01	<0.05	<0.05	0.018	1.38	<1	<0.05	3.1	0.03	<0.002	<1	<0.05	<0.04	<0.01	3	<0.03	<0.03	3.5	<0.01	0.045	0.005	<0.05	<0.03	0.05
27/07/99	<0.03	0.38	<0.05	<0.05	0.121	<0.01	<0.04	13.8	0.006	0.118	<0.05	0.009	1.16	5	<0.05	3.4	0.06	0.022	4	0.05	<0.04	<0.01	3	<0.03	<0.05	4.2	<0.01	0.083	0.023	0.021	<0.03	<0.01
12/08/99	<0.03	<0.05	<0.05	0.24	<0.02	0.001	<0.04	25.6	0.009	0.094	0.021	0.014	0.34	3	<0.05	5.4	0.02	0.025	4	<0.05	<0.04	<0.01	4	<0.03	<0.05	6.8	<0.01	0.12	0.018	0.037	<0.03	0.02
10/09/99	<0.03	0.15	<0.05	<0.05	0.161	<0.01	<0.04	19.5	<0.01	0.005	0.043	0.014	0.27	<1	<0.05	4.1	<0.01	0.006	2	<0.05	<0.04	<0.01	3	<0.03	<0.05	3.8	<0.01	0.095	0.037	0.02	<0.03	<0.01
29/10/99	<0.03	<0.05	<0.05	0.14	0.156	<0.01	<0.04	31.9	<0.01	<0.05	<0.05	0.007	0.23	<1	<0.05	6.4	0.07	<0.002	4	<0.05	<0.04	<0.01	6	<0.03	<0.05	5.2	<0.01	0.143	<0.05	<0.05	<0.03	0.02
22/11/99	<0.03	0.08	0.009	<0.05	0.163	<0.01	<0.04	30.5	<0.01	<0.05	<0.05	0.037	1.18	<1	<0.05	7.5	0.04	0.004	4	<0.05	<0.04	<0.01	7	<0.03	<0.05	4.3	<0.01	0.278	0.031	<0.05	<0.03	<0.01
14/12/99	<0.03	0.14	<0.05	0.07	0.143	<0.01	<0.04	37	0.001	<0.05	<0.05	0.021	0.25	4	0.023	7.4	0.04	<0.002	2	0.023	<0.04	<0.01	7	0.05	<0.05	3.9	<0.01	0.148	0.011	0.01	<0.03	0.09

JAN 1999 - DEC 1999

Mean	0.005	0.17	0.007	0.18	0.111	0.001	0.04	32.3	0.002	0.022	0.048	0.023	0.91	2	0.007	7	0.06	0.014	3	0.01	0.15	0.01	6	0.03	0.017	4.6	0.01	0.164	0.031	0.011	0.03	0.03
Std. Deviat	0.008	0.12	0.005	0.14	0.05	0	0	16.5	0.003	0.04	0.085	0.012	0.7	1	0.006	3.6	0.03	0.013	2	0.014	0.23	0	3	0.01	0.013	1.6	0	0.088	0.028	0.01	0	0.03
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	9.7	0.001	0.005	0.005	0.007	0.17	1	0.005	1.9	0.01	0.002	1	0.005	0.04	0.01	3	0.03	0.005	1	0.01	0.045	0.005	0.005	0.03	0.01
Maximum	0.03	0.38	0.023	0.48	0.163	0.002	0.04	59.1	0.009	0.118	0.299	0.049	2.12	5	0.023	13.1	0.12	0.041	5	0.05	0.79	0.01	11	0.05	0.03	6.8	0.01	0.308	0.087	0.037	0.03	0.09
Num. Valu	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	12	12	12	12	12	12	12	12	12

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18/01/99	<0.03	<0.05	<0.05	0.07	0.023	<0.01	<0.04	44.2	<0.01	<0.05	0.201	0.003	<0.01	<1	<0.05	10.7	0.03	<0.002	4	<0.05	<0.04	<0.01	11	<0.03	<0.03	5.3	<0.01	0.194	<0.05	<0.05	0.03	<0.01
22/02/99	<0.03	<0.05	<0.05	0.22	0.011	<0.01	<0.04	45.2	<0.01	<0.05	<0.05	<0.002	<0.01	1	<0.05	10.2	0.05	0.004	3	<0.05	0.59	<0.01	<0.03	<0.03	4.6	<0.01	0.209	0.012	<0.05	<0.05	<0.03	0.01
17/03/99	<0.03	<0.05	<0.05	0.1	0.017	<0.01	<0.04	43.9	<0.01	<0.05	<0.05	0.007	<0.01	1	<0.05	9.7	0.05	<0.002	5	<0.05	0.12	<0.01	10	<0.03	<0.03	5.2	<0.01	0.183	0.007	<0.05	<0.03	<0.01
20/04/99	<0.03	<0.05	0.007	0.07	0.018	<0.01	<0.04	42.4	<0.01	<0.05	<0.05	0.004	<0.01	<1	<0.05	10.6	0.04	<0.002	4	<0.05	<0.04	<0.01	8	<0.03	<0.03	4.7	<0.01	0.196	0.019	<0.05	0.35	0.01
17/05/99	<0.03	<0.05	<0.05	<0.05	0.018	0.001	<0.04	6	<0.01	<0.05	<0.05	<0.002	0.12	1	<0.05	1.4	<0.01	0.004	<1	0.007	3.16	0.02	<0.03	<0.03	0.5	<0.01	0.036	<0.05	0.029	<0.03	0.03	
03/07/99	<0.03	<0.05	<0.05	0.23	0.002	<0.01	<0.04	12.6	<0.01	<0.05	<0.05	<0.002	0.22	<1	<0.05	2.7	0.02	<0.002	<1	<0.05	<0.04	<0.01	3	0.04	<0.03	4	<0.01	0.005	<0.05	<0.05	<0.03	<0.01
27/07/99	<0.03	<0.05	<0.05	<0.05	<0.002	<0.01	<0.04	12.7	<0.01	0.049	<0.05	<0.002	0.13	<1	<0.05	3.2	<0.01	<0.002	<1	<0.05	<0.04	<0.01	3	<0.03	<0.05	3.7	<0.01	0.069	<0.05	<0.05	<0.03	<0.01
12/08/99	<0.03	<0.05	<0.05	<0.05	0.057	<0.01	<0.04	21.9	<0.01	<0.05	<0.05	<0.002	0.06	3	<0.05	4.7	<0.01	<0.002	4	<0.05	<0.04	<0.01	4	<0.03	<0.05	5.4	<0.01	0.099	<0.05	<0.05	<0.03	<0.01
10/09/99	<0.03	<0.05	<0.05	<0.05	0.02	<0.01	<0.04	15.8	<0.01	<0.05	<0.05	<0.002	0.03	<1	<0.05	3.8	<0.01	<0.002	3	<0.05	<0.04	<0.01	4	<0.03	<0.05	3.9	<0.01	0.068	<0.05	0.014	<0.03	<0.01
29/10/99	<0.03	<0.05	<0.05	<0.05	0.11	<0.01	<0.04	30.3	0.001	<0.05	<0.05	0.005	0.02	5	<0.05	6.5	0.06	0.004	5	0.029	0.07	<0.01	6	<0.03	<0.05	4.1	0.02	0.144	<0.05	0.011	<0.03	<0.01
22/11/99	<0.03	<0.05	<0.05	<0.05	0.023	<0.01	<0.04	24.7	<0.01	<0.05	<0.05	0.003	0.02	<1	<0.05	6.6	0.02	0.012	4	<0.05	<0.04	<0.01	8	<0.03	<0.05	4.2	<0.01	0.161	<0.05	<0.05	<0.03	<0.01
14/12/99	<0.03	<0.05	<0.05	<0.05	0.031	<0.01	<0.04	41.2	<0.01	<0.05	<0.05	<0.002	<0.01	<1	<0.05	8	0.04	<0.002	1	<0.05	<0.04	<0.01	7	<0.03	<0.05	3.9	<0.01	0.166	<0.05	<0.05	<0.03	<0.01

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.005	0.09	0.032	0.001	0.04	28.4	0.001	0.009	0.021	0.003	0.05	2	0.005	6.5	0.03	0.003	3	0.007	0.36	0.01	6	0.03	0.017	4.1	0.01	0.127	0.007	0.008	0.06	0.01
Std. Deviat	0	0	0.001	0.07	0.033	0	0	14.6	0	0.013	0.057	0.002	0.07	1	0	3.3	0.02	0.003	2	0.007	0.9	0	3	0	0.013	1.3	0	0.069	0.004	0.007	0.09	0.01
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	6	0.001	0.005	0.005	0.002	0.01	1	0.005	1.4	0.01	0.002	1	0.005	0.04	0.01	3	0.03	0.005	0.5	0.01	0.005	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.007	0.23	0.11	0.001	0.04	45.2	0.001	0.049	0.201	0.007	0.22	5	0.005	10.7	0.06	0.012	5	0.029	3.16	0.02	11	0.04	0.03	5.4	0.02	0.209	0.019	0.029	0.35	0.03
Num. Valu	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	12	12	12	12	12	12	12	12	12

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X3, S Fork Rose Creek at the pumphouse reservoir

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
18/01/99	<0.03	0.08	<0.05	0.24	0.078	<0.01	<0.04	45.4	<0.01	<0.05	0.071	0.03	0.09	1	<0.05	9.8	0.03	0.007	4	<0.05	<0.04	<0.01	9	<0.03	<0.03	5	<0.01	0.217	0.012	<0.05	<0.03	0.02	
22/02/99	0.021	0.31	<0.05	0.53	0.091	<0.01	<0.04	53.1	<0.01	<0.05	<0.05	0.019	0.21	2	0.015	11.6	0.06	0.009	4	0.005	0.53	<0.01	9	<0.03	<0.03	5.6	<0.01	0.271	0.039	<0.05	<0.03	0.05	
17/03/99	<0.03	0.28	<0.05	0.26	0.069	<0.01	<0.04	43.1	<0.01	<0.05	0.433	0.027	0.5	<1	<0.05	8.7	0.06	<0.02	4	<0.05	0.33	<0.01	8	<0.03	<0.03	4.7	<0.01	0.196	0.026	<0.05	<0.03	0.04	
20/04/99	<0.03	0.13	<0.05	0.22	0.066	<0.01	<0.04	34.2	<0.01	0.007	<0.05	0.018	0.62	<1	<0.05	7.5	0.04	0.013	3	<0.05	0.08	<0.01	6	<0.03	<0.03	3.7	<0.01	0.178	0.035	<0.05	<0.03	0.02	
17/05/99	<0.03	<0.05	<0.05	<0.05	0.114	0.002	<0.04	11.8	<0.01	<0.05	0.006	0.014	0.46	2	<0.05	2.3	0.03	0.019	2	0.008	<0.04	<0.01		<0.03	<0.03	1.3	<0.01	0.071	<0.05	0.006	<0.03	0.06	
03/07/99	<0.03	0.35	<0.05	0.47	0.046	<0.01	<0.04	16.7	<0.01	<0.05	<0.05	0.017	1.11	<1	<0.05	3.5	0.02	<0.02	<1	<0.05	<0.04	<0.01	3	0.04	<0.03	4.1	<0.01	0.069	<0.05	<0.05	<0.03	0.04	
27/07/99	<0.03	<0.05	<0.05	<0.05	0.077	<0.01	<0.04	15.1	<0.01	0.081	<0.05	0.004	0.35	3	<0.05	3.4	0.01	0.007	5	<0.05	0.14	<0.01	3	<0.03	<0.05	2.7	<0.01	0.101	<0.05	<0.05	<0.03	<0.01	
12/08/99	<0.03	<0.05	<0.05	0.22	<0.02	0.001	<0.04	21.5	0.002	0.032	<0.05	0.004	0.24	<1	<0.05	4.3	0.01	<0.02	3	<0.05	<0.04	<0.01	4	<0.03	<0.05	5.6	<0.01	0.103	0.007	0.01	<0.03	0.01	
31/10/99	<0.03	0.16	<0.05	0.06	0.133	0.001	<0.04	25.5	0.001	0.012	0.012	0.011	0.18	3	<0.05	5.4	0.04	<0.02	4	0.011	<0.04	<0.01	6	<0.03	<0.05	4.4	<0.01	0.131	<0.05	<0.05	<0.03	0.01	
22/11/99	<0.03	<0.05	<0.05	<0.05	0.152	<0.01	<0.04	27.6	<0.01	<0.05	<0.05	0.023	0.42	<1	<0.05	6.5	0.02	<0.02	3	0.023	<0.04	<0.01	7	<0.03	<0.05	3.9	<0.01	0.268	0.013	<0.05	<0.03	0.01	
14/12/99	<0.03	0.08	<0.05	<0.05	0.133	<0.01	<0.04	35.8	0.002	<0.05	<0.05	0.018	0.11	6	<0.05	6.8	0.03	<0.02	2	0.016	<0.04	<0.01	6	<0.03	<0.05	3	<0.01	0.151	<0.05	0.016	<0.03	0.05	
JAN 1999 - DEC 1999																																	
Mean	0.005	0.14	0.005	0.2	0.087	0.001	0.04	30	0.001	0.015	0.051	0.017	0.39	2	0.006	6.3	0.03	0.006	3	0.008	0.12	0.01	6	0.03	0.019	4	0.01	0.16	0.014	0.007	0.03	0.03	
Std. Deviat	0.005	0.12	0	0.17	0.044	0	0	13.5	0	0.023	0.128	0.008	0.29	2	0.003	2.9	0.02	0.006	1	0.006	0.16	0	2	0	0.013	1.3	0	0.073	0.013	0.003	0	0.02	
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	11.8	0.001	0.005	0.005	0.004	0.09	1	0.005	2.3	0.01	0.002	1	0.005	0.04	0.01	3	0.03	0.005	1.3	0.01	0.069	0.005	0.005	0.03	0.01	
Maximum	0.021	0.35	0.005	0.53	0.152	0.002	0.04	53.1	0.002	0.081	0.433	0.03	1.11	6	0.015	11.6	0.06	0.019	5	0.023	0.53	0.01	9	0.04	0.03	5.6	0.01	0.271	0.039	0.016	0.03	0.06	
Num. Valu	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	11	11	11	11	11	11	11	11	11	
Date	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D	
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
18/01/99	<0.03	<0.05	<0.05	0.06	0.019	<0.01	<0.04	40.3	<0.01	<0.05	0.147	0.005	<0.01	<1	<0.05	9.1	0.02	<0.02	3	<0.05	<0.04	<0.01	9	<0.03	<0.03	4.4	<0.01	0.186	<0.05	<0.05	<0.03	<0.01	
22/02/99	<0.03	<0.05	<0.05	0.22	0.022	<0.01	<0.04	45.6	<0.01	<0.05	<0.05	0.003	<0.01	<1	<0.05	10.2	0.04	<0.02	3	<0.05	0.33	<0.01		<0.03	<0.03	4.6	<0.01	0.223	0.007	<0.05	<0.03	<0.01	
17/03/99	<0.03	<0.05	<0.05	0.07	0.015	<0.01	<0.04	37.8	<0.01	<0.05	0.278	0.005	<0.01	<1	<0.05	8.2	0.03	<0.02	3	<0.05	0.1	<0.01	9	<0.03	<0.03	4.1	<0.01	0.167	<0.05	<0.05	<0.03	<0.01	
20/04/99	<0.03	<0.05	<0.05	0.06	0.017	<0.01	<0.04	36	<0.01	0.005	<0.05	<0.02	<0.01	1	<0.05	8.4	0.02	<0.02	3	<0.05	0.33	<0.01	7	<0.03	<0.03	3.6	<0.01	0.18	0.008	<0.05	<0.03	<0.01	
17/05/99	<0.03	<0.05	<0.05	<0.05	0.017	0.001	<0.04	9.1	<0.01	<0.05	<0.05	<0.02	0.11	1	<0.05	2	<0.01	0.008	<1	0.008	<0.04	<0.01		<0.03	<0.03	0.5	<0.01	0.052	<0.05	0.015	<0.03	0.03	
03/07/99	<0.03	<0.05	<0.05	0.26	0.006	<0.01	<0.04	15.7	<0.01	<0.05	<0.05	<0.02	0.23	<1	<0.05	3.5	0.03	<0.02	<1	<0.05	<0.04	<0.01	3	<0.03	<0.03	3.4	<0.01	0.016	<0.05	<0.05	<0.03	<0.01	
27/07/99	<0.03	<0.05	<0.05	<0.05	0.024	<0.01	<0.04	15.1	<0.01	0.024	<0.05	<0.02	0.07	<1	<0.05	3.6	<0.01	<0.02	<1	<0.05	<0.04	<0.01	3	<0.03	<0.05	2.8	<0.01	0.089	<0.05	<0.05	<0.03	<0.01	
12/08/99	<0.03	<0.05	<0.05	<0.05	0.071	<0.01	<0.04	20.3	<0.01	<0.05	<0.05	<0.02	0.03	1	<0.05	4.1	<0.01	<0.02	5	<0.05	<0.04	<0.01	3	<0.03	<0.05	4.7	<0.01	0.103	<0.05	<0.05	<0.03	<0.01	
31/10/99	0.004	<0.05	<0.05	<0.05	0.13	<0.01	<0.04	28	<0.01	0.01	0.005	0.011	<0.01	6	0.014	5.9	0.03	0.004	4	0.026	0.05	<0.01	6	<0.03	<0.05	3.5	0.01	0.14	<0.05	0.006	<0.03	<0.01	
22/11/99	<0.03	<0.05	<0.05	<0.05	0.028	<0.01	<0.04	26.6	<0.01	<0.05	<0.05	0.003	0.03	<1	<0.05	6.5	<0.01	0.004	3	<0.05	<0.04	<0.01	7	<0.03	<0.05	3.8	<0.01	0.122	<0.05	<0.05	<0.03	<0.01	
14/12/99	<0.03	<0.05	<0.05	<0.05	0.097	<0.01	<0.04	37.4	<0.01	<0.05	<0.05	0.01	<0.01	1	<0.05	7.2	0.03	<0.02	1	0.009	<0.04	<0.01	7	<0.03	<0.05	3.4	<0.01	0.158	<0.05	<0.05	<0.03	<0.01	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.05	0.005	0.09	0.041	0.001	0.04	28.4	0.001	0.007	0.043	0.004	0.05	1	0.006	6.2	0.02	0.003	3	0.008	0.1	0.01	6	0.03	0.019	3.5	0.01	0.131	0.005	0.006	0.03	0.01	
Std. Deviat	0	0	0	0.08	0.04	0	0	12	0	0.006	0.089	0.003	0.07	2	0.003	2.7	0.01	0.002	1	0.006	0.12	0	2	0	0.013	1.2	0	0.062	0.001	0.003	0	0.01	
Minimum V	0.003	0.05	0.005	0.05	0.006	0.001	0.04	9.1	0.001	0.005	0.005	0.002	0.01	1	0.005	2	0.01	0.002	1	0.005	0.04	0.01	3	0.03	0.005	0.5	0.01	0.016	0.005	0.005	0.03	0.01	
Maximum	0.004	0.05	0.005	0.26	0.13	0.001	0.04	45.6	0.001	0.024	0.278	0.011	0.23	6	0.014	10.2	0.04	0.008	5	0.026	0.33	0.01	9	0.03	0.03	4.7	0.01	0.223	0.008	0.015	0.03	0.03	
Num. Valu	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	9	11	11	11	11	11	11	11	11	11	

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X4, Intermediate Dam decant

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18/01/99	<0.03	0.16	<0.05	0.18	0.025	<0.01	<0.04	190.5	0.007	<0.05	0.062	0.041	3.83	8	<0.05	41	4.65	0.016	24	0.015	<0.04	0.02	224	<0.03	<0.03	3.3	<0.01	0.542	0.023	<0.05	<0.03	1.88
21/02/99	0.018	0.46	<0.05	0.41	0.026	<0.01	<0.04	235.1	<0.01	0.023	0.072	0.776	0.75	12	0.034	53.5	4.06	0.037	34	0.038	2.17	0.03	259	0.05	<0.03	2.2	<0.01	0.664	0.042	<0.05	<0.03	2.02
06/05/99	<0.03	0.21	<0.05	0.26	0.013	0.002	<0.04	155.5	0.023	0.018	<0.05	0.009	0.89	8	<0.05	29.1	2.2	<0.02	19	0.018	0.95	<0.01	<0.03	<0.03	1.4	<0.01	0.486	0.014	<0.05	<0.03	4.5	
17/05/99	<0.03	<0.05	<0.05	<0.05	0.114	0.001	<0.04	16.1	0.001	<0.05	<0.05	0.011	0.16	<1	<0.05	2.8	0.35	0.009	2	<0.05	2.58	<0.01	<0.03	<0.03	<1	<0.01	0.059	<0.05	<0.05	<0.03	0.5	
03/07/99	<0.03	0.49	<0.05	0.51	0.042	<0.01	<0.04	155.8	<0.01	0.026	<0.05	0.048	1.02	7	<0.05	34.4	4	0.013	16	<0.05	<0.04	<0.01	178	<0.03	<0.03	3.3	<0.01	0.489	<0.05	0.007	<0.03	3.51
27/07/99	<0.03	<0.05	<0.05	0.14	0.147	0.002	<0.04	149.2	0.004	0.095	<0.05	0.015	0.15	9	<0.05	38	3.22	0.017	22	0.04	<0.04	<0.01	207	<0.03	<0.05	1	<0.01	0.538	0.01	0.041	<0.03	1.8
12/08/99	<0.03	<0.05	<0.05	0.16	<0.02	0.001	<0.04	184.1	<0.01	<0.05	<0.05	0.011	0.51	3	<0.05	41.9	2.99	<0.02	24	<0.05	<0.04	<0.01	205	<0.03	<0.05	3.1	<0.01	0.51	0.017	<0.05	<0.03	1.71
10/09/99	<0.03	0.23	<0.05	<0.05	0.093	<0.01	<0.04	159.6	<0.01	0.012	<0.05	0.025	0.17	9	0.033	38.8	2.78	0.011	19	0.015	<0.04	<0.01	227	<0.03	<0.05	1.4	<0.01	0.429	0.034	<0.05	<0.03	0.87
29/10/99	<0.03	0.24	<0.05	0.09	0.721	0.001	<0.04	143.8	<0.01	<0.05	<0.05	0.018	0.35	7	<0.05	35.8	3.45	<0.02	21	0.024	<0.04	0.03	194	<0.03	<0.05	2.4	<0.01	0.439	<0.05	<0.05	<0.03	1.74

JAN 1999 - DEC 1999

Mean	0.005	0.22	0.005	0.21	0.131	0.001	0.04	154.4	0.004	0.022	0.019	0.106	0.87	7	0.011	35	3.08	0.012	20	0.018	0.66	0.02	213	0.03	0.019	2	0.01	0.462	0.017	0.009	0.03	2.06
Std. Deviat	0.005	0.17	0	0.16	0.227	0	0	59.2	0.007	0.029	0.027	0.252	1.16	3	0.013	13.8	1.26	0.011	8	0.013	1.02	0.01	26	0.01	0.013	1.1	0	0.166	0.013	0.012	0	1.24
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	15.1	0.001	0.005	0.005	0.009	0.15	1	0.005	2.8	0.35	0.002	2	0.005	0.04	0.01	178	0.03	0.005	0.1	0.01	0.059	0.005	0.005	0.03	0.5
Maximum	0.018	0.49	0.005	0.51	0.721	0.002	0.04	235.1	0.023	0.095	0.072	0.776	3.83	12	0.034	53.5	4.65	0.037	34	0.04	2.58	0.03	259	0.05	0.03	3.3	0.01	0.664	0.042	0.041	0.03	4.5
Num. Valu	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	9	9	9	9	9	9	9	9	9

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18/01/99	<0.03	<0.05	<0.05	<0.05	0.026	<0.01	<0.04	184.1	<0.01	<0.05	0.202	0.019	0.03	8	<0.05	40.1	4.02	<0.02	24	0.006	<0.04	<0.01	244	<0.03	<0.03	2.9	<0.01	0.542	0.005	<0.05	<0.03	0.9
21/02/99	<0.03	0.16	<0.05	0.21	0.037	<0.01	<0.04	216.3	<0.01	0.011	0.088	0.02	<0.01	12	0.012	49.1	3.36	<0.02	31	0.01	1.66	<0.01	<0.03	<0.03	1.6	<0.01	0.62	0.015	<0.05	<0.03	0.75	
06/05/99	<0.03	<0.05	<0.05	<0.05	<0.02	0.001	<0.04	143.4	0.009	0.01	<0.05	<0.02	0.18	7	<0.05	27.5	1.86	<0.02	17	0.015	1.16	<0.01	170	<0.03	<0.03	0.8	<0.01	0.437	0.005	<0.05	<0.03	3.19
17/05/99	<0.03	<0.05	<0.05	<0.05	0.026	0.002	<0.04	14.7	<0.01	<0.05	<0.05	<0.02	<0.01	<1	<0.05	2.7	0.16	<0.02	2	<0.05	2.74	<0.01	<0.03	<0.03	<1	<0.01	0.06	<0.05	0.008	<0.03	0.46	
03/07/99	<0.03	0.11	<0.05	0.21	0.05	<0.01	<0.04	137.7	<0.01	<0.05	<0.05	0.015	0.19	6	<0.05	29.8	2.49	0.014	14	<0.05	<0.04	<0.01	162	<0.03	<0.03	1.7	<0.01	0.425	<0.05	<0.05	<0.03	2.26
27/07/99	<0.03	<0.05	<0.05	<0.05	0.069	0.002	<0.04	146.8	<0.01	0.02	<0.05	0.006	0.04	8	<0.05	39.2	3.11	<0.02	23	0.018	0.07	<0.01	207	<0.03	<0.05	1	<0.01	0.542	0.009	<0.05	<0.03	0.99
12/08/99	<0.03	<0.05	<0.05	<0.05	0.084	<0.01	<0.04	161.3	<0.01	<0.05	<0.05	0.005	<0.01	9	0.012	37	2.37	<0.02	22	<0.05	<0.04	<0.01	182	<0.03	<0.05	2.1	<0.01	0.454	<0.05	0.011	<0.03	0.43
10/09/99	<0.03	0.09	<0.05	<0.05	0.037	<0.01	<0.04	155.2	<0.01	0.007	<0.05	0.017	<0.01	8	0.009	38.4	2.32	0.004	20	0.012	<0.04	<0.01	214	<0.03	<0.05	1.1	<0.01	0.441	0.01	0.018	<0.03	0.32
29/10/99	<0.03	0.13	<0.05	<0.05	0.089	<0.01	<0.04	163.6	0.006	0.006	<0.05	0.015	<0.01	11	0.033	40.6	3.82	<0.02	24	0.048	0.1	<0.01	216	<0.03	<0.05	0.8	<0.01	0.485	0.005	<0.05	<0.03	1.11

JAN 1999 - DEC 1999

Mean	0.003	0.08	0.005	0.09	0.047	0.001	0.04	147	0.002	0.008	0.036	0.011	0.05	8	0.01	33.8	2.61	0.004	20	0.014	0.65	0.01	199	0.03	0.019	1.3	0.01	0.445	0.007	0.007	0.03	1.16
Std. Deviat	0	0.04	0	0.07	0.029	0	0	55.1	0.003	0.005	0.068	0.007	0.07	3	0.009	13.2	1.17	0.004	8	0.014	0.99	0	29	0	0.013	0.8	0	0.158	0.004	0.004	0	0.96
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	14.7	0.001	0.005	0.005	0.002	0.01	1	0.005	2.7	0.16	0.002	2	0.005	0.04	0.01	162	0.03	0.005	0.1	0.01	0.06	0.005	0.005	0.03	0.32
Maximum	0.003	0.16	0.005	0.21	0.089	0.002	0.04	216.3	0.009	0.02	0.202	0.02	0.19	12	0.033	49.1	4.02	0.014	31	0.048	2.74	0.01	244	0.03	0.03	2.9	0.01	0.62	0.015	0.018	0.03	3.19
Num. Valu	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	9	9	9	9	9	9	9	9	9

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION X5, Cross Valley Pond outflow

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18/01/99	<0.03	0.17	<0.05	0.21	0.038	<0.01	<0.4	195	0.003	0.008	0.061	0.044	0.39	7	<0.05	39.8	5.87	0.006	36	0.019	<0.4	<0.1	204	<0.3	<0.3	5.1	<0.1	0.537	0.023	<0.05	<0.3	0.33
21/02/99	0.015	0.38	<0.05	0.39	0.039	<0.01	<0.4	226.3	<0.01	0.016	0.097	0.035	0.38	8	0.007	44.6	6.47	0.028	39	0.019	2.21	<0.1	210	<0.3	<0.3	5.1	<0.1	0.634	0.034	<0.05	<0.3	0.53
21/03/99	<0.03	0.22	<0.05	<0.5	0.042	<0.01	<0.4	201.6	0.004	<0.05	0.898	0.041	0.76	7	<0.05	37.4	7.81	<0.02	33	0.014	1.78	<0.1	197.3	<0.3	<0.3	5.1	<0.1	0.53	0.012	0.095	<0.3	0.31
20/04/99	<0.03	0.52	<0.05	0.17	0.043	0.001	<0.4	143.5	<0.01	<0.05	<0.05	0.028	0.76	6	<0.05	31.2	4.23	0.028	26	0.006	0.75	<0.1	139	<0.3	<0.3	4	<0.1	0.42	0.046	<0.05	<0.3	0.3
06/05/99	<0.03	0.17	<0.05	0.18	0.013	0.001	<0.4	125.1	0.004	0.012	<0.05	0.011	0.3	7	<0.05	19.6	0.89	<0.02	16	<0.05	0.74	<0.1		<0.3	<0.3	1.5	<0.1	0.423	0.012	<0.05	<0.3	0.41
17/05/99	<0.03	0.33	<0.05	<0.05	0.152	<0.01	<0.4	63.8	<0.01	0.02	0.301	0.042	3.61	3	<0.05	11.1	0.52	<0.02	10	<0.05	<0.4	<0.1		<0.3	<0.3	0.3	<0.1	0.213	0.138	<0.05	<0.3	0.39
27/05/99	<0.03	0.2	<0.05	0.06	0.127	0.001	<0.4	87.6	0.012	<0.05	<0.05	0.043	3.12	4	<0.05	14.1	0.86	0.044	13	<0.05	<0.4	0.03		<0.3	<0.3	0.6	<0.1	0.268	0.127	<0.05	<0.3	0.25
03/07/99	<0.03	0.47	<0.05	0.53	0.035	<0.01	<0.4	137.7	0.002	0.006	<0.05	0.03	0.89	6	<0.05	25.6	1.7	<0.02	19	<0.05	<0.4	<0.1	157	<0.3	<0.3	5	<0.1	0.424	<0.05	<0.05	<0.3	0.37
27/07/99	<0.03	0.66	<0.05	0.07	0.154	<0.01	<0.4	150.6	<0.01	0.017	<0.05	0.032	0.72	7	<0.05	32	2.87	0.039	23	<0.05	<0.4	0.01	180	<0.3	<0.3	3.5	<0.1	0.504	0.102	<0.05	<0.3	0.38
29/07/99	<0.03	0.11	<0.02	0.02	0.076	<0.01	<0.04	160.5	<0.002	<0.01	<0.01	0.029	0.43	7.9	<0.01	30.8	2.56	0.006	24	0.004	0.06	0.017	117.1	<0.03	<0.03	3.61	<0.01	0.467	0.013	<0.01	<0.03	0.342
12/08/99	<0.03	<0.05	<0.05	0.08	<0.02	0.002	<0.4	177.7	0.002	0.03	<0.05	0.008	0.1	<1	<0.05	33	2.28	0.014	25	<0.05	<0.4	<0.1	185	<0.3	<0.05	3.9	<0.1	0.494	0.011	0.015	<0.3	0.3
10/09/99	<0.03	0.27	<0.05	<0.5	0.112	<0.01	<0.4	174.7	0.001	0.012	<0.05	0.028	0.24	8	0.02	35.4	3.85	0.013	23	0.015	<0.4	<0.1	209	<0.3	<0.05	2.7	<0.1	0.459	0.032	<0.05	<0.3	0.31
29/10/99	<0.03	0.46	<0.05	0.16	2.007	0.002	<0.4	179.5	<0.01	<0.05	<0.05	0.033	0.36	4	<0.05	36.3	7.87	<0.02	33	0.022	<0.4	<0.1	198	<0.3	<0.05	4.8	<0.1	0.521	0.01	<0.05	<0.3	0.6
JAN 1999 - DEC 1999																																
Mean	0.0037	0.31	0.005	0.16	0.218	0.001	0.037	155.7	0.0026	0.011	0.108	0.031	0.93	5.8	0.006	30.1	3.68	0.014	25	0.01	0.45	0.012	179.6	0.028	0.022	3.48	0.009	0.453	0.043	0.012	0.028	0.371
Std. Deviat	0.0035	0.18	0.001	0.15	0.54	0	0.01	45.3	0.0031	0.008	0.252	0.011	1.11	2.2	0.004	9.9	2.6	0.015	9	0.007	0.74	0.006	31.9	0.007	0.012	1.72	0.002	0.112	0.047	0.025	0.007	0.098
Minimum V	0.0003	0.05	0.002	0.02	0.002	0.001	0.004	63.8	0.0002	0.001	0.001	0.008	0.1	1	0.001	11.1	0.52	0.002	10	0.004	0.04	0.01	117.1	0.003	0.003	0.3	0.001	0.213	0.005	0.001	0.003	0.25
Maximum	0.015	0.66	0.005	0.53	2.007	0.002	0.04	226.3	0.012	0.03	0.898	0.044	3.61	8	0.02	44.6	7.87	0.044	39	0.022	2.21	0.03	210	0.03	0.03	5.1	0.01	0.634	0.138	0.095	0.03	0.6
Num. Valu	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	10	13	13	13	13	13	13	13	13	13
Date	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18/01/99	<0.03	<0.5	<0.05	0.05	0.017	0.001	<0.4	184.9	<0.01	<0.05	0.165	0.021	0.12	7	<0.05	38.3	4.91	0.017	34	0.011	<0.4	<0.1	208	<0.3	<0.3	4.7	<0.1	0.501	0.007	<0.05	<0.3	0.16
21/02/99	<0.03	0.14	<0.05	0.19	0.023	<0.01	<0.4	211.9	<0.01	<0.05	0.062	0.019	0.09	8	<0.05	42.6	5.21	0.007	38	<0.05	1.91	<0.1		<0.3	<0.3	4.6	<0.1	0.599	0.015	<0.05	<0.3	0.18
21/03/99	<0.03	0.12	<0.05	<0.5	0.011	<0.01	<0.4	178.1	0.002	<0.05	<0.05	0.02	<0.1	6	<0.05	34	5.87	<0.02	31	<0.05	0.65	<0.1	175.6	<0.3	<0.3	4.6	<0.1	0.464	<0.05	<0.05	<0.3	0.09
20/04/99	<0.03	0.1	<0.05	0.06	0.026	0.002	<0.4	141.8	<0.01	0.009	<0.05	0.018	0.19	6	0.041	31.2	3.3	<0.02	26	<0.05	0.38	<0.1	147	<0.3	<0.3	3.2	<0.1	0.422	0.023	0.014	<0.3	0.08
06/05/99	<0.03	<0.05	<0.05	<0.5	<0.002	0.001	<0.4	125.2	0.004	0.007	<0.05	<0.002	<0.1	6	<0.05	20	0.78	<0.02	17	<0.05	0.78	<0.1	124	<0.3	<0.3	0.9	<0.1	0.414	<0.05	<0.05	<0.3	0.07
17/05/99	<0.03	<0.05	<0.05	<0.05	0.007	<0.01	<0.4	56.2	<0.01	<0.05	0.061	0.008	0.01	3	<0.05	10.2	0.34	<0.02	9	<0.05	<0.4	<0.1		<0.3	<0.3	0.3	<0.1	0.176	0.016	<0.05	<0.3	<0.1
27/05/99	<0.03	<0.05	<0.05	<0.05	0.008	<0.01	<0.4	80.7	<0.01	<0.05	<0.05	0.008	0.02	4	0.034	13.5	0.63	<0.02	12	<0.05	<0.4	<0.1	77	<0.3	<0.3	0.4	<0.1	0.232	0.021	<0.05	0.1	0.13
03/07/99	<0.03	0.12	<0.05	0.19	0.032	<0.01	<0.4	131.6	<0.01	<0.05	<0.05	0.014	0.19	5	<0.05	23.7	1.53	<0.02	18	<0.05	<0.4	<0.1	143	0.03	<0.3	2.6	<0.1	0.37	<0.05	<0.05	<0.3	0.09
27/07/99	<0.03	0.17	<0.05	<0.05	0.013	<0.01	<0.4	138.6	<0.01	<0.05	<0.05	0.011	0.06	6	<0.05	29.7	2.29	0.005	21	<0.05	0.59	<0.1	173	<0.3	<0.3	2.6	<0.1	0.451	0.015	<0.05	<0.3	0.1
29/07/99	<0.03	0.05	<0.02	0.02	0.031	<0.01	<0.04	155.8	<0.002	<0.01	<0.01	0.015	0.03	7.9	<0.01	30	2.44	<0.004	23	<0.01	0.03	0.005	159.9	<0.03	<0.03	2.59	<0.01	0.447	0.024	<0.01	<0.03	0.1
12/08/99	<0.03	<0.05	<0.05	<0.05	0.087	<0.01	<0.4	159.9	<0.01	0.019	<0.05	0.01	<0.1	10	<0.05	30.1	1.88	<0.02	26	0.019	<0.4	<0.1	164	<0.3	<0.05	3.5	<0.1	0.457	0.006	0.024	<0.3	0.07
10/09/99	<0.03	0.1	<0.05	<0.5	0.025	<0.01	<0.4	163.9	<0.01	<0.05	<0.05	0.018	0.03	7	0.006	33.8	3.02	0.003	23	0.01	<0.4	<0.1	199	<0.3	<0.05	2.3	<0.1	0.435	0.009	<0.05	<0.3	0.06
29/10/99	<0.03	<0.05	<0.05	<0.05	0.084	<0.01	<0.4	194.2	<0.01	<0.05	<0.05	0.003	0.04	4	<0.05	38.6	7.92	<0.02	34	<0.05	<0.4	<0.1	209	<0.3	<0.05	3.4	<0.1	0.542	<0.05	<0.05	<0.3	0.04
JAN 1999 - DEC 1999																																
Mean	0.0028	0.08	0.005	0.07	0.028	0.001	0.037	147.9	0.0012	0.006	0.026	0.013																				

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X10, Rose Creek Diversion Channel below weirs

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
17/05/99	<0.03	0.1	<0.05	<0.05	0.116	0.001	<0.04	11.9	<0.01	0.01	0.008	0.022	0.64	2	<0.005	2.5	0.05	<0.002	1	0.009	2.92	0.01		<0.03	<0.03	1.3	<0.01	0.07	<0.005	0.022	<0.03	0.06
27/07/99	<0.03	0.39	<0.05	0.1	0.112	0.002	<0.04	18.4	0.005	0.103	0.006	0.007	1.19	<1	<0.005	5	0.05	0.014	<1	0.012	<0.04	<0.01	4	<0.03	<0.05	3.6	<0.01	0.1	0.03	0.041	<0.03	0.04
14/12/99	<0.03	<0.05	<0.005	<0.05	0.112	<0.001	<0.04	37.8	<0.001	<0.005	<0.005	0.014	0.17	4	0.008	7.5	0.04	<0.002	<1	0.007	<0.04	<0.01	7	<0.03	<0.005	2.9	<0.01	0.156	<0.005	<0.005	<0.03	0.08

JAN 1999 - DEC 1999

Mean	0.003	0.18	0.005	0.07	0.113	0.001	0.04	22.7	0.002	0.039	0.006	0.014	0.67	2	0.006	5	0.05	0.006	1	0.009	1	0.01	6	0.03	0.013	2.6	0.01	0.109	0.013	0.023	0.03	0.06
Std. Deviat	0	0.18	0	0.03	0.002	0.001	0	13.5	0.002	0.055	0.002	0.008	0.51	2	0.002	2.5	0.01	0.007	0	0.003	1.66	0	2	0	0.014	1.2	0	0.044	0.014	0.018	0	0.02
Minimum V	0.003	0.05	0.005	0.05	0.112	0.001	0.04	11.9	0.001	0.005	0.005	0.007	0.17	1	0.005	2.5	0.04	0.002	1	0.007	0.04	0.01	4	0.03	0.005	1.3	0.01	0.07	0.005	0.005	0.03	0.04
Maximum	0.003	0.39	0.005	0.1	0.116	0.002	0.04	37.8	0.005	0.103	0.008	0.022	1.19	4	0.008	7.5	0.05	0.014	1	0.012	2.92	0.01	7	0.03	0.03	3.6	0.01	0.156	0.03	0.041	0.03	0.08
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<0.03	<0.05	<0.005	<0.05	0.025	0.002	<0.04	10.3	<0.001	<0.005	<0.005	<0.002	0.09	1	<0.005	2.2	0.04	<0.002	<1	<0.005	0.6	<0.01		<0.03	<0.03	0.5	<0.01	0.054	<0.005	0.009	<0.03	0.04
27/07/99	<0.03	<0.05	<0.005	<0.05	0.035	<0.001	<0.04	16.7	<0.001	0.012	<0.005	0.002	0.17	<1	<0.005	4.7	0.08	<0.002	<1	0.01	<0.04	<0.01	4	<0.03	<0.005	3.2	<0.01	0.093	0.008	<0.005	<0.03	0.02
14/12/99	<0.03	<0.05	<0.005	<0.05	0.088	<0.001	<0.04	39.6	<0.001	<0.005	<0.005	0.014	0.07	3	<0.005	8	0.04	<0.002	1	0.008	<0.04	<0.01	8	<0.03	<0.005	3.2	<0.01	0.164	<0.005	0.007	<0.03	0.01

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.005	0.05	0.049	0.001	0.04	22.2	0.001	0.007	0.005	0.006	0.11	2	0.005	5	0.05	0.002	1	0.008	0.23	0.01	6	0.03	0.013	2.3	0.01	0.104	0.006	0.007	0.03	0.02
Std. Deviat	0	0	0	0	0.034	0.001	0	15.4	0	0.004	0	0.007	0.05	1	0	2.9	0.02	0	0	0.003	0.32	0	3	0	0.014	1.6	0	0.056	0.002	0.002	0	0.02
Minimum V	0.003	0.05	0.005	0.05	0.025	0.001	0.04	10.3	0.001	0.005	0.005	0.002	0.07	1	0.005	2.2	0.04	0.002	1	0.005	0.04	0.01	4	0.03	0.005	0.5	0.01	0.054	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.05	0.088	0.002	0.04	39.6	0.001	0.012	0.005	0.014	0.17	3	0.005	8	0.08	0.002	1	0.01	0.6	0.01	8	0.03	0.03	3.2	0.01	0.164	0.008	0.009	0.03	0.04
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3

STATION: X11, Seepage from north toe of Cross Valley Dam

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
17/05/99	<0.03	<0.05	<0.005	<0.05	0.139	0.003	<0.04	230.9	<0.001	<0.005	<0.005	0.037	2.97	6	<0.005	43.1	10.74	<0.002	40	<0.005	0.99	<0.01		<0.03	<0.03	6.3	<0.01	0.699	<0.005	<0.005	<0.03	0.05
12/08/99	<0.03	<0.05	<0.005	0.1	<0.002	0.003	<0.04	262.7	0.002	0.013	<0.005	0.017	1.84	3	<0.005	47.3	9.47	0.003	36	<0.005	<0.04	<0.01	238	<0.03	<0.005	8.3	<0.01	0.737	0.018	0.014	<0.03	0.02
10/09/99	<0.03	0.24	<0.005	<0.05	0.129	<0.001	<0.04	229	<0.001	<0.005	<0.005	0.031	2.21	6	0.027	42.6	10.37	<0.002	30	0.018	<0.04	0.03	235	<0.03	<0.005	5.6	<0.01	0.626	0.027	0.009	<0.03	<0.01
29/10/99	<0.03	0.78	<0.005	0.16	0.182	0.004	<0.04	249.4	<0.001	0.012	0.008	0.026	3.01	8	0.008	47.2	13.4	0.014	42	0.041	<0.04	<0.01	260	<0.03	<0.005	7.8	<0.01	0.754	0.012	<0.005	<0.03	<0.01
22/11/99	<0.03	0.27	<0.005	0.06	0.156	0.002	0.07	226.7	<0.001	0.006	<0.005	0.056	2.77	7	<0.005	49	12.8	<0.002	38	0.028	<0.04	<0.01	246	<0.03	<0.005	6.5	<0.01	0.761	0.038	<0.005	<0.03	<0.01
14/12/99	<0.03	0.76	<0.005	0.09	0.157	0.001	<0.04	258	<0.001	<0.005	<0.005	0.032	2.3	6	<0.005	43.1	11.89	<0.002	35	0.008	<0.04	<0.01	222	<0.03	<0.005	4.7	<0.01	0.646	0.011	<0.005	<0.03	0.03

JAN 1999 - DEC 1999

Mean	0.003	0.36	0.005	0.09	0.127	0.002	0.04	242.8	0.001	0.008	0.005	0.033	2.52	6	0.009	45.4	11.45	0.004	37	0.018	0.2	0.01	240	0.03	0.009	6.5	0.01	0.704	0.018	0.007	0.03	0.02
Std. Deviat	0	0.33	0	0.04	0.064	0.001	0.01	15.9	0	0.004	0.001	0.013	0.47	2	0.009	2.8	1.51	0.005	4	0.015	0.39	0.01	14	0	0.01	1.3	0	0.057	0.012	0.004	0	0.02
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	226.7	0.001	0.005	0.005	0.017	1.84	3	0.005	42.6	9.47	0.002	30	0.005	0.04	0.01	222	0.03	0.005	4.7	0.01	0.626	0.005	0.005	0.03	0.01
Maximum	0.003	0.78	0.005	0.16	0.182	0.004	0.07	262.7	0.002	0.013	0.008	0.055	3.01	8	0.027	49	13.4	0.014	42	0.041	0.99	0.03	260	0.03	0.03	8.3	0.01	0.761	0.038	0.014	0.03	0.05
Num. Valu	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6	6	6	6	6

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<0.03	<0.05	<0.005	<0.05	0.077	0.003	<0.04	202.3	<0.001	<0.005	<0.005	0.01	<0.01	6	<0.005	44.2	3.96	<0.002	40	<0.005	0.54	<0.01		<0.03	<0.03	5.9	<0.01	0.654	<0.005	<0.005	<0.03	0.03
12/08/99	<0.03	<0.05	<0.005	0.06	0.131	0.002	<0.04	233.7	<0.001	<0.005	<0.005	0.009	0.05	10	<0.005	44.3	7.05	<0.002	38	0.008	<0.04	<0.01	223	<0.03	<0.005	7.9	<0.01	0.695	0.008	0.017	<0.03	0.01
29/10/99	<0.03	0.05	<0.005	0.05	0.142	<0.001	<0.04	250.2	<0.001	<0.005	<0.005	<0.002	<0.01	3	<0.005	48.3	12.23	<0.002	44	<0.005	0.05	<0.01	270	<0.03	<0.005	5.6	<0.01	0.762	<0.005	<0.005	<0.03	<0.01
22/11/99	<0.03	0.11	<0.005	<0.05	0.069	0.001	<0.04	214	<0.001	<0.005	<0.005	0.032	0.05	6	<0.005	50.5	7.74	<0.002	39	<0.005	<0.04	0.01	275	<0.03	<0.005	6.1	<0.01	0.664	0.008	<0.005	<0.03	<0.01
14/12/99	<0.03	0.8	<0.005	<0.05	0.104	<0.001	<0.04	278.8	<0.001	<0.005	<0.005	0.03	0.14	5	<0.005	47.1	12.87	<0.002	38	0.007	0.11	<0.01	246	<0.03	<0.005	5.2	<0.01	0.699	0.009	<0.005	<0.03	0.02

JAN 1999 - DEC 1999

Mean	0.003	0.21	0.005	0.05	0.105	0.002	0.04	235.8	0.001	0.005	0.005	0.017	0.05	6	0.005	46.9	8.77	0.002	40	0.006	0.16	0.01	254	0.03	0.01	6.1	0.01	0.695	0.007	0.
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1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X12, Seepage from south/central toe X-Valley Dam

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
17/05/99	<.003	0.33	<.005	<.05	0.14	0.002	<.04	115.1	<.001	<.005	<.005	0.029	0.72	5	<.005	25.3	0.17	0.009	23	<.005	0.24	<.01		<.03	<.03	4.8	<.01	0.414	0.008	<.005	<.03	0.04
12/08/99	<.003	<.05	<.005	0.09	0.16	<.001	<.04	136.1	0.005	<.005	<.005	0.006	0.07	6	<.005	28.5	0.13	0.003	24	0.017	<.04	<.01	111	<.03	<.005	6.3	<.01	0.46	0.006	<.005	<.03	0.01
10/09/99	<.003	0.17	<.005	<.05	0.104	<.001	<.04	111	<.001	<.005	<.005	0.02	0.1	4	0.015	23.7	0.61	<.002	19	<.005	<.04	<.01	103	<.03	<.005	4.1	<.01	0.34	0.019	<.005	<.03	<.01
29/10/99	<.003	0.13	<.005	<.05	0.157	<.001	<.04	117.4	<.001	<.005	<.005	0.011	0.1	4	0.028	25.4	0.9	<.002	24	<.005	<.04	<.01	105	<.03	<.005	4	<.01	0.386	<.005	<.005	<.03	<.01
22/11/99	<.003	0.2	<.005	<.05	0.138	<.001	<.04	106.8	<.001	<.005	<.005	0.035	0.27	4	<.005	27.1	0.76	<.002	23	0.017	<.04	<.01	101	<.03	<.005	4.4	<.01	0.458	0.019	<.005	<.03	<.01
14/12/99	<.003	0.25	<.005	<.05	0.12	<.001	<.04	128.1	<.001	<.005	<.005	0.016	0.02	3	<.005	25.8	0.64	<.002	21	0.007	<.04	<.01	94	<.03	<.005	3.3	<.01	0.37	<.005	<.005	<.03	0.03

JAN 1999 - DEC 1999

Mean	0.003	0.19	0.005	0.05	0.136	0.001	0.04	119.1	0.002	0.005	0.005	0.019	0.21	4	0.011	26	0.53	0.003	22	0.009	0.07	0.01	103	0.03	0.009	4.5	0.01	0.405	0.01	0.005	0.03	0.02
Std. Deviat	0	0.1	0	0.02	0.022	0	0	11	0.002	0	0	0.011	0.26	1	0.009	1.7	0.32	0.003	2	0.006	0.08	0	6	0	0.01	1	0	0.048	0.007	0	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.104	0.001	0.04	106.8	0.001	0.005	0.005	0.006	0.02	3	0.005	23.7	0.13	0.002	19	0.005	0.04	0.01	94	0.03	0.005	3.3	0.01	0.34	0.005	0.005	0.03	0.01
Maximum	0.003	0.33	0.005	0.09	0.16	0.002	0.04	136.1	0.005	0.005	0.005	0.035	0.72	6	0.028	28.5	0.9	0.009	24	0.017	0.24	0.01	111	0.03	0.03	6.3	0.01	0.46	0.019	0.005	0.03	0.04
Num. Valu	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6	6	6	6	6

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<.003	<.05	<.005	<.05	0.037	0.002	<.04	110.2	<.001	<.005	<.005	<.002	<.01	5	<.005	25.3	0.41	0.002	23	<.005	1.29	<.01		<.03	<.03	4.3	<.01	0.38	<.005	<.005	<.03	0.01
12/08/99	<.003	<.05	<.005	<.05	0.087	<.001	<.04	127.7	<.001	<.005	<.005	0.004	<.01	6	<.005	27.4	0.15	<.002	24	<.005	<.04	<.01	104	<.03	<.005	6.4	<.01	0.426	<.005	0.016	<.03	<.01
29/10/99	<.003	<.05	<.005	<.05	0.084	<.001	<.04	124.7	<.001	<.005	<.005	<.002	<.01	2	<.005	27	0.93	<.002	25	<.005	<.04	<.01	110	<.03	<.005	4.2	<.01	0.407	<.005	<.005	<.03	<.01
22/11/99	<.003	<.05	0.015	<.05	0.028	<.001	<.04	111.8	<.001	<.005	<.005	0.018	<.01	3	<.005	28.8	1.14	0.006	24	<.005	<.04	<.01	113	<.03	<.005	4.7	<.01	0.352	<.005	<.005	<.03	<.01
14/12/99	<.003	0.24	<.005	<.05	0.081	<.001	<.04	132.7	<.001	<.005	<.005	0.008	<.01	4	<.005	27.1	0.65	<.002	22	<.005	<.04	<.01	98	<.03	<.005	3.7	<.01	0.388	<.005	<.005	<.03	<.01

JAN 1999 - DEC 1999

Mean	0.003	0.09	0.007	0.05	0.063	0.001	0.04	121.4	0.001	0.005	0.005	0.007	0.01	4	0.005	27.1	0.66	0.003	24	0.005	0.29	0.01	106	0.03	0.01	4.7	0.01	0.391	0.005	0.007	0.03	0.01
Std. Deviat	0	0.08	0.004	0	0.028	0	0	9.9	0	0	0	0.007	0	2	0	1.2	0.4	0.002	1	0	0.56	0	7	0	0.011	1	0	0.028	0	0.005	0	0
Minimum V	0.003	0.05	0.005	0.05	0.028	0.001	0.04	110.2	0.001	0.005	0.005	0.002	0.01	2	0.005	25.3	0.15	<.002	22	0.005	0.04	0.01	98	0.03	0.005	3.7	0.01	0.352	0.005	0.005	0.03	0.01
Maximum	0.003	0.24	0.015	0.05	0.087	0.002	0.04	132.7	0.001	0.005	0.005	0.018	0.01	6	0.005	28.8	1.14	0.006	25	0.005	1.29	0.01	113	0.03	0.03	6.4	0.01	0.426	0.005	0.016	0.03	0.01
Num. Valu	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5

STATION: WEIR3, seepage from central area of X-Valley Dam

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
17/05/99	<.003	0.05	<.005	<.05	0.163	0.003	<.04	152.9	<.001	<.005	<.005	0.027	1.7	4	<.005	28.3	5.04	<.002	31	<.005	0.84	<.01		<.03	<.03	5.8	<.01	0.465	<.005	<.005	<.03	0.03

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.005	0.05	0.163	0.003	0.04	152.9	0.001	0.005	0.005	0.027	1.7	4	0.005	28.3	5.04	0.002	31	0.005	0.84	0.01		0.03	0.03	5.8	0.01	0.465	0.005	0.005	0.03	0.03
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.163	0.003	0.04	152.9	0.001	0.005	0.005	0.027	1.7	4	0.005	28.3	5.04	0.002	31	0.005	0.84	0.01		0.03	0.03	5.8	0.01	0.465	0.005	0.005	0.03	0.03
Maximum	0.003	0.05	0.005	0.05	0.163	0.003	0.04	152.9	0.001	0.005	0.005	0.027	1.7	4	0.005	28.3	5.04	0.002	31	0.005	0.84	0.01		0.03	0.03	5.8	0.01	0.465	0.005	0.005	0.03	0.03
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<.003	<.05	<.005	<.05	0.052	0.003	<.04	130.3	<.001	<.005	<.005	0.005	<.01	4	<.005	27.7	2.43	<.002	30	<.005	<.04	<.01		<.03	<.03	5	<.01	0.415	<.005	<.005	<.03	0.02

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.005	0.05	0.052	0.003	0.04	130.3	0.001	0.005	0.005	0.005	0.01	4	0.005	27.7	2.43	0.002	30	0.005	0.04	0.01		0.03	0.03	5	0.01	0.415	0.005	0.005	0.03	0.02
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.052	0.003	0.04	130.3	0.001	0.005	0.005	0.005	0.01	4	0.005	27.7	2.43	0.002	30	0.005	0.04	0.01		0.03	0.03	5	0.01	0.415	0.005	0.005	0.03	0.02
Maximum	0.003	0.05	0.005	0.05	0.052	0.003	0.04	130.3	0.001	0.005	0.005	0.005	0.01	4	0.005	27.7	2.43	0.002	30	0.005	0.04	0.01		0.03	0.03	5	0.01	0.415	0.005	0.005	0.03	0.02
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION X13, Combined seepage from Cross Valley Dam

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
18/01/99	<0.03	0.18	0.009	0.21	0.083	0.001	<0.04	246.9	0.003	<0.005	0.106	0.041	2.77	6	<0.005	46.2	10.08	<0.002	42	0.018	<0.04	<0.01	239	0.03	<0.03	7.2	<0.01	0.702	0.021	<0.005	<0.03	0.02
22/02/99	0.023	0.4	<0.005	0.35	0.11	<0.001	<0.04	258.3	<0.001	0.016	0.127	0.039	3.86	6	<0.005	48.2	10.29	0.013	45	0.021	2.33	<0.01	214	<0.03	<0.03	8.1	<0.01	0.764	0.035	<0.005	<0.03	0.05
17/03/99	<0.003	0.38	<0.005	0.19	0.101	<0.001	<0.04	191.7	<0.001	<0.005	0.229	0.039	1.54	4	<0.005	33.8	7.32	<0.002	33	0.005	1.52	<0.01	164	<0.03	<0.03	6.2	<0.01	0.512	0.028	<0.005	<0.03	0.04
20/04/99	<0.003	0.16	0.011	0.18	0.08	0.002	0.04	225.3	<0.001	0.01	<0.005	0.034	2.69	6	<0.005	44.7	10.1	<0.002	38	0.008	1.19	<0.01	201	<0.03	<0.03	6.3	<0.01	0.653	0.035	<0.005	<0.03	<0.01
17/05/99	<0.003	0.05	<0.005	<0.05	0.149	0.003	<0.04	214.9	<0.001	<0.005	<0.005	0.033	2.7	6	<0.005	39.5	9.34	<0.002	38	<0.005	1.09	<0.01		<0.03	<0.03	6.4	<0.01	0.641	<0.005	<0.005	<0.03	0.04
03/07/99	<0.003	0.53	<0.005	0.51	0.079	<0.001	<0.04	213.4	<0.001	0.01	<0.005	0.035	3.07	6	<0.005	41.1	9.48	<0.002	34	<0.005	<0.04	<0.01	200	<0.03	<0.03	9	<0.01	0.665	<0.005	0.008	<0.03	0.04
27/07/99	<0.003	<0.05	<0.005	0.18	0.189	0.005	<0.04	207.4	0.004	0.102	<0.005	0.011	2.46	4	<0.005	42.6	9.49	0.019	36	0.051	<0.04	<0.01	216	<0.03	<0.005	6.2	<0.01	0.745	0.017	0.037	<0.03	0.02
12/08/99	<0.003	<0.05	<0.005	0.16	0.183	<0.001	<0.04	238.2	<0.001	0.03	<0.005	0.012	2.16	8	<0.005	42.9	8.2	<0.002	38	0.016	<0.04	<0.01	212	<0.03	<0.005	9.2	<0.01	0.694	0.009	<0.005	<0.03	0.02
10/09/99	<0.003	0.25	<0.005	0.06	0.157	<0.001	<0.04	214.3	<0.001	<0.005	<0.005	0.026	1.51	6	0.016	40.1	9.27	<0.002	32	0.017	<0.04	<0.01	193	<0.03	<0.005	6	<0.01	0.605	0.023	0.011	<0.03	<0.01
29/10/99	<0.003	0.17	<0.005	0.07	0.189	<0.001	<0.04	194.6	<0.001	<0.005	<0.005	0.003	2.31	4	<0.005	36.2	9.27	<0.002	34	<0.005	<0.04	<0.01	188	<0.03	<0.005	5.4	<0.01	0.577	<0.005	<0.005	<0.03	<0.01
22/11/99	<0.003	0.27	<0.005	0.08	0.163	0.001	0.05	188.8	<0.001	0.014	<0.005	0.049	2.3	6	<0.005	40.6	9.59	<0.002	33	0.034	0.28	<0.01	199	<0.03	<0.005	6.7	<0.01	0.637	0.028	<0.005	<0.03	<0.01
14/12/99	<0.003	0.57	<0.005	<0.05	0.145	<0.001	<0.04	212.8	<0.001	<0.005	<0.005	0.029	1.74	5	<0.005	35.8	8.58	<0.002	31	0.015	<0.04	<0.01	171	<0.03	<0.005	4.6	<0.01	0.538	0.009	<0.005	<0.03	0.02

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Mean	0.005	0.25	0.006	0.17	0.136	0.002	0.04	217.2	0.001	0.018	0.042	0.029	2.43	6	0.006	41	9.25	0.004	36	0.017	0.56	0.01	200	0.03	0.017	6.8	0.01	0.644	0.018	0.008	0.03	0.02
Std. Deviat	0.006	0.18	0.002	0.14	0.043	0.001	0	21.7	0.001	0.028	0.073	0.014	0.67	1	0.003	4.3	0.85	0.006	4	0.014	0.78	0	21	0	0.013	1.4	0	0.077	0.012	0.009	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.079	0.001	0.04	188.8	0.001	0.005	0.005	0.003	1.51	4	0.005	33.8	7.32	0.002	31	0.005	0.04	0.01	164	0.03	0.005	4.6	0.01	0.512	0.005	0.005	0.03	0.01
Maximum	0.023	0.57	0.011	0.51	0.189	0.005	0.05	258.3	0.004	0.102	0.229	0.049	3.86	8	0.016	48.2	10.29	0.019	45	0.051	2.33	0.01	239	0.03	0.03	9.2	0.01	0.764	0.035	0.037	0.03	0.05
Num. Valu	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	12	12	12	12	12	12	12	12	12

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
18/01/99	<0.003	<0.05	<0.005	0.09	0.032	0.001	<0.04	238.7	<0.001	<0.005	0.124	0.022	<0.01	5	<0.005	45.6	8.68	0.005	41	0.014	<0.04	<0.01	250	<0.03	<0.03	6.7	<0.01	0.676	0.009	<0.005	<0.03	0.03
22/02/99	<0.003	0.14	<0.005	0.21	0.037	<0.001	<0.04	225.8	<0.001	0.008	0.244	0.019	0.06	5	<0.005	42.6	7.61	0.004	40	<0.005	2.03	<0.01		<0.03	<0.03	6.5	<0.01	0.659	0.017	<0.005	<0.03	0.03
17/03/99	<0.003	0.14	<0.005	0.07	0.034	<0.001	<0.04	175.6	<0.001	<0.005	0.264	0.021	<0.01	4	<0.005	32.4	4.53	<0.002	32	<0.005	0.85	<0.01	170	<0.03	<0.03	5.5	<0.01	0.483	0.017	<0.005	<0.03	<0.01
20/04/99	<0.003	<0.05	<0.005	<0.05	0.04	0.002	<0.04	219.8	<0.001	<0.005	<0.005	0.023	0.08	6	<0.005	44.5	8.98	<0.002	39	<0.005	1.1	<0.01	217	<0.03	<0.03	5.8	<0.01	0.643	0.024	<0.005	<0.03	<0.01
17/05/99	<0.003	<0.05	<0.005	<0.05	0.064	0.003	<0.04	202.3	<0.001	<0.005	<0.005	0.01	<0.01	5	<0.005	41.2	5.29	<0.002	40	<0.005	1.38	<0.01		<0.03	<0.03	6.1	<0.01	0.639	<0.005	<0.005	<0.03	0.03
03/07/99	<0.003	0.14	<0.005	0.25	0.045	<0.001	<0.04	173.7	<0.001	<0.005	<0.005	0.017	0.21	5	<0.005	37.5	3.47	<0.002	31	<0.005	<0.04	<0.01	189	<0.03	<0.03	6.8	<0.01	0.539	<0.005	<0.005	<0.03	<0.01
27/07/99	<0.003	<0.05	<0.005	<0.05	0.132	0.002	<0.04	194.2	0.002	0.081	<0.005	0.012	0.68	6	0.014	41.5	8.79	0.003	36	0.034	0.13	<0.01	207	<0.03	<0.005	5.7	<0.01	0.716	0.014	0.009	<0.03	<0.01
12/08/99	<0.003	<0.05	<0.005	<0.05	0.104	<0.001	<0.04	214.6	<0.001	<0.005	<0.005	0.005	0.02	6	<0.005	41.1	5.74	<0.002	37	<0.005	<0.04	<0.01	200	<0.03	<0.005	7.9	<0.01	0.638	<0.005	0.023	<0.03	0.05
29/10/99	<0.003	<0.05	<0.005	<0.05	0.117	<0.001	<0.04	197.4	<0.001	<0.005	<0.005	<0.002	<0.01	<1	<0.005	38.7	7.49	<0.002	38	<0.005	<0.04	<0.01	201	<0.03	<0.005	5.1	<0.01	0.606	<0.005	<0.005	<0.03	<0.01
22/11/99	<0.003	0.09	<0.005	<0.05	0.05	<0.001	<0.04	191.3	<0.001	<0.005	<0.005	0.027	0.02	6	<0.005	43.8	6.44	0.017	35	<0.005	<0.04	<0.01	228	<0.03	<0.005	5.7	<0.01	0.575	0.006	<0.005	<0.03	<0.01
14/12/99	<0.003	0.52	<0.005	<0.05	0.112	<0.001	<0.04	220.8	<0.001	<0.005	<0.005	0.014	0.11	4	<0.005	37.7	8.87	<0.002	34	<0.005	<0.04	<0.01	182	<0.03	<0.005	4.9	<0.01	0.569	<0.005	<0.005	<0.03	<0.01

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Mean	0.003	0.12	0.005	0.09	0.07	0.001	0.04	204.9	0.001	0.012	0.061	0.016	0.11	5	0.006	40.6	8.9	0.004	37	0.008	0.52	0.01	205	0.03	0.019	6.1	0.01	0.613	0.01	0.007	0.03	0.02
Std. Deviat	0	0.14	0	0.07	0.038	0.001	0	20.8	0	0.023	0.102	0.008	0.2	1	0.003	3.8	1.93	0.004	3	0.009	0.71	0	24	0	0.013	0.9	0	0.067	0.007	0.005	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.032	0.001	0.04	173.7	0.001	0.005	0.005	0.002	0.01	1	0.005	32.4	3.47	0.002	31	0.005	0.04	0.01	170	0.03	0.005	4.9	0.01	0.483	0.005	0.005	0.03	0.01
Maximum	0.003	0.52	0.005	0.25	0.132	0.003	0.04	238.7	0.002	0.081	0.264	0.027	0.68	6	0.014	45.6	8.98	0.017	41	0.034	2.03	0.01	250	0.03	0.03	7.9	0.01	0.716	0.024	0.023	0.03	0.05
Num. Valu	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	9	11	11	11	11	11	11	11	11	11

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION X14, Rose Cr downstream of the diversion channel

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
18/01/99	<003	0.12	<005	0.18	0.09	<001	<04	116.5	0.002	<005	0.046	0.035	0.46	3	<005	23.2	2.61	0.003	17	<005	<04	<01	88	<03	<03	5.2	<01	0.384	0.013	<005	<03	0.06
22/02/99	0.016	0.27	<005	0.32	0.084	<001	<04	125.3	<001	<005	<005	0.022	0.53	3	<005	24.4	3.04	0.003	18	0.009	1.58	<01	109	0.04	<03	4.6	<01	0.415	0.021	<005	<03	0.03
17/03/99	<003	0.28	<005	0.18	0.085	<001	<04	122.5	<001	<005	0.301	0.033	0.51	3	<005	22.3	3.11	<002	17	<005	1.07	<01	89	<03	<03	5.2	<01	0.378	0.017	<005	<03	0.04
20/04/99	<003	0.14	<005	0.25	0.08	<001	<04	89.2	<001	<005	<005	0.02	0.48	2	<005	19.1	1.94	<002	13	<005	0.45	<01	80	<03	<03	4.2	<01	0.321	0.023	<005	<03	0.03
17/05/99	<003	0.33	<005	<05	0.131	0.002	<04	18.3	0.003	<005	<005	0.022	1.06	2	<005	3.8	0.24	0.013	2	<005	<04	<01		<03	<03	2	<01	0.09	<005	<005	<03	0.07
03/07/99	<003	0.45	<005	0.33	0.054	<001	0.04	30.8	0.003	<005	<005	0.023	1.19	1	<005	7.6	0.26	<002	2	<005	<04	<01	14	0.05	<03	6.2	<01	0.122	<005	0.007	<03	0.05
27/07/99	<003	0.46	<005	0.08	0.069	0.001	<04	23.2	0.005	0.042	<005	0.005	1.05	<1	<005	6.1	0.23	0.011	1	0.008	<04	<01	12	<03	<005	3.4	<01	0.104	0.021	0.017	<03	0.04
12/08/99	<003	<05	<005	0.09	0.087	<001	<04	61.6	<001	0.021	<005	0.005	0.23	1	<005	12.2	0.68	0.006	8	<005	<04	<01	46	<03	<005	5.4	<01	0.219	<005	<005	<03	0.08
10/09/99	<003	0.15	<005	<05	0.13	<001	<04	52.9	0.003	<005	<005	0.015	0.24	2	<006	11.1	0.83	<002	7	<005	<04	<01	42	<03	<005	3.5	<01	0.188	0.013	0.006	<03	0.05
29/10/99	<003	0.06	<005	<05	0.146	<001	<04	43.2	<001	<005	<005	<002	0.32	2	<005	9.1	0.66	<002	6	<005	<04	<01	23	<03	<005	3.8	<01	0.176	<005	<005	<03	0.02
22/11/99	<003	0.13	<005	0.1	0.165	<001	0.05	51.9	<001	<005	<005	0.027	0.46	1	<005	12.3	0.97	<002	8	0.103	<04	<01	31	0.05	<005	6.6	<01	0.277	0.016	<005	<03	0.05
14/12/99	<003	0.33	<005	<05	0.167	<001	<04	71.4	<001	0.015	<005	0.03	0.76	6	<005	13.3	1.2	0.009	7	0.025	<04	<01	36	<03	<005	3.4	<01	0.231	0.013	0.015	<03	0.08

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Mean	0.004	0.23	0.005	0.14	0.107	0.001	0.04	67.2	0.002	0.01	0.033	0.02	0.61	2	0.005	13.7	1.31	0.005	9	0.015	0.29	0.01	50	0.03	0.017	4.5	0.01	0.242	0.013	0.007	0.03	0.05
Std. Deviat	0.004	0.14	0	0.11	0.038	0	0	38.2	0.001	0.011	0.085	0.011	0.33	1	0	7	1.08	0.004	6	0.028	0.51	0	33	0.01	0.013	1.3	0	0.113	0.007	0.004	0	0.02
Minimum V	0.003	0.05	0.005	0.05	0.054	0.001	0.04	18.3	0.001	0.005	0.005	0.002	0.23	1	0.005	3.8	0.23	0.002	1	0.005	0.04	0.01	12	0.03	0.005	2	0.01	0.09	0.005	0.005	0.03	0.02
Maximum	0.016	0.46	0.005	0.33	0.167	0.002	0.05	125.3	0.005	0.042	0.301	0.035	1.19	6	0.006	24.4	3.11	0.013	18	0.103	1.58	0.01	109	0.05	0.03	6.6	0.01	0.415	0.023	0.017	0.03	0.08
Num. Valu	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	12	12	12	12	12	12	12	12	12

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
18/01/99	<003	<05	<005	<05	0.025	<001	<04	115.2	0.001	<005	0.112	0.011	0.04	3	<005	23.5	2.57	<002	17	<005	<04	<01	94	<03	<03	4.9	<01	0.37	<005	<005	<03	0.02
22/02/99	<003	0.08	<005	0.21	0.026	<001	<04	135.5	<001	<005	0.161	0.012	0.07	4	<005	26.6	3.04	0.003	20	<005	1.38	<01		<03	<03	4.9	<01	0.442	0.011	<005	<03	<01
17/03/99	<003	0.08	<005	0.08	0.026	<001	<04	105.9	<001	<005	0.776	0.014	<01	2	<005	20.8	2.22	<002	17	<005	0.73	<01	95	<03	<03	4.4	<01	0.332	<005	<005	<03	<01
20/04/99	<003	<05	<005	<05	0.027	0.001	<04	88.3	<001	<005	<005	0.011	0.19	3	<005	19.3	2.02	<002	13	<005	1.44	<01	67	<03	<03	3.9	<01	0.309	0.012	0.009	<03	<01
17/05/99	<003	<05	<005	<05	0.016	0.002	<04	15.2	<001	<005	<005	0.057	0.08	2	<005	3.1	0.35	0.011	2	0.007	<04	<01		<03	<03	0.7	<01	0.067	<005	0.014	<03	0.03
03/07/99	<003	<05	<005	0.24	0.01	<001	<04	25.2	<001	<005	<005	<002	0.3	<1	<005	5.5	0.35	<002	2	<005	<04	<01	13	<03	<03	3.3	<01	0.042	<005	<005	<03	<01
27/07/99	<003	<05	<005	<05	0.036	0.001	<04	25	0.006	0.081	<005	0.007	0.18	<1	<005	6.5	0.27	<002	2	0.008	<04	<01	13	<03	<005	3.2	<01	0.118	0.013	0.011	<03	0.02
12/08/99	<003	<05	<005	0.06	0.107	<001	<04	59.9	0.005	<005	<005	0.008	0.1	7	<005	12	0.63	<002	9	0.013	<04	0.04	45	<03	<005	4.8	<01	0.208	0.008	0.021	<03	0.02
10/09/99	<003	<05	<005	<05	0.021	<001	<04	52.7	<001	<005	<005	0.006	0.05	2	<005	11.1	0.78	<002	7	<005	0.55	<01	45	<03	<005	3.1	<01	0.175	<005	<005	<03	<01
29/10/99	<003	<05	<005	<05	0.083	<001	<04	48.7	<001	<005	<005	<002	0.09	<1	<005	10.1	0.74	<002	6	<005	<04	<01	25	<03	<005	3.5	<01	0.199	<005	<005	<03	<01
22/11/99	<003	<05	<005	<05	0.026	<001	<04	44.7	<001	<005	<005	0.008	0.07	<1	<005	10.5	1.06	0.011	6	<005	0.36	0.02	35	<03	<005	3.4	<01	0.106	<005	<005	<03	<01
14/12/99	<003	0.06	<005	<05	0.086	<001	<04	73.8	<001	<005	<005	0.009	0.13	4	<005	13.7	1.16	<002	7	0.008	<04	<01	38	<03	<005	3.5	<01	0.242	<005	0.011	<03	0.01

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Mean	0.003	0.06	0.005	0.08	0.041	0.001	0.04	65.9	0.002	0.011	0.091	0.012	0.11	3	0.005	13.6	1.27	0.004	9	0.006	0.4	0.01	47	0.03	0.017	3.6	0.01	0.217	0.007	0.008	0.03	0.01
Std. Deviat	0	0.01	0	0.07	0.032	0	0	38.6	0.002	0.022	0.222	0.015	0.08	2	0	7.4	0.95	0.003	6	0.002	0.53	0.01	30	0	0.013	1.1	0	0.126	0.003	0.005	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.01	0.001	0.04	15.2	0.001	0.005	0.005	0.002	0.01	1	0.005	3.1	0.27	0.002	2	0.005	0.04	0.01	13	0.03	0.005	0.7	0.01	0.042	0.005	0.005	0.03	0.01
Maximum	0.003	0.08	0.005	0.24	0.107	0.002	0.04	135.5	0.006	0.081	0.776	0.057	0.3	7	0.005	26.6	3.04	0.011	20	0.013	1.44	0.04	95	0.03	0.03	4.9	0.01	0.442	0.013	0.021	0.03	0.03
Num. Valu	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	12	12	12	12	12	12	12	12	12

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X22B, Faro Pit water while filling with tailings

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
19/01/99	<.003	0.13	<.005	0.13	0.027	<.001	<.04	119.7	0.03	0.013	0.13	0.05	0.08	7	<.005	58.4	1.42	0.041	16	0.09	0.07	0.08	191	0.06	<.03	8	<.01	0.427	0.017	<.005	<.03	16.95
22/02/99	0.014	0.41	<.005	0.4	0.027	<.001	<.04	188	0.01	0.035	<.005	0.066	0.02	15	0.019	60.7	2.95	0.024	34	0.062	2.02	<.01	231	<.03	<.03	2.9	<.01	0.45	0.027	<.005	<.03	3.92
22/03/99	<.003	0.3	<.005	0.14	0.023	<.001	<.04	130.7	0.025	0.037	0.402	0.062	0.17	9	0.01	50.8	2.8	0.027	20	0.056	1.55	0.04	200.1	0.09	<.03	5	<.01	0.329	0.007	<.005	<.03	14.98
17/05/99	<.003	<.05	<.005	<.05	0.08	0.002	<.04	19.3	<.001	<.005	<.005	0.02	0.03	2	<.005	7.4	0.31	0.015	3	0.02	<.04	<.01	<.03	<.03	<.1	<.01	0.07	<.005	<.005	<.03	2.56	
03/07/99	<.003	0.37	<.005	0.29	0.027	<.001	0.05	125.2	0.009	0.042	<.005	0.04	0.95	11	0.029	46.1	2.55	0.028	20	0.073	<.04	<.01	172	0.12	<.03	2.8	<.01	0.359	<.005	<.005	<.03	8.5
27/07/99	<.003	0.25	<.005	<.05	0.111	<.001	<.04	120.5	0.005	0.051	<.005	0.033	0.24	10	<.005	46.6	2.52	0.031	19	0.069	0.58	0.05	194	<.03	<.03	2.1	<.01	0.371	0.033	<.005	<.03	5.56
12/08/99	<.003	<.05	<.005	0.15	0.089	<.001	<.04	155.2	<.001	0.048	<.005	0.018	0.11	12	<.005	50.1	2.26	0.004	27	0.041	<.04	<.01	195	<.03	<.005	4.1	<.01	0.4	0.008	<.005	<.03	4.19
10/09/99	<.003	0.2	<.005	<.05	0.095	<.001	<.04	123.3	0.008	0.019	0.074	0.027	0.13	10	0.015	42.6	2.25	0.019	19	0.06	0.2	<.01	169	0.05	<.005	2.1	<.01	0.329	0.019	0.006	<.03	4.11
30/10/99	<.003	0.12	<.005	<.05	0.14	<.001	<.04	131	<.001	<.005	<.005	0.013	0.29	6	<.005	43.8	2.56	<.002	25	0.039	<.04	<.01	187	<.03	<.005	2	<.01	0.354	<.005	<.005	<.03	4.31

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Mean	0.004	0.21	0.005	0.15	0.069	0.001	0.04	123.7	0.01	0.028	0.071	0.037	0.22	9	0.011	45.2	2.18	0.021	20	0.057	0.51	0.03	192.4	0.05	0.022	3.2	0.01	0.343	0.014	0.005	0.03	7.23
Std. Deviat	0.004	0.13	0	0.12	0.044	0	0	44.9	0.011	0.018	0.132	0.019	0.29	4	0.009	15.5	0.83	0.013	8	0.021	0.75	0.03	19.1	0.03	0.012	2.3	0	0.111	0.011	0	0	5.23
Minimum V	0.003	0.05	0.005	0.05	0.023	0.001	0.04	19.3	0.001	0.005	0.005	0.013	0.02	2	0.005	7.4	0.31	0.002	3	0.02	0.04	0.01	169	0.03	0.005	0.1	0.01	0.07	0.005	0.005	0.03	2.56
Maximum	0.014	0.41	0.005	0.4	0.14	0.002	0.05	188	0.03	0.051	0.402	0.066	0.95	15	0.029	60.7	2.95	0.041	34	0.09	2.02	0.08	231	0.12	0.03	8	0.01	0.45	0.033	0.006	<.03	16.95
Num. Valu	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
19/01/99	<.003	<.05	<.005	<.05	0.037	<.001	<.04	124.2	0.013	0.017	0.146	0.018	<.01	7	<.005	60.4	2.65	0.015	16	0.079	<.04	0.04	208	0.06	<.03	7.6	<.01	0.464	<.005	<.005	<.03	9.79
22/02/99	<.003	0.11	<.005	0.13	0.031	<.001	<.04	151.6	0.004	0.017	0.074	0.014	<.01	12	<.005	48.6	2.98	0.012	27	0.028	1.98	<.01	<.03	<.03	1.6	<.01	0.377	0.011	<.005	<.03	0.65	
22/03/99	<.003	0.1	<.005	<.05	0.009	<.001	<.04	115.8	0.009	0.035	0.017	0.024	<.01	7	<.005	46.2	2.06	0.004	18	0.047	0.58	<.01	171.4	0.03	<.03	4.1	<.01	0.295	<.005	<.005	<.03	8.35
17/05/99	<.003	<.05	<.005	<.05	0.025	0.002	<.04	23.8	<.001	<.005	<.005	<.002	<.01	2	<.005	8.6	0.74	0.008	4	<.005	<.04	<.01	0.05	<.03	<.1	<.01	0.097	<.005	0.013	<.03	0.52	
03/07/99	<.003	0.09	<.005	0.08	0.054	<.001	<.04	119.1	0.001	0.02	<.005	0.015	0.23	9	<.005	42.7	2.49	<.002	18	0.031	<.04	<.01	159	0.03	<.03	1.6	<.01	0.32	<.005	<.005	<.03	5.67
27/07/99	<.003	0.12	<.005	<.05	0.019	<.001	<.04	103	0.003	0.019	<.005	0.008	0.01	8	<.005	39.6	2.11	0.01	16	0.044	0.45	<.01	190	<.03	<.03	1.2	<.01	0.318	<.005	<.005	<.03	2.28
12/08/99	<.003	<.05	<.005	0.06	0.102	<.001	<.04	147.4	0.003	0.038	<.005	0.01	0.04	20	0.042	48	2.1	<.002	28	0.057	<.04	<.01	189	<.03	<.005	2.6	<.01	0.375	0.013	<.005	<.03	1.03
10/09/99	<.003	0.08	<.005	<.05	0.028	<.001	<.04	118.1	<.001	0.02	<.005	0.014	<.01	9	<.005	40.2	2.12	0.008	17	0.041	<.04	<.01	193	<.03	<.005	1	<.01	0.312	0.008	<.005	<.03	0.54
30/10/99	<.003	<.05	<.005	<.05	0.063	<.001	<.04	147.7	0.005	0.014	<.005	0.01	<.01	9	<.005	48.6	2.72	<.002	27	0.036	<.04	<.01	213	<.03	<.005	1.3	<.01	0.391	<.005	<.005	<.03	2.26

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Mean	0.003	0.08	0.005	0.06	0.041	0.001	0.04	116.7	0.004	0.021	0.03	0.013	0.04	9	0.009	42.5	2.22	0.007	19	0.041	0.36	0.01	189.1	0.04	0.022	2.3	0.01	0.328	0.007	0.006	0.03	3.45
Std. Deviat	0	0.03	0	0.03	0.028	0	0	38.7	0.004	0.01	0.049	0.006	0.07	5	0.012	14.1	0.65	0.005	8	0.02	0.64	0.01	19	0.01	0.012	2.3	0	0.101	0.003	0.003	0	3.58
Minimum V	0.003	0.05	0.005	0.05	0.009	0.001	0.04	23.8	0.001	0.005	0.005	0.002	0.01	2	0.005	8.6	0.74	0.002	4	0.005	0.04	0.01	159	0.03	0.005	0.1	0.01	0.097	0.005	0.005	0.03	0.52
Maximum	0.003	0.12	0.005	0.13	0.102	0.002	0.04	151.6	0.013	0.038	0.146	0.024	0.23	20	0.042	60.4	2.98	0.015	28	0.079	1.98	0.04	213	0.06	0.03	7.6	0.01	0.464	0.013	0.013	0.03	9.79
Num. Valu	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	9	9	9	9	9	9	9	9	9

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X23, Old Faro Creek channel at toe of waste dumps

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
19/01/99	0.018	0.62	<0.05	0.29	0.03	0.003	<0.04	615.3	0.03	0.132	<0.05	0.084	0.38	14	<0.05	430	20.73	0.036	53	0.288	0.71	0.07	1044	<0.03	<0.03	8.7	<0.01	3.582	0.047	0.01	<0.03	32.56
22/02/99	<0.003	0.79	<0.05	0.27	0.034	0.003	<0.04	712.2	0.032	0.139	0.011	0.077	0.21	15	0.057	485.3	23.81	0.069	60	0.262	8.44	0.1	1073	<0.03	<0.03	9.5	<0.01	4.248	0.049	<0.05	<0.03	39.62
17/03/99	<0.003	0.69	<0.05	0.24	0.028	0.002	<0.04	637.9	0.042	0.122	0.581	0.076	0.39	14	0.051	394	22.58	0.04	50	0.282	6.33	0.06	1025	<0.03	<0.03	8.4	<0.01	3.442	0.043	<0.05	<0.03	35.69
17/05/99	<0.003	0.42	<0.05	<0.05	0.105	0.006	<0.04	509.7	0.755	0.444	<0.05	0.263	0.48	14	<0.05	401.3	31.95	0.419	39	0.818	46.74	1.86		0.85	<0.03	7.6	<0.01	3.093	0.021	<0.05	0.12	363.43
03/07/99	<0.003	0.9	<0.05	0.26	0.036	0.003	<0.04	590.4	0.07	0.358	<0.05	0.146	1.11	16	0.059	504	31.06	0.195	47	0.572	0.09	0.01	1148	0.04	<0.03	10	<0.01	4.082	0.025	<0.05	<0.03	123.96
12/08/99	<0.003	0.69	0.028	0.18	0.192	0.008	<0.04	573.7	0.01	0.134	<0.05	0.061	0.32	21	<0.05	432.6	23	<0.002	51	0.391	<0.04	<0.01	1042	<0.03	<0.05	9.3	<0.01	3.683	0.019	<0.05	<0.03	84.41
10/09/99	<0.003	0.55	<0.05	<0.05	0.089	0.002	<0.04	546.3	0.058	0.152	0.088	0.074	0.48	13	<0.05	435.9	26.12	0.149	41	0.344	8.91	0.28	1080	0.2	<0.05	6.9	<0.01	3.172	0.038	0.008	<0.03	64.97
29/10/99	<0.003	1.4	0.169	0.06	0.208	0.009	<0.04	489.6	0.01	0.038	<0.05	0.023	0.23	11	0.032	384	27.59	0.007	46	0.304	0.33	0.21	987	0.22	<0.05	6.1	<0.01	3.111	0.011	<0.05	<0.03	70.81
22/11/99	<0.003	0.79	<0.05	<0.05	0.114	0.004	<0.04	458.9	0.049	0.168	<0.05	0.081	2.68	15	<0.05	423.4	27.07	0.159	44	0.402	16.45	0.44	1021	0.31	<0.05	8.1	<0.01	2.795	0.051	<0.05	0.43	76.04
13/12/99	<0.003	2.32	<0.05	0.09	0.126	0.009	<0.04	593.9	<0.01	0.061	<0.05	0.079	0.57	15	0.006	414.9	28.14	<0.002	47	0.278	0.23	<0.01	1007	<0.03	<0.05	5.6	<0.01	3.172	0.024	<0.05	<0.03	81.15

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Mean	0.004	0.92	0.024	0.15	0.096	0.005	0.04	572.8	0.106	0.175	0.071	0.096	0.69	15	0.023	430.5	26.2	0.108	48	0.394	8.83	0.31	1047	0.18	0.017	8	0.01	3.438	0.033	0.006	0.08	97.26
Std. Deviat	0.005	0.56	0.052	0.1	0.066	0.003	0	75.1	0.229	0.127	0.181	0.066	0.75	3	0.024	38.1	3.68	0.13	6	0.175	14.4	0.56	48	0.26	0.013	1.5	0	0.463	0.014	0.002	0.13	97.45
Minimum V	0.003	0.42	0.005	0.05	0.028	0.002	0.04	458.9	0.001	0.038	0.005	0.023	0.21	11	0.005	384	20.73	0.002	39	0.262	0.04	0.01	987	0.03	0.005	5.6	0.01	2.795	0.011	0.005	0.03	32.56
Maximum	0.018	2.32	0.169	0.29	0.208	0.009	0.04	712.2	0.755	0.444	0.581	0.263	2.68	21	0.059	504	31.95	0.419	60	0.818	46.74	1.86	1148	0.85	0.03	10	0.01	4.248	0.051	0.01	0.43	363.43
Num. Valu	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/01/99	<0.003	0.33	<0.05	<0.05	0.046	0.003	<0.04	613.4	0.018	0.125	0.032	0.061	0.15	14	<0.05	431.9	20.43	0.023	57	0.263	0.33	<0.01	1078	<0.03	<0.03	7.7	<0.01	3.602	0.03	0.027	<0.03	21.51
22/02/99	<0.003	0.49	<0.05	0.12	0.071	0.002	<0.04	619.5	0.006	0.105	0.277	0.049	0.1	13	0.01	424.5	20.41	0.03	54	0.204	8.04	0.01		<0.03	<0.03	6.2	<0.01	3.74	0.034	<0.05	<0.03	10.07
17/03/99	<0.003	0.41	<0.05	<0.05	0.024	0.002	<0.04	560.7	0.012	0.073	0.753	0.046	0.05	12	0.012	359.8	18.26	<0.002	48	0.163	2.63	<0.01	1055	<0.03	<0.03	4.3	<0.01	3.172	0.019	<0.05	<0.03	4.13
17/05/99	0.005	0.27	<0.05	<0.05	0.286	0.005	<0.04	430.2	0.458	0.334	<0.05	0.04	0.11	11	<0.05	332.3	27.6	0.186	32	0.574	30.83	0.96		0.32	<0.03	5	<0.01	2.537	0.009	<0.05	0.06	207.57
03/07/99	<0.003	0.58	<0.05	0.35	0.066	0.002	<0.04	510.7	<0.001	0.072	<0.05	0.052	0.39	14	0.034	447.4	20.79	0.018	42	0.082	0.09	<0.01	1060	<0.03	<0.03	5.1	<0.01	3.49	<0.05	<0.05	<0.03	97.76
12/08/99	<0.003	0.8	0.027	0.13	0.168	0.008	<0.04	541.2	0.004	0.07	<0.05	0.036	0.24	26	0.046	412.3	21.21	<0.002	50	0.326	<0.04	<0.01	1011	<0.03	<0.05	7.6	<0.01	3.468	0.025	<0.05	<0.03	58.89
10/09/99	<0.003	0.45	<0.05	<0.05	0.074	0.002	<0.04	535.8	0.018	0.106	0.051	0.049	0.3	13	<0.05	426.1	24.44	0.037	40	0.23	2.48	<0.01	1095	<0.03	<0.05	5.4	<0.01	3.107	0.028	<0.05	<0.03	23.79
29/10/99	<0.003	1.4	0.044	0.06	0.142	0.008	<0.04	519.2	0.023	0.043	<0.05	0.023	0.93	12	0.008	412.3	28.68	<0.002	50	0.281	0.27	<0.01	1080	0.17	<0.05	4.9	<0.01	3.328	0.007	<0.05	<0.03	57.2
22/11/99	<0.003	0.61	<0.05	<0.05	0.183	0.004	<0.04	487.1	0.042	0.175	<0.05	0.066	1.26	14	<0.05	445.2	29.82	0.134	45	0.34	16.17	0.33	1091	0.38	<0.05	6.8	<0.01	2.901	0.034	<0.05	0.26	63.52
13/12/99	<0.003	2.31	<0.05	0.06	0.087	0.01	<0.04	599.1	<0.001	0.058	<0.05	0.069	0.42	15	<0.05	420.9	28.57	<0.002	48	0.273	0.07	<0.01	1019	<0.03	<0.05	5.6	<0.01	3.232	0.019	<0.05	<0.03	81.75

JAN 1999 - DEC 1999

Mean	0.003	0.76	0.011	0.1	0.115	0.005	0.04	541.7	0.058	0.116	0.114	0.049	0.39	14	0.014	411.3	24.02	0.044	47	0.274	6.1	0.14	1061	0.11	0.017	5.9	0.01	3.258	0.021	0.007	0.06	62.62
Std. Deviat	0.001	0.63	0.013	0.09	0.08	0.003	0	59.4	0.141	0.086	0.24	0.014	0.4	4	0.014	36.9	4.3	0.064	7	0.13	10.1	0.31	32	0.14	0.013	1.2	0	0.355	0.011	0.007	0.07	59.66
Minimum V	0.003	0.27	0.005	0.05	0.024	0.002	0.04	430.2	0.001	0.043	0.005	0.023	0.05	11	0.005	332.3	18.26	0.002	32	0.082	0.04	0.01	1011	0.03	0.005	4.3	0.01	2.537	0.005	0.005	0.03	4.13
Maximum	0.005	2.31	0.044	0.35	0.286	0.01	0.04	619.5	0.458	0.334	0.753	0.069	1.26	26	0.046	447.4	29.82	0.186	57	0.574	30.83	0.96	1095	0.38	0.03	7.7	0.01	3.74	0.034	0.027	0.26	207.57
Num. Valu	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION X26, Zone II Pit water (from well)

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/05/99	0.005	0.27	<.005	<.05	0.092	0.005	<.04	413.3	0.073	0.594	<.005	0.047	118.65	14	<.005	204.8	15.51	0.058	40	1.386	15.09	0.42			0.04	<.03	5	<.01	2.547	0.011	<.005	<.03	95.45
27/07/99	<.003	0.2	0.005	0.12	0.174	0.005	<.04	429.1	0.011	0.571	<.005	0.019	143.5	6	<.005	180.5	11.08	0.011	30	0.944	1.72	<.01	642		<.03	<.005	5	<.01	3.112	<.005	<.005	0.06	50.11
JAN 1999 - DEC 1999																																	
Mean	0.004	0.24	0.005	0.08	0.133	0.005	0.04	421.2	0.042	0.582	0.005	0.033	131.08	10	0.005	192.7	13.3	0.034	35	1.165	8.41	0.21	642	0.03	0.017	5	0.01	2.829	0.008	0.005	0.04	72.78	
Std. Deviat	0.001	0.05	0	0.05	0.058	0	0	11.2	0.044	0.016	0	0.02	17.57	6	0	17.2	3.13	0.033	7	0.313	9.45	0.29	0	0.01	0.018	0	0	0.4	0.004	0	0.02	32.06	
Minimum V	0.003	0.2	0.005	0.05	0.092	0.005	0.04	413.3	0.011	0.571	0.005	0.019	118.65	6	0.005	180.5	11.08	0.011	30	0.944	1.72	0.01	642	0.03	0.005	5	0.01	2.547	0.005	0.005	0.03	50.11	
Maximum	0.005	0.27	0.005	0.12	0.174	0.005	0.04	429.1	0.073	0.594	0.005	0.047	143.5	14	0.005	204.8	15.51	0.058	40	1.386	15.09	0.42	642	0.04	0.03	5	0.01	3.112	0.011	0.005	0.06	95.45	
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	
	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/05/99	<.003	0.19	<.005	1.42	0.165	0.005	<.04	456.6	0.081	0.526	<.005	0.083	2.92	16	<.005	234.6	16.94	0.027	56	1.096	7.02	0.32			<.03	<.03	3.2	<.01	2.802	0.008	<.005	<.03	68.48
27/07/99	<.003	0.34	<.005	0.13	0.203	0.009	<.04	438	0.037	0.69	<.005	0.029	41.75	16	0.038	198.4	12.71	0.054	38	1.42	1.34	<.01	699	0.22	0.07	4.6	<.01	3.227	0.016	0.043	0.32	64.42	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.27	0.005	0.77	0.184	0.007	0.04	447.3	0.059	0.608	0.005	0.056	22.34	16	0.021	216.5	14.83	0.041	47	1.258	4.18	0.16	699	0.12	0.05	3.9	0.01	3.015	0.012	0.024	0.17	66.45	
Std. Deviat	0	0.11	0	0.91	0.027	0.003	0	13.2	0.031	0.116	0	0.038	27.46	0	0.023	25.6	2.99	0.019	13	0.229	4.02	0.22	0	0.13	0.03	1	0	0.301	0.006	0.027	0.21	2.87	
Minimum V	0.003	0.19	0.005	0.13	0.165	0.005	0.04	438	0.037	0.526	0.005	0.029	2.92	16	0.005	198.4	12.71	0.027	38	1.096	1.34	0.01	699	0.03	0.03	3.2	0.01	2.802	0.008	0.005	0.03	64.42	
Maximum	0.003	0.34	0.005	1.42	0.203	0.009	0.04	456.6	0.081	0.69	0.005	0.083	41.75	16	0.038	234.6	16.94	0.054	56	1.42	7.02	0.32	699	0.22	0.07	4.6	0.01	3.227	0.016	0.043	0.32	68.48	
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	

STATION R4, Rose Creek upstream of Anvil Creek

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/03/99	<.003	0.23	<.005	0.17	0.092	<.001	<.04	81.3	<.001	<.005	0.207	0.025	0.06	1	0.006	14.2	0.08	<.002	10	<.005	0.59	<.01	50	<.03	<.03	3.9	<.01	0.256	0.007	<.005	<.03	0.05	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.23	0.005	0.17	0.092	0.001	0.04	81.3	0.001	0.005	0.207	0.025	0.06	1	0.006	14.2	0.08	0.002	10	0.005	0.59	0.01	50	0.03	0.03	3.9	0.01	0.256	0.007	0.005	0.03	0.05	
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Minimum V	0.003	0.23	0.005	0.17	0.092	0.001	0.04	81.3	0.001	0.005	0.207	0.025	0.06	1	0.006	14.2	0.08	0.002	10	0.005	0.59	0.01	50	0.03	0.03	3.9	0.01	0.256	0.007	0.005	0.03	0.05	
Maximum	0.003	0.23	0.005	0.17	0.092	0.001	0.04	81.3	0.001	0.005	0.207	0.025	0.06	1	0.006	14.2	0.08	0.002	10	0.005	0.59	0.01	50	0.03	0.03	3.9	0.01	0.256	0.007	0.005	0.03	0.05	
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Date	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D	
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/03/99	<.003	0.07	<.005	0.07	0.022	<.001	<.04	81.3	<.001	<.005	0.531	0.014	<.01	1	<.005	15.6	<.01	<.002	10	<.005	0.29	<.01	55	<.03	<.03	3.9	<.01	0.285	<.005	<.005	<.03	<.01	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.07	0.005	0.07	0.022	0.001	0.04	81.3	0.001	0.005	0.531	0.014	0.01	1	0.005	15.6	0.01	0.002	10	0.005	0.29	0.01	55	0.03	0.03	3.9	0.01	0.285	0.005	0.005	0.03	0.01	
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Minimum V	0.003	0.07	0.005	0.07	0.022	0.001	0.04	81.3	0.001	0.005	0.531	0.014	0.01	1	0.005	15.6	0.01	0.002	10	0.005	0.29	0.01	55	0.03	0.03	3.9	0.01	0.285	0.005	0.005	0.03	0.01	
Maximum	0.003	0.07	0.005	0.07	0.022	0.001	0.04	81.3	0.001	0.005	0.531	0.014	0.01	1	0.005	15.6	0.01	0.002	10	0.005	0.29	0.01	55	0.03	0.03	3.9	0.01	0.285	0.005	0.005	0.03	0.01	
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: R7, N Fork of Rose Creek above Faro Ck Diversion

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	Ti-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
25/02/99	<.003	0.16	<.005	0.24	0.103	<.001	<.04	46	<.001	<.005	<.005	0.022	0.11	<1	<.005	9.4	0.02	<.002	4	<.005	0.36	<.01	4	<.03	<.03	5.6	<.01	0.237	0.006	<.005	<.03	0.03
17/05/99	<.003	0.25	<.005	<.05	0.134	0.002	<.04	8.4	<.001	<.005	<.005	0.013	1.63	2	<.005	1.2	0.03	0.015	1	<.005	<.04	<.01		<.03	<.03	1.5	<.01	0.048	<.005	0.012	<.03	0.04
04/07/99	<.003	0.35	<.005	0.27	0.053	<.001	<.04	18.1	0.025	<.005	<.005	0.009	1.28	<1	<.005	4.2	0.03	<.002	<1	<.005	0.08	0.01	2	<.03	<.03	4.4	<.01	0.076	<.005	<.005	<.03	0.03
30/10/99	<.003	0.08	<.005	0.05	0.159	<.001	<.04	24.2	<.001	<.005	<.005	0.01	0.09	2	<.005	4.9	0.01	<.002	4	<.005	<.04	<.01	3	<.03	<.005	4	<.01	0.115	<.005	<.005	<.03	<.01

JAN 1999 - DEC 1999

Mean	0.003	0.21	0.005	0.15	0.112	0.001	0.04	24.2	0.007	0.005	0.005	0.013	0.78	2	0.005	4.9	0.02	0.005	2	0.005	0.13	0.01	3	0.03	0.024	3.9	0.01	0.119	0.005	0.007	0.03	0.03
Std. Deviat	0	0.12	0	0.12	0.046	0.001	0	15.9	0.012	0	0	0.006	0.8	1	0	3.4	0.01	0.006	2	0	0.15	0	1	0	0.012	1.7	0	0.083	0.001	0.004	0	0.01
Minimum V	0.003	0.08	0.005	0.05	0.053	0.001	0.04	8.4	0.001	0.005	0.005	0.009	0.09	1	0.005	1.2	0.01	0.002	1	0.005	0.04	0.01	2	0.03	0.005	1.5	0.01	0.048	0.005	0.005	0.03	0.01
Maximum	0.003	0.35	0.005	0.27	0.159	0.002	0.04	46	0.025	0.005	0.005	0.022	1.63	2	0.005	9.4	0.03	0.015	4	0.005	0.36	0.01	4	0.03	0.03	5.6	0.01	0.237	0.006	0.012	0.03	0.04
Num. Valu	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	Ti-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
25/02/99	<.003	<.05	<.005	0.22	0.017	<.001	<.04	41.2	<.001	<.005	<.005	0.008	<.01	1	<.005	8.9	<.01	<.002	4	<.005	<.04	<.01	4	<.03	<.03	5.5	<.01	0.191	0.005	<.005	<.03	<.01
17/05/99	<.003	<.05	0.011	<.05	0.02	0.002	<.04	6.1	0.002	<.005	<.005	0.081	0.1	1	0.012	1.4	0.12	<.002	<1	0.022	0.54	<.01		<.03	<.03	0.6	<.01	0.039	<.005	0.018	<.03	0.02
04/07/99	<.003	<.05	<.005	0.21	0.007	<.001	<.04	15.7	<.001	<.005	<.005	0.002	0.3	<1	<.005	3.5	0.4	<.002	<1	<.005	<.04	<.01	2	<.03	<.03	3.5	<.01	0.023	<.005	<.005	<.03	<.01
30/10/99	<.003	<.05	<.005	<.05	0.084	<.001	<.04	27.6	<.001	<.005	<.005	0.006	<.01	3	<.005	5.6	0.02	<.002	3	<.005	0.04	<.01	3	<.03	<.005	4	<.01	0.13	<.005	<.005	<.03	0.26

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.006	0.13	0.032	0.001	0.04	22.7	0.001	0.005	0.005	0.024	0.11	2	0.007	4.8	0.14	0.002	2	0.009	0.17	0.01	3	0.03	0.024	3.4	0.01	0.096	0.005	0.008	0.03	0.07
Std. Deviat	0	0	0.003	0.1	0.035	0.001	0	15.2	0.001	0	0	0.038	0.14	1	0.004	3.2	0.18	0	2	0.008	0.25	0	1	0	0.012	2.1	0	0.079	0	0.006	0	0.12
Minimum V	0.003	0.05	0.005	0.05	0.007	0.001	0.04	6.1	0.001	0.005	0.005	0.002	0.01	1	0.005	1.4	0.01	0.002	1	0.005	0.04	0.01	2	0.03	0.005	0.6	0.01	0.023	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.011	0.22	0.084	0.002	0.04	41.2	0.002	0.005	0.005	0.081	0.3	3	0.012	8.9	0.4	0.002	4	0.022	0.54	0.01	4	0.03	0.03	5.5	0.01	0.191	0.005	0.018	0.03	0.26
Num. Valu	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4

STATION: R8, N Fork of Rose Creek 900 m below Faro Ck Div

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	Ti-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
25/02/99	<.003	0.18	<.005	0.28	0.077	<.001	<.04	37.6	<.001	<.005	<.005	0.021	0.05	1	0.024	7.4	0.02	0.004	3	<.005	0.59	<.01	4	<.03	<.03	4.2	<.01	0.189	0.005	<.005	<.03	0.01
17/05/99	<.003	0.28	<.005	<.05	0.143	0.001	<.04	10.1	<.001	<.005	<.005	0.014	1.06	2	<.005	1.8	0.07	0.008	2	<.005	1.33	<.01		<.03	<.03	1.6	<.01	0.058	<.005	0.027	<.03	0.04
04/07/99	<.003	0.37	<.005	0.49	0.047	<.001	<.04	17.8	<.001	<.005	<.005	0.011	0.93	<1	<.005	4.1	0.01	<.002	1	<.005	<.04	<.01	2	0.05	<.03	5.1	<.01	0.076	<.005	0.014	<.03	0.04
30/10/99	<.003	0.07	<.005	0.09	0.151	<.001	<.04	24.2	<.001	<.005	<.005	0.005	0.09	<1	0.023	4.9	0.02	<.002	4	<.005	<.04	<.01	3	<.03	<.005	4.1	<.01	0.115	<.005	<.005	<.03	0.01

JAN 1999 - DEC 1999

Mean	0.003	0.23	0.005	0.23	0.104	0.001	0.04	22.4	0.001	0.005	0.005	0.013	0.53	1	0.014	4.6	0.03	0.004	2	0.005	0.5	0.01	3	0.03	0.024	3.7	0.01	0.109	0.005	0.013	0.03	0.02
Std. Deviat	0	0.13	0	0.2	0.051	0	0	11.6	0	0	0	0.007	0.54	0	0.011	2.3	0.03	0.003	1	0	0.61	0	1	0.01	0.012	1.5	0	0.058	0	0.01	0	0.02
Minimum V	0.003	0.07	0.005	0.05	0.047	0.001	0.04	10.1	0.001	0.005	0.005	0.005	0.05	1	0.005	1.8	0.01	0.002	1	0.005	0.04	0.01	2	0.03	0.005	1.6	0.01	0.058	0.005	0.005	0.03	0.01
Maximum	0.003	0.37	0.005	0.49	0.151	0.001	0.04	37.6	0.001	0.005	0.005	0.021	1.06	2	0.024	7.4	0.07	0.008	4	0.005	1.33	0.01	4	0.05	0.03	5.1	0.01	0.189	0.005	0.027	0.03	0.04
Num. Valu	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	Ti-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
25/02/99	<.003	<.05	<.005	0.2	0.019	<.001	<.04	36.4	<.001	<.005	<.005	0.004	<.01	<1	0.016	7.1	<.01	<.002	4	<.005	<.04	<.01	3	<.03	<.03	4.2	<.01	0.187	<.005	<.005	<.03	<.01
17/05/99	<.003	<.05	0.03	<.05	0.021	0.002	<.04	8.4	<.001	0.014	<.005	<.002	0.08	2	<.005	1.7	0.11	0.011	<1	0.007	2.34	<.01		<.03	<.03	0.6	<.01	0.05	<.005	0.032	<.03	0.02
04/07/99	<.003	<.05	<.005	0.18	0.011	<.001	<.04	15.7	<.001	<.005	<.005	0.002	0.31	<1	<.005	3.5	0.34	<.002	<1	<.005	<.04	<.01	2	<.03	<.03	3.8	<.01	0.025	<.005	<.005	<.03	<.01
30/10/99	<.003	<.05	<.005	<.05	0.106	<.001	<.04	27	<.001	<.005	<.005	<.002	<.01	2	<.005	5.5	<.01	<.002	3	<.005	<.04	<.01	3	<.03	<.005	4	<.01	0.128	<.005	<.005	<.03	0.02

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.011	0.12	0.039	0.001	0.04	21.9	0.001	0.007	0.005	0.003	0.1	2	0.008	4.4	0.12	0.004	2	0.005	0.61	0.01	3	0.03	0.024	3.1	0.01	0.098	0.005	0.012	0.03	0.01
Std. Deviat	0	0	0.012	0.08	0.045	0.001	0	12.3	0	0.005	0	0.001	0.14	1	0.006	2.4	0.16	0.004	2	0.001	1.15	0	1	0	0.012	1.7	0	0.074	0	0.014	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.011	0.001	0.04	8.4	0.001	0.005	0.005	0.002	0.01	1	0.005	1.7	0.01	0.002	1	0.005	0.04	0.01	2	0.03	0.005	0.6	0.01	0.025	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.03	0.2	0.106	0.002	0.04	36.4	0.001	0.014	0.005	0.004	0.31	2	0.016	7.1	0.34	0.011	4	0.007	2.34	0.01	3	0.03	0.03	4.2	0.01	0.187	0.005	0.032	0.03	0.02
Num. Valu	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4

1999 SURFACE WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION R9, N Fork of Rose Creek adjacent BH1 and BH2

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
17/05/99	<.003	0.76	<.005	<.05	0.124	0.002	<.04	10.2	<.001	<.005	<.005	0.024	1.89	2	<.005	2	0.09	0.008	1	<.005	<.04	<.01		<.03	<.03	2	<.01	0.059	0.012	0.021	<.03	0.14
04/07/99	<.003	0.41	<.005	0.28	0.048	<.001	<.04	19.3	<.001	<.005	0.021	0.01	1.32	<.001	0.006	4.5	0.02	<.002	<.01	<.005	<.04	<.01	3	<.03	<.03	4.7	<.01	0.083	<.005	0.01	<.03	0.09
30/10/99	<.003	0.14	<.005	0.13	0.151	0.001	<.04	25.8	<.001	<.005	<.005	0.008	0.07	3	0.039	5.3	0.02	<.002	4	0.008	<.04	<.01	4	<.03	<.005	4.2	<.01	0.123	<.005	<.005	<.03	0.01

JAN 1999 - DEC 1999

Mean	0.003	0.44	0.005	0.15	0.108	0.001	0.04	18.4	0.001	0.005	0.01	0.014	1.09	2	0.017	3.9	0.04	0.004	2	0.006	0.04	0.01	4	0.03	0.022	3.6	0.01	0.088	0.007	0.012	0.03	0.08
Std. Deviat	0	0.31	0	0.12	0.053	0.001	0	7.8	0	0	0.009	0.009	0.93	1	0.019	1.7	0.04	0.003	2	0.002	0	0	1	0	0.014	1.4	0	0.032	0.004	0.008	0	0.07
Minimum V	0.003	0.14	0.005	0.05	0.048	0.001	0.04	10.2	0.001	0.005	0.005	0.008	0.07	1	0.005	2	0.02	0.002	1	0.005	0.04	0.01	3	0.03	0.005	2	0.01	0.059	0.005	0.005	0.03	0.01
Maximum	0.003	0.76	0.005	0.28	0.151	0.002	0.04	25.8	0.001	0.005	0.021	0.024	1.89	3	0.039	5.3	0.09	0.008	4	0.008	0.04	0.01	4	0.03	0.03	4.7	0.01	0.123	0.012	0.021	0.03	0.14
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<.003	<.05	<.005	<.05	0.026	0.002	<.04	9.5	<.001	<.005	<.005	<.002	0.34	2	0.011	1.9	0.1	0.003	<.01	0.013	0.05	<.01		<.03	<.03	0.7	<.01	0.055	<.005	0.01	<.03	0.04
04/07/99	<.003	<.05	<.005	0.24	0.011	<.001	<.04	17	<.001	<.005	<.005	0.003	0.35	<.01	<.005	3.9	0.31	<.002	<.01	<.005	<.04	<.01	3	0.04	<.03	3.7	<.01	0.033	<.005	<.005	<.03	<.01
30/10/99	<.003	<.05	<.005	<.05	0.105	<.001	<.04	29.7	<.001	<.005	<.005	0.007	<.01	3	<.005	6	<.01	<.002	4	<.005	<.04	<.01	5	<.03	<.005	4.1	<.01	0.143	<.005	<.005	<.03	0.09

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.005	0.11	0.047	0.001	0.04	18.7	0.001	0.005	0.005	0.004	0.23	2	0.007	3.9	0.14	0.002	2	0.008	0.04	0.01	4	0.03	0.022	2.8	0.01	0.077	0.005	0.007	0.03	0.05
Std. Deviat	0	0	0	0.11	0.051	0.001	0	10.2	0	0	0	0.003	0.19	1	0.003	2.1	0.15	0.001	2	0.005	0.01	0	1	0.01	0.014	1.9	0	0.058	0	0.003	0	0.04
Minimum V	0.003	0.05	0.005	0.05	0.011	0.001	0.04	9.5	0.001	0.005	0.005	0.002	0.01	1	0.005	1.9	0.01	0.002	1	0.005	0.04	0.01	3	0.03	0.005	0.7	0.01	0.033	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.24	0.105	0.002	0.04	29.7	0.001	0.005	0.005	0.007	0.35	3	0.011	6	0.31	0.003	4	0.013	0.05	0.01	5	0.04	0.03	4.1	0.01	0.143	0.005	0.01	0.03	0.09
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3

STATION R10, North Fork of Rose Creek u/s of rock drain

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
17/05/99	<.003	0.43	0.038	<.05	0.12	0.002	<.04	10.3	<.001	<.005	<.005	0.017	1.17	2	<.005	2	0.07	0.017	1	<.005	<.04	<.01		<.03	<.03	1.6	<.01	0.059	<.005	0.02	<.03	0.08
04/07/99	<.003	0.3	<.005	0.3	0.042	<.001	<.04	17.5	0.001	<.005	0.019	0.008	0.94	<.01	0.016	4.1	0.02	<.002	<.01	0.009	<.04	<.01	3	<.03	<.03	4.3	<.01	0.074	<.005	<.005	<.03	0.05
30/10/99	<.003	0.15	<.005	0.13	0.156	<.001	<.04	26.4	<.001	<.005	0.005	0.012	0.13	3	0.02	5.4	0.02	<.002	4	0.015	<.04	<.01	4	<.03	<.005	4.5	<.01	0.127	<.005	<.005	<.03	0.03

JAN 1999 - DEC 1999

Mean	0.003	0.29	0.016	0.16	0.106	0.001	0.04	18.1	0.001	0.005	0.01	0.012	0.75	2	0.014	3.8	0.04	0.007	2	0.01	0.04	0.01	4	0.03	0.022	3.5	0.01	0.087	0.005	0.01	0.03	0.05
Std. Deviat	0	0.14	0.019	0.13	0.058	0.001	0	8.1	0	0	0.008	0.005	0.55	1	0.008	1.7	0.03	0.009	2	0.005	0	0	1	0	0.014	1.6	0	0.036	0	0.009	0	0.03
Minimum V	0.003	0.15	0.005	0.05	0.042	0.001	0.04	10.3	0.001	0.005	0.005	0.008	0.13	1	0.005	2	0.02	0.002	1	0.005	0.04	0.01	3	0.03	0.005	1.6	0.01	0.059	0.005	0.005	0.03	0.03
Maximum	0.003	0.43	0.038	0.3	0.156	0.002	0.04	26.4	0.001	0.005	0.019	0.017	1.17	3	0.02	5.4	0.07	0.017	4	0.015	0.04	0.01	4	0.03	0.03	4.5	0.01	0.127	0.005	0.02	0.03	0.08
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<.003	<.05	<.005	<.05	0.021	0.002	<.04	7.5	<.001	<.005	<.005	0.078	0.09	1	0.006	1.4	0.07	<.002	<.01	0.009	1.02	<.01		<.03	<.03	0.5	<.01	0.044	<.005	0.011	<.03	0.03
04/07/99	<.003	<.05	<.005	0.13	0.012	<.001	<.04	16.2	0.001	<.005	<.005	<.002	0.34	<.01	<.005	3.6	0.26	<.002	<.01	<.005	<.04	<.01	2	<.03	<.03	3.6	<.01	0.035	<.005	<.005	<.03	<.01
30/10/99	<.003	<.05	<.005	<.05	0.093	<.001	<.04	29.3	<.001	<.005	<.005	<.002	<.01	1	<.005	6	0.02	<.002	4	<.005	<.04	<.01	5	<.03	<.005	3.9	<.01	0.138	<.005	<.005	<.03	0.03

JAN 1999 - DEC 1999

Mean	0.003	0.05	0.005	0.08	0.042	0.001	0.04	17.7	0.001	0.005	0.005	0.027	0.15	1	0.005	3.7	0.12	0.002	2	0.006	0.37	0.01	4	0.03	0.022	2.7	0.01	0.072	0.005	0.007	0.03	0.02
Std. Deviat	0	0	0	0.05	0.044	0.001	0	11	0	0	0	0.044	0.17	0	0.001	2.3	0.13	0	2	0.002	0.57	0	2	0	0.014	1.9	0	0.057	0	0.003	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.012	0.001	0.04	7.5	0.001	0.005	0.005	0.002	0.01	1	0.005	1.4	0.02	0.002	1	0.005	0.04	0.01	2	0.03	0.005	0.5	0.01	0.035	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.13	0.093	0.002	0.04	29.3	0.001	0.005	0.005	0.078	0.34	1	0.005	6	0.26	0.002	4	0.009	1.02	0.01	5	0.03	0.03	3.9	0.01	0.138	0.005	0.011	0.03	0.03
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3

APPENDIX 2
1999 GROUNDWATER QUALITY LISTING

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: BH1, W of Zone II, by NFR Cr. (5.18m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
04/07/99		3	3.57	399	
30/10/99	5.75	1	3.84	150	<0.05

JAN 1999 - DEC 1999

Mean	5.75	2	3.7	274	0.05
Std. Devia	0	1.41	0.19	176	0
Minimum	5.75	1	3.57	150	0.05
Maximum	5.75	3	3.84	399	0.05
Num. Valu	1	2	2	2	1

STATION: BH2, W of Zone II, by NFR Cr. (5.55m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
04/07/99	5.48	4	4.67	259	
30/10/99	5.77	2	4.86	206	<0.05

JAN 1999 - DEC 1999

Mean	5.62	3	4.77	232	0.05
Std. Devia	0.21	1.41	0.13	37	0
Minimum	5.48	2	4.67	206	0.05
Maximum	5.77	4	4.86	259	0.05
Num. Valu	2	2	2	2	1

STATION: BH4, W of Zone II, by NFR Cr. (3.20m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99	5.95	1	2.33	158	<0.05

JAN 1999 - DEC 1999

Mean	5.95	1	2.33	158	0.05
Std. Devia	0	0	0	0	0
Minimum	5.95	1	2.33	158	0.05
Maximum	5.95	1	2.33	158	0.05
Num. Valu	1	1	1	1	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: BH12A, W of Zone II, by NFR Cr. (2.85m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99			2.06	259	
JAN 1999 - DEC 1999					
Mean			2.06	259	
Std. Devia			0	0	
Minimum			2.06	259	
Maximum			2.06	259	
Num. Valu			1	1	

STATION: BH12B, W of Zone II, by NFR Cr. (8.05m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99	6.75	0	1.56	805	
JAN 1999 - DEC 1999					
Mean	6.75	0	1.56	805	
Std. Devia	0	0	0	0	
Minimum	6.75	0	1.56	805	
Maximum	6.75	0	1.56	805	
Num. Valu	1	1	1	1	

STATION: BH13A, W of Zone II, by NFR Cr. (3.64m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99			4.37		no sample
JAN 1999 - DEC 1999					
Mean			4.37		
Std. Devia			0		
Minimum			4.37		
Maximum			4.37		
Num. Valu			1		

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: BH13B, W of Zone II, by NFR Cr. (4.25m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99	6.85	0	4.02	603	

JAN 1999 - DEC 1999

Mean	6.85	0	4.02	603	
Std. Devia	0	0	0	0	
Minimum	6.85	0	4.02	603	
Maximum	6.85	0	4.02	603	
Num. Valu	1	1	1	1	

STATION: BH14A, W of Zone II, by NFR Cr. (6.22m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99	5.35	2	3.77	544	

JAN 1999 - DEC 1999

Mean	5.35	2	3.77	544	
Std. Devia	0	0	0	0	
Minimum	5.35	2	3.77	544	
Maximum	5.35	2	3.77	544	
Num. Valu	1	1	1	1	

STATION: BH14B, W of Zone II, by NFR Cr. (10.00m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
30/10/99	5.79	1	4.44	1063	

JAN 1999 - DEC 1999

Mean	5.79	1	4.44	1063	
Std. Devia	0	0	0	0	
Minimum	5.79	1	4.44	1063	
Maximum	5.79	1	4.44	1063	
Num. Valu	1	1	1	1	

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: P96-6, Toe Int Dump above Rock Drain (20.85m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
04/07/99	5.84	3	12.09	428	
30/10/99	6.05	1	13.12	341	

JAN 1999 - DEC 1999

Mean	5.95	2	12.61	384	
Std. Devia	0.15	1.41	0.73	62	
Minimum	5.84	1	12.09	341	
Maximum	6.05	3	13.12	428	
Num. Valu	2	2	2	2	

STATION: P96-7, Toe Main Dump, below Haul Road (9.90m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99			9.21		
31/10/99	6.81	1	6.65	1606	

no water raised (frozen?)

JAN 1999 - DEC 1999

Mean	6.81	1	7.93	1606	
Std. Devia	0	0	1.81	0	
Minimum	6.81	1	6.65	1606	
Maximum	6.81	1	9.21	1606	
Num. Valu	1	1	2	1	

STATION: P96-8A, Old Faro Cr channel by X23 (4.87m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	6.46	3	3.13	2290	
29/10/99	6.28	2	3.48	2993	

JAN 1999 - DEC 1999

Mean	6.37	2.5	3.31	2642	
Std. Devia	0.13	0.71	0.25	497	
Minimum	6.28	2	3.13	2290	
Maximum	6.46	3	3.48	2993	
Num. Valu	2	2	2	2	

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: P96-8B, Old Faro Cr channel by X23 (9.30m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	6.67	3	3.05	2983	
29/10/99	6.18	2	3.37	3218	

JAN 1999 - DEC 1999

Mean	6.42	2.5	3.21	3100	
Std. Devia	0.35	0.71	0.23	166	
Minimum	6.18	2	3.05	2983	
Maximum	6.67	3	3.37	3218	
Num. Valu	2	2	2	2	

STATION: S1A, S of Sulphide Waste Dump (12.80m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	7.24	3	3.88	2356	
31/10/99	6.75	1	4.01	2533	0.07

JAN 1999 - DEC 1999

Mean	6.99	2	3.95	2444	0.07
Std. Devia	0.35	1.41	0.09	125	0
Minimum	6.75	1	3.88	2356	0.07
Maximum	7.24	3	4.01	2533	0.07
Num. Valu	2	2	2	2	1

STATION: S1B, S of Sulphide Waste Dump (5.37m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	7.66	2	2.81	626	
31/10/99	6.28	0	4.12	863	<0.05

JAN 1999 - DEC 1999

Mean	6.97	1	3.46	744	0.05
Std. Devia	0.98	1.41	0.93	168	0
Minimum	6.28	0	2.81	626	0.05
Maximum	7.66	2	4.12	863	0.05
Num. Valu	2	2	2	2	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: S2A, S of Sulphide Waste Dump (8.04m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	6.76	2	4.01	1491	
31/10/99	6.18	0	4.61	1385	0.47
JAN 1999 - DEC 1999					
Mean	6.47	1	4.31	1438	0.47
Std. Devia	0.41	1.41	0.42	75	0
Minimum	6.18	0	4.01	1385	0.47
Maximum	6.76	2	4.61	1491	0.47
Num. Valu	2	2	2	2	1

STATION: S2B, S of Sulphide Waste Dump (10.60m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	6.82	2	2.91	1300	
31/10/99	6.15	0	2.99	345	<0.05
JAN 1999 - DEC 1999					
Mean	6.49	1	2.95	822	0.05
Std. Devia	0.47	1.41	0.06	675	0
Minimum	6.15	0	2.91	345	0.05
Maximum	6.82	2	2.99	1300	0.05
Num. Valu	2	2	2	2	1

STATION: S3, S of Sulphide Waste Dump (6.56m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
31/10/99	5.55	0	2.45	2119	0.17
JAN 1999 - DEC 1999					
Mean	5.55	0	2.45	2119	0.17
Std. Devia	0	0	0	0	0
Minimum	5.55	0	2.45	2119	0.17
Maximum	5.55	0	2.45	2119	0.17
Num. Valu	1	1	1	1	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X16A, By Rose Cr d/s CVDam (5m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L	
19/06/99			3.42			no water raised (frozen?)
29/10/99	7.13	4	3.73	15	<0.05	

JAN 1999 - DEC 1999

Mean	7.13	4	3.58	15	0.05
Std. Devia	0	0	0.22	0	0
Minimum	7.13	4	3.42	15	0.05
Maximum	7.13	4	3.73	15	0.05
Num. Valu	1	1	2	1	1

STATION: X16B, By Rose Cr d/s CVDam (30m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	7.79	5	3.71	23	
29/10/99	7.38	3	4.08	24	<0.05

JAN 1999 - DEC 1999

Mean	7.59	4	3.89	24	0.05
Std. Devia	0.29	1.41	0.26	1	0
Minimum	7.38	3	3.71	23	0.05
Maximum	7.79	5	4.08	24	0.05
Num. Valu	2	2	2	2	1

STATION: X17A, d/s CVdam & u/s of X14 across diversion (5m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	7.56	5	2.09	34	
29/10/99	7.45	3	2.28	44	<0.05

JAN 1999 - DEC 1999

Mean	7.5	4	2.18	39	0.05
Std. Devia	0.08	1.41	0.13	7	0
Minimum	7.45	3	2.09	34	0.05
Maximum	7.56	5	2.28	44	0.05
Num. Valu	2	2	2	2	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X17B,d/s CVDam & u/s of X14 across diversion (20m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	7.55	5	2.66	19	
29/10/99	7.52	3	2.83	23	<0.05

JAN 1999 - DEC 1999

Mean	7.54	4	2.75	21	0.05
Std. Devia	0.02	1.41	0.12	3	0
Minimum	7.52	3	2.66	19	0.05
Maximum	7.55	5	2.83	23	0.05
Num. Valu	2	2	2	2	1

STATION: X18A,N of CVDam, & right of access rd to X14 (10m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	6.93	5	4.36	455	
29/10/99	6.28	2	4.35	382	<0.05

JAN 1999 - DEC 1999

Mean	6.61	3.5	4.36	418	0.05
Std. Devia	0.46	2.12	0.01	52	0
Minimum	6.28	2	4.35	382	0.05
Maximum	6.93	5	4.36	455	0.05
Num. Valu	2	2	2	2	1

STATION: X18B,N of CVDam, & right of access rd to X14 (20m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
29/07/99	8.03	5		397	0.3
29/10/99	5.75	2	4.37	422	0.07

JAN 1999 - DEC 1999

Mean	6.89	4	4.37	410	0.19
Std. Devia	1.61	2	0	18	0.16
Minimum	5.75	2	4.37	397	0.07
Maximum	8.03	5	4.37	422	0.3
Num. Valu	2	2	1	2	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X19A, d/s CVDam by X13 (12m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	7.05	5	6.77	248	
29/10/99	6.75	2	6.87	373	0.83

JAN 1999 - DEC 1999

Mean	6.9	3.5	6.82	310	0.83
Std. Devia	0.21	2.12	0.07	88	0
Minimum	6.75	2	6.77	248	0.83
Maximum	7.05	5	6.87	373	0.83
Num. Valu	2	2	2	2	1

STATION: X19B, d/s CVDam by X13 (27m)

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	7.18	5	5.38	356	
29/10/99	6.29	2	5.62	159	<0.05

JAN 1999 - DEC 1999

Mean	6.73	3.5	5.5	258	0.05
Std. Devia	0.63	2.12	0.17	139	0
Minimum	6.29	2	5.38	159	0.05
Maximum	7.18	5	5.62	356	0.05
Num. Valu	2	2	2	2	1

STATION: X21A-96, Toe 2nd Impoundment (9.22m), P96-5A

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99			4.13		not sampled
31/10/99			4.52		no sample

JAN 1999 - DEC 1999

Mean	4.33
Std. Devia	0.28
Minimum	4.13
Maximum	4.52
Num. Valu	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X21B-96, Toe 2nd Impoundment (15.43m), P96-5B

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	6.98	4	4.11	405	
31/10/99	6.25	1	4.56	504	1

JAN 1999 - DEC 1999

Mean	6.62	2.5	4.34	454	1
Std. Devia	0.52	2.12	0.32	70	0
Minimum	6.25	1	4.11	405	1
Maximum	6.98	4	4.56	504	1
Num. Valu	2	2	2	2	1

STATION: X21C-96, Toe 2nd Impoundment (30.18m), P96-5C

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
03/07/99	6.98	4	4.17	10	
31/10/99	7.17		4.66	942	0.57

JAN 1999 - DEC 1999

Mean	7.08	4	4.41	476	0.57
Std. Devia	0.13	0	0.35	659	0
Minimum	6.98	4	4.17	10	0.57
Maximum	7.17	4	4.66	942	0.57
Num. Valu	2	1	2	2	1

STATION: X24A-96, N abutment Int Dam (5.88m), P96-4A

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	6.97	4	1.43	717	
29/10/99	5.68	1	3.68	579	0.7

JAN 1999 - DEC 1999

Mean	6.32	2.5	2.56	648	0.7
Std. Devia	0.91	2.12	1.59	98	0
Minimum	5.68	1	1.43	579	0.7
Maximum	6.97	4	3.68	717	0.7
Num. Valu	2	2	2	2	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X24B-96, N abutment Int Dam (10.80m), P96-4B

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99			1.38		not sampled
29/10/99			3.62		no sample

JAN 1999 - DEC 1999

Mean	2.5
Std. Devia	1.58
Minimum	1.38
Maximum	3.62
Num. Valu	2

STATION: X24C-96, N abutment Int Dam (15.87), P96-4C

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	7.05	6	1.36	684	
29/10/99	6.01	1	3.6	<1	

JAN 1999 - DEC 1999

Mean	6.53	3.5	2.48	342
Std. Devia	0.74	3.54	1.58	483
Minimum	6.01	1	1.36	1
Maximum	7.05	6	3.6	684
Num. Valu	2	2	2	2

STATION: X24D-96, N abutment Int Dam (28.22m), P96-4D

Date	PH-F pH unit	TEMP-C deg C	SWL meters	SO4-T mg/L	NH3-N mg/L
19/06/99	6.67	5	1.25	1084	
29/10/99	6.09	2	3.48	1050	0.4

JAN 1999 - DEC 1999

Mean	6.38	3.5	2.37	1067	0.4
Std. Devia	0.41	2.12	1.58	24	0
Minimum	6.09	2	1.25	1050	0.4
Maximum	6.67	5	3.48	1084	0.4
Num. Valu	2	2	2	2	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X25A-96, S abutment Int Dam (9.65m),P96-3A

	PH-F	TEMP-C	SWL	SO4-T	NH3-N
Date	pH unit	deg C	meters	mg/L	mg/L
19/06/99	6.88	4	0.7	292	
29/10/99	5.98	2	2.94	294	1.42
JAN 1999 - DEC 1999					
Mean	6.43	3	1.82	293	1.42
Std. Devia	0.64	1.41	1.58	1	0
Minimum	5.98	2	0.7	292	1.42
Maximum	6.88	4	2.94	294	1.42
Num. Valu	2	2	2	2	1

STATION: X25B-96, S abutment Int Dam (19.80m),P96-3B

	PH-F	TEMP-C	SWL	SO4-T	NH3-N
Date	pH unit	deg C	meters	mg/L	mg/L
19/06/99	7.34	4	0.58	445	
29/10/99	6.98	2	2.82	408	<0.05
JAN 1999 - DEC 1999					
Mean	7.16	3	1.7	426	0.05
Std. Devia	0.25	1.41	1.58	26	0
Minimum	6.98	2	0.58	408	0.05
Maximum	7.34	4	2.82	445	0.05
Num. Valu	2	2	2	2	1

STATION: BH1, W of Zone II, by NFR Cr. (5.18m)

JAN 1999 - DEC 1999STATION: BH2, W of Zone II, by NFR Cr. (5.55m)JAN 1999 - DEC 1999STATION: BH4, W of Zone II, by NFR Cr. (3.20m)JAN 1999 - DEC 1999STATION: BH12A, W of Zone II, by NFR Cr. (2.85m)JAN 1999 - DEC 1999[illegible]

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: BH12B, W of Zone II, by NFR Cr. (8.05m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	Ti-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
30/10/99	<.003	0.35	<.005	<.05	0.104	<.001	<.04	306.3	<.001	<.005	<.005	<.002	<.01	4	<.005	63	0.43	<.002	12	<.005	<.04	<.01	268	<.03	<.005	5.7	<.01	1.249	<.005	<.005	<.03	0.23
JAN 1999 - DEC 1999																																
Mean	0.003	0.35	0.005	0.05	0.104	0.001	0.04	306.3	0.001	0.005	0.005	0.002	0.01	4	0.005	63	0.43	0.002	12	0.005	0.04	0.01	268	0.03	0.005	5.7	0.01	1.249	0.005	0.005	0.03	0.23
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.35	0.005	0.05	0.104	0.001	0.04	306.3	0.001	0.005	0.005	0.002	0.01	4	0.005	63	0.43	0.002	12	0.005	0.04	0.01	268	0.03	0.005	5.7	0.01	1.249	0.005	0.005	0.03	0.23
Maximum	0.003	0.35	0.005	0.05	0.104	0.001	0.04	306.3	0.001	0.005	0.005	0.002	0.01	4	0.005	63	0.43	0.002	12	0.005	0.04	0.01	268	0.03	0.005	5.7	0.01	1.249	0.005	0.005	0.03	0.23
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: BH13B, W of Zone II, by NFR Cr. (4.25m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	Ti-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
30/10/99	<.003	0.05	<.005	<.05	0.137	<.001	<.04	170.1	<.001	<.005	<.005	<.002	<.01	2	<.005	47.8	0.02	<.002	12	<.005	<.04	<.01	201	<.03	<.005	3.7	<.01	0.913	<.005	<.005	<.03	0.04
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.137	0.001	0.04	170.1	0.001	0.005	0.005	0.002	0.01	2	0.005	47.8	0.02	0.002	12	0.005	0.04	0.01	201	0.03	0.005	3.7	0.01	0.913	0.005	0.005	0.03	0.04
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.137	0.001	0.04	170.1	0.001	0.005	0.005	0.002	0.01	2	0.005	47.8	0.02	0.002	12	0.005	0.04	0.01	201	0.03	0.005	3.7	0.01	0.913	0.005	0.005	0.03	0.04
Maximum	0.003	0.05	0.005	0.05	0.137	0.001	0.04	170.1	0.001	0.005	0.005	0.002	0.01	2	0.005	47.8	0.02	0.002	12	0.005	0.04	0.01	201	0.03	0.005	3.7	0.01	0.913	0.005	0.005	0.03	0.04
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: BH14A, W of Zone II, by NFR Cr. (6.22m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	Ti-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
30/10/99	<.003	0.19	<.005	<.05	0.155	<.001	<.04	211.7	<.001	<.005	<.005	<.002	<.01	4	<.005	62.2	0.03	<.002	11	<.005	<.04	<.01	181	<.03	<.005	3.5	<.01	1.036	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.19	0.005	0.05	0.155	0.001	0.04	211.7	0.001	0.005	0.005	0.002	0.01	4	0.005	62.2	0.03	0.002	11	0.005	0.04	0.01	181	0.03	0.005	3.5	0.01	1.036	0.005	0.005	0.03	0.01
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.19	0.005	0.05	0.155	0.001	0.04	211.7	0.001	0.005	0.005	0.002	0.01	4	0.005	62.2	0.03	0.002	11	0.005	0.04	0.01	181	0.03	0.005	3.5	0.01	1.036	0.005	0.005	0.03	0.01
Maximum	0.003	0.19	0.005	0.05	0.155	0.001	0.04	211.7	0.001	0.005	0.005	0.002	0.01	4	0.005	62.2	0.03	0.002	11	0.005	0.04	0.01	181	0.03	0.005	3.5	0.01	1.036	0.005	0.005	0.03	0.01
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: BH14B, W of Zone II, by NFR Cr. (10.00m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	Ti-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
30/10/99	<.003	0.75	<.005	<.05	0.178	<.001	<.04	372.2	<.001	<.005	<.005	0.005	<.01	8	<.005	118.4	<.01	<.002	17	<.005	0.13	<.01	354	<.03	<.005	6.7	<.01	1.921	<.005	<.005	<.03	0.05
JAN 1999 - DEC 1999																																
Mean	0.003	0.75	0.005	0.05	0.178	0.001	0.04	372.2	0.001	0.005	0.005	0.005	0.01	8	0.005	118.4	0.01	0.002	17	0.005	0.13	0.01	354	0.03	0.005	6.7	0.01	1.921	0.005	0.005	0.03	0.05
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.75	0.005	0.05	0.178	0.001	0.04	372.2	0.001	0.005	0.005	0.005	0.01	8	0.005	118.4	0.01	0.002	17	0.005	0.13	0.01	354	0.03	0.005	6.7	0.01	1.921	0.005	0.005	0.03	0.05
Maximum	0.003	0.75	0.005	0.05	0.178	0.001	0.04	372.2	0.001	0.005	0.005	0.005	0.01	8	0.005	118.4	0.01	0.002	17	0.005	0.13	0.01	354	0.03	0.005	6.7	0.01	1.921	0.005	0.005	0.03	0.05
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: P96-6, Toe Int Dump above Rock Drain (20.85m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
04/07/99	<.003	0.2	<.005	0.2	0.019	<.001	<.04	165.6	0.002	<.005	<.005	0.019	0.14	5	0.02	65.8	0.48	<.002	12	<.005	0.16	<.01	143	<.03	<.03	14.4	<.01	0.624	<.005	<.005	<.03	0.76
30/10/99	<.003	<.05	<.005	0.07	0.058	<.001	<.04	144.3	<.001	0.005	<.005	<.002	<.01	<.1	<.005	48	0.04	<.002	10	<.005	0.05	<.01	114	<.03	<.005	9.4	<.01	0.528	<.005	<.005	<.03	0.41
JAN 1999 - DEC 1999																																
Mean	0.003	0.13	0.005	0.14	0.038	0.001	0.04	155	0.002	0.005	0.005	0.01	0.08	3	0.012	56.9	0.26	0.002	11	0.005	0.1	0.01	128	0.03	0.017	11.9	0.01	0.576	0.005	0.005	0.03	0.58
Std. Deviat	0	0.11	0	0.09	0.028	0	0	15.1	0.001	0	0	0.012	0.09	3	0.011	12.6	0.31	0	1	0	0.08	0	21	0	0.018	3.5	0	0.068	0	0	0	0.25
Minimum V	0.003	0.05	0.005	0.07	0.019	0.001	0.04	144.3	0.001	0.005	0.005	0.002	0.01	1	0.005	48	0.04	0.002	10	0.005	0.05	0.01	114	0.03	0.005	9.4	0.01	0.528	0.005	0.005	0.03	0.41
Maximum	0.003	0.2	0.005	0.2	0.058	0.001	0.04	165.6	0.002	0.005	0.005	0.019	0.14	5	0.02	65.8	0.48	0.002	12	0.005	0.16	0.01	143	0.03	0.03	14.4	0.01	0.624	0.005	0.005	0.03	0.76
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

STATION: P96-7, Toe Main Dump, below Haul Road (9.90m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
31/10/99	<.003	0.78	<.005	<.05	0.143	<.001	<.04	469.4	<.001	0.012	<.005	0.005	<.01	5	<.005	78.1	<.01	<.002	16	<.005	0.35	<.01	535	<.03	<.005	4.3	<.01	0.698	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.78	0.005	0.05	0.143	0.001	0.04	469.4	0.001	0.012	0.005	0.005	0.01	5	0.005	78.1	0.01	0.002	16	0.005	0.35	0.01	535	0.03	0.005	4.3	0.01	0.698	0.005	0.005	0.03	0.01
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.78	0.005	0.05	0.143	0.001	0.04	469.4	0.001	0.012	0.005	0.005	0.01	5	0.005	78.1	0.01	0.002	16	0.005	0.35	0.01	535	0.03	0.005	4.3	0.01	0.698	0.005	0.005	0.03	0.01
Maximum	0.003	0.78	0.005	0.05	0.143	0.001	0.04	469.4	0.001	0.012	0.005	0.005	0.01	5	0.005	78.1	0.01	0.002	16	0.005	0.35	0.01	535	0.03	0.005	4.3	0.01	0.698	0.005	0.005	0.03	0.01
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: P96-8A, Old Faro Cr channel by X23 (4.87m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.46	<.005	0.16	0.027	0.002	<.04	416.6	<.001	<.005	<.005	0.042	0.19	9	0.03	299.8	0.76	0.019	30	0.063	<.04	<.01	763	<.03	<.03	6.4	<.01	2.495	<.005	<.005	<.03	11.15
29/10/99	<.003	1.26	0.071	<.05	0.118	0.002	<.04	523.4	0.014	<.005	<.005	0.006	<.01	8	<.005	362.1	3.96	<.002	39	0.135	0.17	0.02	998	<.03	<.005	4	<.01	3.01	<.005	<.005	<.03	5.82
JAN 1999 - DEC 1999																																
Mean	0.003	0.86	0.038	0.1	0.073	0.002	0.04	470	0.008	0.005	0.005	0.024	0.1	8	0.017	330.9	2.36	0.01	34	0.099	0.11	0.01	880	0.03	0.017	5.2	0.01	2.752	0.005	0.005	0.03	8.48
Std. Deviat	0	0.57	0.047	0.08	0.064	0	0	75.5	0.009	0	0	0.025	0.13	1	0.018	44.1	2.26	0.012	6	0.051	0.09	0.01	166	0	0.018	1.7	0	0.364	0	0	0	3.77
Minimum V	0.003	0.46	0.005	0.05	0.027	0.002	0.04	416.6	0.001	0.005	0.005	0.006	0.01	8	0.005	299.8	0.76	0.002	30	0.063	0.04	0.01	763	0.03	0.005	4	0.01	2.495	0.005	0.005	0.03	5.82
Maximum	0.003	1.26	0.071	0.16	0.118	0.002	0.04	523.4	0.014	0.005	0.005	0.042	0.19	9	0.03	362.1	3.96	0.019	39	0.135	0.17	0.02	998	0.03	0.03	6.4	0.01	3.01	0.005	0.005	0.03	11.15
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: P96-8B, Old Faro Cr channel by X23 (9.30m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.5	<.005	0.24	0.033	0.002	<.04	480.4	<.001	<.005	<.005	0.044	0.22	9	0.03	345.9	2.89	0.026	33	0.007	<.04	<.01	994	<.03	<.03	9	<.01	2.591	<.005	<.005	<.03	3.31
29/10/99	<.003	1.51	0.052	<.05	0.202	0.005	<.04	587.1	0.005	0.022	<.005	0.013	0.03	10	<.005	392.2	15.96	<.002	40	0.032	0.36	<.01	1073	<.03	<.005	7.3	<.01	3.042	0.005	<.005	<.03	2.23
JAN 1999 - DEC 1999																																
Mean	0.003	1	0.029	0.14	0.118	0.003	0.04	533.7	0.003	0.013	0.005	0.029	0.12	10	0.017	369.1	9.33	0.014	36	0.02	0.23	0.01	1034	0.03	0.017	8.2	0.01	2.817	0.005	0.005	0.03	2.77
Std. Deviat	0	0.71	0.033	0.13	0.12	0.002	0	75.4	0.003	0.012	0	0.022	0.13	1	0.018	32.7	9.38	0.017	5	0.018	0.2	0	56	0	0.018	1.2	0	0.319	0	0	0	0.76
Minimum V	0.003	0.5	0.005	0.05	0.033	0.002	0.04	480.4	0.001	0.005	0.005	0.013	0.03	9	0.005	345.9	2.69	0.002	33	0.007	0.04	0.01	994	0.03	0.005	7.3	0.01	2.591	0.005	0.005	0.03	2.23
Maximum	0.003	1.51	0.052	0.24	0.202	0.005	0.04	587.1	0.005	0.022	0.005	0.044	0.22	10	0.03	392.2	15.96	0.026	40	0.032	0.36	0.01	1073	0.03	0.03	9	0.01	3.042	0.005	0.005	0.03	3.31
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: S1A, S of Sulphide Waste Dump (12.80m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.48	<.005	0.31	0.023	0.002	<.04	423.8	<.001	<.005	<.005	0.04	0.21	7	0.045	315.2	1.89	0.017	21	0.011	<.04	<.01	785	<.03	<.03	10.9	<.01	1.663	<.005	<.005	<.03	0.61
31/10/99	<.003	0.92	0.03	<.05	0.168	0.003	<.04	452.8	<.001	0.011	<.005	0.009	0.04	7	<.005	300.6	6.33	<.002	23	0.045	0.2	<.01	844	<.03	<.005	7.5	<.01	1.64	0.006	<.005	<.03	0.21
JAN 1999 - DEC 1999																																
Mean	0.003	0.7	0.017	0.18	0.095	0.003	0.04	438.3	0.001	0.008	0.005	0.024	0.12	7	0.025	307.9	4.11	0.01	22	0.028	0.12	0.01	814	0.03	0.017	9.2	0.01	1.651	0.005	0.005	0.03	0.41
Std. Deviat	0	0.31	0.018	0.18	0.103	0.001	0	20.5	0	0.004	0	0.022	0.12	0	0.028	10.3	3.14	0.011	1	0.024	0.11	0	42	0	0.018	2.4	0	0.016	0.001	0	0	0.28
Minimum V	0.003	0.48	0.005	0.05	0.023	0.002	0.04	423.8	0.001	0.005	0.005	0.009	0.04	7	0.005	300.6	1.89	0.002	21	0.011	0.04	0.01	785	0.03	0.005	7.5	0.01	1.64	0.005	0.005	0.03	0.21
Maximum	0.003	0.92	0.03	0.31	0.168	0.003	0.04	452.8	0.001	0.011	0.005	0.04	0.21	7	0.045	315.2	6.33	0.017	23	0.045	0.2	0.01	844	0.03	0.03	10.9	0.01	1.663	0.006	0.005	0.03	0.61
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: S1B, S of Sulphide Waste Dump (5.37m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.21	<.005	0.19	0.014	<.001	<.04	145.5	<.001	<.005	<.005	0.016	0.26	2	0.007	40	0.27	<.002	29	<.005	<.04	<.01	209	<.03	<.03	5.8	<.01	0.491	<.005	<.005	<.03	0.11
31/10/99	<.003	0.23	<.005	<.05	0.142	<.001	<.04	234.2	<.001	0.006	<.005	0.005	0.06	5	<.005	59.5	0.12	<.002	38	<.005	<.04	<.01	288	<.03	<.005	5.8	<.01	0.689	<.005	<.005	<.03	0.03
JAN 1999 - DEC 1999																																
Mean	0.003	0.22	0.005	0.12	0.078	0.001	0.04	189.8	0.001	0.005	0.005	0.011	0.16	4	0.006	49.8	0.2	0.002	34	0.005	0.04	0.01	248	0.03	0.017	5.8	0.01	0.59	0.005	0.005	0.03	0.07
Std. Deviat	0	0.01	0	0.1	0.091	0	0	62.7	0	0.001	0	0.008	0.14	2	0.001	13.8	0.11	0	6	0	0	0	56	0	0.018	0	0	0.14	0	0	0	0.06
Minimum V	0.003	0.21	0.005	0.05	0.014	0.001	0.04	145.5	0.001	0.005	0.005	0.005	0.06	2	0.005	40	0.12	0.002	29	0.005	0.04	0.01	209	0.03	0.005	5.8	0.01	0.491	0.005	0.005	0.03	0.03
Maximum	0.003	0.23	0.005	0.19	0.142	0.001	0.04	234.2	0.001	0.006	0.005	0.016	0.26	5	0.007	59.5	0.27	0.002	38	0.005	0.04	0.01	288	0.03	0.03	5.8	0.01	0.689	0.005	0.005	0.03	0.11
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: S2A, S of Sulphide Waste Dump (8.04m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.38	<.005	0.44	0.04	<.001	<.04	336.8	<.001	<.005	<.005	0.034	0.43	5	0.035	137.7	0.94	0.012	11	<.005	0.08	<.01	497	<.03	<.03	7.5	<.01	1.432	<.005	<.005	<.03	0.04
31/10/99	<.003	0.61	<.005	<.05	0.143	<.001	<.04	376.3	<.001	<.005	<.005	<.002	<.01	6	<.005	95.7	4.19	<.002	12	<.005	0.11	<.01	462	<.03	<.005	4.8	<.01	1.411	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.5	0.005	0.24	0.092	0.001	0.04	356.5	0.001	0.005	0.005	0.018	0.22	6	0.02	116.7	2.57	0.007	12	0.005	0.09	0.01	480	0.03	0.017	6.2	0.01	1.422	0.005	0.005	0.03	0.02
Std. Deviat	0	0.16	0	0.28	0.073	0	0	27.9	0	0	0	0.023	0.3	1	0.021	29.7	2.3	0.007	1	0	0.02	0	25	0	0.018	1.9	0	0.015	0	0	0	0.02
Minimum V	0.003	0.38	0.005	0.05	0.04	0.001	0.04	336.8	0.001	0.005	0.005	0.002	0.01	5	0.005	95.7	0.94	0.002	11	0.005	0.08	0.01	462	0.03	0.005	4.8	0.01	1.411	0.005	0.005	0.03	0.01
Maximum	0.003	0.61	0.005	0.44	0.143	0.001	0.04	376.3	0.001	0.005	0.005	0.034	0.43	6	0.035	137.7	4.19	0.012	12	0.005	0.11	0.01	497	0.03	0.03	7.5	0.01	1.432	0.005	0.005	0.03	0.04
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: S2B, S of Sulphide Waste Dump (10.60m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.37	<.005	0.15	0.045	<.001	<.04	302.1	<.001	<.005	<.005	0.033	0.31	5	<.005	138.3	0.42	0.01	10	<.005	<.04	<.01	433	<.03	<.03	7.8	<.01	1.271	<.005	<.005	<.03	0.07
31/10/99	<.003	<.05	<.005	<.05	0.11	<.001	<.04	129.3	<.001	<.005	<.005	<.002	<.01	5	<.005	49.3	0.77	<.002	8	<.005	<.04	<.01	115	<.03	<.005	5.6	<.01	0.515	<.005	<.005	<.03	0.2
JAN 1999 - DEC 1999																																
Mean	0.003	0.21	0.005	0.1	0.078	0.001	0.04	215.7	0.001	0.005	0.005	0.017	0.16	5	0.005	93.8	0.59	0.006	9	0.005	0.04	0.01	274	0.03	0.017	6.7	0.01	0.893	0.005	0.005	0.03	0.14
Std. Deviat	0	0.23	0	0.07	0.046	0	0	122.2	0	0	0	0.022	0.21	0	0	62.9	0.25	0.006	1	0	0	0	225	0	0.018	1.6	0	0.535	0	0	0	0.09
Minimum V	0.003	0.05	0.005	0.05	0.045	0.001	0.04	129.3	0.001	0.005	0.005	0.002	0.01	5	0.005	49.3	0.42	0.002	8	0.005	0.04	0.01	115	0.03	0.005	5.6	0.01	0.515	0.005	0.005	0.03	0.07
Maximum	0.003	0.37	0.005	0.15	0.11	0.001	0.04	302.1	0.001	0.005	0.005	0.033	0.31	5	0.005	138.3	0.77	0.01	10	0.005	0.04	0.01	433	0.03	0.03	7.8	0.01	1.271	0.005	0.005	0.03	0.2
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: S3, S of Sulphide Waste Dump (5.56m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
31/10/99	<.003	0.58	<.005	<.05	0.151	<.001	<.04	380	<.001	<.005	<.005	0.002	0.07	5	<.005	248.5	1.9	<.002	18	<.005	0.17	<.01	706	<.03	<.005	5.6	<.01	1.483	<.005	<.005	<.03	0.03
JAN 1999 - DEC 1999																																
Mean	0.003	0.58	0.005	0.05	0.151	0.001	0.04	380	0.001	0.005	0.005	0.002	0.07	5	0.005	248.5	1.9	0.002	18	0.005	0.17	0.01	706	0.03	0.005	5.6	0.01	1.483	0.005	0.005	0.03	0.03
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.58	0.005	0.05	0.151	0.001	0.04	380	0.001	0.005	0.005	0.002	0.07	5	0.005	248.5	1.9	0.002	18	0.005	0.17	0.01	706	0.03	0.005	5.6	0.01	1.483	0.005	0.005	0.03	0.03
Maximum	0.003	0.58	0.005	0.05	0.151	0.001	0.04	380	0.001	0.005	0.005	0.002	0.07	5	0.005	248.5	1.9	0.002	18	0.005	0.17	0.01	706	0.03	0.005	5.6	0.01	1.483	0.005	0.005	0.03	0.03
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: X16A, By Rose Cr d/s CVDam (5m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
29/10/99	<.003	<.05	<.005	<.05	0.143	<.001	<.04	31.4	<.001	<.005	<.005	<.002	<.01	<.1	<.005	7.1	<.01	<.002	2	<.005	<.04	<.01	5	<.03	<.005	1.9	<.01	0.101	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.143	0.001	0.04	31.4	0.001	0.005	0.005	0.002	0.01	1	0.005	7.1	0.01	0.002	2	0.005	0.04	0.01	5	0.03	0.005	1.9	0.01	0.101	0.005	0.005	0.03	0.01
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.143	0.001	0.04	31.4	0.001	0.005	0.005	0.002	0.01	1	0.005	7.1	0.01	0.002	2	0.005	0.04	0.01	5	0.03	0.005	1.9	0.01	0.101	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.05	0.143	0.001	0.04	31.4	0.001	0.005	0.005	0.002	0.01	1	0.005	7.1	0.01	0.002	2	0.005	0.04	0.01	5	0.03	0.005	1.9	0.01	0.101	0.005	0.005	0.03	0.01
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: X16B, By Rose Cr d/s CVDam (30m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	0.2	<.005	<.05	0.075	<.001	<.04	60	<.001	<.005	<.005	0.006	0.03	2	0.015	16.2	<.01	0.002	4	<.005	<.04	<.01	8	<.03	<.03	4.3	<.01	0.208	<.005	<.005	<.03	<.01
29/10/99	<.003	<.05	<.005	<.05	0.171	<.001	<.04	52.8	<.001	<.005	<.005	<.002	<.01	<.1	<.005	14.2	<.01	<.002	3	<.005	<.04	<.01	8	<.03	<.005	3.2	<.01	0.179	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.13	0.005	0.05	0.123	0.001	0.04	56.4	0.001	0.005	0.005	0.004	0.02	2	0.01	15.2	0.01	0.002	4	0.005	0.04	0.01	8	0.03	0.017	3.8	0.01	0.194	0.005	0.005	0.03	0.01
Std. Deviat	0	0.11	0	0	0.068	0	0	5.1	0	0	0	0.003	0.01	1	0.007	1.4	0	0	1	0	0	0	0	0	0.018	0.8	0	0.021	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.075	0.001	0.04	52.8	0.001	0.005	0.005	0.002	0.01	1	0.005	14.2	0.01	0.002	3	0.005	0.04	0.01	8	0.03	0.005	3.2	0.01	0.179	0.005	0.005	0.03	0.01
Maximum	0.003	0.2	0.005	0.05	0.171	0.001	0.04	60	0.001	0.005	0.005	0.006	0.03	2	0.015	16.2	0.01	0.002	4	0.005	0.04	0.01	8	0.03	0.03	4.3	0.01	0.208	0.005	0.005	0.03	0.01
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X17A, d/s CVDam & u/s of X14 across diversion (5m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	0.23	<.005	<.05	0.076	<.001	<.04	57.1	<.001	<.005	<.005	0.004	0.3	2	<.005	19	0.11	0.004	4	<.005	<.04	<.01	11	<.03	<.03	4.3	<.01	0.187	<.005	<.005	<.03	0.45
29/10/99	<.003	<.05	<.005	0.05	0.229	<.001	<.04	57.6	<.001	<.005	<.005	<.002	<.01	<.1	<.005	16.7	0.35	<.002	5	<.005	<.04	<.01	15	<.03	<.005	3.5	<.01	0.184	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.14	0.005	0.05	0.152	0.001	0.04	57.3	0.001	0.005	0.005	0.003	0.16	2	0.005	17.9	0.23	0.003	4	0.005	0.04	0.01	13	0.03	0.017	3.9	0.01	0.186	0.005	0.005	0.03	0.23
Std. Deviat	0	0.13	0	0	0.108	0	0	0.4	0	0	0	0.001	0.21	1	0	1.6	0.17	0.001	1	0	0	0	3	0	0.018	0.6	0	0.002	0	0	0	0.31
Minimum V	0.003	0.05	0.005	0.05	0.076	0.001	0.04	57.1	0.001	0.005	0.005	0.002	0.01	1	0.005	16.7	0.11	0.002	4	0.005	0.04	0.01	11	0.03	0.005	3.5	0.01	0.184	0.005	0.005	0.03	0.01
Maximum	0.003	0.23	0.005	0.05	0.229	0.001	0.04	57.6	0.001	0.005	0.005	0.004	0.3	2	0.005	19	0.35	0.004	5	0.005	0.04	0.01	15	0.03	0.03	4.3	0.01	0.187	0.005	0.005	0.03	0.45
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X17B,d/s CVDam & u/s of X14 across diversion (20m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	<.05	<.005	<.05	0.059	<.001	<.04	42.3	<.001	<.005	<.005	0.004	0.4	2	0.017	13.8	0.08	0.003	5	<.005	<.04	<.01	6	<.03	<.03	3.2	<.01	0.164	<.005	<.005	<.03	0.21
29/10/99	<.003	<.05	<.005	<.05	0.168	<.001	<.04	43.7	<.001	<.005	<.005	<.002	0.07	<1	<.005	12.4	0.11	<.002	4	<.005	<.04	<.01	8	<.03	<.03	2.9	<.01	0.173	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.113	0.001	0.04	43	0.001	0.005	0.005	0.003	0.24	2	0.011	13.1	0.09	0.003	4	0.005	0.04	0.01	7	0.03	0.017	3.1	0.01	0.168	0.005	0.005	0.03	0.11
Std. Deviat	0	0	0	0	0.077	0	0	1	0	0	0	0.001	0.23	1	0.008	1	0.02	0.001	1	0	0	0	1	0	0.018	0.2	0	0.006	0	0	0	0.14
Minimum V	0.003	0.05	0.005	0.05	0.059	0.001	0.04	42.3	0.001	0.005	0.005	0.002	0.07	1	0.005	12.4	0.08	0.002	4	0.005	0.04	0.01	6	0.03	0.005	2.9	0.01	0.164	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.05	0.168	0.001	0.04	43.7	0.001	0.005	0.005	0.004	0.4	2	0.017	13.8	0.11	0.003	5	0.005	0.04	0.01	8	0.03	0.03	3.2	0.01	0.173	0.005	0.005	0.03	0.21
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X18A,N of CVDam, & right of access rd to X14 (10m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	0.06	<.005	<.05	0.229	0.001	<.04	182	0.005	<.005	0.18	0.02	0.28	9	<.005	49.2	0.28	0.01	32	<.005	<.04	<.01	152	<.03	<.03	5.6	<.01	0.768	<.005	<.005	<.03	0.32
29/10/99	<.003	<.05	<.005	<.05	0.227	<.001	<.04	139.7	<.001	<.005	<.005	<.002	0.28	3	<.005	33.2	0.3	<.002	22	<.005	<.04	<.01	127	<.03	<.005	3.8	<.01	0.594	<.005	<.005	<.03	0.02
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.228	0.001	0.04	160.8	0.003	0.005	0.093	0.011	0.28	6	0.005	41.2	0.29	0.006	27	0.005	0.04	0.01	140	0.03	0.017	4.7	0.01	0.681	0.005	0.005	0.03	0.17
Std. Deviat	0	0.01	0	0	0.001	0	0	29.9	0.003	0	0.124	0.013	0	4	0	11.3	0.01	0.006	7	0	0	0	18	0	0.018	1.3	0	0.123	0	0	0	0.21
Minimum V	0.003	0.05	0.005	0.05	0.227	0.001	0.04	139.7	0.001	0.005	0.005	0.002	0.28	3	0.005	33.2	0.28	0.002	22	0.005	0.04	0.01	127	0.03	0.005	3.8	0.01	0.594	0.005	0.005	0.03	0.02
Maximum	0.003	0.06	0.005	0.05	0.229	0.001	0.04	182	0.005	0.005	0.18	0.02	0.28	9	0.005	49.2	0.3	0.01	32	0.005	0.04	0.01	152	0.03	0.03	5.6	0.01	0.768	0.005	0.005	0.03	0.32
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X18B,N of CVDam, & right of access rd to X14 (20m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
29/07/99	<.0001	0.17	<.001	0.04	0.1026	0.0004	<.001	161.2	<.0001	<.0002	<.0002	0.0183	0.014	4.1	0.007	39.53	0.006	<.0001	15.5	0.001	0.007	0.005	132.2	<.001	<.001	5.05	<.0004	0.3172	0.0053	<.0002	<.001	<.0004
29/10/99	<.003	<.05	<.005	<.05	0.231	<.001	<.04	151.4	<.001	<.005	<.005	<.002	0.08	5	<.005	33.9	1.6	<.002	23	<.005	<.04	<.01	141	<.03	<.005	4.3	<.01	0.611	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.0016	0.11	0.003	0.04	0.1668	0.0007	0.02	156.3	0.0006	0.0026	0.0026	0.0102	0.047	4.5	0.006	36.72	0.803	0.0011	19.2	0.003	0.023	0.007	136.6	0.015	0.003	4.68	0.0052	0.4641	0.0051	0.0026	0.015	0.0052
Std. Deviat	0.0021	0.08	0.003	0.01	0.0908	0.0004	0.028	6.93	0.0006	0.0034	0.0034	0.0115	0.047	0.6	0.001	3.98	1.127	0.0013	5.3	0.003	0.023	0.004	6.2	0.021	0.003	0.53	0.0068	0.2077	0.0002	0.0034	0.021	0.0068
Minimum V	0.0001	0.05	0.001	0.04	0.1026	0.0004	0.001	151.4	0.0001	0.0002	0.0002	0.002	0.014	4.1	0.005	33.9	0.006	0.0001	15.5	0.001	0.007	0.005	132.2	0.001	0.001	4.3	0.0004	0.3172	0.005	0.0002	0.001	0.0004
Maximum	0.003	0.17	0.005	0.05	0.231	0.001	0.04	161.2	0.001	0.005	0.005	0.0183	0.08	5	0.007	39.53	1.6	0.002	23	0.005	0.04	0.01	141	0.03	0.005	5.05	0.01	0.611	0.0053	0.005	0.03	0.01
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X19A, d/s CVDam by X13 (12m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	0.06	<.005	<.05	0.202	<.001	<.04	124	0.004	<.005	<.005	0.01	0.06	4	0.007	35.9	0.65	0.006	27	0.043	<.04	<.01	83	<.03	<.03	4.4	<.01	0.442	<.005	<.005	<.03	0.19
29/10/99	<.003	<.05	<.005	<.05	0.107	<.001	<.04	148	<.001	<.005	<.005	<.002	<.01	2	<.005	27.5	5.61	<.002	31	<.005	<.04	<.01	124	<.03	<.005	4.9	<.01	0.439	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.155	0.001	0.04	136	0.003	0.005	0.005	0.006	0.03	3	0.006	31.7	3.13	0.004	29	0.024	0.04	0.01	104	0.03	0.017	4.7	0.01	0.441	0.005	0.005	0.03	0.1
Std. Deviat	0	0.01	0	0	0.067	0	0	17	0.002	0	0	0.006	0.04	1	0.001	5.9	3.51	0.003	3	0.027	0	0	29	0	0.018	0.4	0	0.002	0	0	0	0.13
Minimum V	0.003	0.05	0.005	0.05	0.107	0.001	0.04	124	0.001	0.005	0.005	0.002	0.01	2	0.005	27.5	0.65	0.002	27	0.005	0.04	0.01	83	0.03	0.005	4.4	0.01	0.439	0.005	0.005	0.03	0.01
Maximum	0.003	0.06	0.005	0.05	0.202	0.001	0.04	148	0.004	0.005	0.005	0.01	0.06	4	0.007	35.9	5.61	0.006	31	0.043	0.04	0.01	124	0.03	0.03	4.9	0.01	0.442	0.005	0.005	0.03	0.19
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X19B, d/s CVDam by X13 (27m)

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	0.08	<.005	<.05	0.128	0.001	<.04	187.5	<.001	<.005	0.186	0.023	0.06	7	0.014	39.5	5.25	0.003	46	0.01	<.04	<.01	119	<.03	<.03	8.2	<.01	0.556	<.005	<.005	<.03	0.13
29/10/99	<.003	<.05	<.005	<.05	0.249	<.001	<.04	90.3	<.001	<.005	<.005	<.002	<.01	<1	<.005	23.7	0.68	<.002	14	<.005	<.04	<.01	53	<.03	<.005	3.6	<.01	0.334	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.06	0.005	0.05	0.189	0.001	0.04	138.9	0.001	0.005	0.096	0.013	0.03	4	0.01	31.6	2.97	0.003	30	0.007	0.04	0.01	86	0.03	0.017	5.9	0.01	0.445	0.005	0.005	0.03	0.07
Std. Deviat	0	0.02	0	0	0.086	0	0	68.7	0	0	0.128	0.015	0.04	4	0.006	11.2	3.23	0.001	23	0.004	0	0	47	0	0.018	3.3	0	0.157	0	0	0	0.08
Minimum V	0.003	0.05	0.005	0.05	0.128	0.001	0.04	90.3	0.001	0.005	0.005	0.002	0.01	1	0.005	23.7	0.68	0.002	14	0.005	0.04	0.01	53	0.03	0.005	3.6	0.01	0.334	0.005	0.005	0.03	0.01
Maximum	0.003	0.08	0.005	0.05	0.249	0.001	0.04	187.5	0.001	0.005	0.186	0.023	0.06	7	0.014	39.5	5.25	0.003	46	0.01	0.04	0.01	119	0.03	0.03	8.2	0.01	0.556	0.005	0.005	0.03	0.13
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X21B-96, Toe 2nd Impoundment (15.43m), P96-5B

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	0.08	<.005	0.41	0.005	<.001	<.04	111.3	<.001	<.005	<.005	0.01	0.15	3	0.009	26	6.02	<.002	63	<.005	<.04	<.01	135	<.03	<.03	6.8	<.01	0.31	<.005	<.005	<.03	<.01
31/10/99	<.003	<.05	<.005	<.05	0.095	<.001	<.04	128.5	<.001	0.006	<.005	<.002	<.01	<1	<.005	28.1	10.16	<.002	75	<.005	<.04	<.01	168	<.03	<.005	4.3	<.01	0.402	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.06	0.005	0.23	0.05	0.001	0.04	119.9	0.001	0.005	0.005	0.006	0.08	2	0.007	27.1	8.09	0.002	69	0.005	0.04	0.01	152	0.03	0.017	5.6	0.01	0.356	0.005	0.005	0.03	0.01
Std. Deviat	0	0.02	0	0.25	0.064	0	0	12.2	0	0.001	0	0.006	0.1	1	0.003	1.5	2.93	0	8	0	0	0	23	0	0.018	1.8	0	0.065	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.005	0.001	0.04	111.3	0.001	0.005	0.005	0.002	0.01	1	0.005	26	6.02	0.002	63	0.005	0.04	0.01	135	0.03	0.005	4.3	0.01	0.31	0.005	0.005	0.03	0.01
Maximum	0.003	0.08	0.005	0.41	0.095	0.001	0.04	128.5	0.001	0.006	0.005	0.01	0.15	3	0.009	28.1	10.16	0.002	75	0.005	0.04	0.01	168	0.03	0.03	6.8	0.01	0.402	0.005	0.005	0.03	0.01
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X21C-96, Toe 2nd Impoundment (30.18m), P96-5C

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	<.05	<.005	0.17	0.037	<.001	<.04	46.5	<.001	<.005	<.005	<.002	0.09	<1	<.005	8.2	0.57	<.002	1	<.005	<.04	<.01	3	<.03	<.03	4.1	<.01	0.202	<.005	<.005	<.03	<.01
31/10/99	<.003	0.33	<.005	0.06	0.156	0.002	<.04	290.3	<.001	0.015	<.005	0.002	<.01	5	<.005	57.1	17.32	<.002	46	0.029	0.07	<.01	314	<.03	<.005	5.9	<.01	0.95	<.005	<.005	<.03	0.04
JAN 1999 - DEC 1999																																
Mean	0.003	0.19	0.005	0.12	0.097	0.002	0.04	168.4	0.001	0.01	0.005	0.002	0.05	3	0.005	32.6	8.94	0.002	24	0.017	0.05	0.01	158	0.03	0.017	5	0.01	0.576	0.005	0.005	0.03	0.02
Std. Deviat	0	0.2	0	0.08	0.084	0.001	0	172.4	0	0.007	0	0	0.06	3	0	34.6	11.84	0	32	0.017	0.02	0	220	0	0.018	1.3	0	0.529	0	0	0	0.02
Minimum V	0.003	0.05	0.005	0.06	0.037	0.001	0.04	46.5	0.001	0.005	0.005	0.002	0.01	1	0.005	8.2	0.57	0.002	1	0.005	0.04	0.01	3	0.03	0.005	4.1	0.01	0.202	0.005	0.005	0.03	0.01
Maximum	0.003	0.33	0.005	0.17	0.156	0.002	0.04	290.3	0.001	0.015	0.005	0.002	0.09	5	0.005	57.1	17.32	0.002	46	0.029	0.07	0.01	314	0.03	0.03	5.9	0.01	0.95	0.005	0.005	0.03	0.04
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X24A-96, N abutment Int Dam (5.88m), P96-4A

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<.003	0.24	<.005	<.05	0.13	<.001	<.04	237.8	<.001	<.005	<.005	0.009	0.19	7	0.029	50.7	15.53	<.002	41	0.008	0.45	<.01	239	<.03	<.03	6.3	<.01	0.683	<.005	<.005	<.03	0.26
29/10/99	<.003	0.12	<.005	0.05	0.113	<.001	<.04	198.4	<.001	0.006	<.005	<.002	0.06	5	<.005	37.5	10.37	<.002	32	<.005	<.04	<.01	193	<.03	<.005	5.3	<.01	0.589	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.18	0.005	0.05	0.121	0.001	0.04	218.1	0.001	0.005	0.005	0.005	0.12	6	0.017	44.1	12.95	0.002	36	0.007	0.24	0.01	216	0.03	0.017	5.8	0.01	0.636	0.005	0.005	0.03	0.13
Std. Deviat	0	0.08	0	0	0.012	0	0	27.9	0	0.001	0	0.005	0.09	1	0.017	9.3	3.65	0	6	0.002	0.29	0	33	0	0.018	0.7	0	0.066	0	0	0	0.18
Minimum V	0.003	0.12	0.005	0.05	0.113	0.001	0.04	198.4	0.001	0.005	0.005	0.002	0.05	5	0.005	37.5	10.37	0.002	32	0.005	0.04	0.01	193	0.03	0.005	5.3	0.01	0.589	0.005	0.005	0.03	0.01
Maximum	0.003	0.24	0.005	0.05	0.13	0.001	0.04	237.8	0.001	0.006	<.005	0.009	0.19	7	0.029	50.7	15.53	0.002	41	0.008	0.45	<.01	239	0.03	0.03	6.3	0.01	0.683	0.005	0.005	0.03	0.26
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

1999 GROUND WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: X24C-96, N abutment Int Dam (15.87), P96-4C

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<0.03	0.16	<0.05	<0.05	0.13	0.001	<0.04	257.4	<0.01	0.005	<0.005	0.025	0.15	8	<0.005	55.2	13.26	0.003	53	0.027	<0.04	<0.01	228	<0.03	<0.03	7.6	<0.01	0.809	0.005	0.007	<0.03	0.17
29/10/99	<0.03	<0.05	<0.05	<0.05	<0.002	<0.001	<0.04	0.1	<0.01	<0.005	<0.005	<0.002	<0.01	<1	<0.005	<1	<0.01	<0.002	<1	<0.005	<0.04	<0.01	<1	<0.03	<0.005	<1	<0.01	<0.002	<0.005	<0.03	<0.01	
JAN 1999 - DEC 1999																																
Mean	0.003	0.1	0.005	0.05	0.066	0.001	0.04	128.7	0.001	0.005	0.005	0.014	0.08	4	0.005	27.7	6.64	0.003	27	0.016	0.04	0.01	114	0.03	0.017	3.8	0.01	0.406	0.005	0.006	0.03	0.09
Std. Deviat	0	0.08	0	0	0.091	0	0	181.9	0	0	0	0.016	0.1	5	0	39	9.37	0.001	37	0.016	0	0	161	0	0.018	5.3	0	0.571	0	0.001	0	0.11
Minimum V	0.003	0.05	0.005	0.05	0.002	0.001	0.04	0.1	0.001	0.005	0.005	0.002	0.01	1	0.005	0.1	0.01	0.002	1	0.005	0.04	0.01	1	0.03	0.005	0.1	0.01	0.002	0.005	0.005	0.03	0.01
Maximum	0.003	0.16	0.005	0.05	0.13	0.001	0.04	257.4	0.001	0.005	0.005	0.025	0.15	8	0.005	55.2	13.26	0.003	53	0.027	0.04	0.01	228	0.03	0.03	7.6	0.01	0.809	0.005	0.007	0.03	0.17
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

STATION: X24D-96, N abutment Int Dam (28.22m), P96-4D

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-L mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
19/06/99	<0.03	0.23	<0.05	<0.05	0.156	0.002	<0.04	406.1	<0.01	<0.005	<0.005	0.041	0.44	11	0.016	83.5	17.33	0.018	64	0.109	<0.04	<0.01	361	0.05	<0.03	9.4	<0.01	1.128	0.014	0.005	<0.03	0.17
29/10/99	<0.03	0.39	<0.05	0.07	0.092	0.002	<0.04	326	<0.01	0.017	<0.005	<0.002	<0.01	5	<0.005	61.9	16.77	<0.002	50	0.062	0.08	<0.01	350	<0.03	<0.005	6	<0.01	1.021	<0.005	<0.005	<0.03	0.05
JAN 1999 - DEC 1999																																
Mean	0.003	0.31	0.005	0.06	0.124	0.002	0.04	366.1	0.001	0.011	0.005	0.022	0.22	8	0.011	72.7	17.05	0.01	57	0.085	0.06	0.01	356	0.04	0.017	7.7	0.01	1.075	0.01	0.005	0.03	0.11
Std. Deviat	0	0.11	0	0.01	0.045	0	0	56.6	0	0.008	0	0.028	0.3	4	0.008	15.3	0.4	0.011	10	0.033	0.03	0	8	0.01	0.018	2.4	0	0.076	0.006	0	0	0.08
Minimum V	0.003	0.23	0.005	0.05	0.092	0.002	0.04	326	0.001	0.005	0.005	0.002	0.01	5	0.005	61.9	16.77	0.002	50	0.062	0.04	0.01	350	0.03	0.005	6	0.01	1.021	0.005	0.005	0.03	0.05
Maximum	0.003	0.39	0.005	0.07	0.156	0.002	0.04	406.1	0.001	0.017	0.005	0.041	0.44	11	0.016	83.5	17.33	0.018	64	0.109	0.08	0.01	361	0.05	0.03	9.4	0.01	1.128	0.014	0.005	0.03	0.17
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

STATION: X25A-96, S abutment Int Dam (9.65m), P96-3A

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-L	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
19/06/99	<0.03	0.1	<0.05	<0.05	0.051	<0.001	<0.04	129	<0.001	<0.005	<0.005	0.019	0.06	5	0.012	35	6.02	0.005	27	<0.005	<0.04	<0.01	97	<0.03	<0.03	6.3	<0.01	0.337	<0.005	<0.005	<0.03	0.07
29/10/99	<0.03	<0.05	<0.05	<0.05	0.108	<0.001	<0.04	117.4	<0.001	<0.005	<0.005	<0.002	<0.01	2	<0.005	29.2	5.86	<0.002	25	<0.005	<0.04	<0.01	98	<0.03	<0.005	5	<0.01	0.321	<0.005	<0.005	<0.03	<0.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.08	0.005	0.05	0.08	0.001	0.04	123.2	0.001	0.005	0.005	0.01	0.03	4	0.008	32.1	5.94	0.003	26	0.005	0.04	0.01	98	0.03	0.017	5.7	0.01	0.329	0.005	0.005	0.03	0.04
Std. Deviat	0	0.04	0	0	0.04	0	0	8.2	0	0	0	0.012	0.04	2	0.005	4.1	0.11	0.002	1	0	0	0	1	0	0.018	0.9	0	0.011	0	0	0	0.04
Minimum V	0.003	0.05	0.005	0.05	0.051	0.001	0.04	117.4	0.001	0.005	0.005	0.002	0.01	2	0.005	29.2	5.86	0.002	25	0.005	0.04	0.01	97	0.03	0.005	5	0.01	0.321	0.005	0.005	0.03	0.01
Maximum	0.003	0.1	0.005	0.05	0.108	0.001	0.04	129	0.001	0.005	0.005	0.019	0.06	5	0.012	35	6.02	0.005	27	0.005	0.04	0.01	98	0.03	0.03	6.3	0.01	0.337	0.005	0.005	0.03	0.07
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

STATION: X25B-96, S abutment Int Dam (19.80m), P96-3B

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-L	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
19/06/99	<.003	0.1	<.005	<.05	0.055	0.001	<.04	177.3	0.002	<.005	<.005	0.019	0.21	6	0.03	36	1.38	<.002	71	<.005	<.04	<.01	148	<.03	<.03	5	<.01	0.439	<.005	<.005	<.03	0.03
29/10/99	<.003	<.05	<.005	<.05	0.072	<.001	<.04	141.2	<.001	<.005	<.005	<.002	<.01	2	<.005	27.3	0.11	<.002	57	<.005	<.04	<.01	136	<.03	<.005	3.8	<.01	0.398	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.08	0.005	0.05	0.063	0.001	0.04	159.2	0.002	0.005	0.005	0.01	0.11	4	0.017	31.6	0.74	0.002	64	0.005	0.04	0.01	142	0.03	0.017	4.4	0.01	0.419	0.005	0.005	0.03	0.02
Std. Deviat	0	0.04	0	0	0.012	0	0	25.5	0.001	0	0	0.012	0.14	3	0.018	6.2	0.9	0	10	0	0	0	8	0	0.018	0.8	0	0.029	0	0	0	0.01
Minimum V	0.003	0.05	0.005	0.05	0.055	0.001	0.04	141.2	0.001	0.005	0.005	0.002	0.01	2	0.005	27.3	0.11	0.002	57	0.005	0.04	0.01	136	0.03	0.005	3.8	0.01	0.398	0.005	0.005	0.03	0.01
Maximum	0.003	0.1	0.005	0.05	0.072	0.001	0.04	177.3	0.002	0.005	0.005	0.019	0.21	6	0.03	36	1.38	0.002	71	0.005	0.04	0.01	148	0.03	0.03	5	0.01	0.439	0.005	0.005	0.03	0.03
Num. Valu	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

APPENDIX 3

INCIDENT REPORTS RE. HIGH ZINC CONCENTRATIONS

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PRELIMINARY ENVIRONMENTAL INCIDENT REPORT **RE. NON-COMPLIANT DISCHARGE**

Prepared May 5, 1999

SUMMARY

This preliminary incident report describes the short term action plan implemented in response to in-house zinc analyses which indicated that effluent discharge to Rose Creek via the Cross Valley Pond outflow (monitoring location X5) exceeded the maximum allowable discharge limit of 0.5 mg/L.

This brief report will be followed by a more detailed report when the short term action plan has been completed.

DESCRIPTION

Pumping and lime treatment of water from the Faro Main pit commenced on April 26, 1999. Overflow from the Intermediate dam commenced on May 1 and lime treatment in the Intermediate Dam spillway commenced on May 1 following the procedures successfully applied in previous years.

Overflow discharge from the Cross Valley Pond commenced on May 4 and was initially observed by Eric Denholm and Tony Polyck at approximately 10:00 a.m. during a site inspection. Following the inspection, in-house zinc analyses were performed with a result of 1.5 mg/L zinc in the effluent discharge. The analyses were re-checked using fresh sample bottles with the same result.

The very short timeframe with which the Intermediate and Cross Valley Ponds filled to overflow levels was unanticipated and does not correspond with previous on-site experience. It is thought that the unusual glaciation observed during the past winter combined with a slower melting of pond ice covers as compared to previous years has resulted in dramatic short circuiting of water through the ponds which has not been observed at this time of year in recent years. The resulting short retention times might not allow adequate time for settlement of treatment sediments and would reduce the mixing of inflows with pond waters.

ACTIONS TAKEN TO NOON MAY 5

Mr. Denholm informed Mr. Polyck of the results at approximately 4:30 p.m. on May 4.

Lime continued to be added into the Intermediate Dam spillway per the established procedure until approximately 9:00 p.m.

At approximately 10:00 p.m. on May 4 following a meeting of site management personnel, the Faro pit recycle pump was shut off and a tanker truck of lime slurry was set up for the night with a slow flow of slurry into the Intermediate Pond spillway.

At 8:00 a.m. on May 5, in-house zinc analyses indicated that the concentration of zinc in the overflow from the Cross Valley Pond (location X5) remained high at 1.6 mg/L. The concentration of zinc in the overflow from the Intermediate Pond was 4.9 mg/L.

Beginning at 8:00 a.m. on May 5 with completion at noon on May 5, the discharge of effluent from the Cross Valley Pond was stopped by removing the syphon line from the water and by blocking the overflow spillways with loose material using only a front end loader.

SHORT TERM ACTION PLAN

Discharge of effluent via location X5 will not resume until in-house zinc analyses indicate that the water is in compliance with the water licence.

Lime will continue to be added at the Intermediate Dam spillway at an increased rate in order to attempt to treat short circuiting water which is traveling to the overflow location.

Lime may also be added directly into the Cross Valley Pond near the overflow location as a means of "shock treating" the pond water.

The Faro pit recycle pump will only be run as necessary to provide water for mixing lime and measures will be taken to minimize the volume of water which reports to the Down Valley when the pump is running.

Regular in-house zinc analyses will continue to be performed to track water quality in the Cross Valley Pond and in Rose Creek.

A follow up incident report will be prepared.

Eric Denholm, Environmental Engineer

distribution: Tony Polyck, DIAND, Water Resources
Doug Sedgwick, Deloitte and Touche, Toronto
Greg Stevens, Deloitte and Touche, Calgary
Ken Pearl, Deloitte and Touche, Toronto
Dana Haggar, Site Manager, Faro

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UPDATE ENVIRONMENTAL INCIDENT REPORT **RE. NON-COMPLIANT DISCHARGE**

Prepared May 7, 1999

SUMMARY

This report provides updated information regarding the actions taken in response to in-house zinc analyses which indicated that effluent discharge to Rose Creek was in exceedance of the maximum allowable discharge limit for zinc on May 4 and May 5. This report follows the "Preliminary Environmental Incident Report Re. Non-Compliant Discharge, prepared May 5, 1999".

A verbal update of the actions planned and those underway was given to Tony Polyck on May 6.

ADDITION TO PRELIMINARY INCIDENT REPORT

The Down Valley was inspected by Eric Denholm on May 3 at 9:00 p.m. and, at that time, there was no overflow from the Cross Valley Pond via location X5. This is relevant in establishing the possible duration of the non-compliant discharge which was first observed by Eric Denholm and Tony Polyck on May 4 at approximately 10:00 a.m.

UPDATE TO NOON MAY 7

Discharge of effluent has not been resumed. The Faro pit recycle pump has been operated only as required to provide water for lime mixing and measures have been taken to minimize the volume of water delivered to the Down Valley while the pump is operating. The Faro pit water being delivered to the Down Valley is being treated with lime while the Faro pit pump is operating.

Lime addition into the Intermediate Dam spillway has continued per the established procedures using lime hauled from the mill and water recirculated through the holding tank.

In-House zinc analyses have been performed which indicate that the zinc concentration at the outflow location of the Cross Valley Pond has dropped to within or near the maximum allowable discharge limit. The results are as follows:

May 4 ~3:00 p.m. zn=1.5 mg/L (outflow)
May 5 ~8:00 a.m. zn=1.6 mg/L (outflow)
May 5 ~3:30 p.m. zn=0.46 mg/L (no outflow)
May 6 ~8:30 a.m. zn=0.37 mg/L (no outflow)
May 6 ~noon zn=0.3 mg/L (no outflow)
May 7 ~9:30 a.m. zn=0.53 mg/L (no outflow)

The zinc concentration at the outflow from the Intermediate Pond (location X4) has remained steady at around 5 mg/L since outflow commenced on May 1. The volume of water overflowing from the Intermediate Pond has decreased, as expected, since the Faro pit recycle pump was shut down.

Samples from locations X4 and X5 were shipped for analyses at an external professional laboratory on May 6.

The water level in the Cross Valley Pond has risen since the temporary dyke was constructed, as expected. The level has risen 9.0 cm since the dyke was constructed. The rate at which the pond level is rising has decreased due to the decreasing volume of inflow water from the Intermediate Pond. The current rate of rise is 4.4 cm per day.

SHORT TERM ACTION PLAN

The objective of the short term action plan will be to continue to reduce the zinc concentration at the outflow location in the Cross Valley Pond.

Lime will continue to be added into the Intermediate Dam spillway. Lime slurry will also be applied directly into the Cross Valley Pond as a means of shock treating the pond water particularly near the outflow location.

A controlled trial discharge of effluent from the Cross Valley Pond will be performed via the installed 10" syphon line when in-house zinc analyses provide confidence that the effluent meets the maximum allowable discharge limit. As much advance notice as practical will be provided to those on the distribution list prior to commencing the controlled discharge trial.

Regular in-house zinc analyses will be continued and further samples will be shipped to the external professional laboratory at appropriate times.

OTHER INFORMATION

The applicability of the treatment method being used was verified by a bench test conducted on May 5 and May 6 wherein a sample was collected from the Intermediate Dam spillway below the lime addition (location X4A) and allowed to stand. After only ~2 minutes of standing the in-house zinc analysis was 1.3 mg/L and after a further 2 minutes of standing the in-house zinc analysis was 0.46 mg/L. After a further 17 hours of standing, the in-house zinc analysis was 0.20 mg/L. Complete settlement of treatment

sediments would not be expected in this test and no filtering was performed. The sample was slightly jarred when picked up by hand for the AA analysis.

The accuracy of the in-house zinc analyses has been confirmed. The AA machine was cleaned and serviced in April 1999 by a trained assayer previously employed as an assayer at the Faro minesite and new zinc standards were received from the external laboratory in March 1999. A comparison of zinc analyses (mg/L) performed both in-house and at the external professional laboratory for samples collected on April 20, 1999 is as follows:

Location	In-House	External Total	External Dissolved
V5	0.02	0.01	<0.01
V8	0.02	<0.01	<0.01
X2	0.03	0.02	0.01
X3	0.02	0.02	<0.01
X5	0.30	0.30	0.08
X13	0.02	<0.01	<0.01
X14	0.03	0.03	<0.01
NWINT	0.03	0.04	0.02

Recent concentrations of zinc in the Cross Valley Pond near the outflow location as received from the external professional laboratory have been:

January 1999	0.33 mg/L total	0.16 mg/L diss.
February 1999	0.53 mg/L total	0.18 mg/L diss.
March 1999	0.31 mg/L total	0.09 mg/L diss.
April 1999	0.30 mg/L total	0.08 mg/L diss.

In February 1999, water within the Cross Valley Pond was found to be well mixed. In February 1999, the pond water was sampled at 4 locations via holes augered through the ice and the analytical results received from the external professional laboratory indicated that the concentration of total zinc ranged from 0.44 to 0.55 mg/L and that the concentration of dissolved zinc ranged from 0.18 to 0.35 mg/L.



Eric Denholm, Environmental Engineer

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Doug Sedgwick, Deloitte and Touche, Toronto
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UPDATE ENVIRONMENTAL REPORT **RE. NON-COMPLIANT WATER**

Prepared May 11, 1999 10:00 a.m.

SUMMARY

This report continues from the update report prepared May 7, 1999.

There has been no discharge of effluent from the Cross Valley Pond via location X5 since the overflow spillway was temporarily blocked on May 5 with the exception of a small seep through the temporary dyke first observed on May 10. The seep is estimated at approximately 0.5 Lps and in-house zinc analyses indicate that the concentration of zinc in the small seep is within the allowable discharge limit of 0.5 mg/L.

A 45 gallon drum was installed on May 8 which feeds gas directly to the water pump which circulates water from the Intermediate Dam spillway to the Down Valley lime tank. This improvement to the system allows continuous operation of the water pump through the night as a means of gaining benefit from lime which settles in the lime tank.

The treatment of water with lime in the Intermediate Dam spillway has effectively reduced the concentration of zinc at the surface of the Cross Valley Pond to an acceptable level (currently 0.16 mg/L). However, the lack of mixing of inflows with resident pond water in the Cross Valley Pond has prevented the resumption of discharge. A sample of water from depth in the Cross Valley Pond near the outflow location on May 10 contained 0.85 mg/L zinc.

A temporary water re-circulation system is being installed and is to be operational today which will attempt to provide local vertical mixing of water in the Cross Valley Pond in the vicinity of the outflow spillway. A barge mounted submersible pump will be used to pump bottom water to the surface of the pond. This may also promote ice breakup in the vicinity of the outflow spillway.

Another sample from the Cross Valley Pond at depth in the vicinity of the outflow will be collected and analysed on May 12 and the status of the action plan will be re-evaluated at that time. Analytical results from the external professional laboratory for a surface sample collected from the Cross Valley Pond on May 6 are expected to be received today.

If water quality continues to prevent the resumption of discharge over the next several days, then the following actions will be considered:

- circulation of water from the Cross Valley Pond into the Intermediate Pond with treatment continuing in the Intermediate Dam spillway,
- temporary blockage of the Intermediate Dam spillway,
- large scale in-situ "shock" treatment of the Cross Valley Pond.

The water level in the Cross Valley Pond has risen by 0.31 metres since installation of the temporary dyke as of May 11 at 8:30 am.

In-House Zinc Concentrations (mg/L)

<u>Date/Time</u>	<u>Int. Dam Spillway</u>	<u>X-Valley Pond At Surface</u>	<u>Seep Thru Temp Dyke</u>	<u>X-Valley Pond At Depth</u>	<u>Comment</u>
May 3; 9:00 pm	5.2				No discharge
May 4; 3:00 pm		1.5			Discharge
May 5; 8:00 am		1.6			Discharge
May 5; 3:30 pm	4.5	0.46			no discharge
May 6; 8:30 am		0.37			
May 6; noon		0.3			
May 7; 9:30 am	5.0	0.53			
May 7; 3:30 pm	4.8	0.48			
May 8; 9:00 am	5.6	0.42			
May 9; 9:00 am	5.2	0.38			
May 9; 9:00 pm		0.44			
May 10; 8:00 am	5.6	0.11	0.15	0.85 (10:00 am)	Seep~0.5Lps
May 10; 9:00 pm		0.20			
May 11; 8:30 am	5.1	0.16	0.07		Seep~0.5Lps



Eric Denholm, Environmental Engineer

distribution: Tony Polyck, DIAND, Water Resources, Whitehorse
Doug Sedgwick, Deloitte and Touche, Toronto
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UPDATE ENVIRONMENTAL REPORT **RE. NON-COMPLIANT WATER**

Prepared May 13, 1999 11:00 a.m.

SUMMARY

This report continues from the update report prepared May 11, 1999.

There has been no discharge of effluent from the Cross Valley Pond via location X5 since the overflow spillway was temporarily blocked on May 5 with the exception of a small seep through the temporary dyke first observed on May 10. The seep is estimated at approximately 0.5 Lps and in-house zinc analyses indicate that the concentration of zinc in the small seep is within the allowable discharge limit of 0.5 mg/L.

On May 12, the action plan was moved forward to begin preparations for pumping water from the Cross Valley Pond up into the Intermediate Pond and to block the Intermediate Dam spillway. The temporary dyke in the Intermediate Dam spillway was completed at 3:30 pm on May 12 and the pumping system is to be operational on May 13. These actions were initiated in response to the following:

1. the lack of positive indications regarding water quality at depth in the Cross Valley Pond,
2. the continued increase of the water elevation in the Cross Valley Pond, and
3. problems identified with the lime being used.

In-House analysis of a sample collected from the Cross Valley Pond outflow syphon on May 12 indicated a concentration of zinc of 0.9 mg/L. The syphon was opened only long enough to collect a sample and then was shut off again. This indicated that there has been no improvement in the water quality at depth in the vicinity of the outflow spillway. Therefore, confidence is very low that the compliant surface water could be released from the Cross Valley Pond without drawing a significant portion of non-compliant bottom water to the outflow.

The water level in the Cross Valley Pond had risen by 0.38 metres since installation of the temporary dyke as of May 12 at 3:00 pm when a temporary dyke was installed in the Intermediate Dam spillway which cut off the primary inflow into the Cross Valley Pond. The water level in the Cross Valley Pond had fallen by 0.05 metres by May 13 at 10:00 am due, likely, to outflow seepages.

It has been confirmed that the lime being used for water treatment to date in 1999 has been only partially (est 50%) effective due to incomplete slaking. Complete slaking is not possible without using hot water because of compression of the lime in the silo over the winter and the possible introduction of moisture into the lime over the winter. The primary limitation of the lime slurry to date in 1999 has been ineffective dispersion of lime slurry into the pond water. This is considered to be a contributing factor to the current water quality issues along with the physical conditions in the ponds (ice cover and cold water). A sufficient quantity of "problem free" lime is on site to resume water treatment when appropriate. Additional lime as a replacement to the "problem" lime already used in 1999 has been ordered and is scheduled to arrive on-site during the first week of June.

Updated water quality results are listed below. The current (May 13) low zinc concentration at the Intermediate Dam spillway (no outflow) is unexplained. It is possible that similar pond characteristics are in effect as were observed for the Cross Valley Pond where the zinc concentration also fell following cessation of outflow.

In-House Zinc Concentrations (mg/L)

<u>Date/Time</u>	<u>Int. Dam Spillway</u>	<u>X-Valley Pond At Surface</u>	<u>Seep Thru Temp Dyke</u>	<u>X-Valley Pond At Depth</u>	<u>Comment</u>
May 3; 9:00 pm	5.2				No discharge
May 4; 3:00 pm		1.5			Discharge
May 5; 8:00 am		1.6			Discharge
May 5; 3:30 pm	4.5	0.46			No discharge
May 6; 8:30 am		0.37			
May 6; noon		0.3			
May 7; 9:30 am	5.0	0.53			
May 7; 3:30 pm	4.8	0.48			
May 8; 9:00 am	5.6	0.42			
May 9; 9:00 am	5.2	0.38			
May 9; 9:00 pm		0.44			
May 10; 8:00 am	5.6	0.11	0.15	0.85 (10:00 am)	Seep~0.5Lps
May 10; 9:00 pm		0.20			
May 11; 8:30 am	5.1	0.16	0.07		Seep~0.5Lps
May 12; 8:00 am		0.16	0.14	0.94	Seep~0.5Lps
May 13;10:00am	1.8	0.16	0.17		No Int flow

Eric Denholm, Environmental Engineer



distribution: Bud McAlpine/Tony Polyck, DIAND, Water Resources, Whitehorse
Doug Sedgwick, Deloitte and Touche, Toronto
Greg Stevens, Deloitte and Touche, Calgary
Ken Pearl, Deloitte and Touche, Toronto
Dana Haggar, Site Manager, Faro

DELOITTE & TOUCHE INC.

*Interim Receiver for
ANVIL RANGE Mining Corporation*

*Postal Bag 1000, Faro, Yukon Y0B 1K0
Phone (867) 994-2459
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UPDATE ENVIRONMENTAL REPORT **RE. NON-COMPLIANT WATER**

Prepared May 20, 1999 2:00 p.m.

SUMMARY

This report continues from the update report prepared May 13, 1999.

There has been no discharge of effluent from the Cross Valley Pond via location X5 since the overflow spillway was temporarily blocked on May 5 with the exception of a small seep through the temporary dyke which was first observed on May 10. The seep is estimated at approximately 0.5 Lps and in-house zinc analyses indicate that the concentration of zinc in the small seep is within the allowable discharge limit of 0.5 mg/L total zinc.

There has been no pumping of water from the Faro Main pit since May 12. The water level in the Faro Main pit has risen since that time but is not at a level which demands immediate relief.

In response to the increasing water level in the Cross Valley Pond, pumping of water from the Cross Valley Pond into the Intermediate Pond commenced on May 14 after the Intermediate Dam spillway was blocked with a temporary dyke constructed by backhoe and front end loader. This action has resulted in the lowering of the water level in the Cross Valley Pond by ~2 cm/day from a maximum of 0.375 metres above "normal" to the current (May 20, noon) 0.252 metres above "normal". The water level in the Intermediate Pond has increased by 0.19 metres since the spillway was blocked.

Following a discussion with Tony Polyck on May 19, depth samples from the Cross Valley Pond were collected and analysed on May 20. Access to the pond water is severely limited due to the ice cover. However, a floating barge was used to obtain samples from the vicinity of the intake to the discharge syphon pipeline where the pond was over 4 metres deep. In-House zinc analyses of these samples indicated that the pond water is compliant at depths of 1, 2 and 3 metres (zinc < 0.21 mg/L) but non-compliant at 4 metres depth (zinc = 1.04 mg/L). This is in agreement with previous information.

The May 20 sample results provide confidence that there is a significant volume of compliant water at surface near the outflow location of the Cross Valley Pond. This is supported by the observed decrease in zinc concentration in the Intermediate Pond following the commencement of pumping from the Cross Valley Pond due, presumably, to the pumping of compliant water from the Cross Valley Pond. Additionally, a full suite of analyses received from the professional external laboratory for samples collected from the

Cross Valley Pond on May 6 indicated that the surface pond water was compliant at that time.

The next stage of the action plan will be to release compliant surface water from the Cross Valley Pond to Rose Creek on a controlled basis. Beginning on May 21, a portable gas pump will be used to release an anticipated 500 USgpm of water by pumping surface or near surface water over the temporary dyke in the Cross Valley Pond spillway. For the initial four days (May 21 to May 24), release of water will be on a day shift basis and in-house zinc analyses will be performed approximately hourly while water is being released. The schedule will be reviewed on May 25.

Pumping of water from the Cross Valley Pond to the Intermediate Pond will also continue over the next 4 days with a review of the necessity for this pumping to be conducted on May 25.

In the event that the concentration of zinc in the water being released from the Cross Valley Pond is greater than the allowable discharge limit of 0.5 mg/L for any of the in-house analyses, then the release of water will be stopped and alternate plans put into place. The most likely alternate plans could include continued pumping of water from the Cross Valley Pond to the Intermediate Pond, in-situ treatment of the Cross Valley Pond with lime slurry, and maintaining the suspension of pumping of water from the Faro Main pit to the Down Valley.

In-House Zinc Concentrations (mg/L)

<u>Date/Time</u>	<u>Int. Pond Surface</u>	<u>X-Valley Pond Surface</u>	<u>X-Valley Pond Seep</u>	<u>X-Valley Pond Depth</u>	<u>Comment</u>
May 3; 9:00pm	5.2				no outflow
May 4; 3:00pm		1.5			initial X-V outflow
May 5; 8:00am		1.6			
May 5; 3:30pm	4.5	0.46			no X-V pond outflow
May 6; 8:30am		0.37 (ext lab= 0.41 _T /0.07 _D)			
May 6; noon		0.3			
May 7; 9:30am	5.0	0.53			
May 7; 3:30pm	4.8	0.48			

<u>Date/Time</u>	<u>Int. Pond Surface</u>	<u>X-Valley Pond Surface</u>	<u>X-Valley Pond Seep</u>	<u>X-Valley Pond Depth</u>	<u>Comment</u>
May 8; 9:00am	5.6	0.42			
May 9; 9:00am	5.2	0.38			
May 10; 8:00am	5.6	0.11	0.15	0.85 (10:00am)	seep ~0.5Lps
May 10; 9:00pm		0.20			
May 11; 8:30am	5.1	0.16	0.07		
May 12; 8:00am		0.16	0.14	0.94	
May 13; 10:00am	1.8	0.16	0.17		no Int pond outflow
May 14; 2:00pm	1.6	0.22	0.21		pump X-V to Int pond
May 15; 10:30am		0.19	0.11		
May 16; 10:30am		0.13	0.14		
May 17; 9:00am	0.39	0.15	0.07		
May 18; noon	0.22	0.23	0.06		
May 19; 10:00am			0.04		
May 20; 10:00am	0.20			0.11 (1m) 0.21 (2m) 0.17 (3m) 1.04 (4m)	X-V pond samples near outflow



Eric Denholm, Environmental Engineer

distribution: Tony Polyck, Water Resources, Whitehorse
Doug Sedgwick, Deloitte & Touche, Mississauga
Greg Stevens, Deloitte & Touche, Calgary
Ken Pearl, Deloitte & Touche, Toronto
Dana Haggart, Deloitte & Touche, Faro

DELOITTE & TOUCHE INC.

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SUMMARY REPORT

RE. FARO WATER QUALITY ISSUES EXPERIENCED DURING SPRING 1999

Prepared July 8, 1999

This report summarizes in bullet form facts, current considerations and longer term considerations regarding the water quality issues experienced at the Faro minesite during spring 1999.

The facts of the spring 1999 experience are summarized as follows:

- Faro pit pumping started on April 26
 - overflow from the Intermediate Pond and lime treatment in the Intermediate Dam spillway started on May 1
 - overflow (discharge) from the Cross Valley Pond started on May 4 with an initial in-house zinc analysis of 1.5 mg/L
 - pumping from the Faro pit was suspended on May 4 except for minimal water supplied for lime mixing
 - the Cross Valley Dam spillway was temporarily blocked on May 5
 - the Intermediate Dam spillway was temporarily blocked on May 12
 - water level in the Cross Valley Pond reached a maximum on May 12 at 0.38 metres above the initial overflow water elevation
 - water was pumped from the Cross Valley Pond near the spillways to the Intermediate Pond from May 14 to May 26
 - sporadic discharge via pump or syphon from the Cross Valley Pond occurred from May 21 to June 9
 - intermittent "shock" treatment of Cross Valley Pond by spraying lime slurry onto pond water was performed from May 31 to June 11
 - ice cover melted off the Cross Valley Pond on June 6-7 and the pond "turned over"
 - depth sampling of Cross Valley Pond on June 7 indicated weak thermal stratification and zinc well mixed throughout at around 0.6 to 0.7 mg/L
 - water was pumped from the Cross Valley Pond at the south abutment of the Intermediate Dam to the Intermediate Pond from June 9 to June 27 while lime treatment in the Intermediate Dam spillway continued
 - depth sampling on Cross Valley pond on June 17 indicated strengthened thermal stratification with thermocline ~6 metres depth and zinc <0.5mg/L to ~3 metres depth
 - continuous discharge from the Cross Valley Pond via syphon commenced on June 21
 - depth sampling of Cross Valley Pond on June 24 indicated thermocline at ~6 metres depth with zinc <0.5mg/L to ~5 metres depth
 - the temporary dyke in the Cross Valley Dam spillway was partially breached on June 25
 - the water level in the Intermediate Pond reached a maximum on June 23 of 0.46 metres above the initial overflow water elevation
-

- the temporary dyke in the Intermediate Dam spillway was partially breached on June 30
- the water level in the Cross Valley Pond fell to below the spillway invert on June 30
- continuous pumping from the Faro pit resumed on July 7 at approximately 50% of full capacity with lime treatment at the mill

The current status of the Faro site is as follows:

- discharge from the Cross Valley Pond via syphon pipes is underway and has contained less than 0.5 mg/L zinc since June 21
- the water level in the Cross Valley Pond is currently approximately 0.6 metres below the spillway invert and falling
- the water level in the Intermediate Pond is currently approximately 0.1 metres above the spillway invert (i.e. normal overflow condition) and stable

The actions planned for the short term are as follows:

- the Faro pit recycle pump being utilized for discharge will be restored to maximum capacity as soon as possible
- pumping and treating water from the Faro pit will continue to the end of August at which time pumping may continue into September based on an updated interpretation of the water level in the Faro pit
- lime treatment in the Intermediate Dam spillway will continue until overflow from the Intermediate Pond contains <0.5mg/L zinc (estimate 2-3 weeks)
- additional syphon capacity will be installed at the Intermediate Dam (2 X 12" syphon pipes are being considered) in order to allow drawdown of the water level to create storage for spring 2000 freshet

The considerations for the longer term are as follows:

- lime should not be stored in the silo over winter as negative changes to the physical properties of the lime will occur
- depth sampling of the Cross Valley Pond including samples from various locations at various depths should be performed late in the winter or early in the spring to establish a detailed snapshot of the pond water chemistry
- consideration should be given to delaying the start of pumping from the Faro pit until the ice covers have melted from the Intermediate and Cross Valley Ponds and the ponds have "turned over"; this will relate to the spring water elevations in the Faro pit, the Intermediate Pond and the Cross Valley Pond
- the water level in the Intermediate Pond should be drawn down by a reasonable amount by fall in order to create storage for the following spring freshet and, thereby, minimize the demand for an early start up of pumping from the Faro pit
- the water level in the Cross Valley Pond should be drawn down by a reasonable amount by fall in order to allow control over discharge of the initial runoff during the following year



Eric Denholm, Environmental Engineer, Faro

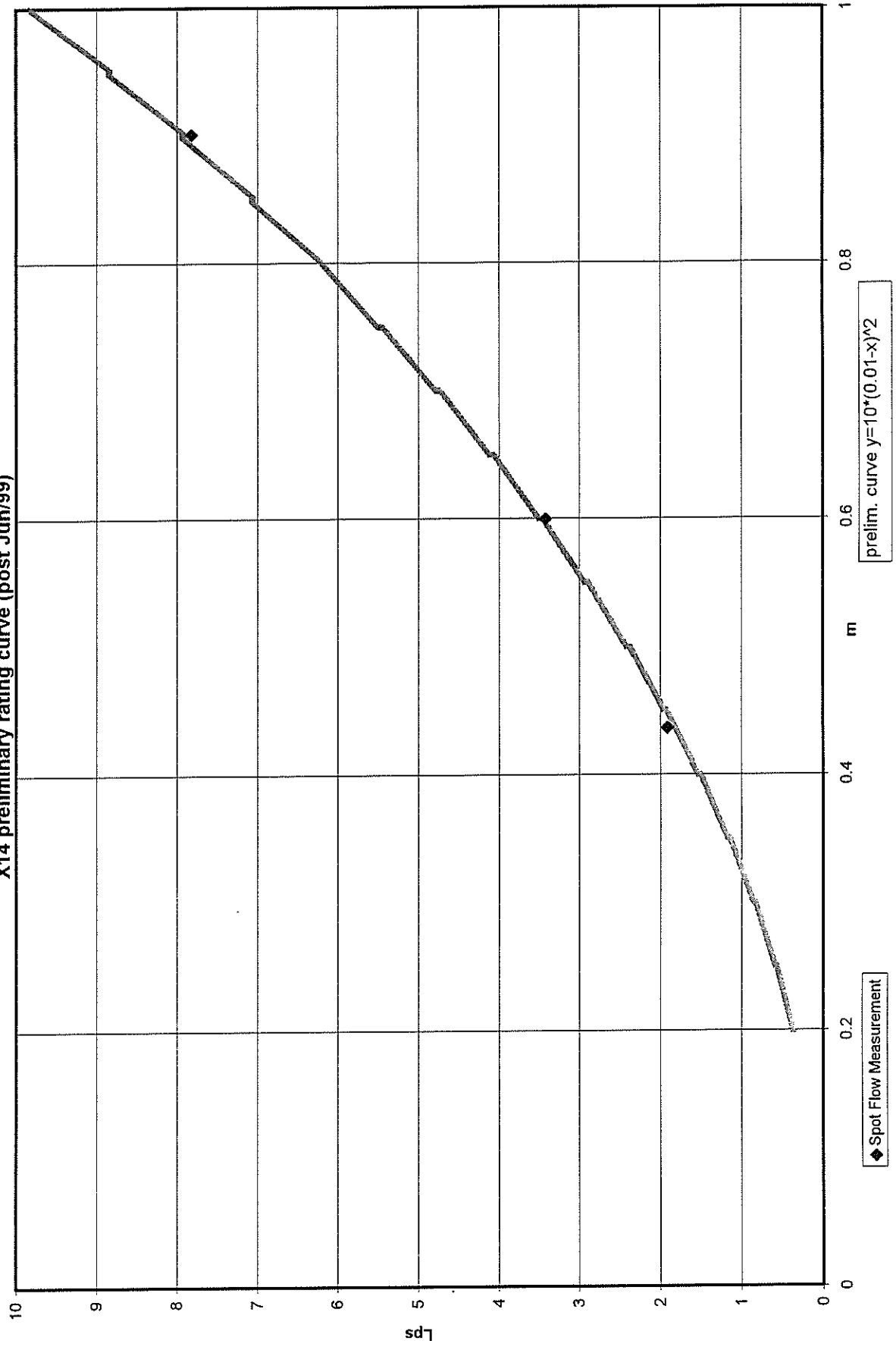
APPENDIX 4
DETAILED FLOW INFORMATION

1999 ZONE II PUMP HOURS LISTING

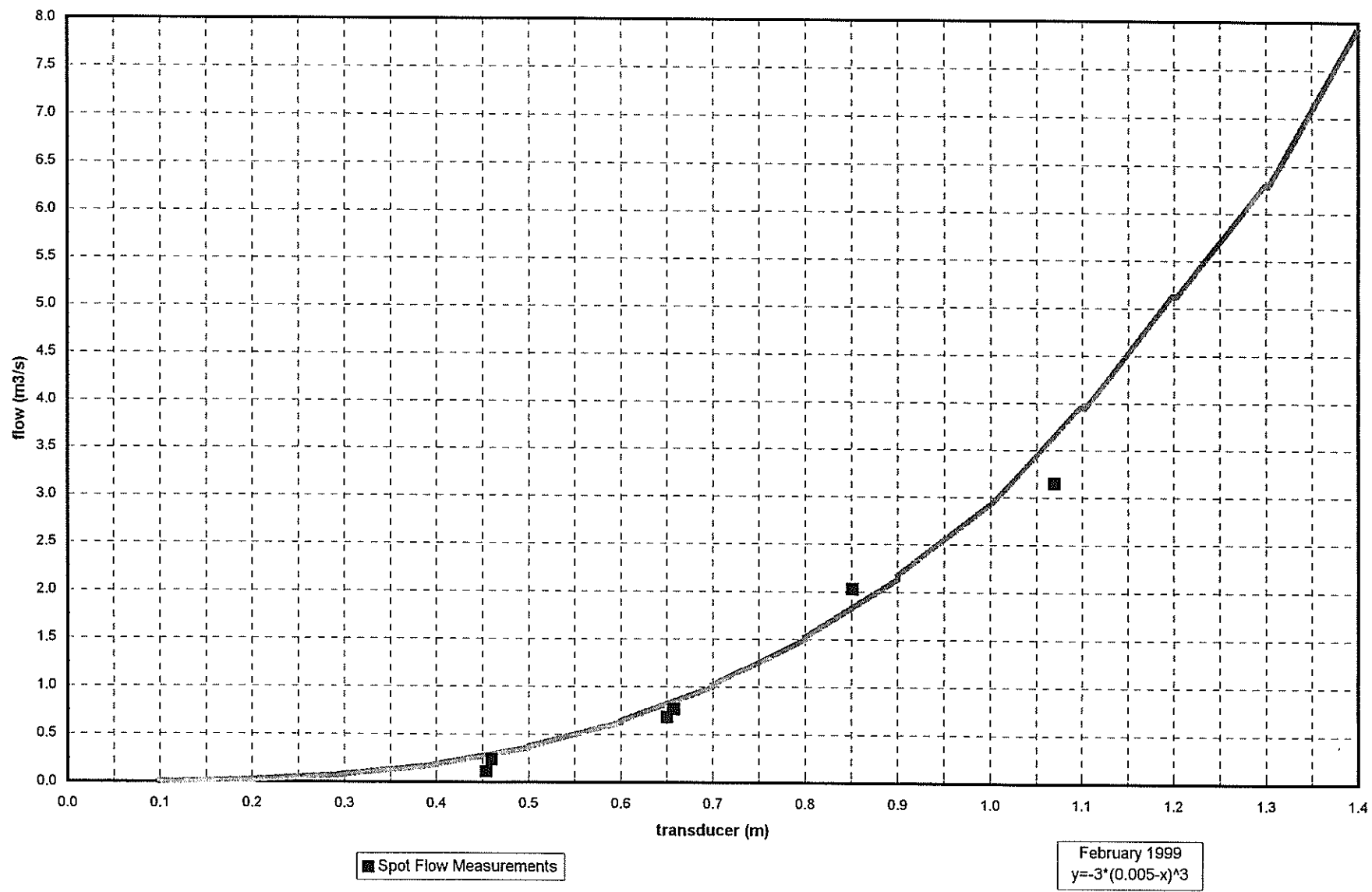
<u>DATE</u>	<u>hrs @ start</u>	<u>hrs pumped</u>	<u>cum hrs pumped</u>	<u>cum vol pumped(m3)*</u>
26/04/99	2034.1	2.7	2.7	233
27/04/1999-28/04/99	2036.8	29.7	32.4	2799
17/05/99	2066.5	0.2	32.6	2817
19/05/1999-7/6/99	2066.7	457.8	490.4	42371
09/07/1999-19/7/99	2524.5	239.8	730.2	63089
27/07/99	2764.3	0.2	730.4	63107
31/08/1999-5/9/99	2764.5	119.8	850.2	73457
05/09/99	2884.3	0.0	850.2	73457

* assumed average pumping rate = 0.024 m3/sec (375USgpm)

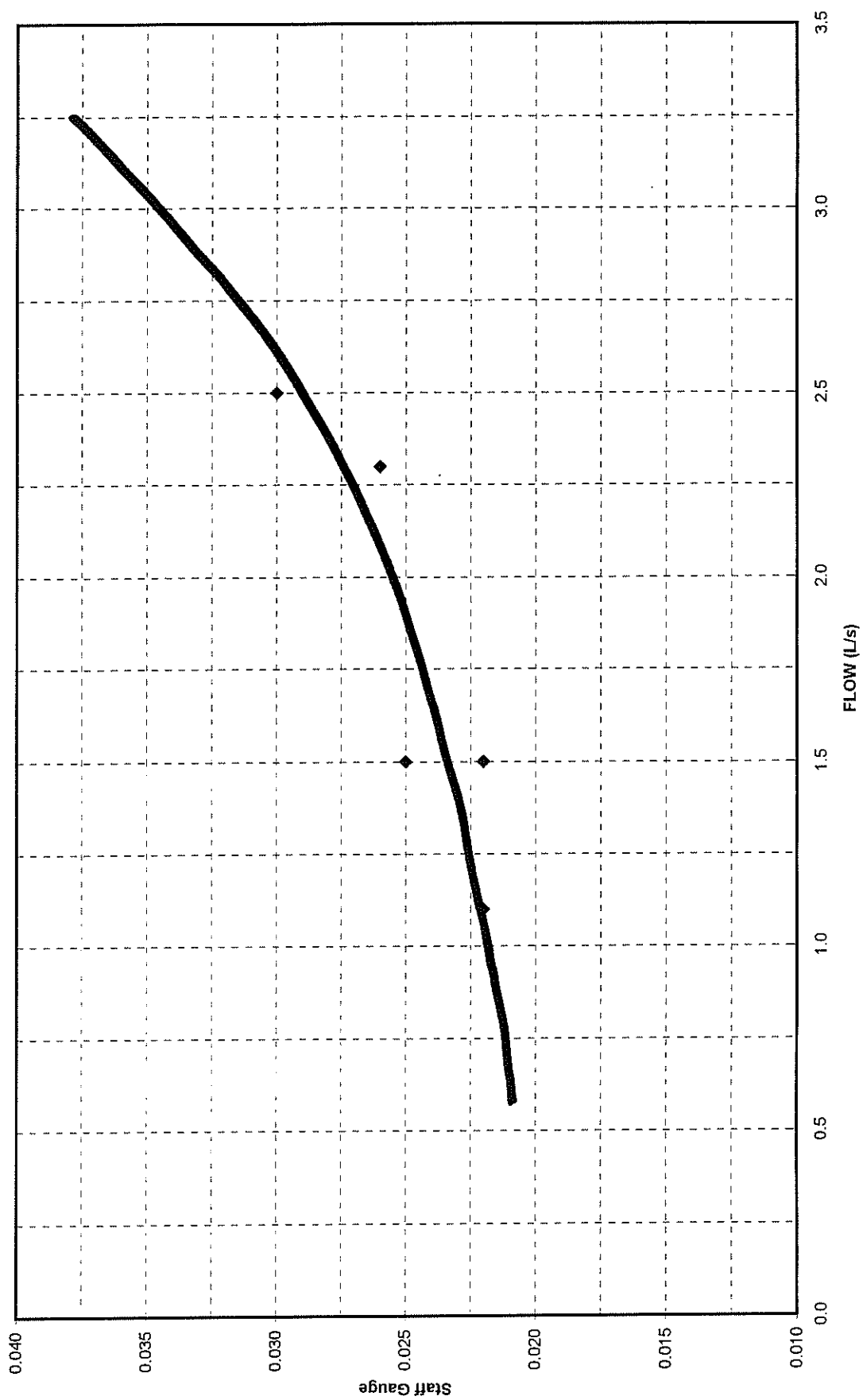
X14 preliminary rating curve (post Jun/99)



R7 Preliminary Stage Discharge Curve



STAGE-DISCHARGE CURVE X23
updated Dec/97



APPENDIX 5
1999 BIOASSAY RESULTS

CAVENDISH LABORATORY LTD.

1650 Pandora Street, Vancouver, B.C. V5L 1L6

Ph: 604-251-4456 Fax: 604-258-9497

email: cavendsh@portal.ca

To: Anvil Range Mining

Postal Bag 1000

Faro, Yukon Canada Y0B-1K0

Attention: ERIC Ext-325

Project: MAR.22,99

Sample

Date Received: 22/03/99

Date Out: 09/04/99

Certificate of Analysis:

990322B

Sample Type: Total Water

BIOASSAY

SAMPLE NAME	X13
SAMPLE DATE	22 March 1999
DATE RECEIVED	23 March 1999
ANALYSIS	96 HOUR Rainbow trout TOXICITY
96 HOUR RESULTS	100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%(v/v sample)

CAVENDISH LABORATORY LTD.
1650 Pandora Street, Vancouver, B.C. V5L 1L6
Ph: 604-251-4456 Fax: 604-258-9497
email: cavendish@portal.ca

To: Anvil Range Mining
Postal Bag 1000
Faro, Yukon Canada Y0B-1K0
Attention: ERIC Ext-325
Project: MAY.27,99

Sample 1
Date Received: 31/05/99
Date Out: 09/06/99

Certificate of Analysis: 990531A

Sample Type: Total Water

BIOASSAY

SAMPLE NAME	X5
SAMPLE DATE	27 May 1999
DATE RECEIVED	31 May 1999
ANALYSIS	96 HOUR Rainbow trout TOXICITY
96 HOUR RESULTS	100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%

CAVENDISH LABORATORY LTD.

1650 Pandora Street, Vancouver, B.C. V5L 1L6

Ph: 604-251-4456 Fax: 604-258-9497

email: cavendsh@portal.ca

To: Anvil Range Mining

Postal Bag 1000

Faro Yukon Canada

Attention: ERIC Ext-325

Project: 04-Jul-99

Sample 4

Date Received: 06/07/99

Date Out: 13/07/99

Certificate of Analysis:

990706D

Sample Type: Water As Is

BIOASSAY

SAMPLE NAME	X5
SAMPLE DATE	4 July 1999
DATE RECEIVED	6 July 1999
ANALYSIS	96 HOUR Rainbow trout TOXICITY
96 HOUR RESULTS	100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%

SAMPLE NAME	X13
SAMPLE DATE	4 July 1999
DATE RECEIVED	6 July 1999
ANALYSIS	96 HOUR Rainbow trout TOXICITY
96 HOUR RESULTS	100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%

Rec'd July 17/99

P.01/01

CAVENDISH LABORATORY LTD.

650 Pandosy Street, Vancouver, B.C. V5L 1L6

tel: 604-251-4456 Fax: 604-258-9497

mail: cavendsh@portal.ca

To: Anvil Range Mining

Postal Bag 1000

Faro Yukon Canada

Sample: 1

Date Received: 9/13/99

Date Out:

Attention: ERIC Ext-325

Project: SEPT.10,99

Certificate of Analysis:

990913A

Sample Type: Water As Is

BIOASSAY

SAMPLE NAME X5
 SAMPLE DATE 10 September 1999
 DATE RECEIVED 13 September 1999
 ANALYSIS 96 HOUR Rainbow trout TOXICITY
 96 HOUR RESULTS 100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%

SAMPLE NAME X13
 SAMPLE DATE 10 September 1999
 DATE RECEIVED 13 September 1999
 ANALYSIS 96 HOUR Rainbow trout TOXICITY
 96 HOUR RESULTS 100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%

251 4456

ANALYTICAL LAB

WED, SEP-22-99 4:51PM

CAVENDISH LABORATORY LTD.
1650 Pandora Street, Vancouver, B.C. V5L 1L6
Ph: 604-251-4456 Fax: 604-258-9497
email: cavendsh@portal.ca

To: Anvil Range Mining
Postal Bag 1000
Faro Yukon Canada

Samples:
Date Received: 16/12/99
Date Out:

Attention: Eric Denholm
Project: Dec 14/99

Certificate of Analysis: 991216B

Sample Type: Water As Is

BIOASSAY

SAMPLE NAME	X13
SAMPLE DATE	14 Dec 1999
DATE RECEIVED	16 Dec 1999
ANALYSIS	96 HOUR Rainbow trout TOXICITY
96 HOUR RESULTS	100% trout alive in all concentrations. The 96 hour LC50 was greater than 100%

Rec'd Dec 28/99

APPENDIX 6

Golder Associates Ltd., Field Inspection Memo, September, 1999
Golder Associates Ltd., Review of Spillways Surveys, April, 1999

PROJECT MEMORANDUM
Golder Associates Ltd.

DATE: September 22, 1999

TO: Eric Denholm, Anvil Range Mining Corp. (In Receivership) 867/994-3276
C: Doug Sedgwick, Deloitte & Touche Inc. 905/803-5101

992-2416.5100

FROM: Jim Cassie, Golder Associates Ltd.

RE: **FARO MINE - ANNUAL GEOTECHNICAL INSPECTION; SEPTEMBER, 1999**

1. INTRODUCTION

A geotechnical inspection was carried out from September 15 (Wed.) to 17 (Fri.), 1999 and included the following major components:

- Fresh Water Supply Dam;
- Down Valley Tailings Project;
- North Fork - Rose Creek Rock Drain;
- Certain Waste Rock Dumps (Overlooking North Fork Rose Creek).

The purpose of this memo is to highlight concerns requiring immediate attention, which were observed during this site inspection trip. Nothing of a critical nature was noted and the following comments relate to routine maintenance requirements.

2. CERTAIN WASTE ROCK DUMPS

- Inspected the toe and crest areas for the waste dumps on the west side of North Fork - Rose Creek. No apparent evidence of any movement.
- Some small pits have been excavated into the top of the waste dump crest, near the access road that is located at the north end of the waste dumps (overlooking the Faro Creek diversion). These pits should be backfilled to prevent localised water infiltration into the slope.

3. NORTH FORK - ROSE CREEK ROCK DRAIN

- Water appears to be flowing without trouble through the rock drain. No work required.
- Upstream pond-level monitoring and Faro Creek culvert readings should be reinstated to develop a better predictive data base for assessing performance of the rock drain. An automatic datalogger could be used to monitor the headpond levels.

4. DOWN VALLEY PROJECT

4.1 Diversion Canal

- Several small sinkholes have formed in the downstream portion of the dyke crest and hence, the crest should be graded to prevent any erosion. Numerous monitoring

instruments (such as CD-27) appear to have been damaged during the grading undertaken last Fall; careful grading should be undertaken this year to prevent any further damage from occurring.

- Serious consideration should be given to repair of the old slide area, located on the canal backslope at approximately Station 2+000.
- Repair final weir where flow is escaping around the south side of the weir.

4.2 Intermediate Dam

- The low spot on the retaining dyke crest (access road on south side of spillway) was repaired during my visit. Work appears to be good quality.
- No seepage noted at the south toe of the dam, where eight to nine distinct seepage discharge points were previously noted. It is necessary to monitor for any seepage discharge and to ensure that the seepage water does not contain any sediment (very critical if sediment is observed).
- Small amount of cracking observed on small soil groin situated between spillway and north end of the dam. Some rip rap could be placed on locally oversteepened soil on this groin.
- No major items require maintenance.

4.3 Cross Valley Dam

- No active cracking is occurring.
- It is necessary to excavate and clean out both the inlet and outlet end of the culvert located at the south side of the toe berm access road (previously recommended in 1995, 1996, 1997 and 1998 inspection reports).

4.4 North Valley Wall Interceptor Ditch

- At the absolute upstream end (upslope from a point between Truck Shop and Gatehouse), the downhill retention dyke needs to be raised and the crest widened. On a preliminary basis, use a dyke top level 2 m above channel invert and a top width of 5 m. Dumped and spread material from the nearby glacial till borrow area would be recommended (previously recommended in 1995, 1996, 1997 and 1998 inspection reports).
- Similarly, the channel dyke just beside the road where it descends to the Intermediate Dam also needs to be strengthened. Material is being taken from its backslope by road ditch maintenance procedures. Install a dyke section with ≥ 5 m top and crest level 1.5 m above invert. Place in construction-sized lifts and compact, using glacial till (previously recommended in 1995, 1996, 1997 and 1998 inspection reports).
- Water draining from the ditch outfall passes through a 80 cm diameter culvert located under the main road going to the borrow pits. This culvert may be too small to pass any flood water flows that may occur. In addition, the ditch section located downstream from the outfall culvert is undersized to pass major flood events.

5. FRESH WATER SUPPLY (FWS) DAM

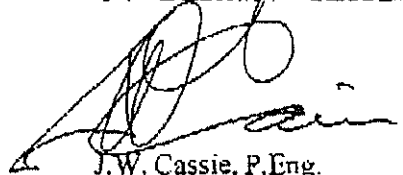
- Some of cracks on the crest may be still continuing to open. Continue to monitor paint lines across cracks on the crest.
- All vegetation should be removed from the crest, making sure to minimise any disturbance to the placed fill materials.
- The low level pipe condition is still unknown and probably represents the largest liability with the FWS dam. It is understood that divers attempted to locate the upstream end this year, but were unsuccessful. The interior condition of this pipe should be inspected by some means.

6. CONCLUSIONS

In summary, the project components are in satisfactory condition to perform their required function. Maintenance items listed above should be undertaken before wintertime.

It should also be noted that regular inspections, by appropriately trained staff, must be undertaken by site personnel, especially given the temporary closure status of the mine. As a minimum, inspections need to be undertaken on a weekly basis. This responsibility must be delegated to an appropriate person during the shutdown period.

Respectfully submitted,
GOLDER ASSOCIATES LTD.



J.W. Cassie, P.Eng.
Senior Geotechnical Engineer

FACSIMILE TRANSMISSION

10th Floor, 940 - Sixth
Avenue S.W.
Calgary, Alberta Canada
T2P 5T1



Golder Associates Ltd.
Telephone No.: 403-299-5600
T T 111 111 111

DATE: Tuesday, 27 April 1999 982-2431.5300

TO: Mr. Robert Sedgwick, Timmins, Ontario 000/001 1101

FROM: Jim Cassie (direct line 299-4635 or jcassie@golder.com)

RE: Faro Mine - Review of Spillway Survey Data

Total number of pages (including this cover page): -2-

As previously requested, Golder Associates has reviewed the survey data collected by Yukon Engineering Services. This data was collected in October, 1998 with regards to both the Cross Valley Dam and Intermediate Dam spillways, following the construction of temporary berms within each spillway last summer. After removal of the berms, the spillways were surveyed in order to assess if the design elevations had been re-established. The following provides our comments regarding the survey data.

Cross Valley Dam Spillway

- Design drawings indicates that the top of the crest to be 1065.8 m with the top of the core to be 1064.8 m. It was expected that up to 0.8 m of settlement would occur placing the crest at Elev. 1065.0 m. Based on the survey points 500 and 512 to 514, the north end crest elevation is situated at approximately 1065.84 to 65.87 m.
- Design drawings indicate that the emergency spillway entrance was to be situated at 1063.5 while the smaller decant channel was to be at 1063.2 m. The smaller decant channel was constructed to allow the passage of small amounts of water over the dam, without freezing and ice damming from occurring. The emergency spillway, in combination with the diversion channel, is designed to pass 1 in 50 year run-off events. Hence, the Full Supply Level (FSL) for the Cross Valley Dam corresponds to the entrance to the spillway at 1063.5 m.
- Points 604 to 606, at the inlet to the spillway, range from 63.46 to 63.5 m. Points 607 and 608, located some 15 m downstream of the inlet, range from 63.22 to 63.43 m. Hence, it appears that elevations within the spillway entrance are at design elevation.
- Points 571, 572 and 531 are located at the entrance to the decant channel; the respective elevations are 63.3, 63.48 and 64.47 m which are slightly higher than the design elevation of 63.2 m. Point 573, some 10 m downstream from the entrance, is at Elev. 63.27. Hence, it appears that the initial portion ($\pm$ 10 m) of the decant channel could be up to 0.3 m higher than the proposed design elevation.

Intermediate Dam Spillway

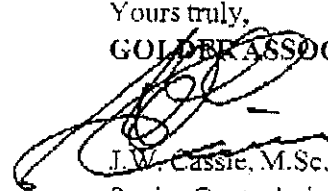
- Design drawings indicates that the top of the crest (after the 1991 raising) to be 1081.7 m. Points 304, 305, 348 and 349 are located on the crest; these vary from 1081.73 to 81.86 m, which appears to match with design elevations.
- Surveying of the various piezometers on the crest of the Intermediate Dam indicates good correlation (0 to 0.08 to 0.15 m) between current elevations and those obtained earlier.
- Design drawings indicate that the emergency spillway inlet was to be situated at 1080.0 m with the initial +/- 75 m of the spillway being flat (0.0% grade). Hence, the Full Supply Level (FSL) for the Intermediate Dam corresponds to the entrance to the spillway at 1080.0 m.
- Points 358 to 360, for the water's edge at the inlet to the spillway, are all at 1080.09 m.
- Points 477, 474, 471, 468 and 465 define the spillway centre-line for the initial 60 m from the inlet. Point 477 (80.09 m) is fine, but Points 474 to 468 are up to 0.23 m too high above the design elevation. Point 465 (80.09) is back to design elevation.
- Points 476, 475, 470, 469, 464 and 463 define the northern edge of the spillway for the initial 70 m. All of these points are 0.3 to 0.5 m higher than the design elevation of 1080.0 m.
- Points 472, 467, 466 and 461 define the southern edge of the spillway for the initial 50 m. All of these points are 0.15 to 0.23 m higher than the design elevation of 1080.0 m, until Point 461, which is back on design elevation at 79.91 m.
- Hence, it appears that an initial portion of the spillway is too high relative to the design elevation of 1080.0 m. It is possible that some of the northern edge shots were not taken directly on the bottom of the channel or that some rocks have moved along this edge.

Recommendations

- In areas where the elevation difference is more than 0.1 m, further regrading work should be done to excavate excessive material to ensure that surcharging of the dam FSL does not occur.
- Accurate surveying should be done in real time during the regrading work in order to prevent any excessive over-excavation from occurring.
- Careful consideration needs to be exercised regarding the practical considerations regarding excavation in order to ensure that damage does not occur to the channel invert (disturbance of rip rap).
- Survey data along the northern edge of the Intermediate Dam spillway may be accurate, it may be not situated directly on the spillway edge or some riprap movement may have occurred. Eric Denholm should review this issue in more detail before advancing to any on-site maintenance work.

We trust that the information provided herein is sufficient for your current evaluation. Should you have any questions or comments, please contact the undersigned.

Yours truly,
GOLDER ASSOCIATES LTD.



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Senior Geotechnical Engineer

APPENDIX 7
1999 SURFACE SEEP SURVEY RESULTS

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: A30, Upper Pit Wall Zone MPA6 Sump

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
17/05/99	3.06	2	182			>100	hi flow due to breach
JAN 1999 - DEC 1999							
Mean	3.06	2	182			100	
Std. Devia	0	0	0			0	
Minimum	3.06	2	182			100	
Maximum	3.06	2	182			100	
Num. Valu	1	1	1			1	

STATION: FAROCR, Faro Cr u/s of confluence NFRose

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
17/05/99	7.32	2	34	10			lo flow due to breach
04/07/99	7.34	10	4				
30/10/99			6				
JAN 1999 - DEC 1999							
Mean	7.33	6	15	10			
Std. Devia	0.01	6	17	0			
Minimum	7.32	2	4	10			
Maximum	7.34	10	34	10			
Num. Valu	2	2	3	1			

STATION: FCD, Faro Creek Diversion adjacent NE Waste Dumps

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
17/05/99	6.56		21	44			d/s end flume
JAN 1999 - DEC 1999							
Mean	6.56		21	44			
Std. Devia	0		0	0			
Minimum	6.56		21	44			
Maximum	6.56		21	44			
Num. Valu	1		1	1			

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: FCO, Old Faro Creek U/S Valley Dump

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
17/05/99	7.02		15			

JAN 1999 - DEC 1999

Mean	7.02		15			
Std. Devia	0		0			
Minimum	7.02		15			
Maximum	7.02		15			
Num. Valu	1		1			

STATION: FDU, Faro Creek Diversion U/S Valley Dump

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
17/05/99	7.21	1	2	13		@ breach
30/10/99	6.93	0	2			

JAN 1999 - DEC 1999

Mean	7.07	0	2	13		
Std. Devia	0.2	1	0	0		
Minimum	6.93	0	2	13		
Maximum	7.21	1	2	13		
Num. Valu	2	2	2	1		

STATION: GHSCR2, Guardhouse Creek u/s of Intermediate Dam Imp.

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
27/07/99	8.23	6	374	17	<0.05	4

JAN 1999 - DEC 1999

Mean	8.23	6	374	17	0.05	4
Std. Devia	0	0	0	0	0	0
Minimum	8.23	6	374	17	0.05	4
Maximum	8.23	6	374	17	0.05	4
Num. Valu	1	1	1	1	1	1

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: IDSEEP, Int. Dam Seep near west abutment

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
27/07/99	7.92	8	278	3	0.06	0.5

JAN 1999 - DEC 1999

Mean	7.92	8	278	3	0.06	0.5
Std. Devia	0	0	0	0	0	0
Minimum	7.92	8	278	3	0.06	0.5
Maximum	7.92	8	278	3	0.06	0.5
Num. Valu	1	1	1	1	1	1

STATION: NE1, flow to N.Fork from NE Dumps (closer to R7)

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
17/05/99	7.21		69			0.1	near R7

JAN 1999 - DEC 1999

Mean	7.21		69			0.1	
Std. Devia	0		0			0	
Minimum	7.21		69			0.1	
Maximum	7.21		69			0.1	
Num. Valu	1		1			1	

STATION: NE2, flow to N.Fork from NE Dumps (mid NE1&3)

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
17/05/99	7.27		79			0.5	w. fall
04/07/99	7.75	8	108			0.5	waterfall
30/10/99			262			0.25	

JAN 1999 - DEC 1999

Mean	7.51	8	150			0.42	
Std. Devia	0.34	0	98			0.14	
Minimum	7.27	8	79			0.25	
Maximum	7.75	8	262			0.5	
Num. Valu	2	1	3			3	

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: NE3, flow to N.Fork from NE Dumps (further from R7)

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
17/05/99	7.38	1	158			0.1	BH13 road below BH14 road
04/07/99	7.61	3	560				
JAN 1999 - DEC 1999							
Mean	7.5	2	359			0.1	
Std. Devia	0.16	1	284			0	
Minimum	7.38	1	158			0.1	
Maximum	7.61	3	560			0.1	
Num. Valu	2	2	2			1	

STATION: NF1, North Fork Rose Creek Site 1 u/s of Haul Road

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
04/07/99	7.23	6	8	7			
30/10/99	6.65	0	18				
JAN 1999 - DEC 1999							
Mean	6.94	3	13	7			
Std. Devia	0.41	4	7	0			
Minimum	6.65	0	8	7			
Maximum	7.23	6	18	7			
Num. Valu	2	2	2	1			

STATION: NF2, North Fork Rose Creek Site 2 d/s of Haul Road

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s	
03/07/99	7.64	7	8	7			
31/10/99	6.65	0	16				
JAN 1999 - DEC 1999							
Mean	7.14	4	12	7			
Std. Devia	0.7	5	6	0			
Minimum	6.65	0	8	7			
Maximum	7.64	7	16	7			
Num. Valu	2	2	2	1			

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: NWINT, NW Interceptor ditch u/s of X5

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
20/04/99	8.02	2	19	71	<.05	2
17/05/99	7.94	1				10

JAN 1999 - DEC 1999

Mean	7.98	2	19	71	0.05	6
Std. Devia	0.06	1	0	0	0	6
Minimum	7.94	1	19	71	0.05	2
Maximum	8.02	2	19	71	0.05	10
Num. Valu	2	2	1	1	1	2

STATION: SP5-6, Ditch to Main pit from NE Dumps

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
17/05/99	5.75		733			0.25

JAN 1999 - DEC 1999

Mean	5.75		733			0.25
Std. Devia	0		0			0
Minimum	5.75		733			0.25
Maximum	5.75		733			0.25
Num. Valu	1		1			1

STATION: W10, North West Waste Dump Toe

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
03/07/99	7.98	7	3	3	<0.05	5

JAN 1999 - DEC 1999

Mean	7.98	7	3	3	0.05	5
Std. Devia	0	0	0	0	0	0
Minimum	7.98	7	3	3	0.05	5
Maximum	7.98	7	3	3	0.05	5
Num. Valu	1	1	1	1	1	1

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: W8, Upper Guardhouse Creek d/s of NW Dump

Date	PH-F pH unit	TEMP-C deg C	SO4-T mg/L	TSS mg/L	NH3-N mg/L	FLOW L/s
03/07/99	7.62	7	5	1	<0.05	
JAN 1999 - DEC 1999						
Mean	7.62	7	5	1	0.05	
Std. Devia	0	0	0	0	0	
Minimum	7.62	7	5	1	0.05	
Maximum	7.62	7	5	1	0.05	
Num. Valu	1	1	1	1	1	

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: A30, Upper Pit Wall Zone MPA6 Sump

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<003	0.65	<005	<05	0.635	0.002	<04	18.8	0.064	0.039	<005	0.188	1.16	2	<005	15.3	1.21	0.037	1	0.048	2.97	0.12		<03	<03	1.3	<01	0.145	<005	0.012	<03	23.04
JAN 1999 - DEC 1999																																
Mean	0.003	0.65	0.005	0.05	0.635	0.002	0.04	18.8	0.064	0.039	0.005	0.188	1.16	2	0.005	15.3	1.21	0.037	1	0.048	2.97	0.12		0.03	0.03	1.3	0.01	0.145	0.005	0.012	0.03	23.04
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.65	0.005	0.05	0.635	0.002	0.04	18.8	0.064	0.039	0.005	0.188	1.16	2	0.005	15.3	1.21	0.037	1	0.048	2.97	0.12		0.03	0.03	1.3	0.01	0.145	0.005	0.012	0.03	23.04
Maximum	0.003	0.65	0.005	0.05	0.635	0.002	0.04	18.8	0.064	0.039	0.005	0.188	1.16	2	0.005	15.3	1.21	0.037	1	0.048	2.97	0.12		0.03	0.03	1.3	0.01	0.145	0.005	0.012	0.03	23.04
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1

STATION: FAROCR, Faro Cr w/s of confluence NFRose

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/05/99	<.003	0.26	<.005	<.05	0.128	0.002	<.04	15.7	<.001	<.005	<.005	0.032	0.79	<1	<.005	3	0.01	0.01	1	0.009	0.93	<.01		<.03	<.03	1.7	<.01	0.081	<.005	<.005	<.03	0.1	
04/07/99	<.003	0.35	<.005	0.28	0.022	<.001	<.04	6.1	0.005	<.005	<.005	0.011	0.94	<1	<.005	1.5	<.01	<.002	<1	<.005	0.06	<.01	2	0.04	<.03	6.2	<.01	0.034	<.005	0.009	<.03	0.09	
30/10/99	<.003	0.07	<.005	0.05	0.112	<.001	<.04	9.3	<.001	0.008	<.005	<.002	0.07	<1	<.005	2.4	<.01	<.002	3	<.005	<.04	<.01	2	<.03	<.005	5	<.01	0.046	<.005	<.005	<.03	<.01	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.23	0.005	0.13	0.087	0.001	0.04	10.4	0.002	0.006	0.005	0.015	0.6	1	0.005	2.3	0.01	0.005	2	0.006	0.34	0.01	2	0.03	0.022	4.3	0.01	0.054	0.005	0.006	0.03	0.07	
Std. Deviat	0	0.14	0	0.13	0.057	0.001	0	4.9	0.002	0.002	0	0.015	0.47	0	0	0.8	0	0.005	1	0.002	0.51	0	0	0.01	0.014	2.3	0	0.024	0	0.002	0	0.05	
Minimum V	0.003	0.07	0.005	0.05	0.022	0.001	0.04	6.1	0.001	0.005	0.005	0.002	0.07	1	0.005	1.5	0.01	0.002	1	0.005	0.04	0.01	2	0.03	0.005	1.7	0.01	0.034	0.005	0.005	0.03	0.01	
Maximum	0.003	0.35	0.005	0.28	0.128	0.002	0.04	15.7	0.005	0.008	0.005	0.032	0.94	1	0.005	3	0.01	0.01	3	0.009	0.93	0.01	2	0.04	0.03	6.2	0.01	0.081	0.005	0.009	0.03	0.1	
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	
	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/05/99	<.003	0.1	0.005	<.05	0.047	0.002	<.04	15.8	<.001	<.005	<.005	0.017	0.3	1	0.031	3.1	0.04	0.015	1	0.01	<.04	<.01		<.03	<.03	1.4	<.01	0.087	<.005	0.03	<.03	0.08	
04/07/99	<.003	<.05	<.005	0.28	0.005	<.001	<.04	5.9	<.001	<.005	<.005	0.004	0.35	<1	<.005	1.3	0.11	<.002	<1	<.005	<.04	<.01	1	<.03	<.03	5.8	<.01	<.002	<.005	<.005	<.03	<.01	
30/10/99	<.003	<.05	<.005	<.05	0.075	<.001	<.04	9.6	<.001	<.005	<.005	<.002	<.01	<1	<.005	2	<.01	<.002	4	<.005	<.04	<.01	2	<.03	<.005	4.8	<.01	0.047	<.005	<.005	<.03	<.01	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.07	0.005	0.13	0.042	0.001	0.04	10.4	0.001	0.005	0.005	0.008	0.22	1	0.014	2.1	0.05	0.006	2	0.007	0.04	0.01	2	0.03	0.022	4	0.01	0.045	0.005	0.013	0.03	0.03	
Std. Deviat	0	0.03	0	0.13	0.035	0.001	0	5	0	0	0	0.008	0.18	0	0.015	0.9	0.05	0.008	2	0.003	0	0	1	0	0.014	2.3	0	0.043	0	0.014	0	0.04	
Minimum V	0.003	0.05	0.005	0.05	0.005	0.001	0.04	5.9	0.001	0.005	0.005	0.002	0.01	1	0.005	1.3	0.01	0.002	1	0.005	0.04	0.01	1	0.03	0.005	1.4	0.01	0.002	0.005	0.005	0.03	0.01	
Maximum	0.003	0.1	0.005	0.28	0.075	0.002	0.04	15.8	0.001	0.005	0.005	0.017	0.35	1	0.031	3.1	0.11	0.015	4	0.01	0.04	0.01	2	0.03	0.03	5.8	0.01	0.087	0.005	0.03	0.03	0.08	
Num. Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	

STATION: FCD, Faro Creek Diversion adjacent NE Waste Dumps

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/05/99	<.003	1.95	<.005	<.05	0.139	0.002	<.04	7.6	<.001	<.005	<.005	0.05	3.56	2	<.005	2	0.07	0.048	1	0.008	3.88	0.06		<.03	<.03	3.4	<.01	0.048	0.05	0.013	<.03	0.43	
JAN 1999 - DEC 1999																																	
Mean	0.003	1.95	0.005	0.05	0.139	0.002	0.04	7.6	0.001	0.005	0.005	0.05	3.56	2	0.005	2	0.07	0.048	1	0.008	3.88	0.06		0.03	0.03	3.4	0.01	0.048	0.05	0.013	0.03	0.43	
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		
Minimum V	0.003	1.95	0.005	0.05	0.139	0.002	0.04	7.6	0.001	0.005	0.005	0.05	3.56	2	0.005	2	0.07	0.048	1	0.008	3.88	0.06		0.03	0.03	3.4	0.01	0.048	0.05	0.013	0.03	0.43	
Maximum	0.003	1.95	0.005	0.05	0.139	0.002	0.04	7.6	0.001	0.005	0.005	0.05	3.56	2	0.005	2	0.07	0.048	1	0.008	3.88	0.06		0.03	0.03	3.4	0.01	0.048	0.05	0.013	0.03	0.43	
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1		

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D	
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
17/05/99	<.003	0.65	<.005	<.05	0.039	0.002	<.04	7.3	<.001	<.005	<.005	0.025	1.14	1	0.014	1.7	0.04	0.006	<1	0.011	1	0.02		<.03	<.03	1.2	<.01	0.049	<.005	0.025	<.03	0.41	
JAN 1999 - DEC 1999																																	
Mean	0.003	0.65	0.005	0.05	0.039	0.002	0.04	7.3	0.001	0.005	0.005	0.025	1.14	1	0.014	1.7	0.04	0.006	1	0.011	1	0.02		0.03	0.03	1.2	0.01	0.049	0.005	0.025	0.03	0.41	
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		
Minimum V	0.003	0.65	0.005	0.05	0.039	0.002	0.04	7.3	0.001	0.005	0.005	0.025	1.14	1	0.014	1.7	0.04	0.006	1	0.011	1	0.02		0.03	0.03	1.2	0.01	0.049	0.005	0.025	0.03	0.41	
Maximum	0.003	0.65	0.005	0.05	0.039	0.002	0.04	7.3	0.001	0.005	0.005	0.025	1.14	1	0.014	1.7	0.04	0.006	1	0.011	1	0.02		0.03	0.03	1.2	0.01	0.049	0.005	0.025	0.03	0.41	
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1		

STATION: FCO, Old Faro Creek U/S Valley Dump

STATION: FDU, Faro Creek Diversion U/S Valley Dump

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
17/05/99	<.003	<.05	<.005	<.05	0.027	0.002	<.04	4.4	<.001	<.005	<.005	<.002	<.01	1	0.019	0.9	0.03	0.009	<1	<.005	1.12	<.01	<1	<.03	<.03	1	<.01	0.033	<.005	0.03	<.03	0.06
30/10/99	<.003	<.05	<.005	<.05	0.051	0.001	<.04	4	<.001	<.005	<.005	<.002	<.01	3	<.005	0.8	<.01	<.002	4	<.005	<.04	<.01	<1	<.03	<.03	5.1	<.01	0.025	<.005	<.03	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.039	0.002	0.04	4.2	0.001	0.005	0.005	0.002	0.01	2	0.012	0.8	0.02	0.005	2	0.005	0.58	0.01	1	0.03	0.017	3	0.01	0.029	0.005	0.017	0.03	0.03
Std. Deviat	0	0	0	0	0.017	0.001	0	0.3	0	0	0	0	0	1	0.01	0.1	0.01	0.005	2	0	0.76	0	0	0	0.018	2.9	0	0.006	0	0.018	0	0.04
Minimum V	0.003	0.05	0.005	0.05	0.027	0.001	0.04	4	0.001	0.005	0.005	0.002	0.01	1	0.005	0.8	0.01	0.002	1	0.005	0.04	0.01	1	0.03	0.005	1	0.01	0.025	0.005	0.005	0.03	0.01
Maximum V	0.003	0.05	0.005	0.05	0.051	0.002	0.04	4.4	0.001	0.005	0.005	0.002	0.01	3	0.019	0.9	0.03	0.009	4	0.005	1.12	0.01	1	0.03	0.03	5.1	0.01	0.033	0.005	0.03	0.03	0.06
Num. Vals	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2

STATION: GHSCR2, Guardhouse Creek w/s of Int. Impoundment

[illegible]

STATION. IDSEEP, Int. Dam Seep near west abutment

STATION: NE1, flow to N.Fork from NE Dumps (closer to R7)STATION: NE2, flow to N Fork from NE Dumps (mid NE1&3)

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
17/05/99	<0.03	<0.05	<0.005	<0.05	0.04	0.002	<0.4	32.4	<0.01	<0.005	<0.005	<0.002	<0.01	2	<0.005	10.3	0.07	0.019	2	0.007	0.52	<0.1		<0.03	<0.03	2.3	<0.1	0.168	<0.005	0.005	<0.03	0.01
04/07/99	<0.03	<0.05	<0.005	0.2	0.034	<0.01	<0.4	51.6	<0.01	<0.005	<0.005	0.008	0.01	2	<0.005	16.7	0.5	0.003	3	<0.005	<0.4	<0.01	36	<0.03	<0.03	4.1	<0.1	0.238	<0.005	<0.005	<0.03	0.01
30/10/99	<0.03	<0.05	<0.005	<0.05	0.067	<0.01	<0.4	90.6	<0.01	<0.005	<0.005	<0.002	<0.01	3	<0.005	28	<0.1	<0.002	7	<0.005	<0.4	<0.01	87	<0.03	<0.005	3.1	<0.1	0.457	<0.005	<0.005	<0.03	<0.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.1	0.047	0.001	0.04	58.2	0.001	0.005	0.005	0.004	0.11	2	0.005	18.3	0.19	0.008	4	0.006	0.2	0.01	62	0.03	0.022	3.2	0.01	0.288	0.005	0.005	0.03	0.01
Std. Deviat	0	0	0	0.09	0.018	0.001	0	29.7	0	0	0	0.003	0.17	1	0	9	0.27	0.01	3	0.001	0.28	0	36	0	0.014	0.9	0	0.151	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.034	0.001	0.04	32.4	0.001	0.005	0.005	0.002	0.01	2	0.005	10.3	0.01	0.002	2	0.005	0.04	0.01	36	0.03	0.005	2.3	0.01	0.168	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.2	0.067	0.002	0.04	90.6	0.001	0.005	0.005	0.008	0.01	3	0.005	28	0.5	0.019	7	0.007	0.52	0.01	87	0.03	0.03	4.1	0.01	0.457	0.005	0.005	0.03	0.01
Num Valu	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	

STATION: NE3. flow to N Fork from NE Dumps (further from R7)

STATION: NE1, North Fork Rose Creek Site 1 1/4 of Hwy Road[illegible]

STATION: NF2, North Fork Rose Creek Site 2 d/s of Haul Road

[illegible]

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: NWINT, NW Interceptor ditch u/s of X5

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	S-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
20/04/99	<.003	3.15	<.005	0.18	0.08	<.001	<.04	16.7	<.001	<.005	<.005	0.019	5.43	3	<.005	5.1	0.08	0.016	2	<.005	1	<.01	5	<.03	<.03	5.1	<.01	0.078	0.111	<.005	<.03	0.04
JAN 1999 - DEC 1999																																
Mean	0.003	3.15	0.005	0.18	0.08	0.001	0.04	16.7	0.001	0.005	0.005	0.019	5.43	3	0.005	5.1	0.08	0.016	2	0.005	1	0.01	5	0.03	0.03	5.1	0.01	0.078	0.111	0.005	0.03	0.04
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	3.15	0.005	0.18	0.08	0.001	0.04	16.7	0.001	0.005	0.005	0.019	5.43	3	0.005	5.1	0.08	0.016	2	0.005	1	0.01	5	0.03	0.03	5.1	0.01	0.078	0.111	0.005	0.03	0.04
Maximum	0.003	3.15	0.005	0.18	0.08	0.001	0.04	16.7	0.001	0.005	0.005	0.019	5.43	3	0.005	5.1	0.08	0.016	2	0.005	1	0.01	5	0.03	0.03	5.1	0.01	0.078	0.111	0.005	0.03	0.04
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
20/04/99	<.003	0.44	<.005	0.06	0.017	<.001	<.04	17.2	0.002	<.005	<.005	<.002	0.58	3	<.005	4.2	0.23	<.002	1	<.005	0.68	<.01	6	<.03	<.03	1.1	<.01	0.073	0.028	<.005	<.03	0.02
JAN 1999 - DEC 1999																																
Mean	0.003	0.44	0.005	0.06	0.017	0.001	0.04	17.2	0.002	0.005	0.005	0.002	0.58	3	0.005	4.2	0.23	0.002	1	0.005	0.68	0.01	6	0.03	0.03	1.1	0.01	0.073	0.028	0.005	0.03	0.02
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.44	0.005	0.06	0.017	0.001	0.04	17.2	0.002	0.005	0.005	0.002	0.58	3	0.005	4.2	0.23	0.002	1	0.005	0.68	0.01	6	0.03	0.03	1.1	0.01	0.073	0.028	0.005	0.03	0.02
Maximum	0.003	0.44	0.005	0.06	0.017	0.001	0.04	17.2	0.002	0.005	0.005	0.002	0.58	3	0.005	4.2	0.23	0.002	1	0.005	0.68	0.01	6	0.03	0.03	1.1	0.01	0.073	0.028	0.005	0.03	0.02
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: SP5-6, Ditch to Main pit from NE Dumps

Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
17/05/99	<.003	<.05	<.005	<.05	0.217	0.003	<.04	135.2	0.067	0.058	<.005	0.032	<.01	4	<.005	68	4.04	0.021	4	0.125	1.59	0.06		<.03	<.03	1.1	<.01	0.586	<.005	<.005	<.03	27.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.05	0.217	0.003	0.04	135.2	0.067	0.058	0.005	0.032	0.01	4	0.005	68	4.04	0.021	4	0.125	1.59	0.06		0.03	0.03	1.1	0.01	0.586	0.005	0.005	0.03	27.01
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.05	0.217	0.003	0.04	135.2	0.067	0.058	0.005	0.032	0.01	4	0.005	68	4.04	0.021	4	0.125	1.59	0.06		0.03	0.03	1.1	0.01	0.586	0.005	0.005	0.03	27.01
Maximum	0.003	0.05	0.005	0.05	0.217	0.003	0.04	135.2	0.067	0.058	0.005	0.032	0.01	4	0.005	68	4.04	0.021	4	0.125	1.59	0.06		0.03	0.03	1.1	0.01	0.586	0.005	0.005	0.03	27.01
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

STATION: W10, North West Waste Dump Toe

	AG-T	AL-T	AS-T	B-T	BA-T	BE-T	BI-T	CA-T	CD-T	CO-T	CR-T	CU-T	FE-T	K-T	LA-T	MG-T	MN-T	MO-T	NA-T	NI-T	P-T	PB-T	S-T	SB-T	SE-T	SI-T	SN-T	SR-T	TI-T	V-T	W-T	ZN-T																													
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L																													
03/07/99	<.003	0.31	<.005	0.34	0.018	<.001	<.04	11.7	0.003	<.005	<.005	0.008	0.86	<1	<.005	1.6	0.01	<.002	1	<.005	0.1	<.01	1	<.03	<.03	8.2	<.01	0.039	<.005	0.008	<.03	0.03																													
JAN 1999 - DEC 1999																																																													
Mean	0.003	0.31	0.005	0.34	0.018	0.001	0.04	11.7	0.003	0.005	0.005	0.008	0.86	1	0.005	1.6	0.01	0.002	1	0.005	0.1	0.01	1	0.03	0.03	8.2	0.01	0.039	0.005	0.008	0.03	0.03																													
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																													
Minimum V	0.003	0.31	0.005	0.34	0.018	0.001	0.04	11.7	0.003	0.005	0.005	0.008	0.86	1	0.005	1.6	0.01	0.002	1	0.005	0.1	0.01	1	0.03	0.03	8.2	0.01	0.039	0.005	0.008	0.03	0.03																													
Maximum	0.003	0.31	0.005	0.34	0.018	0.001	0.04	11.7	0.003	0.005	0.005	0.008	0.86	1	0.005	1.6	0.01	0.002	1	0.005	0.1	0.01	1	0.03	0.03	8.2	0.01	0.039	0.005	0.008	0.03	0.03																													
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																													

	AG-D	AL-D	AS-D	B-D	BA-D	BE-D	BI-D	CA-D	CD-D	CO-D	CR-D	CU-D	FE-D	K-D	LA-D	MG-D	MN-D	MO-D	NA-D	NI-D	P-D	PB-D	S-D	SB-D	SE-D	SI-D	SN-D	SR-D	TI-D	V-D	W-D	ZN-D
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
03/07/99	<.003	<.05	<.005	0.2	<.002	<.001	<.04	9	<.001	<.005	<.005	<.002	0.26	<1	<.005	1.7	0.27	<.002	<1	<.005	<.04	<.01	<1	<.03	<.03	6.1	<.01	<.002	<.005	<.005	<.03	<.01
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.2	0.002	0.001	0.04	9	0.001	0.005	0.005	0.002	0.26	1	0.005	1.7	0.27	0.002	1	0.005	0.04	0.01	1	0.03	0.03	6.1	0.01	0.002	0.005	0.005	0.03	0.01
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.2	0.002	0.001	0.04	9	0.001	0.005	0.005	0.002	0.26	1	0.005	1.7	0.27	0.002	1	0.005	0.04	0.01	1	0.03	0.03	6.1	0.01	0.002	0.005	0.005	0.03	0.01
Maximum	0.003	0.05	0.005	0.2	0.002	0.001	0.04	9	0.001	0.005	0.005	0.002	0.26	1	0.005	1.7	0.27	0.002	1	0.005	0.04	0.01	1	0.03	0.03	6.1	0.01	0.002	0.005	0.005	0.03	0.01
Num Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1999 SURFACE SEEP WATER CHEMISTRY LISTING FOR THE FARO SITE

STATION: W8, Upper Guardhouse Creek d/s of NW Dump

Date	AG-T mg/L	AL-T mg/L	AS-T mg/L	B-T mg/L	BA-T mg/L	BE-T mg/L	BI-T mg/L	CA-T mg/L	CD-T mg/L	CO-T mg/L	CR-T mg/L	CU-T mg/L	FE-T mg/L	K-T mg/L	LA-T mg/L	MG-T mg/L	MN-T mg/L	MO-T mg/L	NA-T mg/L	NI-T mg/L	P-T mg/L	PB-T mg/L	S-T mg/L	SB-T mg/L	SE-T mg/L	SI-T mg/L	SN-T mg/L	SR-T mg/L	TI-T mg/L	V-T mg/L	W-T mg/L	ZN-T mg/L
03/07/99	<.003	0.22	<.005	0.24	0.035	<.001	<.04	14.5	<.001	<.005	<.005	0.013	0.88	<1	<.005	2.4	0.03	<.002	<1	<.005	<.04	<.01	2	<.03	<.03	7.5	<.01	0.057	<.005	0.015	<.03	0.07
JAN 1999 - DEC 1999																																
Mean	0.003	0.22	0.005	0.24	0.035	0.001	0.04	14.5	0.001	0.005	0.005	0.013	0.88	1	0.005	2.4	0.03	0.002	1	0.005	0.04	0.01	2	0.03	0.03	7.5	0.01	0.057	0.005	0.015	0.03	0.07
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.22	0.005	0.24	0.035	0.001	0.04	14.5	0.001	0.005	0.005	0.013	0.88	1	0.005	2.4	0.03	0.002	1	0.005	0.04	0.01	2	0.03	0.03	7.5	0.01	0.057	0.005	0.015	0.03	0.07
Maximum	0.003	0.22	0.005	0.24	0.035	0.001	0.04	14.5	0.001	0.005	0.005	0.013	0.88	1	0.005	2.4	0.03	0.002	1	0.005	0.04	0.01	2	0.03	0.03	7.5	0.01	0.057	0.005	0.015	0.03	0.07
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Date	AG-D mg/L	AL-D mg/L	AS-D mg/L	B-D mg/L	BA-D mg/L	BE-D mg/L	BI-D mg/L	CA-D mg/L	CD-D mg/L	CO-D mg/L	CR-D mg/L	CU-D mg/L	FE-D mg/L	K-D mg/L	LA-D mg/L	MG-D mg/L	MN-D mg/L	MO-D mg/L	NA-D mg/L	NI-D mg/L	P-D mg/L	PB-D mg/L	S-D mg/L	SB-D mg/L	SE-D mg/L	SI-D mg/L	SN-D mg/L	SR-D mg/L	TI-D mg/L	V-D mg/L	W-D mg/L	ZN-D mg/L
03/07/99	<.003	<.05	<.005	0.28	<.002	<.001	<.04	8.9	<.001	<.005	<.005	0.003	0.26	<1	0.013	1.6	0.24	<.002	<1	<.005	<.04	<.01	2	<.03	<.03	6.4	<.01	<.002	<.005	0.005	<.03	0.11
JAN 1999 - DEC 1999																																
Mean	0.003	0.05	0.005	0.28	0.002	0.001	0.04	8.9	0.001	0.005	0.005	0.003	0.26	1	0.013	1.6	0.24	0.002	1	0.005	0.04	0.01	2	0.03	0.03	6.4	0.01	0.002	0.005	0.005	0.03	0.11
Std. Deviat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum V	0.003	0.05	0.005	0.28	0.002	0.001	0.04	8.9	0.001	0.005	0.005	0.003	0.26	1	0.013	1.6	0.24	0.002	1	0.005	0.04	0.01	2	0.03	0.03	6.4	0.01	0.002	0.005	0.005	0.03	0.11
Maximum	0.003	0.05	0.005	0.28	0.002	0.001	0.04	8.9	0.001	0.005	0.005	0.003	0.26	1	0.013	1.6	0.24	0.002	1	0.005	0.04	0.01	2	0.03	0.03	6.4	0.01	0.002	0.005	0.005	0.03	0.11
Num. Valu	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

