



2004 Waste Rock and Seepage Monitoring Report

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Deloitte & Touche Inc.

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Table of Contents

1	Introduction	1
2	Methods	1
2.1	Seepage Surveys.....	1
2.2	Historical Seepage Monitoring	2
2.3	Temperature and Oxygen Monitoring of Waste Rock	3
3	Results	4
3.1	Seepage Surveys.....	4
3.2	Historical Seepage Monitoring	4
3.3	Temperature and Oxygen Monitoring of Waste Rock	4
4	Discussion.....	5
4.1	2002 to 2004 Seepage Surveys.....	5
4.1.1	Faro Waste Rock Dumps	5
4.1.2	Grum Waste Rock Dumps.....	9
4.1.3	Vangorda Waste Rock Dumps	11
4.2	Historical Seepage Monitoring	12
4.2.1	Faro Site	12
4.2.2	Grum Site	15
4.2.3	Vangorda Site.....	16
5	Conclusions	18
6	References.....	20

List of Tables

Table 1: Characteristics of Faro Water Types.....	6
Table 2: Seepage Stations Classified Water Type.....	7
Table 3: Characteristics of Grum Water Types	10
Table 4: Characteristics of the Vangorda Water Types.....	12

List of Figures

Figure 1	Seep Survey Locations- Faro Dumps
Figure 2	Seep Survey Locations- Vangorda and Grum Waste Dumps
Figure 3	Faro Seepage Station X23
Figure 4	Faro Seepage Station X26
Figure 5	Faro Seepage Stations FCO and A30
Figure 6	Faro Seepage Station SP5-6
Figure 7	Faro Seepage Stations NE1, NE2, and W5
Figure 8	Faro Seepage Stations W8 and W10
Figure 9	Grum Seepage Stations V2 and V2A
Figure 10	Grum Seepage Station V15
Figure 11	Vangorda Seepage Station V30
Figure 12	Vangorda Seepage Station V32
Figure 13	Vangorda Seepage Station V33
Figure 14	Vangorda Seepage Station V27

List of Appendices

Appendix A:	Waste Rock Seepage Results
Appendix B:	Thermal and Pore Gas Monitoring Results
	B.1 Waste Rock Oxygen Monitoring Results
	B.2 Waste Rock Temperature Monitoring Results

1 Introduction

Seep surveys were completed in May/June and September of 2002, 2003, and 2004 at the Faro, Vangorda and Grum waste rock dumps. The purpose of the surveys was to determine the water quality associated with discrete areas of seepage pathways from each of the major waste rock dumps. The seep surveys included several small seepage stations that are not sampled as part of the routine seepage monitoring programs completed by site personnel.

Routine monitoring is carried out by site environmental technicians as required under the new water licence. Several of the sites included in the routine monitoring have much longer records than the waste rock seepage survey provides. It is useful to track trends in the routine seepage data at selected stations, and therefore current and historical results for these stations are included here.

Instrumentation installed during the 2002 waste rock drilling program was monitored during each of the 2004 site visits. Collection of vertical waste rock temperature and oxygen profiles at seven locations was undertaken to update existing records

This memo provides an update of selected aspects of “1CD003.11 Geochemical Studies Of Waste Rock at the Anvil Range Mining Complex: Phase 3 Report” (SRK, 2004). Methods and results of the 2002 through 2004 seepage surveys, and an initial interpretation of the data, are included.

2 Methods

2.1 Seepage Surveys

Sample locations were established in June 2002 by walking the toes of all waste rock dumps, where the rock rests on original ground, and collecting water samples from any flowing seeps that emerged from these areas. Additional seeps were located by slowly driving along accessible roads and ramps in the Faro Pit complex that were below waste rock dumps or ore stockpiles. Most of the seeps were flowing, or had been recently flowing based on observations of moisture along flow paths, or because ponds were filled to their spill points. These stations were revisited in subsequent surveys in September 2002, June 2003, and September 2003, and were sampled where there was sufficient flow. A second comprehensive effort to identify additional seepage locations was undertaken in June 2004, at a time when hydrologic conditions were ideal for collecting samples at ephemeral seeps. In addition, seepage surveys were conducted around the toe of both Grum and Vangorda till stockpiles during September 2004. Sample locations are shown in Figures 1 and 2.

Some of the smaller seeps flow intermittently and provide sampling opportunities only after heavy rainfall. As a result, some additional sites were identified in subsequent surveys, while other sites were too dry to sample.

In September 2004, a number of samples were also collected from the north flank of Vangorda Creek valley between the Grum waste dump and Vangorda Creek as part of the response to the trigger of the Event #4 in the Anvil Range Mine Adaptive Management Plan (AMP) Implementation Protocol (GLL, 2004). Seepage in this area was first identified and sampled in 1997 by Environment Canada personnel, and consisted of groundwater seeps downgradient of the Grum waste dump. Further investigations in this area were completed by SRK in June and September, 2003, and were reported in “Geochemical Studies Of Waste Rock at the Anvil Range Mining Complex: Phase 3 Report” (SRK, 2004). The results of the recent seepage sampling in this area will be incorporated into a separate report addressing AMP Event #4.

Samples were collected for analyses of routine parameters (pH, conductivity, acidity, alkalinity, chloride and sulphate), and dissolved metals (dissolved metals by ICP-OES). The samples were filtered and preserved in the field according to standard methods for collection of environmental samples. Field pH, conductivity, redox, temperature measurements were taken at each station using a WTW meter. Flow estimates were made using the bucket and stopwatch method, by estimating the velocity and cross sectional area of the seep, or by visual estimation.

The sampling locations were marked for later reference with flagging tape and surveyed using a hand-held GPS. The locations are shown in Figures 1 and 2. Photographs were taken to document the general appearance of the station, and any precipitates along the flow paths.

Duplicates and field blanks were collected as a check on the quality of the field methods and laboratory results.

2.2 Historical Seepage Monitoring

Waste rock seep surveys have been completed both by the operator and by various regulatory authorities since approximately 1986 at the routine sample locations shown in Figures 3.1 and 3.2. The seep data were compiled in an EQWin database by Robertson GeoConsultants Inc. as part of the 1996 ICAP (RGC 1996). Deloitte and Touche have continued to collect seep samples on a regular basis as part of their water licence monitoring programs. The EQWin database is currently maintained by Gartner Lee Limited, and results are reported in the annual monitoring reports (e.g. GLL 2003).

In recent years, the routine seepage samples have been collected by the environmental technicians at the site. Field sampling protocols are consistent with the other routine surface water sampling programs (GLL 2003).

A detailed review of quality control/quality assurance protocols has not been completed as part of this review. GLL currently reviews the incoming data as it is imported into the EQWin database. From 1996 to 2000 when GLL took over management of the database, the on-site environmental coordinator was responsible for this activity. Data quality protocols for samples collected prior to 1996 were not always available, and a decision was made to include any reasonably traceable data in

the database unless there were any obvious problems. It is understood that GLL is currently performing a quality assurance review on the entire database, and that this review is expected to be completed in the near future.

2.3 Temperature and Oxygen Monitoring of Waste Rock

Waste rock temperature and oxygen monitoring has been carried out intermittently beginning in February 2003 at seven instrumented drillholes on the Faro, Grum, and Vangorda waste rock dumps (SRK, 2004). In each drillhole, a thermistor string was installed that measures temperature at discrete locations down hole. In addition, each hole has several plastic tubes installed that permit pore gas to be extracted from discrete locations. The installation of these monitoring facilities is described in detail in SRK 2004.

Pore gas oxygen content was measured using a Servomex Oxygen Analyser. This instrument was calibrated on a daily basis using ambient air (20.9% oxygen) and pure nitrogen gas (0% oxygen). The instrument was connected to each monitoring tube by means of silicone tubing, and pore gas was drawn through the instrument by means of an integrated pump. The oxygen analyser produced a direct real-time readout of oxygen content which was then manually recorded.

Temperature measurements were collected by connecting an Omega thermistor reader to a switch box at the terminal end of each installed RST Instruments thermistor string. Temperature at individual monitoring points was collected by selecting the appropriate channel on the switch box. The Omega thermistor reader measured resistance across each monitoring point and converted this measured resistance to temperature. The calculated temperature was then displayed on a digital readout, and was manually recorded.

3 Results

3.1 Seepage Surveys

The results of the 2002 through 2004 seepage surveys are provided in Appendix A. Select parameters (ranges of pH, conductivity, flow, sulphate and zinc concentrations for the period of record) are presented in Figures 1 and 2.

3.2 Historical Seepage Monitoring

Locations of the routine seepage monitoring stations are shown in Figure 1 and 2. The results to date of the historical seepage monitoring are provided in Figures 3 through 14. The time series shown in these figures provide a graphical summary of the data that allows significant trends to be easily identified.

3.3 Temperature and Oxygen Monitoring of Waste Rock

The results to date of temperature and oxygen monitoring are provided in Appendix B. Waste rock temperatures recorded in 2004 were generally within the range of those recorded in 2003. Measured 2004 pore gas oxygen concentrations were also similar to those measured in 2003; however, several of the gas extraction tubes appear to be fouled, and it was not possible to collect a reliable sample from these points. Pore gas oxygen content was not measured at 10M2 (Grum Dump) in April 2004 due to inaccessibility resulting from accumulation of drifted snow around the monitoring station.

Tubes were installed in duplicate at most of the monitoring points in 2002, and in most cases at least one tube remains functional at this time. This allows pore gas oxygen measurements at most of the intended depths to continue. The exception was the installation at 30M4 (Vangorda Dump), where no reliable pore gas oxygen measurements were possible at the 10m sampling depth. Currently it is not known whether the apparently fouled tubes can be rehabilitated; a procedure to verify that pore gas can freely flow up the sampling tubes should be implemented during the next monitoring round.

4 Discussion

4.1 2002 to 2004 Seepage Surveys

4.1.1 Faro Waste Rock Dumps

Four new seeps were identified and sampled during the Spring 2004 survey. All four of these seeps were dry in September 2004. The dry summer resulted in approximately half as many flowing seeps in September as were sampled in June.

Water Types

Seepage from the Faro Waste Rock Dumps can be divided into three distinct types on the basis of pH and zinc concentrations (Table 1):

- Type 1 seeps had pH's of greater than 6.5 (typically greater than 7), and zinc concentrations of less than 5 mg/L. Other trace metals (eg. aluminum, iron, manganese) were low or below detection limits.
- Type 2 seeps had pH's typically between 6 and 7, and variable zinc concentrations ranging from 4 to 595 mg/L. Cadmium, cobalt, iron, manganese, and nickel were also elevated in several of the samples.
- Type 3 seeps typically had pH's of less than 6, and zinc concentrations typically greater than 40 mg/L and as high as 10,900 mg/L (exceptions include SRK-FD20 samples of June 2002 and June and September 2003, with 2.2 to 13.4 mg/L Zn, the September 2002 SRK-FD21B sample, with 17 mg/L Zn, and the September 2002 SRK-FD24 sample, with 13.3 mg/L Zn.). Aluminum, cadmium, cobalt, copper, iron, manganese, and nickel concentrations were also high in several of these samples.

The summary of Faro water type characteristics in Table 1 was prepared from a modified data set. Where values were reported as less than detection, the detection limit was inserted as the analytical value for the purposes of the statistical calculations. Method detection limits are listed in Table 1; these limits were taken from the non-detect results of blank submissions. Any non-detect result that specified a detection limit more than 10X the method detection limit was excluded from the statistical calculations. This arose in cases where samples had high ionic strength. The variation in the number of samples used in the statistical summary is a reflection of this exclusion.

Table 2 lists the seepage stations by each of the three water types. The results boxes in Figure 1 also indicate these groupings by colour.

Table 1: Characteristics of Faro Water Types

Parameter	Detection Limit	Type 1					Type 2					Type 3				
		Average	Median	Min	Max	N	Average	Median	Min	Max	N	Average	Median	Min	Max	N
Field pH (s.u.)	0.01	7.16	7.15	6.47	8.14	35	6.59	6.60	5.74	7.32	52	3.73	3.28	2.24	5.96	34
Acidity pH 8.3	1	10	8	1	29	35	183	66	7.5	2160	52	5485	392	27	49500	35
Alkalinity Total as CaCO ₃	1	136	155	21.3	242	35	153	84	4	407	52	10	1	1	92	35
Chloride	0.5	1.2	1.1	0.5	2.7	35	4.2	1.7	0.5	17.5	51	41.4	0.7	0.5	1050	35
Sulphate	0.5	427	391	3.1	2470	35	2286	1825	9.15	8180	52	7002	2090	69	59000	35
Calcium	0.05	98	96	7.5	263	35	328	292	24	628	52	239	240	6.5	508	35
Magnesium	0.1	71	69	1.09	378	35	324	215	3.45	1750	52	352	211	3.8	3210	35
Potassium	2	4.7	4.0	2	24	35	8.9	8.8	2	21.4	52	7.3	7.0	2	20	29
Sodium	2	15.7	5.7	2	122	35	23	16	2	122	52	13	5.9	2	50	30
Aluminum	0.2	0.2	0.2	0.2	0.2	35	0.3	0.2	0.2	1.6	52	82	11.3	0.2	986	35
Cadmium	0.01	0.01	0.01	0.01	0.01	35	0.06	0.03	0.01	0.62	52	2.4	0.22	0.01	15.5	35
Cobalt	0.01	0.01	0.01	0.01	0.016	35	0.16	0.06	0.01	0.825	52	1.9	0.3	0.01	20	35
Copper	0.01	0.01	0.01	0.01	0.01	35	0.08	0.03	0.01	0.704	52	32	2.2	0.03	559	34
Iron	0.03	0.03	0.03	0.03	0.101	35	11	1.18	0.03	112	52	991	40	0.03	15100	35
Lead	0.05	0.05	0.05	0.05	0.15	35	0.07	0.05	0.05	0.23	52	0.60	0.30	0.05	2.3	31
Manganese	0.005	0.09	0.01	0.005	0.52	35	15	3.7	0.01	63.3	52	137	13	0.16	2360	35
Nickel	0.05	0.05	0.05	0.05	0.09	35	0.32	0.17	0.05	1.84	52	1.7	0.54	0.05	15	34
Zinc	0.005	1.5	1.3	0.01	5	35	87	33	0.163	595	52	1612	128	2.2	10900	35

Note: Units in mg/L except for acidity/ alkalinity in mg CaCO₃ eq/L

Note 2: Detection limits were used for statistical purposes when values were less than detection.

Where detection limits were elevated due to high ionic strength, non-detect results were excluded from statistical calculations.

Table 2: Seepage Stations Classified Water Type

Type 1 (pH >6.5, Zn <5 mg/L)		Type 2 (pH 6 – 7, Zn concentrations ranging from 4 to 595 mg/L)		Type 3 (pH <6, Zn typically >40mg/L)	
ID	Location	ID	Location	ID	Location
SRK-FD02	Upper Parking Lot Dump	SRK-FD1	Ore and Low Grade Ore Stockpiles	SRK-FD04	Oxide Fines Stockpile
SRK-FD05	Toe of Northeast Dump	SRK-FD8	East Main Dump	SRK-FD13	Intermediate Dump
SRK-FD06	Toe of Northeast Dump	SRK-FD9	Ore and Low Grade Ore Stockpiles; West Main Dump	SRK-FD20	Faro Creek Diversion
SRK-FD07	Toe of Northeast Dump	SRK-FD10	Ore and Low Grade Ore Stockpiles; West Main Dump	SRK-FD21 (3 of 5)	Northeast Dumps towards Pit
SRK-FD14 (3 of 4)	Ranch Zone Dump	SRK-FD12	Ore and Low Grade Ore Stockpiles; West Main Dump	SRK-FD22 (1 of 3)	Northeast Dumps towards Pit
SRK-FD16	Upper Northwest Dump	SRK-FD14 (1 of 4)	Ranch Zone Dump	SRK-FD23 (1 of 4)	Northeast Dumps towards Pit
SRK-FD17	Upper Northwest Dump	SRK-FD18 (1 of 6)	Upper Northwest Dump	SRK-FD24 (1 of 6)	Northeast Dumps towards Pit
SRK-FD18	Upper Northwest Dump	SRK-FD19	Lower Northwest Dump	SRK-FD27 (1 of 4)	Northeast Dumps towards Pit
SRK-FD26 (5 of 6)	Northeast Dumps towards Pit	SRK-FD21 (2 of 5)	Northeast Dumps towards Pit	SRK-FD32 (1 of 2)	Mill
SRK-FD44 (1 of 2)	Intermediate Dump	SRK-FD22 (2 of 3)	Northeast Dumps towards Pit	SRK-FD33	Mill
SRK-FD50	Zone II East	SRK-FD23 (3 of 4)	Northeast Dumps towards Pit	SRK-FD34	Mill
		SRK-FD24 (5 of 6)	Northeast Dumps towards Pit	SRK-FD35 (2 of 3)	Mill
		SRK-FD26 (1 of 6)	Northeast Dumps towards Pit	SRK-FD36	West Main Dump
		SRK-FD27 (3 of 4)	Northeast Dumps towards Pit	SRK-FD37	Medium Grade Stockpile
		SRK-FD30	West Main Dump	SRK-FD38 (1 of 2)	Ore and Low Grade Ore Stockpiles
		SRK-FD31	Ore and Low Grade Ore Stockpiles, West Main Dump	SRK-FD40 (3 of 5)	Faro Valley Dump
		SRK-FD32 (1 of 2)	Mill	SRK-FD46	Oxide Fines Stockpile, Mill
		SRK-FD35 (1 of 3)	Mill	SRK-FD47	Intermediate Dump
		SRK-FD38 (1 of 2)	Ore and Low Grade Ore Stockpiles		
		SRK-FD40 (2 of 5)	Faro Valley Dump		
		SRK-FD44 (1 of 2)	Intermediate Dump		
		SRK-FD48	Intermediate Dump		
		SRK-FD49	Intermediate Dump		

Note: Where water type at a sampling station was variable over time, the number of samples of each type is shown, along with the total number of samples collected at a particular station. For example, four samples have been collected at SRK-FD14, with three samples having Type 1 water quality, and one sample having Type 2 water quality.

The Type 1 seeps included samples from below the Upper Parking Lot dump (FD02), along the toe of the Northeast Dump (FD05, 06, and 07), the Zone II East Dump (FD50), the Ranch Zone Dump (FD14), and the Upper Northwest Dump (FD16, 17, and 18). According to the inventory of rock types presented in the 1996 ICAP report (RGI, 1996), these dumps generally contained relatively low proportions of sulphide waste rock, and higher proportions of calc-silicates or intrusives compared to other parts of the Faro Dump. A Type 1 sample was also collected from below the Intermediate Dump (FD44) on one occasion following a heavy rainstorm. The Intermediate Dump contains higher proportions of sulphide material. The seepage chemistry reflects some buffering by reactive carbonate minerals, which help to maintain neutral pH conditions.

The Type 2 seeps included samples from several different areas, including ore and low grade ore stockpiles (FD01, 10, 12, 31 and 38), the Main Dump West (FD10, 12, and 31), the Main Dump East (FD30), the Intermediate Dump (FD44), the Upper Northwest Dump (FD18), the Lower Northwest Dump (FD19), seeps entering the pit below the Northeast Dumps (FD21, 22, 23, 24, 26 and 27) and the Ramp Zone Dump (FD14), and seeps in the mill area (FD32 and 35). Fall samples from below the Faro Valley Dumps (FD40) also had Type 2 water quality. A common element of all these areas is the presence of sulphides or oxidized schist. Although the pH is in the pH 6 to 7 range, it is clear that this drainage is strongly influenced by oxidation of sulphide minerals. It is not clear why the pH of these samples is still close to neutral. However, many of these seeps contain high levels of calcium and magnesium, suggesting that there are still some carbonates present in the source materials. Samples from below the Low Grade Stockpile C (FD38, Zn = 595 mg/L), and from the mill area (FD32, Zn = 581 mg/L) contained the highest zinc concentrations. Samples from along the original Faro Creek channel (FD10, 12 and 31) had zinc concentrations in the range of 220 mg/L, and were likely influenced in part by ore stockpiles upstream of this location. Type 2 samples outside of the influence of the ore stockpiles and mill area had zinc concentrations typically below 30 mg/L.

The Type 3 seeps included samples from the Oxide Fines Stockpile (FD04, 46), the Low Grade Stockpile 'C' (FD38), the Medium Grade Stockpile (FD37), the mill area (FD32, 33, 34 and 35), the West Main Dump (FD36), the Intermediate Dump (FD13), the Faro Creek Diversion Dyke (FD20), the Faro Valley Dump (FD40), and, on occasion, seeps entering the pit below the Northeast Dumps (FD21, 22, 23, 24, and 27). Portions of the waste rock in all of the above areas contained sulphides or oxidized schist. The seepage quality indicates very little if any neutralizing minerals are available to control the pH and metal concentrations in these seeps. Samples from the Oxide Fines Stockpile (FD04, Zn = 1230 to 10, 900 mg/L), the Medium Grade Stockpile (FD37, Zn = 6130 - 7840 mg/L), the Low Grade Stockpile 'C' (FD38, Zn = 1690 - 3380 mg/L), and the mill area (FD33, Zn = 1110 - 2260 mg/L) had the highest zinc concentrations. However, zinc concentrations in the remaining acidic seeps ranged from 2.2 to 751 mg/L (overall median of 140 mg/L) indicating that seeps with high zinc concentrations occur in association with the sulphide waste rock cells and other sulphidic waste rock.

4.1.2 Grum Waste Rock Dumps

The 2004 Grum Dump seepage surveys were conducted by walking the external toe of the dump and looking for toe seeps, as previously described. In September 2004, the toe of the Grum Till Dump was also surveyed in an attempt to locate seepage from this facility. Although there was much evidence of surface runoff and erosion, no toe seeps were located during this exercise.

Water Types

All of Grum seeps sampled in 2002 and 2003 had neutral to slightly alkaline pH's, and would be classified as Type I seeps under the system described for Faro. However, further division is possible on the basis of sulphate and zinc concentrations.

- Type 1a seeps generally had very low sulphate (7.0 to 575 mg/L) and low zinc concentrations (<0.005 to 0.028 mg/L). These seeps reflect drainage from calcareous phyllites and till in the northwest draining portion of the dump. Surface mapping in this drainage indicated some sulphides were present in this area, but they were typically in small isolated pockets, and were surrounded by extensive areas of calcareous phyllites.
- Type 1b seeps had zinc concentrations in the range of 2 to 5 mg/L, and sulphate concentrations greater than 500 mg/L. Most of these seeps were towards the southeast, and were below the sulphide cell. However, SRK-GD11, which was theoretically upgradient of the sulphide cell, also fell into this group. Waste rock mapping completed in September 2002 indicated that significant amounts of sulphide were present above this location, and that sulphidic waste rock was not limited to the sulphide cell.

During the Spring 2004 survey, three additional seeps were identified at the toe of two internal lifts. These three samples had Type 2 and 3 water quality under the system described for Faro. These seeps were dry during the Fall 2004 survey.

Figure 2 shows the location of seep sampling stations, and provides a graphical summary of the distribution of the different seepage types. Table 3 provides a summary of key characteristics for each of the above seepage types. Full seepage results are included in Attachment 1.

Table 3: Characteristics of Grum Water Types

Parameter	Detection Limits	Type 1a					Type 1b					Type 2			Type3	
		Average	Median	Min	Max	N	Average	Median	Min	Max	N	Min	Max	N	Value	N
Field pH (s.u.)	0.01	7.47	7.47	6.87	7.85	19	7.32	7.40	6.65	7.84	26	6.20	7.44	2	5.73	1
Acidity pH 8.3	1	9	6.0	-1.0	40	19	24	21	1.0	69	26	158	198	2	238	1
Alkalinity Total	1	312	336	108	447	19	516	558	255	700	26	130	195	2	39	1
Chloride	0.5	1.9	1.7	0.50	5.0	19	2.3	2.2	0.75	5.0	26	0.90	2.0	2	0.58	1
Sulphate	0.5	264	313	7.0	575	19	1205	1205	332	2170	26	1530	2770	2	1710	1
Calcium	0.05	133	142	42	219	19	322	343	115	392	26	346	356	2	321	1
Magnesium	0.1	56	64	23	94	19	222	213	70	438	26	150	413	2	167	1
Potassium	2	2.1	2.0	-2.0	4.0	19	7.3	7.4	2.5	12	26	6.5	12	2	6.5	1
Sodium	2	2.4	2.4	-2.0	4.0	19	11	11	2.0	17	26	4.7	6	2	4.5	1
Aluminum	0.2	0.18	0.20	-0.20	0.20	19	0.20	0.20	0.20	0.20	26	0.20	0.20	2	0.28	1
Cadmium	0.01	0.01	0.01	-0.01	0.01	19	0.01	0.01	0.01	0.01	26	0.06	0.06	2	0.18	1
Cobalt	0.01	0.01	0.01	-0.01	0.01	19	0.01	0.01	0.01	0.05	26	0.21	0.45	2	0.70	1
Copper	0.01	0.01	0.01	-0.01	0.01	19	0.01	0.01	0.01	0.04	26	0.01	0.12	2	2.1	1
Iron	0.03	0.04	0.03	-0.03	0.21	19	0.03	0.03	0.03	0.03	26	0.03	27.30	2	46	1
Lead	0.05	0.04	0.05	-0.05	0.05	19	0.05	0.05	0.05	0.05	26	0.05	0.05	2	0.14	1
Manganese	0.005	0.14	0.005	-0.005	1.9	19	0.22	0.062	0.005	1.75	26	3.10	6.62	2	7.5	1
Nickel	0.05	0.05	0.05	-0.05	0.13	19	0.41	0.39	0.22	0.71	26	1.08	1.46	2	2.7	1
Zinc	0.005	0.013	0.005	-0.005	0.105	19	4.0	2.9	1.7	17.2	26	97.9	110.0	2	107	1

Note: Units in mg/L except for acidity/ alkalinity in mg CaCO3 eq/L

Note 2: Detection limits were used for statistical purposes when values were less than detection.

Where detection limits were elevated due to high ionic strength, non-detect results were excluded from statistical calculations.

4.1.3 Vangorda Waste Rock Dumps

In Spring 2004, the toe of the Vangorda Till Dump was also surveyed in an attempt to locate seepage from this facility. No toe seeps were located during this exercise. Portions of the toe of the Vangorda Till dump are obscured by waste rock, which prevents surveying for toe seepage at these locations.

For the first time, samples were collected from Drain 4 (VD10) on the north side of the Vangorda Dump. This drain had not previously flowed during seepage sampling rounds. The drain itself was previously unmarked by precipitates or staining, which suggests that no drainage had been previously produced at this location.

Water Types

All of the seeps associated with the Vangorda Waste Rock Dump had very high zinc concentrations. Three of the seeps sampled in 2004 had pH's between 6 and 7, four were acidic, with pH's of less than 6, and one was acidic during the spring survey, but pH neutral during the fall survey.

- The seeps with pH's between 6 and 7 can be classified as Type 2 seeps following the system described for the Faro seeps (Section 4.1.1). At Vangorda, these seeps tended to have higher zinc concentrations (20 to 1650 mg/L) than at Faro, reflecting the high proportion of sulphidic waste rock in the Vangorda Dumps. These seeps also had elevated concentrations of cobalt, iron, manganese, and nickel. Cobalt and nickel concentrations were substantially higher than in Type 2 seeps at Faro.
- The acidic seeps can be classified as Type 3 following the system described for Faro. As for the Type 2 seeps, these tended to have higher zinc concentrations than at Faro, ranging from 352 to 13100 mg/L. Aluminum, cadmium, cobalt, copper, iron, manganese and nickel concentrations were also generally very high.

Figure 2 shows the location of seep sampling stations, and provides a graphical summary of the distribution of the different seepage types. Table 4 provides a summary of key characteristics for each of the above seepage types.

Table 4: Characteristics of the Vangorda Water Types

Parameter	Detection Limits	Type 2					Type 3				
		Average	Median	Min	Max	N	Average	Median	Min	Max	N
Field pH (s.u.)	0.01	6.33	6.22	5.89	7.08	15	4.18	3.83	2.55	5.93	20
Acidity pH 8.3	1	491	224	38	2550	15	7081	3615	581	22400	20
Alkalinity Total	1	129	160	14	289	15	26	3.8	1.0	127	20
Chloride	0.5	0.79	0.62	0.50	1.3	14	1.5	0.50	0.50	11	16
Sulphate	0.5	3383	2690	323	13700	15	18783	10215	2470	67700	20
Calcium	0.05	334	404	71	471	15	450	457	196	530	20
Magnesium	0.1	443	370	27	1880	15	1852	625	105	6140	20
Potassium	2	9.2	11	2.0	20	15	12	10	4.0	28	11
Sodium	2	8.5	10	2.0	20	15	8.5	5.0	4.0	20	11
Aluminum	0.2	0.39	0.20	0.20	2.00	15	45	11	0.40	339	18
Cadmium	0.01	0.13	0.08	0.04	0.70	15	4.3	1.1	0.10	23.2	20
Cobalt	0.01	1.9	0.88	0.06	10.3	15	11.1	4.6	0.75	38	20
Copper	0.01	0.01	0.01	0.01	0.02	14	17	0.68	0.03	180	12
Iron	0.03	57	5.5	0.03	243	15	918	524	0.12	3280	20
Lead	0.05	0.10	0.07	0.05	0.50	15	1.0	0.70	0.10	2.5	11
Manganese	0.005	124	38	3.3	1000	15	1197	195	18	4030	20
Nickel	0.05	2.7	2.0	0.11	7.2	15	9.1	4.9	1.1	26	20
Zinc	0.005	269	100	20	1650	15	3538	1590	352	13100	20

Note: Units in mg/L except for acidity/ alkalinity in mg CaCO₃ eq/L

Note 2: Detection limits were used for statistical purposes when values were less than detection.

Where detection limits were elevated due to high ionic strength, non-detect results were excluded from statistical calculations.

4.2 Historical Seepage Monitoring

4.2.1 Faro Site

Locations of the routine seepage monitoring stations are shown in Figure 1. Data for these stations are available in the EQwin database maintained by GLL. Graphs of key parameters are provided in Figures 3 to 8.

Station X23

Station X23 is located east of the mill, in the original Faro Creek channel, below the East Main Dump, the Oxide Fines Stockpile, and the Medium Grade Stockpile. Interpretation of trends in this data is complicated by the deposition and removal of some of the stockpiled ore, and by leakage of pit water into the old Faro Creek channel from a drainage ditch during operations (RGI 1996).

This station has been monitored for select parameters since 1986, and for a full suite of parameters since 1989. The data are summarized in Figure 4.8. Results from SRK's seepage samples FD10, FD12 and FD31, which are located immediately upstream of X23 were included in these graphs.

Sulphate concentrations increased in stages, from less than 2000 mg/L in 1986 to approximately 6000 mg/L in 2000/2001, followed by a slight decrease to approximately 4000 mg/L in 2002 and 2003 and then a second increase in 2004 to 6500 mg/l (Figure 3). The peaks in sulphate concentrations corresponded to a slight decrease in pH from an average of approximately 7 to an

average of approximately 6.5, and changes in the major ion chemistry calcium dominated to magnesium dominated., Peak concentrations of iron (200 mg/L), zinc (1000 mg/L), and several other metals (e.g. aluminum, cadmium, cobalt, and copper) were also observed during this period. These observations indicate that the seepage chemistry is in a state of transition, and that concentrations could continue to increase over time.

Station X26

Station X26 is the discharge from the dewatering sump for the Zone II pit, which is completely filled in and buried by waste rock. The sump is operated over an approximately 3 month period during the summer, and water levels are allowed to fluctuate between depths of 60 and 52 metres below the current ground surface. Results from this station are shown in Figure 4.

Monitoring data showed an initial decrease in sulphate concentrations over the first two years of monitoring (1991 to 1993), followed by a gradual and relatively steady increase over the past 12 years of monitoring with concentrations around 3000 mg/L in 2004. pH's were relatively stable, in the range of 6 to 6.5. Zinc concentrations increased from approximately 50 to 100 mg/L, and iron concentrations followed a similar trend.

There is a weak seasonal pattern in metal concentrations, with generally higher concentrations occurring later in the summer, when dewatering levels are at a minimum. Based on this variation, it is likely that there is some stratification of concentrations in the flooded zone of the pit.

Station FCO/A30

Station A30 (SRK-FD40) is located along the north wall of the pit, below the Faro Valley Dump. The current location is accessed by hiking down from the Faro Valley Dump. In earlier years, the station was a sump, which may have received drainage from other seepage along the pit walls. Station FCO is located immediately upstream of the Faro Valley Dump, and maybe somewhat influenced by leakage through mineralized rock in the road and berm that comprise the Faro Creek Diversion. Both stations have relatively high flows, which contact rock along the base of the pile. Results for these two stations (including data from SRK-FD40) are provided in Figure 5.

Sulphate concentrations in Station A30 increased from approximately 200 mg/L in 1989 to 600 mg/L in 1997, remained in this range to 2001, and varied from 100 to 600 mg/L over the last three years of monitoring. pH's decreased from pH 7.5 in 1989 to pH 3 in 1998. More recent samples have had erratic pH's, ranging from 3 to 7.5. Zinc concentrations followed similar trends to sulphate, reaching peaks of approximately 100 mg/L in 1998, and then varying from 10 to 100 mg/L since that time. The wide variations in seepage chemistry may reflect differences in the amount of vertical versus lateral flow through the pile.

Station SP5/6

Station SP5/6 (equivalent to SRK-FD26) is located below the Upper North East Dump. Flows at this station are substantial, and are thought to be due to leakage from the Faro Creek Diversion. Results for this station are provided in Figure 6.

Sulphate concentrations ranged from 200 mg/L to 1000 mg/L, and were variable, without any consistent trends throughout the monitoring period (1989 to 2004). Zinc concentrations ranged from approximately 2 mg/L to 10 mg/L, and calcium, magnesium, and zinc concentrations were strongly correlated with sulphate. Variations in concentrations appear to be weakly related to flows, with lower concentrations occurring in the June samples, and higher concentrations occurring in the fall samples.

Station NE1, NE2 and W5

Stations W5, NE1 and NE2 are located along the toe of the Northeast Dump. W5 was monitored from 1989 to 1991, and was probably sampled close to the toe of the dump. Therefore, it is likely that this station is equivalent to SRK-FD05 and 06. NE1 and NE2 are monitored in the regular seepage program, but are collected approximately 100 metres downstream of the toe, and may be influenced by interaction with the till in that area. Results for all three stations are provided in Figure 7. Data from SRK-FD05 and FD06 are shown in the W5 graphs.

Sulphate concentrations in W5 increased from approximately 300 mg/L in 1987 to 1989 to approximately 400 mg/L in the more recent samples. Zinc concentrations increased from approximately 1 mg/L in 1987/88 to approximately 3 mg/L in the last few years. pH's during this period were neutral, and concentrations of other metals were generally low.

Sulphate concentrations in NE2 increased from approximately 100 mg/L in 1997 to approximately 600 mg/L in 2003. Metal concentrations at this station were low throughout the monitoring period.

Station W8/W10

Station W8 is located in Upper Guardhouse Creek, which flows under and alongside an approximately 50 metre section of the Northwest Dump. This station is equivalent to SRK-FD16. Station W10 is located approximately 100 metres upstream from this station and is unaffected by mining activities. Results for W8 (including data from SRK FD 16), and W10 are provided in Figure 8.

Results for both stations indicate consistently neutral pH's, low sulphate and low metal concentrations. There is little if any increase in concentration between W10 and W8.

4.2.2 Grum Site

The routine monitoring stations at Grum are shown in Figure 2. Station V2 has been monitored on a regular basis since 1988, at V2A since 1997, and at V15 since 1995. The routine stations are located along the road access and are between 200 and 800 metres below the toe of the dumps, where dilution by surface water and interaction with soils along the flow-paths could be expected. As such, results from these stations are not directly comparable to seepage at the toes of the dumps. The routine seepage monitoring data are available in the EQwin database maintained by GLL. Graphs of key parameters are provided in Figures 9 and 10.

Stations V2 and V2A

Stations V2 and V2A represent the more significant seepage flows that originate at the toe of the dump in the original Grum Creek channel (downstream of SRK-GD01 and SRK-GD02). Station V2 is located upstream of Vangorda Creek in the original Grum Creek channel, while Station V2A represents water diverted from this channel into Moose Pond. Results for these stations are provided in Figure 9.

Sulphate concentrations increased from less than 50 mg/L in the late 1980's (i.e. prior to dump construction) to approximately 150 mg/L in 1998. In 1998, concentrations in both stations started to increase rapidly, reaching 1000 mg/L by 2004. pH's were in the range of 7 to 8.5 throughout this period. The increase in sulphate concentrations was accompanied by an increase in both calcium and magnesium concentrations. Calcium was still the dominant cation at both locations.

Zinc concentrations at these stations were highly variable at these stations, with typical concentrations ranging from less than 0.01 to 0.1 mg/L prior to 1998, and from 0.1 to 1 mg/L since 1998. Occasional outliers of greater than 1 mg/L have been recorded at both stations.

Station V15

Station V15 represents runoff and possibly a small amount of seepage from the dump. Samples at this location are in close contact with soil and sediments, and interaction with the soils is likely significant. Results are provided in Figure 10.

Sulphate concentrations at Station V15 increased gradually between 1996 and 2000 (from 100 mg/L to 300 mg/L), and then more rapidly in 2000 and 2001, reaching levels in the range of 1000 mg/L by June 2001. Sulphate concentrations remained at approximately 1000 mg/L until 2004, then increased to greater than 1500 mg/L by fall of 2004. The increase in sulphate concentrations corresponded to increases in calcium and magnesium concentrations. pH's were stable in the range of 7.5 throughout the monitoring period.

Metal concentrations (e.g. cadmium, iron, cobalt, copper and zinc) were variable, but generally low, and did not change significantly over time.

4.2.3 Vangorda Site

The routine seepage monitoring stations at Vangorda are the three drains shown in Figure 3-2. Results for these stations are available in the EQwin database maintained by GLL. Graphs of key parameters are provided in Figures 11 to 14.

Drains 3, 4 and 5 (Stations V30, V32 and V33)

Three of the drains (Drain 3, 5 and 6) at Vangorda have been monitored as part of the routine monitoring programs since 1994. The other drains (Drains 1, 2 and 4) have been consistently dry. Results are shown in Figures 11 to 13.

Results for station V30 (Drain 3, SRK-VD03) are provided in Figure 11. Seepage from this station had pH's close to 6 throughout the monitoring period. Sulphate concentrations increased from 2500 mg/L in 1994 to 5000 mg/L in 2004, and were correlated with magnesium. Zinc concentrations were highly variable in the range of 200 to 500 mg/L, and increased slightly over time.

Results for station V32 (Drain 5, SRK-VD04) are provided in Figure 12. pH's at this station decreased from approximately 5 in 1994 to approximately 3 in 2004. Sulphate concentrations increased substantially during this period from approximately 5000 mg/L in 1994 to 35,000 mg/L in the 2004 data. The high sulphate concentrations were supported by a similar magnitude of increase in magnesium concentrations as well as substantial increases in iron, manganese and zinc concentrations. Recent iron, manganese and zinc concentrations were in the range of 2500 mg/L, 4000 mg/L, and 13000 mg/L respectively. Concentrations of aluminum (220 mg/L), cobalt (40 mg/L, copper (0.1 mg/L), cadmium (18 mg/L), and nickel (26 mg/L) also increased through the monitoring period.

Results from Station V33 (Drain 6, SRK-FD05) are provided in Figure 13. pH's were in the range of 6 to 7 from 1994 to 1999, dropped to approximately 6 in the 2000 to 2002 samples, and further decreased to between 5 and 6 in 2004. Sulphate concentrations were in the range of 2000 to 5000 mg/L from 1994 to 2000, and then increased to approximately 90,000 mg/L in 2004. Concentrations of iron, zinc and several other metals also increased between 2000 and 2004, with zinc concentrations in the range of 2000 to 9000 mg/L in recent years.

Flows at all three stations have been generally very low for a dump of this size. Further investigations on the water balance (Janowicz et al., 2004) and on the potential for groundwater seepage have been indicated.

Station V27

Although interpretation of the surface water sampling stations is not directly relevant to the seepage monitoring program, the low flows observed in seeps from the Vangorda may indicate that some water is leaving the system via the subsurface. Station V27 is the first routine monitoring station in Vangorda Creek downstream of the Vangorda and Grum Waste Rock dumps, and is sufficiently

lower in elevation that it could be reasonably expected to pick-up any contaminants that are transported via the groundwater system. However, flows are very large, so significant changes in loading would be needed before any changes from the dumps could be observed. Results for this station are presented in Figure 14.

Results for this station indicated consistently neutral pH's, and low sulphate concentrations from 1991 to 2002. Sulphate and magnesium concentrations increased slightly in 2003/2004, possibly indicating there has been an increase in sulphate loading to the creek in recent years. Metal concentrations were generally very low, and did not increase over time. However, copper and zinc concentrations in Vangorda Creek were above CCME guidelines for aquatic life, and detection limits for several other parameters were too high to evaluate whether they meet CCME criteria.

5 Conclusions

Seeps associated with the Faro Waste Rock Dumps showed a wide range of pH and zinc concentrations. The highest zinc concentrations (>200 mg/L, as high as 10,900 mg/L) were associated with the ore stockpiles and mill area. High zinc concentrations were also associated with the sulphide cells on the Main Dumps (up to 600 mg/L). A large number of seeps associated with the waste rock were acidic or partially buffered, and had zinc concentrations in the range of 20 to 100 mg/L. A moderate number of seeps at Faro had alkaline pH's, and zinc concentrations of less than 5 mg/L. These were associated with dumps that contained relatively little sulphide waste rock. Cadmium, cobalt, copper, iron, manganese and nickel concentrations in some of the seeps are at concentrations that significantly exceed receiving water quality criteria.

Seeps associated with the Grum Waste Rock Dumps had consistently neutral to alkaline pH's. Seeps draining to the Southeast had zinc concentrations ranging from 2 to 17 g/L and elevated sulphate concentrations. Seeps draining to the Northwest had zinc concentrations ranging from undetectable to 0.105 mg/L, and generally lower sulphate concentrations. The seeps to the Southeast were located below the sulphide cell, or below sulphidic waste identified in the SRK September 2002 surface mapping programs. No other trace metals of concern have been detected in the Grum seepage to date.

Seeps associated with the Vangorda Waste Rock Dumps were acidic to partially buffered, and contained high to very high zinc concentrations (from 20 to 13,100 mg/L). Sulphate and zinc concentrations have increased since the routine seepage monitoring programs were initiated in 1994. Other trace metals significantly exceeding receiving water quality criteria in the Vangorda seepage include cadmium, cobalt, copper, iron, manganese and nickel. Cobalt and nickel are notably higher compared to acidic seeps at Faro.

This report, **1CD003.047 – 2004 Waste Rock and Seepage Monitoring Report**, was prepared by SRK Consulting (Canada) Inc.

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Reviewed by

Kelly Sexsmith, P.Geo

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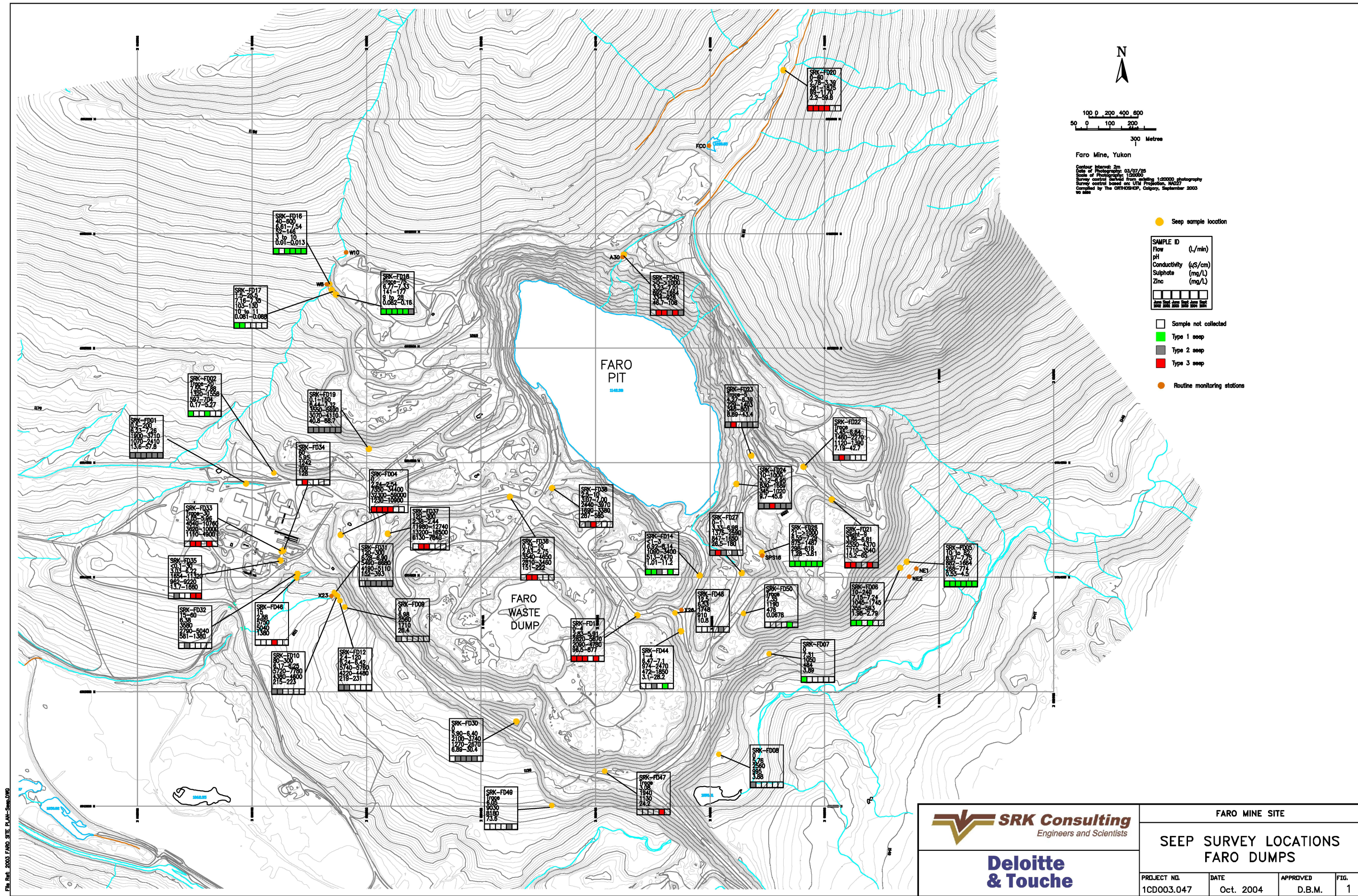
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Figures



File Ref: 2003 FARO SITE PLAN-SEEP.DWG

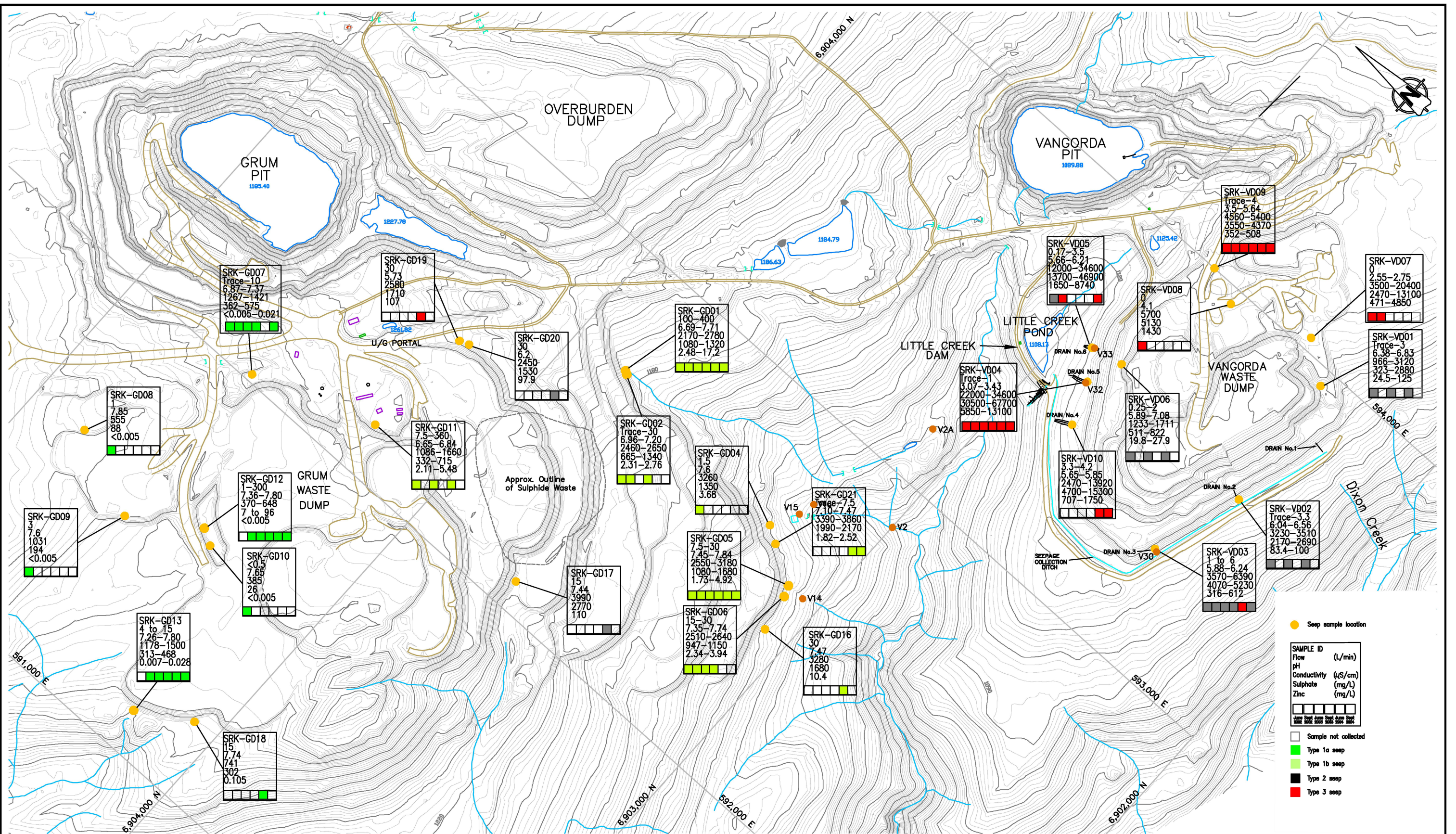


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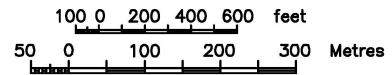


**Deloitte
& Touche**

FARO MINE SITE			
SEEP SURVEY LOCATIONS FARO DUMPS			
PROJECT NO.	DATE	APPROVED	FIG.
1CD003.047	Oct. 2004	D.B.M.	1



Contour Interval: 2m
Date of Photography: 03/07/25
Scale of Photography: 1:20000
Survey control derived from existing 1:20000 photography
Survey control based on: UTM Projection, NAD27
Compiled by The ORTHOSHOP, Calgary, September 2003
WO 8858

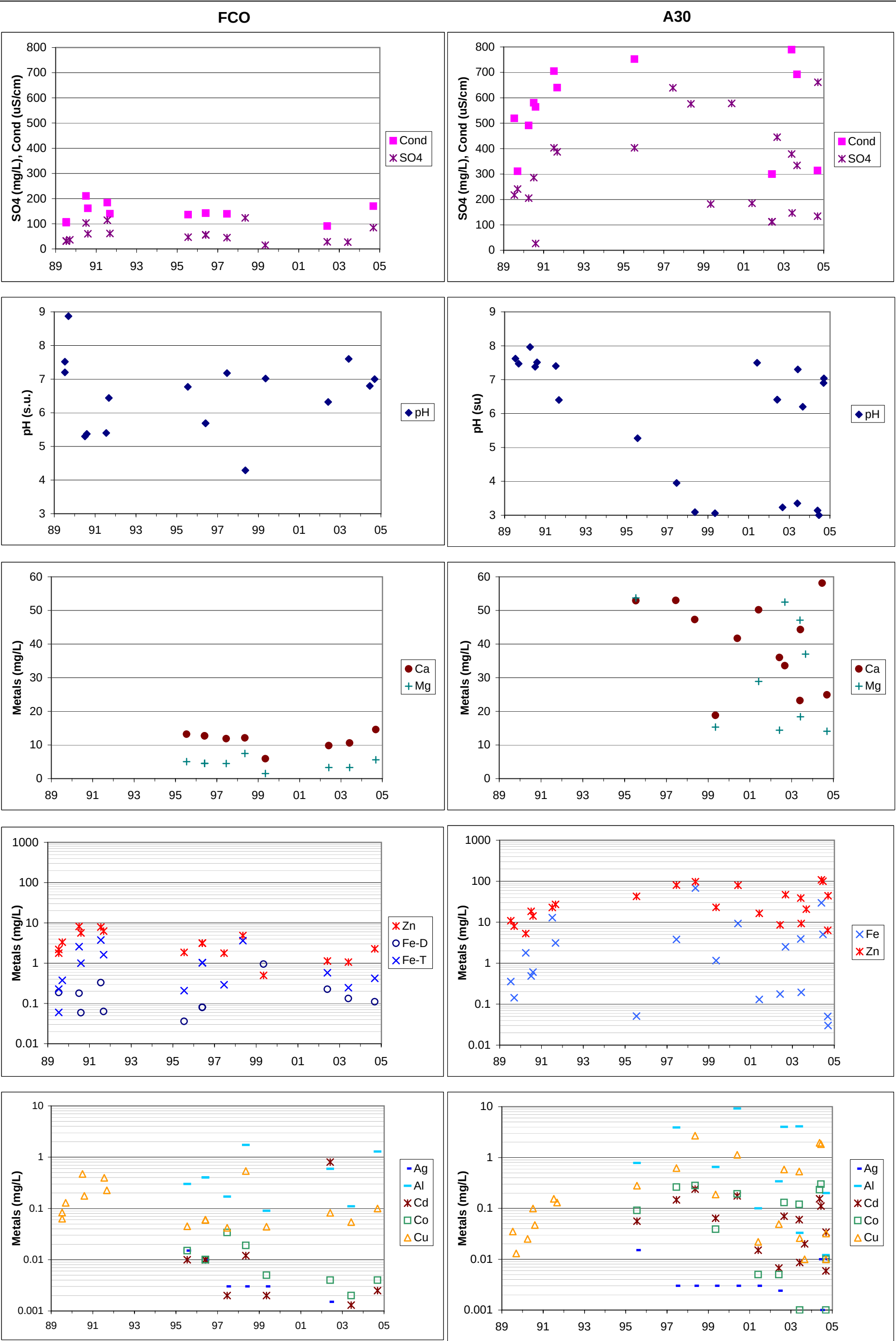


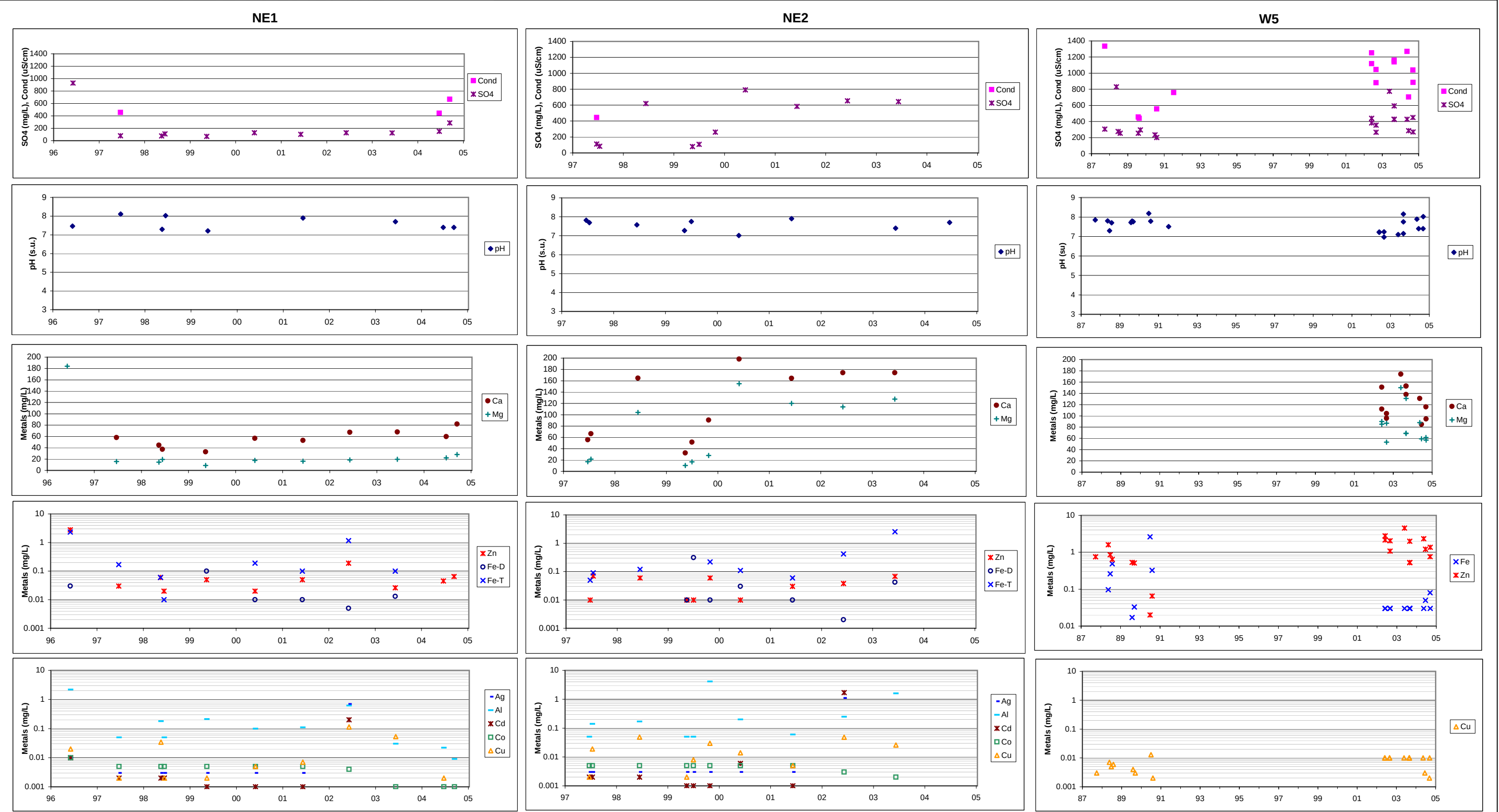
Deloitte & Touche

VANGORDA PLATEAU MINE

SEEP SURVEY LOCATIONS
VANGORDA & GRUM WASTE DUMPS

PROJECT NO.	DATE	APPROVED	FIGURE
1CD003.047	Oct. 2004	D.B.M.	2





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Geochemical Studies of Waste Rock at the
Anvil Range Mining Complex

Faro Seepage Stations
NE1, NE2, and W5

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DATE
December 2004

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FIGURE
7

Fig 4-12_W5 & NE1 & NE2.kw

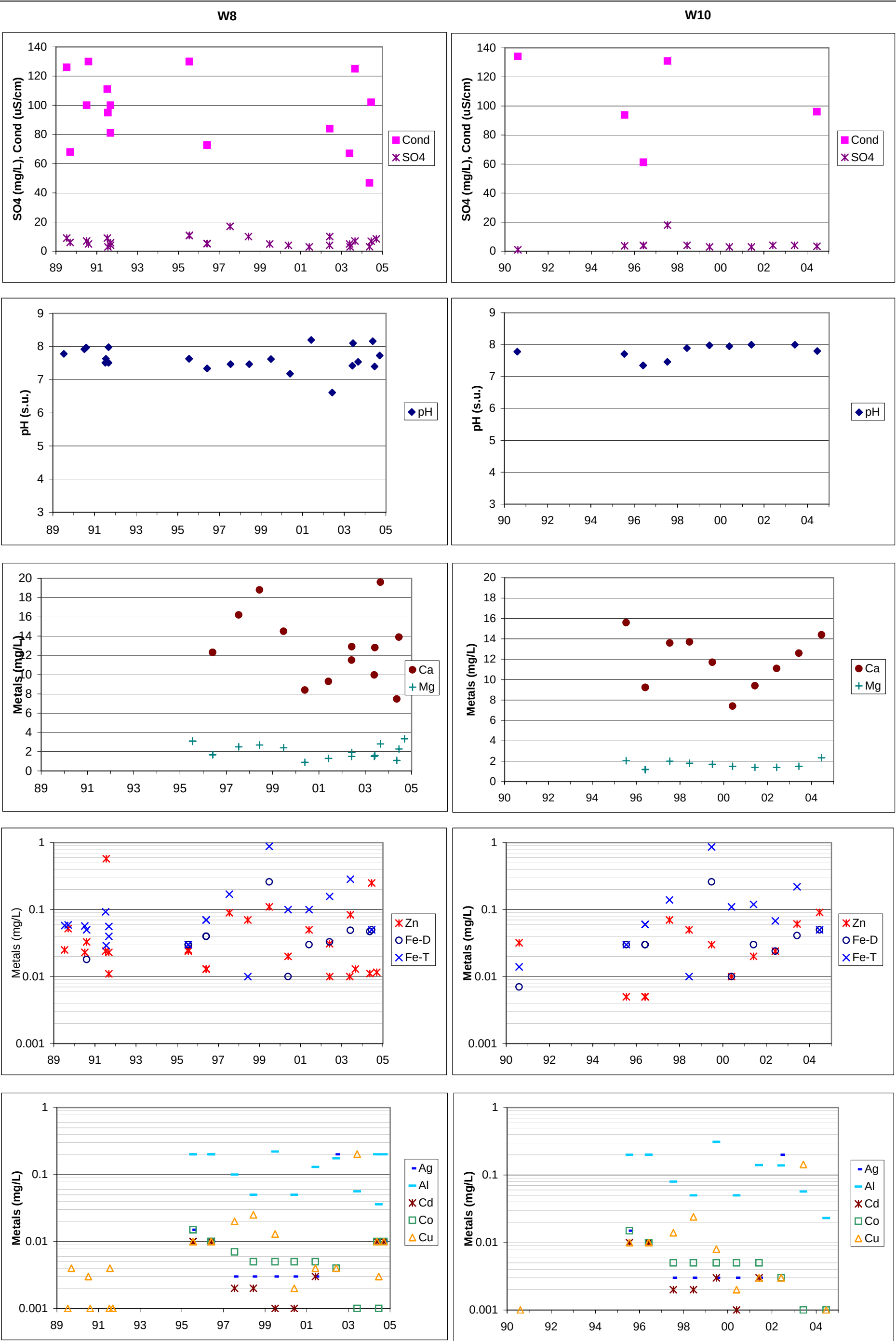
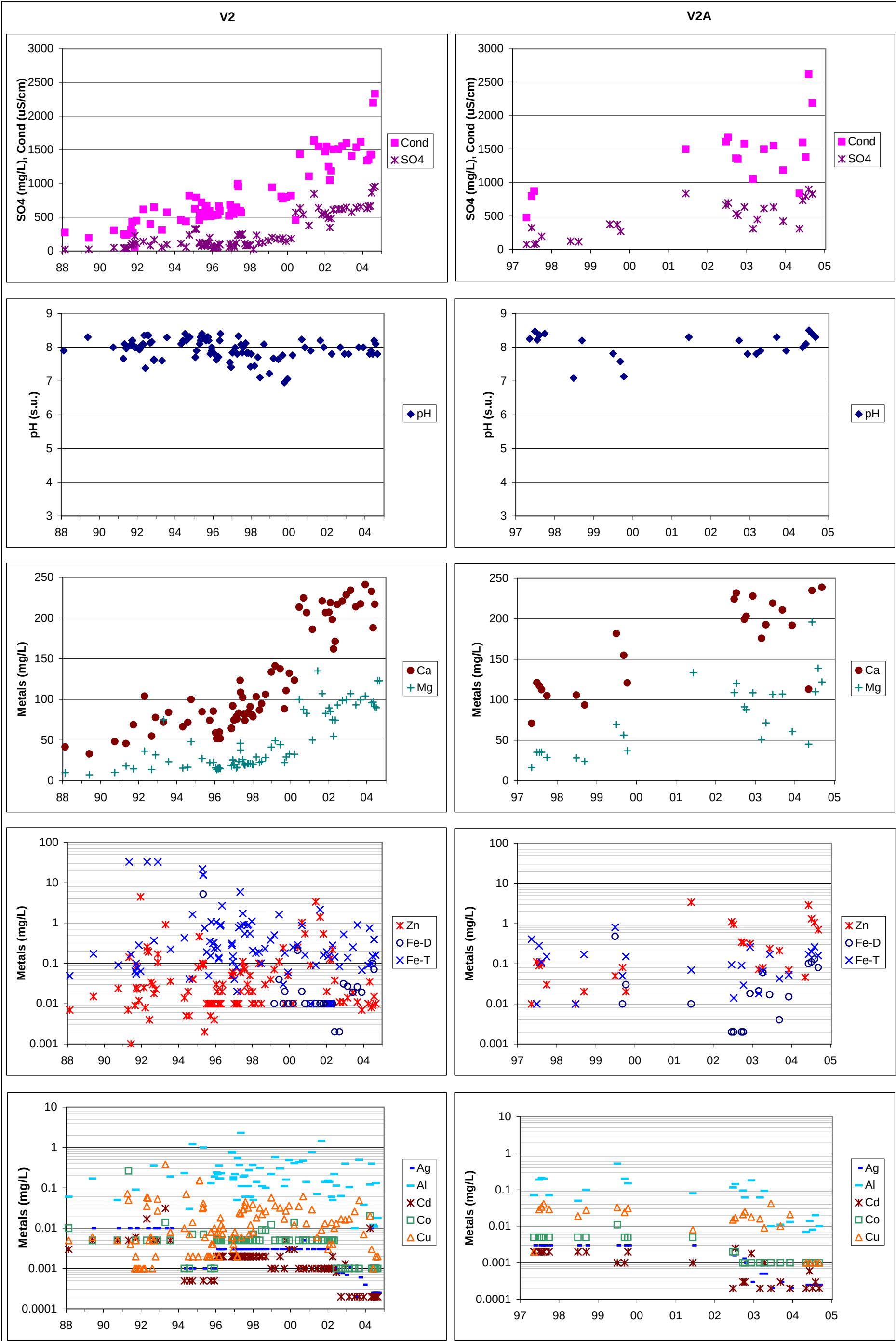
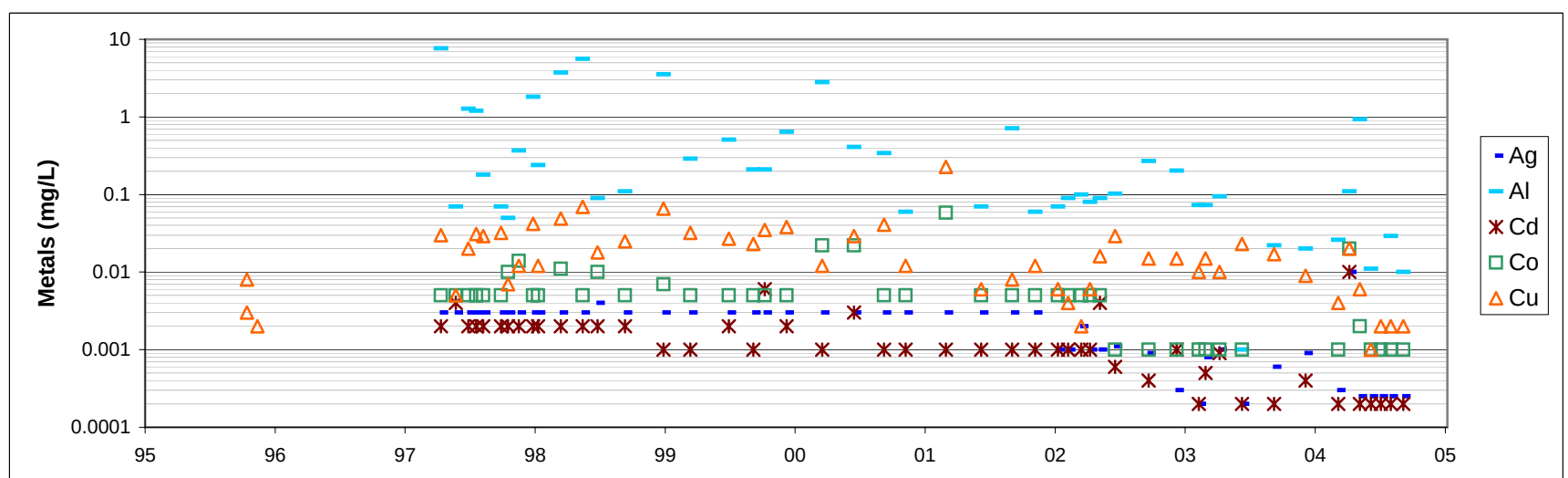
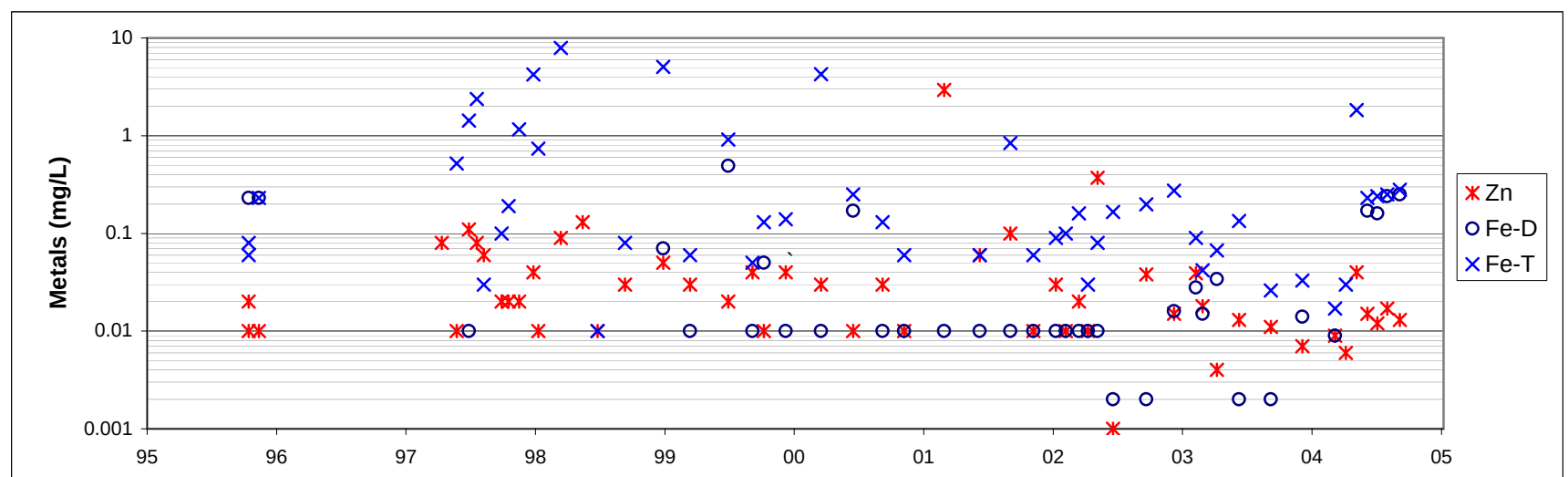
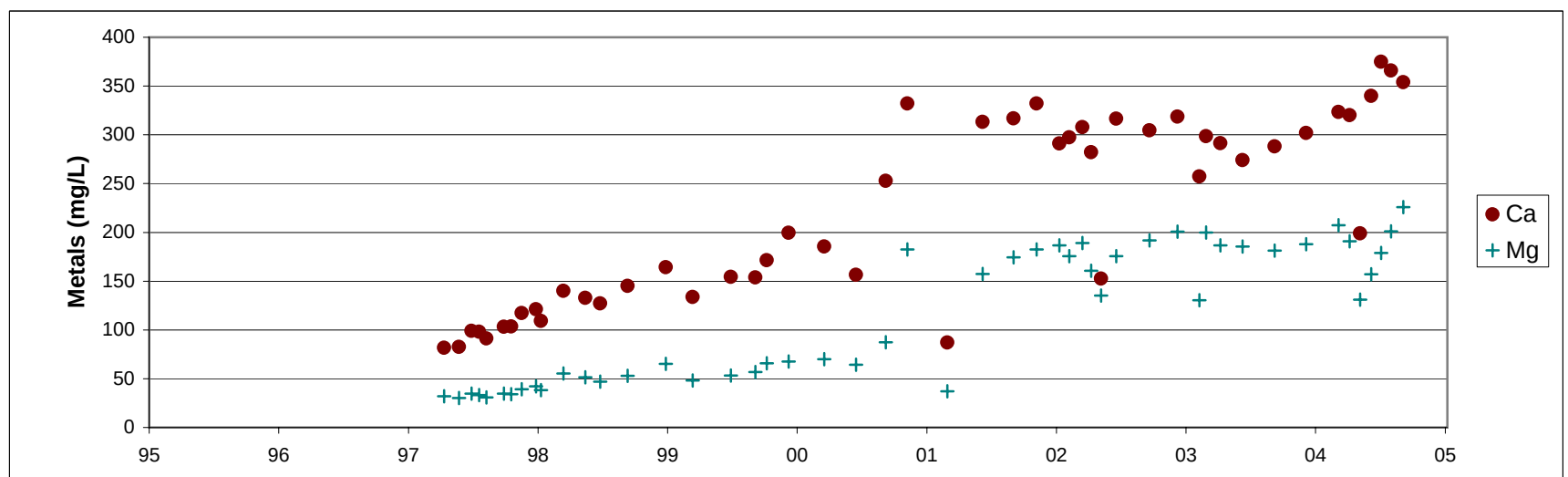
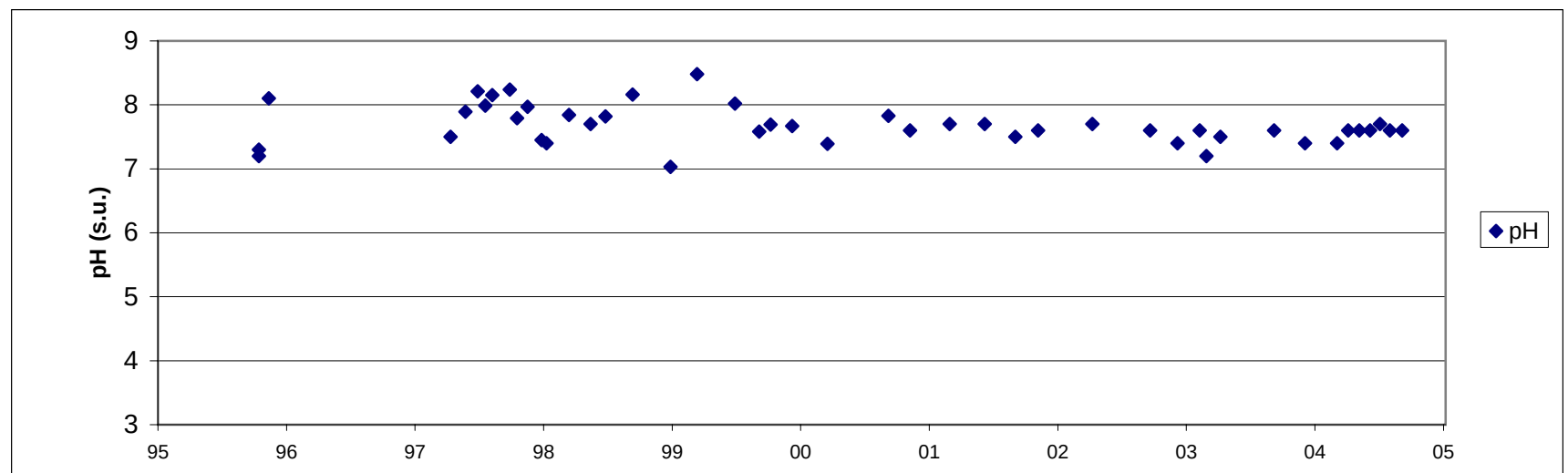
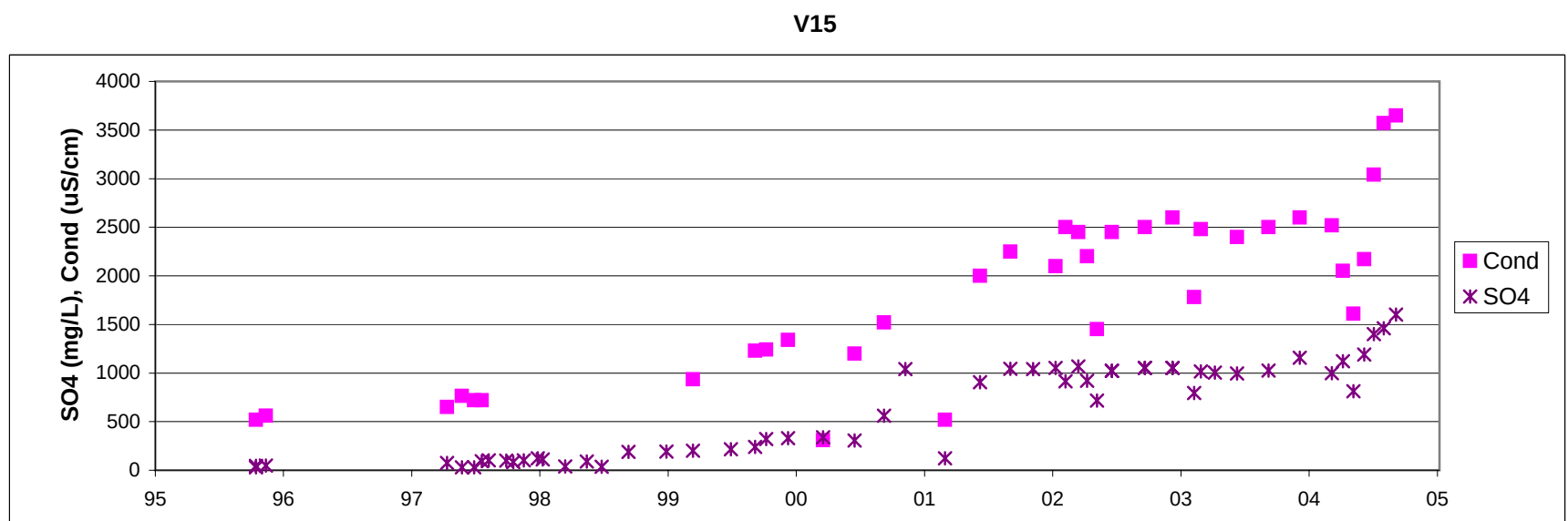
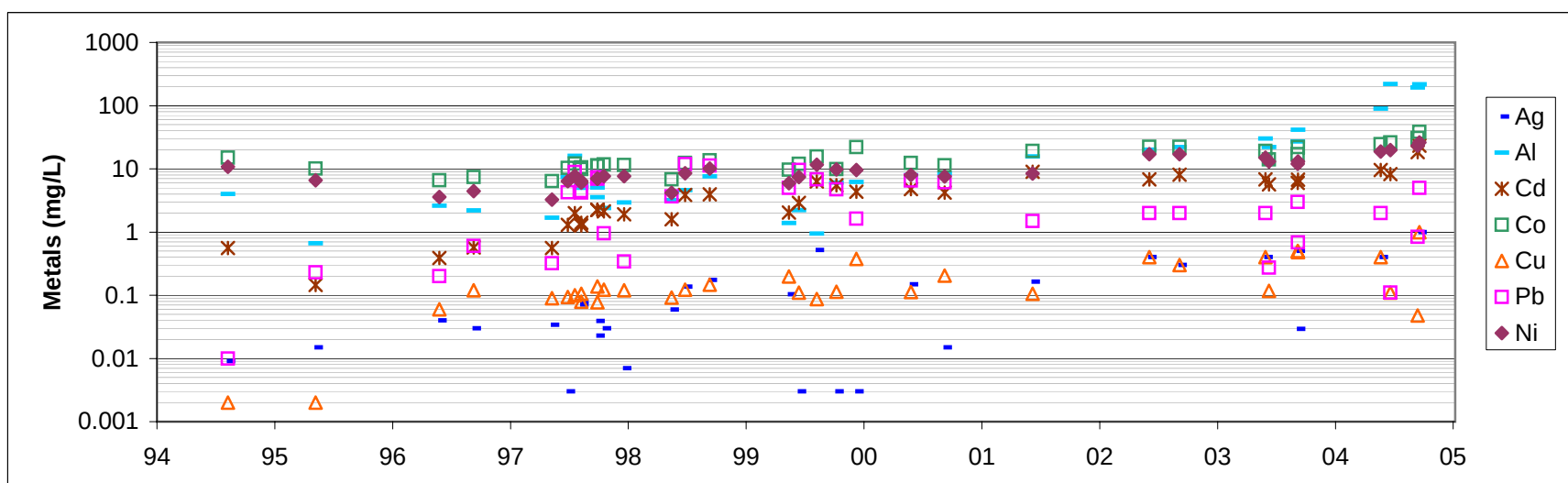
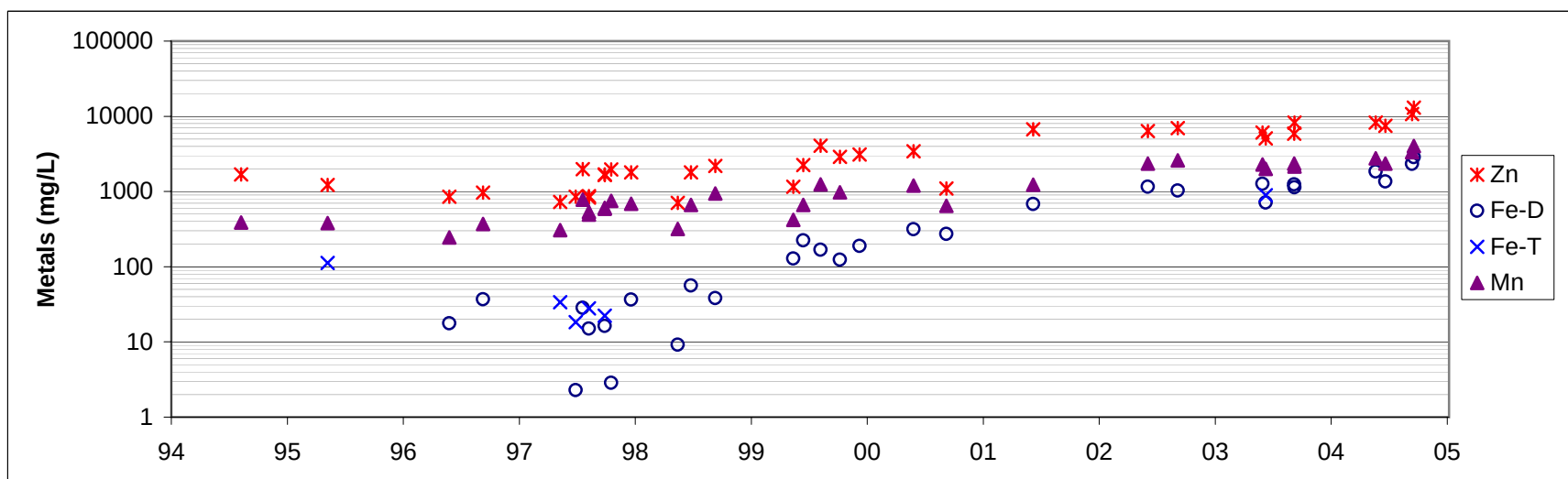
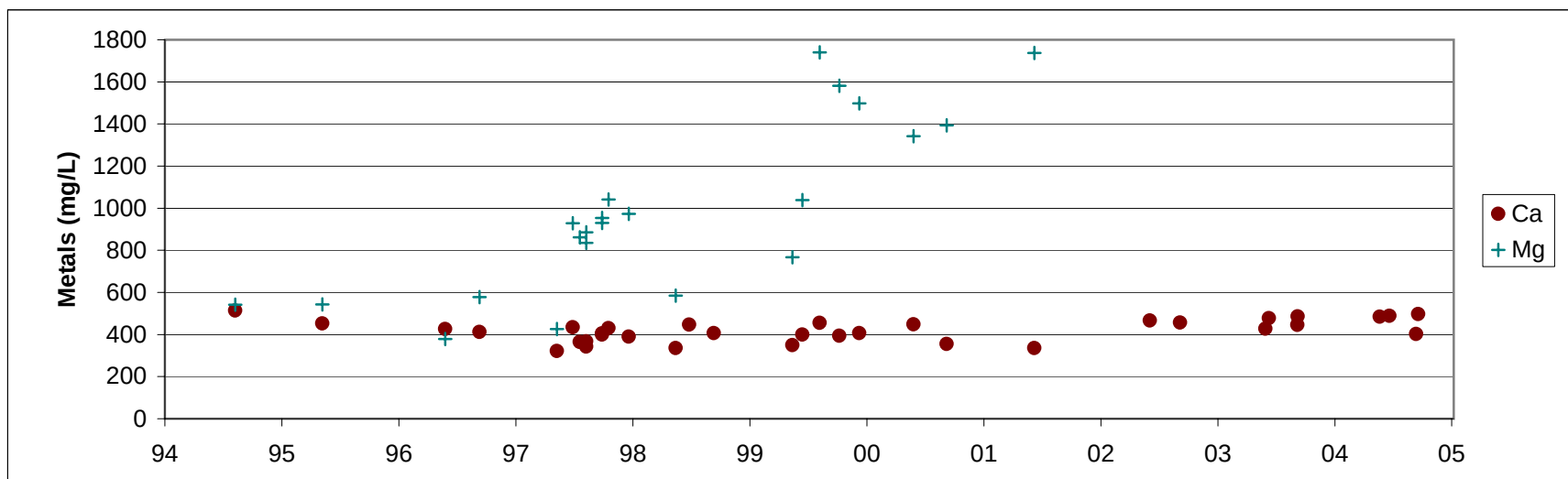
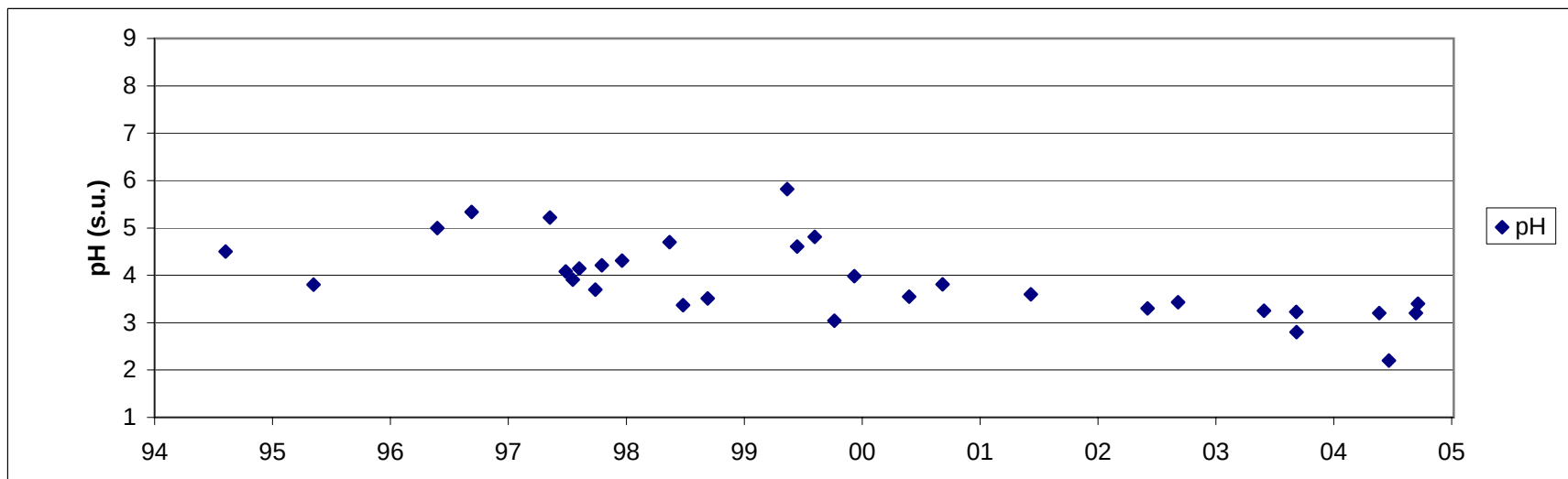
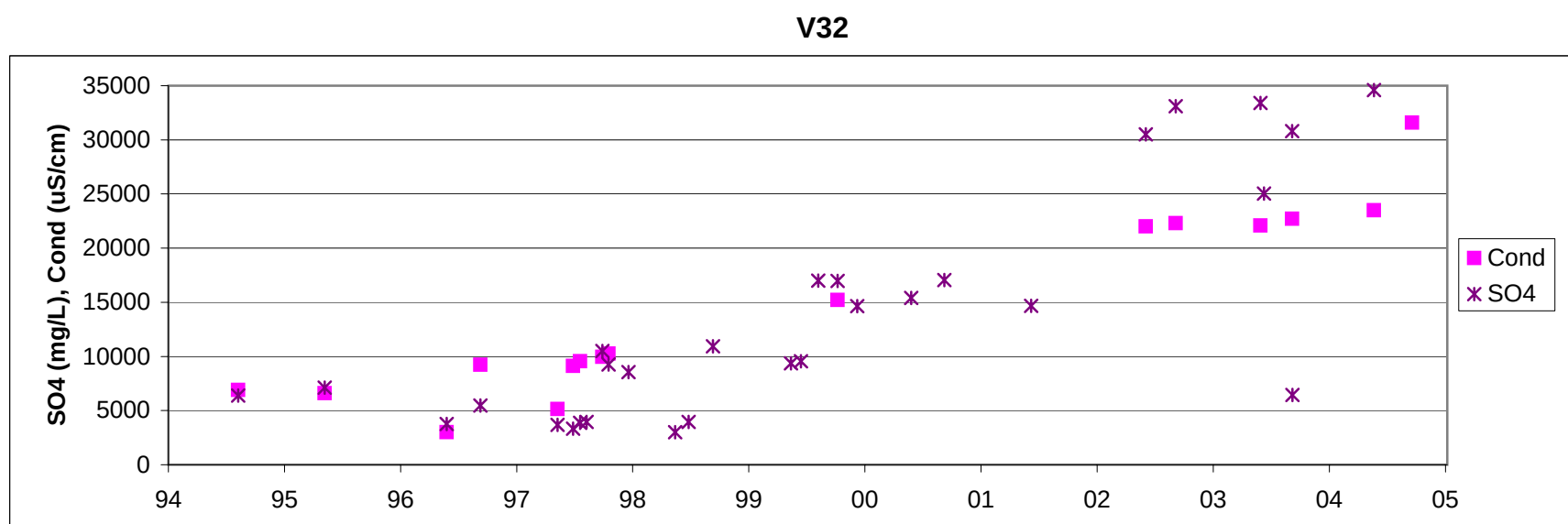


Fig 4-13_W8 & W10.kw



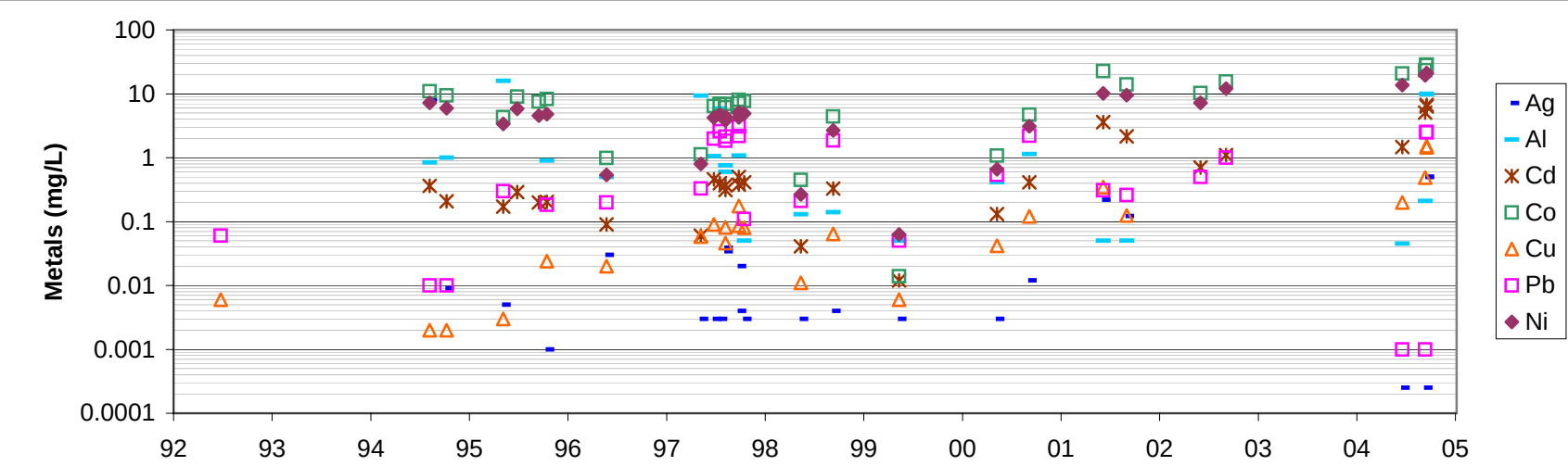
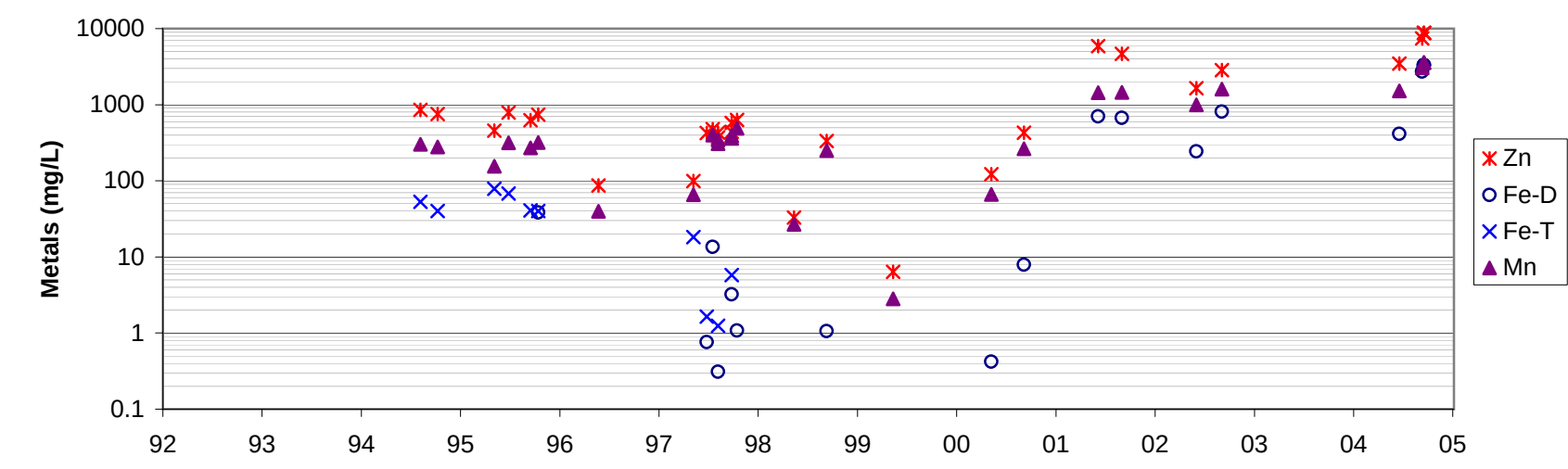
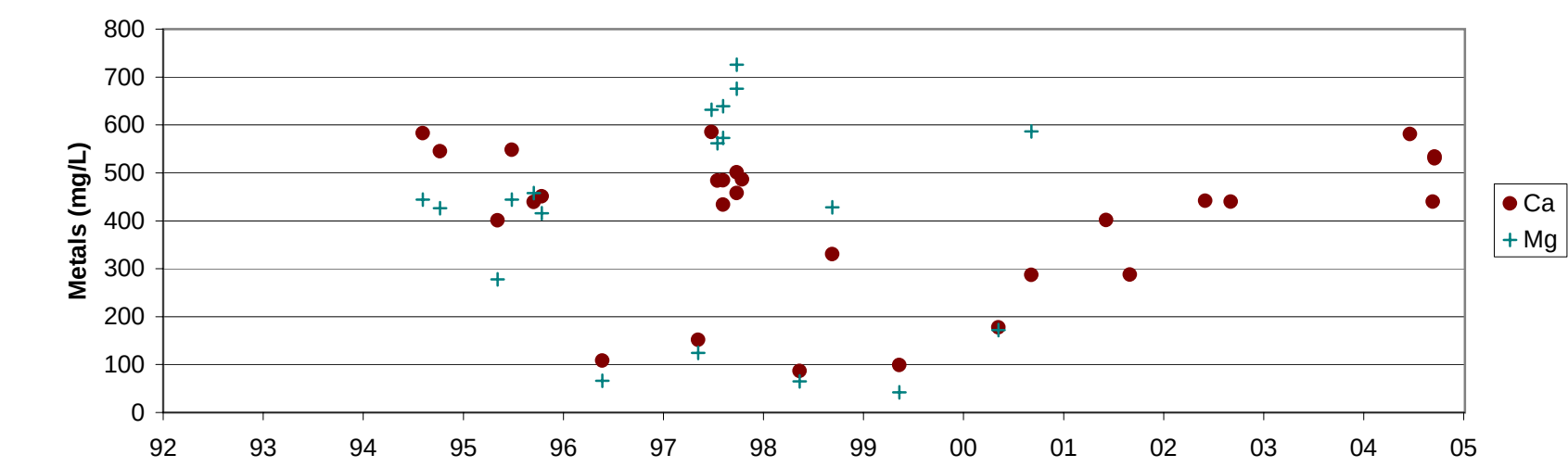
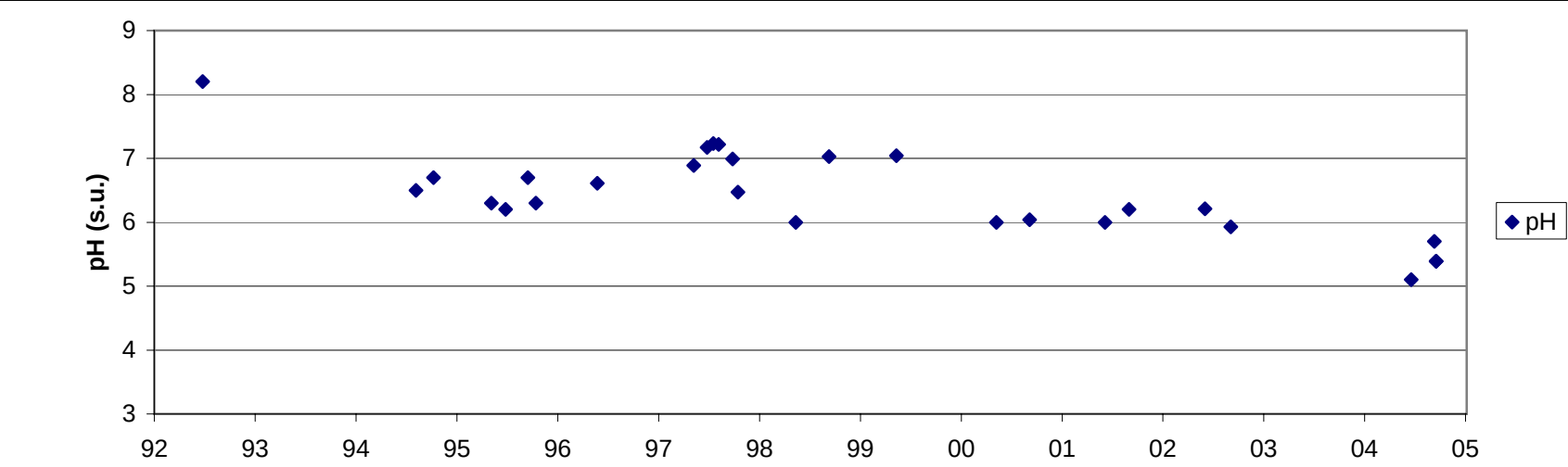
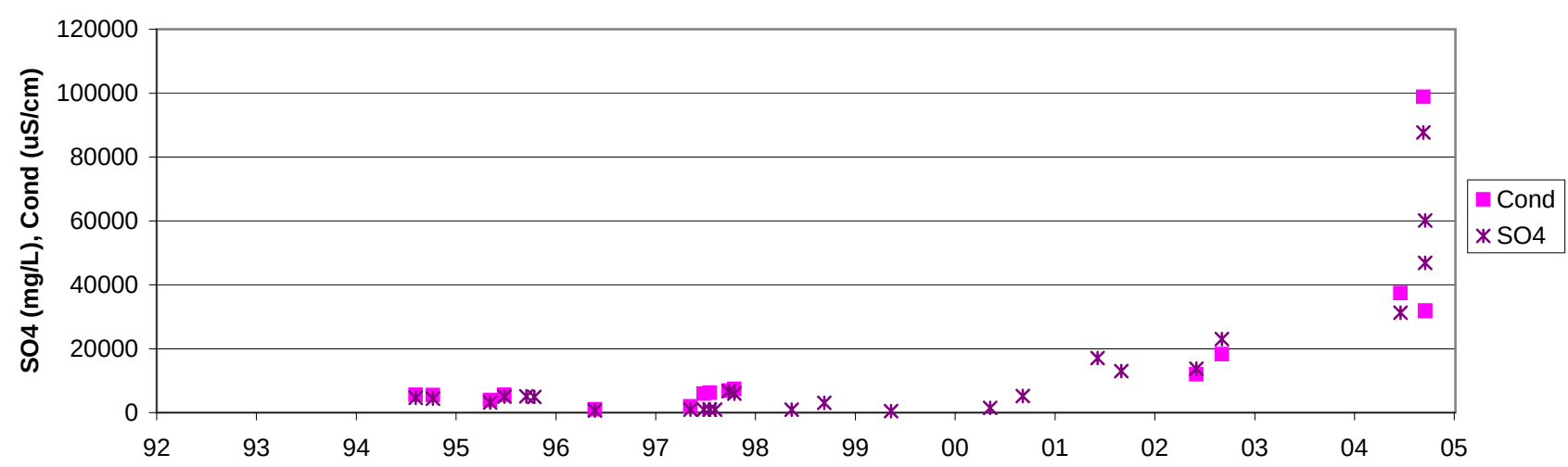


	Geochemical Studies of Waste Rock at the Anvil Range Mining Complex			
	Grum Seepage Station V15			
DELOITTE & TOUCHE INC.	PROJECT 1CD003.11	DATE December 2004	APPROVED	FIGURE 10



 SRK Consulting <i>Engineers and Scientists</i>	Geochemical Studies of Waste Rock at the Anvil Range Mining Complex			
	Vangorda Seepage Station V32			
DELOITTE & TOUCHE INC.	PROJECT 1CD003.11	DATE December 2004	APPROVED	FIGURE 12

V33

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Geochemical Studies of Waste Rock at the Anvil Range Mining Complex

Vangorda Seepage Station
V33

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FIGURE

13

Appendix A

Waste Rock Seepage Results

Sample ID	Minimum detection level	Units	SRK-FD01	SRK-FD01	SRK-FD01	SRK-FD01	SRK-FD01	SRK-FD01 dup	SRK-FD01 dup	SRK-FD01 dup
Date Sampled			6/10/2002	9/11/2002	6/4/2003	5/31/2004	9/27/2004	9/13/2003	9/13/2003	9/27/2004
Field Parameters										
pH (WTW)			6.69	6.59	7.26	6.23	6.93	6.97		As FD01
Conductivity (uS/cm)		uS/cm	3670	1900	3340	3580	3710	3180		
Temperature (C)		OC	13.2	4.2	13.2	1.9	3	3.4		
ORP (mV)		mV	139	212	198	355	384	312		
Flow (L/min)		L/min	6	0.5	-	200	56	30		
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	3560	1800	3230	3520	3560	3050	3070	3550
pH	0.010		7.55	7.41	7.76	7.46	7.4	7.48	7.37	7.53
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	72	22	36	88.2	67.4	70	61	65.1
Alkalinity-Total CaCO3	1.0	mg/L	365	97	297	226	252	223	224	252
Chloride Cl	0.50	mg/L	4.5	4.3	4.6	3.28	-5	3.9	3.9	-5
Sulphate SO4	0.50	mg/L	2220	1070	2260	2410	2370	1960	2030	2390
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	0.24	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.3
Barium D-Ba	0.010	mg/L	0.02	0.02	0.02	0.031	0.045	0.03	0.04	0.042
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	0.007	-0.005	-0.005	0.007
Bismuth D-Bi	0.20	mg/L	-2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	0.02	0.02	0.02	0.041	0.022	0.05	0.05	0.018
Calcium D-Ca	0.050	mg/L	543	272	492	501	569	463	472	553
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	0.02	0.02	0.03	0.038	0.015	0.03	0.03	0.024
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	0.054	0.02	0.03	0.03	0.023
Iron D-Fe	0.030	mg/L	0.36	0.38	5.02	2.8	6.29	2.53	2.52	5.92
Lead D-Pb	0.050	mg/L	0.23	0.07	-0.05	-0.05	-0.05	0.06	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.03	0.02	0.02	0.043	0.024	0.03	0.02	0.028
Magnesium D-Mg	0.10	mg/L	244	87.4	241	248	287	214	220	283
Manganese D-Mn	0.0050	mg/L	3.41	2.06	3.94	3.34	1.95	3.09	3.02	1.88
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.08	0.05	0.06	0.119	0.088	0.08	0.08	0.098
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	11	6	10	8.1	8.6	7	8	8.4
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	5.91	2.94	5.46	5.11	5.5	4.6	4.71	5.34
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02
Sodium D-Na	2.0	mg/L	30	17	25	26.7	29.9	28	30	29.4
Strontium D-Sr	0.0050	mg/L	2.86	1.11	2.35	2.73	2.93	2.27	2.34	2.84
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.04	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	34.6	13.6	21.9	57.8	35.1	36.8	36.3	34
Water Type			2	2	2	2	2	2	2	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD02	SRK-FD02 Duplicate	SRK-FD02B	SRK-FD03	SRK-FD04	SRK-FD04	SRK-FD04	SRK-FD04B
Date Sampled			6/10/2002	6/10/2002	9/13/2003	5/27/2004	6/10/2002	9/11/2002	9/13/2003	6/6/2003
Field Parameters										
pH (WTW)			7.88	7.88	7.55	See FD19	2.32	2.54	2.39	2.24
Conductivity (uS/cm)		uS/cm	1558	1558	1320		23500	7350	34400	22000
Temperature (C)		OC	1.6	1.6	5.9		17.3	6.2	5	15.6
ORP (mV)		mV	248	248	421		460	460	600	613
Flow (L/min)		L/min	20	20	Trace		No Flow	ponded	None	0
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1520	1530	1230	4460	22600	6370	32300	21900
pH	0.010		8.2	8.21	8	7.43	2.33	2.7	2.38	2.4
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	4	3	14	91.9	39900	5780	49500	28700
Alkalinity-Total CaCO3	1.0	mg/L	165	166	155	288	-1	-1	-1	-1
Chloride Cl	0.50	mg/L	1.2	1.2	0.9	1.19	240	78	1050	-0.5
Sulphate SO4	0.50	mg/L	704	831	597	3040	43300	7490	59000	32300
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	857	137	986	27
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-8	-1	-10	-10
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	87	9	17	-10
Barium D-Ba	0.010	mg/L	0.03	0.03	0.03	0.02	-0.4	-0.05	-0.5	-0.5
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.2	-0.03	-0.3	-0.3
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-10	-1	-10	-10
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-4	-0.5	-5	-5
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	0.01	0.026	14.4	1.68	15.5	7
Calcium D-Ca	0.050	mg/L	248	232	223	443	504	160	398	449
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.02	1.1	0.22	0.9	-0.5
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	0.117	9.8	1.38	11.3	20
Copper D-Cu	0.010	mg/L	-0.01	-0.01	0.01	0.015	559	55.4	132	-0.5
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	9170	1420	15100	1300
Lead D-Pb	0.050	mg/L	-0.05	-0.05	0.15	-0.05	-2	-0.3	-3	-3
Lithium D-Li	0.010	mg/L	-0.01	0.01	0.01	0.058	0.8	0.2	1.3	-0.5
Magnesium D-Mg	0.10	mg/L	40.5	38.1	26.8	469	1000	190	2220	3210
Manganese D-Mn	0.0050	mg/L	0.028	0.026	0.422	11.5	811	125	448	2360
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-2	-0.2	-2	-2
Nickel D-Ni	0.050	mg/L	-0.05	-0.05	-0.05	0.375	6	0.8	9	15
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-20	-2	22	-20
Potassium D-K	2.0	mg/L	5	5	4	8.7	-80	-10	-100	-100
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-8	-1	-10	-10
Silicon D-Si	0.050	mg/L	4.5	4.28	3.92	4.21	82	16.4	39	23
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.6	-0.05	-0.5	-0.5
Sodium D-Na	2.0	mg/L	96	91	28	19.4	-80	-10	-100	-100
Strontium D-Sr	0.0050	mg/L	1.4	1.31	0.927	2.94	0.5	0.22	-0.3	0.9
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-20	-1	-10	-10
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-2	-0.2	-2	-2
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.4	-0.05	-0.5	-0.5
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-2	-0.2	-2	-2
Zinc D-Zn	0.0050	mg/L	0.166	0.153	5.27	51.8	9210	1230	10900	6380
Water Type			1	1	1	2	3	3	3	3

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD05	SRK-FD05	SRK-FD05	SRK-FD05	SRK-FD05B	SRK-FD05C dup	SRK-FD05C dup	SRK-FD06
Date Sampled			6/12/2002	9/10/2002	5/27/2004	9/24/2004	6/5/2003	9/12/2003	9/12/2003	6/12/2002
Field Parameters										
pH (WTW)			7.23	6.97	7.12	7.31	7.1	7.75		7.21
Conductivity (uS/cm)		uS/cm	1252	882	1239	935	1664	1161		1118
Temperature (C)		OC	1.2	1.9	1.4	3.4	1.3	8.8		1.5
ORP (mV)		mV	317	225	349	307	473	361		217
Flow (L/min)		L/min	10	60	30	82	Abundant	30		10
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1240	875	1270	885	1590	1150	1140	1110
pH	0.010		7.87	7.65	7.89	8.02	7.72	8.2	8.15	7.97
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	16	18	11.7	3.8	17	3	4	12
Alkalinity-Total CaCO3	1.0	mg/L	215	172	228	203	241	190	187	209
Chloride Cl	0.50	mg/L	2.4	1.3	1.72	-2.5	2	1.9	2.1	2.4
Sulphate SO4	0.50	mg/L	440	266	428	270	774	427	428	382
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.03	0.02	0.039	0.024	0.04	0.04	0.04	0.02
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	151	104	131	94.6	174	153	153	112
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.03	0.02	0.037	0.018	0.03	0.02	0.02	0.03
Magnesium D-Mg	0.10	mg/L	90	53.4	87.9	57	150	68.9	69	85.3
Manganese D-Mn	0.0050	mg/L	0.057	-0.005	0.438	-0.005	0.193	-0.005	-0.005	0.036
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.06	-0.05	-0.05	-0.05	0.06	-0.05	-0.05	-0.05
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	5	3	4.2	4.3	5	3	3	4
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	5.74	5.29	5.22	5.57	5.48	5.29	5.3	5.3
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	8	5	6.7	5	9	7	6	7
Strontium D-Sr	0.0050	mg/L	0.64	0.439	0.571	0.418	0.734	0.701	0.695	0.466
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	2.15	1.08	2.33	1.36	4.51	0.526	0.525	2.79
Water Type			1	1	1	1	1	1	1	1

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD06B	SRK-FD06C	SRK-FD07	SRK-FD08	SRK-FD09	SRK-FD10	SRK-FD10	SRK-FD10 duplicate
Date Sampled			9/10/2002	9/12/2003	6/12/2002	6/12/2002	6/12/2002	6/12/2002	9/10/2002	6/12/2002
Field Parameters										
pH (WTW)			7.24	7.15	7.31	5.76	6.98	6.17	6.25	
Conductivity (uS/cm)		uS/cm	1045	1745	1050	2560	2560	5720	7780	
Temperature (C)		OC	2.2	2	2.4	8.9	5.9	4.9	5.3	
ORP (mV)		mV	324	412	260	188	235	87	145	
Flow (L/min)		L/min	240	120	No Flow	No Flow	No Flow	80	300	
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1020	1410	1020	1540	2450	5440	5440	5580
pH	0.010		7.85	8.1	7.89	7.32	7.12	6.36	6.58	6.9
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	14	7	13	24	61	434	578	432
Alkalinity-Total CaCO3	1.0	mg/L	191	211	125	22	54	350	319	350
Chloride Cl	0.50	mg/L	1.1	2.1	0.8	0.8	1.8	17.5	17.5	17.6
Sulphate SO4	0.50	mg/L	355	593	484	995	1710	4380	4600	4340
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4	-0.2
Barium D-Ba	0.010	mg/L	0.01	0.03	-0.01	0.02	0.02	0.02	-0.02	0.02
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.01	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.4	-0.3
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	0.01	0.05	0.02	0.05
Calcium D-Ca	0.050	mg/L	95.7	138	97.8	166	216	538	552	531
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	0.01	-0.01	0.03	0.47	0.45	0.47
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	0.01	-0.01	-0.02	-0.02
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	0.07	0.05	37	57.8	36.7
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	0.1	-0.05	-0.1	-0.05
Lithium D-Li	0.010	mg/L	0.02	0.03	0.13	-0.01	0.08	0.18	0.13	0.18
Magnesium D-Mg	0.10	mg/L	86.9	131	69.8	114	284	686	630	677
Manganese D-Mn	0.0050	mg/L	-0.005	-0.005	0.278	0.188	0.844	54	53.9	53.3
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.06	-0.03
Nickel D-Ni	0.050	mg/L	-0.05	-0.05	-0.05	0.06	0.16	0.66	0.6	0.65
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.6	-0.3
Potassium D-K	2.0	mg/L	3	4	8	3	13	17	15	18
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4	-0.2
Silicon D-Si	0.050	mg/L	5.37	5.45	1.15	6.27	3.07	7.59	7.3	7.46
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.01
Sodium D-Na	2.0	mg/L	5	7	25	5	7	69	60	68
Strontium D-Sr	0.0050	mg/L	0.42	0.637	1.06	0.473	0.758	3.86	3.67	3.8
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4	-0.4	-0.4
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	0.03	-0.06	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.06	-0.03
Zinc D-Zn	0.0050	mg/L	2.04	1.98	3.89	3.88	26.4	215	223	211
Water Type			1	1	1	2	2	2	2	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD12	SRK-FD12	SRK-FD13	SRK-FD13	SRK-FD13	SRK-FD13	SRK-FD14	SRK-FD14
Date Sampled			6/12/2002	9/10/2002	6/12/2002	9/12/2002	6/5/2003	5/26/2004	6/12/2002	9/12/2002
Field Parameters										
pH (WTW)			6.42	6.24	3.23	4.52	5.91	not recorded	8.14	7.78
Conductivity (uS/cm)		uS/cm	5760	5740	5670	2990	2820	5370	2740	3400
Temperature (C)		OC	5.5	5.2	15.5	8.1	12.8	not recorded	15.3	9.4
ORP (mV)		mV	81	173	382	400	477	638	241	275
Flow (L/min)		L/min	2.4	120	-1	slight	0	4	-1	3
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	5560	5400	5460	2960	2710	5170	2860	3360
pH	0.010		6.98	6.91	3.36	4.72	6.93	2.83	7.7	8.23
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	420	519	1720	200	177	2760	24	8
Alkalinity-Total CaCO3	1.0	mg/L	338	320	-1	12	21	-1	112	137
Chloride Cl	0.50	mg/L	15	14.4	0.7	-0.5	-0.5	1.15	1.3	-0.5
Sulphate SO4	0.50	mg/L	4480	4220	4780	2090	2290	4500	2260	2470
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.4	21.7	0.3	-0.2	40.7	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.4	-0.6	-0.2	-0.2	-1	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.4	-0.6	-0.2	-0.2	-1	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.02	-0.02	-0.03	-0.01	-0.01	-0.05	0.01	-0.01
Beryllium D-Be	0.0050	mg/L	-0.005	-0.01	0.02	-0.005	-0.005	-0.025	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.3	-0.4	-0.9	-0.6	-0.2	-1	-0.2	-0.8
Boron D-B	0.10	mg/L	-0.1	-0.2	-0.3	-0.1	-0.1	-0.5	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	0.16	0.08	0.85	0.1	0.12	0.967	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	542	563	299	268	277	104	223	263
Chromium D-Cr	0.010	mg/L	-0.02	-0.02	-0.03	-0.01	-0.01	0.085	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	0.47	0.43	1.53	0.28	0.3	1.31	-0.01	-0.01
Copper D-Cu	0.010	mg/L	0.3	0.11	4.54	0.12	0.04	7.49	-0.01	-0.01
Iron D-Fe	0.030	mg/L	23.4	35.7	284	0.45	0.13	550	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.1	1.6	0.31	0.24	-0.25	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.15	0.12	0.29	0.18	0.14	0.156	0.23	0.2
Magnesium D-Mg	0.10	mg/L	682	627	502	319	255	356	314	378
Manganese D-Mn	0.0050	mg/L	50.4	49.1	64.3	12.6	14.9	60.3	0.041	0.014
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.06	-0.09	-0.03	-0.03	-0.15	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.72	0.7	3.2	0.76	0.68	2.19	0.07	0.09
Phosphorus D-P	0.30	mg/L	-0.3	-0.6	-0.9	-0.3	-0.3	-1.5	-0.3	-0.3
Potassium D-K	2.0	mg/L	16	13	12	13	12	-10	24	21
Selenium D-Se	0.20	mg/L	-0.2	-0.4	-0.6	-0.2	-0.2	-1	-0.2	-0.2
Silicon D-Si	0.050	mg/L	7.46	7.3	7.8	1.76	2.43	5	0.8	0.87
Silver D-Ag	0.010	mg/L	-0.02	-0.02	-0.03	-0.01	-0.01	-0.05	-0.01	-0.01
Sodium D-Na	2.0	mg/L	57	50	12	36	13	-10	122	119
Strontium D-Sr	0.0050	mg/L	3.55	3.48	0.69	1.01	0.811	0.233	3.32	3.75
Thallium D-Tl	0.20	mg/L	-0.3	-0.4	-0.6	-0.2	-0.2	-1	-0.3	-0.2
Tin D-Sn	0.030	mg/L	0.03	-0.06	-0.09	-0.03	-0.03	-0.15	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.02	-0.03	-0.01	-0.01	-0.05	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.06	-0.09	-0.03	-0.03	-0.15	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	231	219	751	96.5	112	877	1.72	4.95
Water Type			2	2	3	3	3	3	1	1

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD14	SRK-FD14B	SRK-FD16	SRK-FD16	SRK-FD16	SRK-FD16	SRK-FD16	SRK-FD17
Date Sampled			5/26/2004	6/6/2003	6/13/2002	6/5/2003	9/11/2003	5/27/2004	9/26/2004	6/13/2002
Field Parameters										
pH (WTW)			7.13	6.92	6.61	7.42	7.54	7.06	6.75	7.16
Conductivity (uS/cm)		uS/cm	1090	1499	84	67	125	52	146	103
Temperature (C)		OC	12	8.8	2.1	1.4	4.1	0.8	3.9	1.6
ORP (mV)		mV	395	643	298	508	505	438	625	321
Flow (L/min)		L/min	1.75	0.6	300	40	240	600	90	25.5
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1100	2030	82	64	126	46.8	149	101
pH	0.010		8.08	7.7	7.79	7.32	8.37	8.16	7.73	8
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	3	15	9	3	-1	1.4	4	7
Alkalinity-Total CaCO3	1.0	mg/L	76.1	85	37	30	60	21.3	66.8	42
Chloride Cl	0.50	mg/L	-0.5	-0.5	-0.5	0.7	0.8	0.67	-0.5	0.6
Sulphate SO4	0.50	mg/L	513	1420	10	5	7	3.1	8.48	10
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.018	0.01	0.02	0.02	0.05	0.016	0.064	0.03
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	71.5	146	12.9	9.97	19.6	7.46	23.6	15.3
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	0.06	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	0.89	-0.03	-0.03	0.03	0.047	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.05	0.11	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Magnesium D-Mg	0.10	mg/L	88	156	1.9	1.5	2.8	1.09	3.34	2.6
Manganese D-Mn	0.0050	mg/L	0.116	0.363	-0.005	-0.005	0.018	-0.005	0.0071	-0.005
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.056	0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	7.9	9	-2	-2	-2	-2	-2	-2
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	0.491	1.08	5.9	5.41	6.75	4.05	6.91	5.5
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	23	122	-2	-2	-2	-2	2.2	-2
Strontium D-Sr	0.0050	mg/L	1.05	1.23	0.045	0.037	0.071	0.0271	0.0875	0.046
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	1.01	11.2	0.01	0.01	0.013	0.0111	0.0116	0.081
Water Type			1	2	1	1	1	1	1	1

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD17	SRK-FD18	SRK-FD18	SRK-FD18	SRK-FD18	SRK-FD18	SRK-FD18	SRK-FD19
Date Sampled			9/12/2002	6/13/2002	9/12/2002	6/5/2003	9/11/2003	5/27/2004	9/26/2004	6/13/2002
Field Parameters										
pH (WTW)			7.35	6.98	7.33	7.12	6.82	6.89	6.77	6.98
Conductivity (uS/cm)		uS/cm	130	177	173	152	141	170	148	5030
Temperature (C)		OC	3.5	1.6	3.2	1.1	4	1.2	3.1	0
ORP (mV)		mV	316	307	334	515	536	450	572	259
Flow (L/min)		L/min	1.5		1.5	75	Trace	12.5	0.25	30
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	130	173	170	151	142	157	150	4710
pH	0.010		7.68	8.01	7.72	7.51	8.15	7.96	7.67	7.52
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	4	11	4	5	2	3.2	7.5	91
Alkalinity-Total CaCO3	1.0	mg/L	54	55	65	57	61	54.3	67.6	394
Chloride Cl	0.50	mg/L	-0.5	0.5	-0.5	1.1	0.8	-0.5	-0.5	2
Sulphate SO4	0.50	mg/L	11	28	19	21	11	28	9.15	3380
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.04	0.06	0.06	0.06	0.08	0.068	0.087	0.04
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	19.1	26.4	26.3	22	21.9	24.2	23.6	595
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.06
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	0.06
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.03
Magnesium D-Mg	0.10	mg/L	3.1	4.6	4.3	4	3.4	4.14	3.45	584
Manganese D-Mn	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	16.5
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.35
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	2	-2	-2	-2	-2	-2	-2	11
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	6.22	5.35	6.21	5.04	6.55	4.71	6.62	6.44
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	-2	-2	2	-2	-2	-2	2.1	22
Strontium D-Sr	0.0050	mg/L	0.076	0.095	0.099	0.084	0.083	0.0912	0.0883	3.28
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	0.088	0.102	0.101	0.082	0.119	0.113	0.163	43.9
Water Type			1	1	1	1	1	1	2	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD19	SRK-FD19	SRK-FD19	SRK-FD19	SRK-FD19 Duplicate	SRK-FD19B	SRK-FD20	SRK-FD20
Date Sampled			9/11/2002	6/6/2003	5/27/2004	9/26/2004	9/11/2002	9/13/2003	6/13/2002	9/13/2002
Field Parameters										
pH (WTW)			6.87	7.32	6.65	6.44		7.25	3.18	2.78
Conductivity (uS/cm)		uS/cm	5110	3550	4340	5690		5240	555	1875
Temperature (C)		OC	0.2	1.3	0.2	1.1		0.3	8.2	0.9
ORP (mV)		mV	283	444	397	461		470	492	586
Flow (L/min)		L/min	30	30	150	0.1		5.2	0.5	60
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	4900	4710	3940	5470	5000	5070	572	1820
pH	0.010		7.21	7.76	7.45	7.51	7.27	7.75	3.18	2.82
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	115	68	90.3	114	119	67	135	8750
Alkalinity-Total CaCO3	1.0	mg/L	386	407	279	406	362	403	-1	12
Chloride Cl	0.50	mg/L	1.6	2.3	1.55	-10	1.5	2.5	0.6	-0.5
Sulphate SO4	0.50	mg/L	3810	3670	3070	4110	3720	3860	193	1170
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.4	-0.2	-0.2	-0.2	-0.4	-0.2	9.1	46.8
Antimony D-Sb	0.20	mg/L	-0.4	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.4	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.04	0.04	0.02	0.059	0.04	0.05	0.03	0.04
Beryllium D-Be	0.0050	mg/L	-0.01	-0.005	-0.005	-0.005	-0.01	-0.005	-0.005	0.006
Bismuth D-Bi	0.20	mg/L	-0.4	-0.4	-0.2	-0.4	-0.4	-0.5	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.02	-0.01	0.028	-0.02	-0.02	-0.01	-0.01	0.08
Calcium D-Ca	0.050	mg/L	628	584	456	617	604	598	10.2	35.2
Chromium D-Cr	0.010	mg/L	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01	0.01	0.07
Cobalt D-Co	0.010	mg/L	0.06	0.04	0.128	0.057	0.06	0.06	0.05	0.25
Copper D-Cu	0.010	mg/L	0.12	-0.01	0.016	-0.01	-0.02	-0.01	0.99	8.06
Iron D-Fe	0.030	mg/L	2.94	0.07	-0.03	0.125	0.09	0.07	16.9	173
Lead D-Pb	0.050	mg/L	-0.1	-0.05	-0.05	-0.05	-0.1	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.03	0.03	0.062	0.029	0.03	0.02	0.01	0.08
Magnesium D-Mg	0.10	mg/L	574	536	484	667	555	538	9.1	35.8
Manganese D-Mn	0.0050	mg/L	19.3	16.1	11.7	24	18.4	19.2	0.603	2.31
Molybdenum D-Mo	0.030	mg/L	-0.06	-0.03	-0.03	-0.03	-0.06	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.3	0.27	0.341	0.464	0.3	0.3	0.06	0.24
Phosphorus D-P	0.30	mg/L	-0.6	-0.3	-0.3	-0.3	-0.6	-0.3	-0.3	0.7
Potassium D-K	2.0	mg/L	10	9	9	9.9	10	8	-2	-2
Selenium D-Se	0.20	mg/L	-0.4	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	6.3	5.95	4.3	6.6	6.1	6.23	10.8	16.7
Silver D-Ag	0.010	mg/L	-0.02	-0.01	-0.01	-0.01	-0.02	-0.02	-0.01	-0.01
Sodium D-Na	2.0	mg/L	20	18	19.7	20.9	19	18	2	4
Strontium D-Sr	0.0050	mg/L	3.29	2.95	3	3.49	3.18	3.02	0.046	0.145
Thallium D-Tl	0.20	mg/L	-0.4	-0.2	-0.2	-0.4	-0.4	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.06	-0.03	-0.03	-0.03	-0.06	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.06	-0.03	-0.03	-0.03	-0.06	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	51.3	40.8	52.9	68.7	46.8	44.9	7.93	59.8
Water Type			2	2	2	2	2	2	3	3

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD20	SRK-FD20	SRK-FD21	SRK-FD21	SRK-FD21	SRK-FD21B	SRK-FD21B	SRK-FD22
Date Sampled			6/5/2003	9/12/2003	6/13/2002	5/30/2004	9/26/2004	9/13/2002	6/5/2003	6/13/2002
Field Parameters										
pH (WTW)			3.39	2.93	4.57	3.56	6.81	5.21	6.61	6.59
Conductivity (uS/cm)		uS/cm	291	834	4370	2840	2550	2860	3270	2270
Temperature (C)		OC	2.3	2.2	7.1	6.5	1.6	1.6	11.5	13.4
ORP (mV)		mV	723	778	418	700		371	372	271
Flow (L/min)		L/min	0	2	1.5	9	Trace	slight	2.7	Trace Flow
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	189	771	4130	2780	2520	2820	3220	2150
pH	0.010		4.2	3.66	4.51	3.8	8	5.37	7.51	7.72
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	28	176	283	282	23.9	35	40	25
Alkalinity-Total CaCO3	1.0	mg/L	-1	-1	8	-1	10.4	8	21	179
Chloride Cl	0.50	mg/L	0.6	-0.5	0.8	1.08	-5	-0.5	-0.5	0.7
Sulphate SO4	0.50	mg/L	69	248	3540	1970	1710	1980	2650	1390
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	1.8	11.3	27.3	30.5	0.58	1.5	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.03	0.04	-0.01	0.015	-0.01	-0.01	0.01	-0.01
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	0.009	0.0088	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	-0.3
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	0.02	0.17	0.106	0.035	0.05	0.08	0.01
Calcium D-Ca	0.050	mg/L	6.45	18	410	335	283	322	378	346
Chromium D-Cr	0.010	mg/L	-0.01	0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	0.06	0.28	0.243	0.021	0.03	0.06	0.02
Copper D-Cu	0.010	mg/L	0.24	1.94	2.59	2.33	0.12	0.3	0.12	-0.01
Iron D-Fe	0.030	mg/L	1.45	32.2	0.06	5.18	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	0.09	0.19	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	-0.01	0.03	0.11	0.096	0.035	0.03	0.04	0.07
Magnesium D-Mg	0.10	mg/L	3.8	13.2	504	219	234	256	358	158
Manganese D-Mn	0.0050	mg/L	0.161	0.672	6.79	4.47	1.4	1.26	2.06	1.24
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	-0.05	0.08	0.53	0.317	0.232	0.18	0.25	0.07
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	-2	-2	14	8.1	8.2	10	11	9
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	9.49	13.9	8.54	9.46	3.05	3.15	4.02	2.51
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	2	3	14	5.8	6.6	8	10	4
Strontium D-Sr	0.0050	mg/L	0.044	0.095	1.73	1.08	0.961	1.02	1.35	1.23
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	2.2	13.4	65	44.1	15.2	17	26.2	7.19
Water Type			3	3	3	3	2	3	2	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD22B	SRK-FD22B	SRK-FD23	SRK-FD23	SRK-FD23B	SRK-FD23B	SRK-FD24	SRK-FD24
Date Sampled			9/12/2002	6/8/2003	6/13/2002	5/30/2004	9/13/2002	9/12/2003	6/13/2002	9/13/2002
Field Parameters										
pH (WTW)			5.45	6.84	6.39	5.74	4.27	6.19	6.95	5.12
Conductivity (uS/cm)		uS/cm	1766	1460	729	875	1403	772	1323	902
Temperature (C)		OC	12	8.1	19.4	16.2	36.9	8.8	8.4	3.2
ORP (mV)		mV	288	632	113	288	235	299	71	196
Flow (L/min)		L/min	slight	Trace	Trace Flow	Trace	5	Trace	300	1000
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1740	1520	708	859	1450	723	1310	884
pH	0.010		6.7	7.48	7.42	6.48	4.46	5.47	7.32	7.32
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	70	65	27	36.7	227	50	46	27
Alkalinity-Total CaCO3	1.0	mg/L	15	47	31	8.9	92	4	88	90
Chloride Cl	0.50	mg/L	-0.5	-0.5	2.1	1.45	0.7	1.3	2	1
Sulphate SO4	0.50	mg/L	1130	1120	346	474	801	378	710	406
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	1.4	1.6	-0.2	-0.2	0.6	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.01	0.03	-0.01	0.014	-0.01	0.01	-0.01	0.01
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	0.07	0.07	0.08	0.103	0.22	0.09	0.03	0.02
Calcium D-Ca	0.050	mg/L	239	235	49.1	65.6	73.5	50.7	138	77.7
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	0.04	0.06	0.13	0.166	0.38	0.15	0.06	0.04
Copper D-Cu	0.010	mg/L	0.45	0.5	-0.01	0.043	0.2	0.05	0.03	0.03
Iron D-Fe	0.030	mg/L	0.07	0.07	2.14	6.57	50	20.2	2.47	2.51
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.07	0.07	0.04	0.064	0.06	0.05	0.04	0.03
Magnesium D-Mg	0.10	mg/L	88.2	91.2	53.6	62.1	104	57.5	90.4	52.2
Manganese D-Mn	0.0050	mg/L	2.37	3.71	2.84	3.77	7.44	3.31	2.46	1.21
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.06	0.09	0.13	0.171	0.37	0.14	0.11	0.05
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	9	8	3	3.5	3	3	4	4
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	3.37	3.5	3.65	3.82	5.21	4	5.1	4.22
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	5	5	3	3.2	3	3	4	3
Strontium D-Sr	0.0050	mg/L	0.816	0.836	0.183	0.229	0.23	0.185	0.449	0.252
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	41	42.7	8.89	14.3	43.4	15.9	26.8	13.3
Water Type			3	2	2	2	3	2	2	3

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD24	SRK-FD24	SRK-FD24	SRK-FD24	SRK-FD24 Duplicate	SRK-FD24 Duplicate	SRK-FD26	SRK-FD26
Date Sampled			6/5/2003	9/12/2003	5/30/2004	9/26/2004	6/13/2002	9/13/2002	6/13/2002	9/12/2002
Field Parameters										
pH (WTW)			6.46	6.85	6.34	6.82			6.76	6.56
Conductivity (uS/cm)		uS/cm	1335	1446	1689	830			875	1117
Temperature (C)		OC	13.5	2.6	8	2.8			2.7	2.6
ORP (mV)		mV	325	331	285	306			212	345
Flow (L/min)		L/min	10	21	12	120			Good Flow	>1000
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1370	921	1670	828	1280	883	797	1030
pH	0.010		7.42	6.91	6.9	7.91	7.43	7.84	7.68	7.51
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	38	45	79.7	17.4	44	26	17	15
Alkalinity-Total CaCO3	1.0	mg/L	59	82	43.2	103	88	93	163	198
Chloride Cl	0.50	mg/L	0.8	1.3	1.32	-2.5	1.9	0.6	1.8	1.2
Sulphate SO4	0.50	mg/L	864	444	1020	345	793	400	298	391
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	-0.01	0.02	0.016	0.017	-0.01	0.01	0.02	0.03
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	0.02	0.02	0.059	0.016	0.03	0.02	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	169	92.4	176	89.8	135	80.2	82.2	116
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	0.06	0.05	0.138	0.022	0.06	0.03	-0.01	-0.01
Copper D-Cu	0.010	mg/L	0.02	0.04	0.148	0.034	0.03	0.02	-0.01	-0.01
Iron D-Fe	0.030	mg/L	5.35	3.47	6.18	2.44	2.39	2.61	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	0.069	0.091	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.04	0.03	0.053	0.027	0.04	0.03	0.02	0.03
Magnesium D-Mg	0.10	mg/L	99.2	65.6	119	51.9	88	54.1	51.4	76.3
Manganese D-Mn	0.0050	mg/L	2.79	1.65	5.37	1.02	2.41	1.26	0.081	0.151
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.12	0.07	0.171	-0.05	0.11	0.06	-0.05	-0.05
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	5	3	4.8	4.1	4	2	3	4
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	6.07	5.44	5.71	4.11	4.95	4.37	4.9	5.79
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	5	4	4.2	3.6	4	3	4	6
Strontium D-Sr	0.0050	mg/L	0.494	0.309	0.561	0.293	0.438	0.26	0.32	0.461
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	25.2	18.9	45.6	9.7	26.3	13.8	1.28	2.02
Water Type			2	2	2		2	3	1	1

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD26	SRK-FD26	SRK-FD26	SRK-FD26	SRK-FD26 dup	SRK-FD26 Duplicate	SRK-FD26 Duplicate	SRK-FD27
Date Sampled			6/5/2003	9/12/2003	5/30/2004	9/26/2004	5/30/2004	9/12/2002	6/5/2003	6/13/2002
Field Parameters										
pH (WTW)			6.78	6.85	6.55	7.29	See FD26		#N/A	6.98
Conductivity (uS/cm)		uS/cm	1209	1446	1160	1487			#N/A	1552
Temperature (C)		OC	2.9	2.6	3	2.7			#N/A	18.8
ORP (mV)		mV	418	331	380	358			#N/A	237
Flow (L/min)		L/min	400	21	23.2	180			#N/A	Trace Flow
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1160	1410	1180	1460	1170	1020	1160	1510
pH	0.010		7.62	7.48	7.63	7.98	7.63	7.33	7.57	7.46
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	17	29	15.3	12.7	16.8	27	16	48
Alkalinity-Total CaCO3	1.0	mg/L	229	242	189	233	184	199	222	43
Chloride Cl	0.50	mg/L	2.3	2.7	1.48	-2.5	1.23	1.3	2.3	0.5
Sulphate SO4	0.50	mg/L	501	617	446	618	432	383	457	1050
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.03	0.03	0.024	0.027	0.027	0.03	0.03	-0.01
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.04
Calcium D-Ca	0.050	mg/L	127	151	112	158	117	113	128	140
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.03
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.03	0.04	0.029	0.037	0.023	0.02	0.03	0.09
Magnesium D-Mg	0.10	mg/L	95.2	114	81.3	124	85	74	96.3	123
Manganese D-Mn	0.0050	mg/L	0.088	0.351	0.0975	0.263	0.103	0.144	0.087	1.46
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.11
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	4	4	2.4	4.4	2.7	3	4	8
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	5.79	5.34	5.09	5.16	5.33	5.63	5.81	1.69
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	7	8	5.7	8.8	5.8	6	8	3
Strontium D-Sr	0.0050	mg/L	0.529	0.632	0.475	0.668	0.498	0.448	0.527	0.617
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	1.49	3.81	2.57	2.97	2.71	1.96	1.5	29.4
Water Type			1	1	1	1	1	1	1	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD27 9/12/2002	SRK-FD27 6/5/2003	SRK-FD27 5/26/2004	SRK-FD30 9/10/2002	SRK-FD30 6/6/2003	SRK-FD30 9/13/2003	SRK-FD30 5/26/2004	SRK-FD31 9/10/2002
Field Parameters										
pH (WTW)			3.33	6.91	6.56	6.4	6.09	5.9	6.06	6.37
Conductivity (uS/cm)		uS/cm	2590	1375	1392	3740	2100	3330	2180	5750
Temperature (C)		OC	11.6	17.3	7.5	6.6	11.9	5.8	9.9	6.2
ORP (mV)		mV	392	369	328	360	657	423	380	181
Flow (L/min)		L/min	slight	0	1	ponded	0	None	None	300
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	2350	1350	1530	3590	1850	2600	2060	5420
pH	0.010		3.86	7.55	6.78	6.91	7.7	7.68	7.51	6.46
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	350	37	168	60	37	21	38.3	585
Alkalinity-Total CaCO3	1.0	mg/L	-1	52	13.6	36	25	61	30.7	333
Chloride Cl	0.50	mg/L	-0.5	-0.5	0.67	0.9	0.5	1.4	0.6	15
Sulphate SO4	0.50	mg/L	1650	847	948	2670	1430	1800	1270	4350
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	9.2	-0.2	1.17	-0.4	-0.2	-0.2	-0.2	-0.4
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2	-0.4
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2	-0.4
Barium D-Ba	0.010	mg/L	-0.01	0.01	0.02	-0.02	0.02	0.02	0.036	-0.02
Beryllium D-Be	0.0050	mg/L	0.005	-0.005	-0.005	-0.01	-0.005	-0.005	-0.005	-0.01
Bismuth D-Bi	0.20	mg/L	-0.3	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2	-0.4
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2
Cadmium D-Cd	0.010	mg/L	0.25	0.04	0.104	-0.02	-0.01	-0.01	0.013	0.08
Calcium D-Ca	0.050	mg/L	240	133	128	261	199	218	182	576
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.02
Cobalt D-Co	0.010	mg/L	0.2	0.02	0.132	0.09	0.01	0.1	0.029	0.44
Copper D-Cu	0.010	mg/L	3.3	0.02	0.704	-0.02	-0.01	-0.01	0.034	0.12
Iron D-Fe	0.030	mg/L	40.4	0.06	15.9	-0.06	0.17	2.54	0.084	36.7
Lead D-Pb	0.050	mg/L	0.81	-0.05	0.084	-0.1	-0.05	-0.05	-0.05	-0.1
Lithium D-Li	0.010	mg/L	0.11	0.07	0.072	0.22	0.09	0.17	0.076	0.12
Magnesium D-Mg	0.10	mg/L	166	110	95.2	472	195	317	179	640
Manganese D-Mn	0.0050	mg/L	9.38	1.55	6.16	7.52	0.566	6.72	1.33	50.3
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.06	-0.03	-0.03	-0.03	-0.06
Nickel D-Ni	0.050	mg/L	0.35	0.1	0.321	0.6	0.21	0.33	0.073	0.7
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.6	-0.3	-0.3	-0.3	-0.6
Potassium D-K	2.0	mg/L	8	8	4.2	12	7	11	6.3	13
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2	-0.4
Silicon D-Si	0.050	mg/L	6.66	1.95	2.18	2.6	4.08	6.29	1.62	7.5
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.02
Sodium D-Na	2.0	mg/L	4	3	-2	14	12	17	5.6	51
Strontium D-Sr	0.0050	mg/L	0.731	0.581	0.588	1.56	0.819	1.16	0.701	3.56
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.4	-0.2	-0.2	-0.2	-0.4
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.06	-0.03	-0.03	-0.03	-0.06
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.02
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.06	-0.03	-0.03	-0.03	-0.06
Zinc D-Zn	0.0050	mg/L	180	26.5	86.7	30.4	26.1	6.89	20.5	223
Water Type			3	2	2	2	2	2	2	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD31	SRK-FD31	SRK-FD31	SRK-FD31	SRK-FD31 Duplicate	SRK-FD32	SRK-FD33	SRK-FD33
Date Sampled			6/6/2003	09/13/2003	5/27/2004	9/26/2004	9/10/2002	9/10/2002	9/11/2002	6/8/2003
Field Parameters										
pH (WTW)			6.82	6.9	6.28	6.62		6.38	5.96	5.49
Conductivity (uS/cm)		uS/cm	5490	5620	6260	6680		3580	4540	5010
Temperature (C)		OC	10.4	6.4	7.7	5		9.6	6.2	10.9
ORP (mV)		mV	201	230	273	218		81	85	524
Flow (L/min)		L/min	120	120	300	78		60	30	Trace
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	5260	5430	5630	6260	5410	3410	4250	5210
pH	0.010		7.16	7.2	7	6.91	6.52	4.86	5.36	5.82
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	274	207	603	639	567	2160	1590	2780
Alkalinity-Total CaCO3	1.0	mg/L	301	331	204	127	330	13	31	14
Chloride Cl	0.50	mg/L	16.7	16.1	12.3	14	14.6	2.6	2.9	4.7
Sulphate SO4	0.50	mg/L	4560	4110	4190	5110	4300	2790	3620	5340
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.4	-0.4	-0.4	-0.6	-1	4
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.4	-0.4	-0.4	-0.6	-1	-4
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.4	-0.6	-0.4	-0.6	-1	-4
Barium D-Ba	0.010	mg/L	0.02	0.02	0.025	-0.02	0.02	-0.03	-0.05	-0.2
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.01	-0.01	-0.01	-0.02	-0.03	-0.1
Bismuth D-Bi	0.20	mg/L	-0.6	-0.9	-0.4	-0.4	-0.4	-0.6	-1	-4
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-0.5	-2
Cadmium D-Cd	0.010	mg/L	0.06	0.03	0.331	0.044	0.08	0.46	0.88	6.9
Calcium D-Ca	0.050	mg/L	517	519	509	445	567	322	355	475
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.05	-0.2
Cobalt D-Co	0.010	mg/L	0.38	0.41	0.825	0.644	0.45	0.5	0.9	1.7
Copper D-Cu	0.010	mg/L	0.04	0.03	0.638	0.027	0.12	-0.03	0.34	3.1
Iron D-Fe	0.030	mg/L	28.2	22.9	27.1	112	36.2	89.9	236	1.3
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.1	-0.1	-0.1	-0.2	-0.3	2
Lithium D-Li	0.010	mg/L	0.12	0.13	0.18	0.133	0.13	0.07	0.12	-0.2
Magnesium D-Mg	0.10	mg/L	655	694	726	669	629	168	221	211
Manganese D-Mn	0.0050	mg/L	48.6	49.9	63.3	61.5	49.3	36.5	63.4	64.2
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.06	-0.06	-0.06	-0.09	-0.2	-0.6
Nickel D-Ni	0.050	mg/L	0.58	0.58	1.25	0.81	0.7	0.6	0.8	-1
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.6	-0.6	-0.6	-0.9	-2	-6
Potassium D-K	2.0	mg/L	14	15	15.2	14.5	13	8	-10	-40
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.4	-0.4	-0.4	-0.6	-1	-4
Silicon D-Si	0.050	mg/L	6.93	7.21	7.51	6.22	7.4	4.2	6.5	9
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.05	-0.2
Sodium D-Na	2.0	mg/L	56	58	48.7	48.5	50	42	50	46
Strontium D-Sr	0.0050	mg/L	3.41	3.76	3.75	3.12	3.47	1.25	1.54	0.7
Thallium D-Tl	0.20	mg/L	0.2	-0.3	-0.4	-0.8	0.5	-0.6	-1	-4
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.06	-0.06	-0.06	-0.09	-0.2	-0.6
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.05	-0.2
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.06	-0.1	-0.06	-0.09	-0.2	-0.6
Zinc D-Zn	0.0050	mg/L	162	152	393	336	220	581	1110	2260
Water Type			2	2	2	2	2	2	3	3

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD33	SRK-FD34	SRK-FD35	SRK-FD35	SRK-FD35	SRK-FD36	SRK-FD36	SRK-FD37
Date Sampled			5/26/2004	9/11/2002	9/11/2002	5/26/2004	9/27/2004	9/11/2002	6/8/2003	9/11/2002
Field Parameters										
pH (WTW)			5.05	5.95	6.22	3.03	5.09	2.75	2.63	2.44
Conductivity (uS/cm)		uS/cm	10760	1242	1654	11320	5320	3540	4650	12740
Temperature (C)		OC	13	4.6	7	7.3	10	5.5	7.6	10.1
ORP (mV)		mV	376	152	266	578	491	521	752	438
Flow (L/min)		L/min	0.5	60	30	-0.1	0.1	10	0.75	300
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	10400	1190	1600	8990	2500	3410	4250	12700
pH	0.010		4.01	6.63	6.54	2.95	5.43	2.78	2.72	2.66
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	6100	227	37	6290	213	1530	2500	12500
Alkalinity-Total CaCO3	1.0	mg/L	12.8	8	33	-1	8.7	-1	-1	-1
Chloride Cl	0.50	mg/L	-0.5	0.5	1.7	2.08	-5	19.4	23.8	-0.5
Sulphate SO4	0.50	mg/L	10000	700	962	9220	1700	2810	3460	16500
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	7.5	-0.2	0.3	216	2.41	38.9	73	117
Antimony D-Sb	0.20	mg/L	-6	-0.2	-0.2	-2	-0.2	-0.2	-0.2	-6
Arsenic D-As	0.20	mg/L	-6	-0.2	-0.2	2.1	-0.2	-0.2	-0.2	28
Barium D-Ba	0.010	mg/L	-0.3	0.03	0.01	-0.1	-0.01	-0.01	-0.01	-0.3
Beryllium D-Be	0.0050	mg/L	-0.15	-0.005	-0.005	-0.05	-0.005	0.011	0.021	-0.2
Bismuth D-Bi	0.20	mg/L	-6	-0.2	-0.2	-2	-0.2	-0.2	-0.2	-6
Boron D-B	0.10	mg/L	-3	-0.1	-0.1	-1	-0.1	-0.1	-0.1	-3
Cadmium D-Cd	0.010	mg/L	4.55	0.12	-0.01	2.79	0.127	0.23	0.37	12.6
Calcium D-Ca	0.050	mg/L	508	107	272	392	458	250	361	268
Chromium D-Cr	0.010	mg/L	-0.3	-0.01	-0.01	-0.1	-0.01	0.12	0.2	-0.3
Cobalt D-Co	0.010	mg/L	2.92	0.08	0.03	2.77	0.091	0.52	0.87	4.8
Copper D-Cu	0.010	mg/L	1.38	0.14	0.07	8.33	0.117	4.2	6.75	133
Iron D-Fe	0.030	mg/L	456	33.9	1.42	1750	1.5	274	416	1780
Lead D-Pb	0.050	mg/L	2.3	0.36	-0.05	1.64	0.609	1.17	1.37	-2
Lithium D-Li	0.010	mg/L	-0.3	0.02	0.03	0.19	0.045	0.14	0.25	-0.3
Magnesium D-Mg	0.10	mg/L	484	38.8	51.1	269	81.4	120	216	310
Manganese D-Mn	0.0050	mg/L	161	5.67	3.84	109	7.31	13.6	25	166
Molybdenum D-Mo	0.030	mg/L	-0.9	-0.03	-0.03	-0.3	-0.03	-0.03	-0.03	-0.9
Nickel D-Ni	0.050	mg/L	2.3	0.08	-0.05	1.55	0.087	1.05	1.6	5
Phosphorus D-P	0.30	mg/L	-9	-0.3	-0.3	-3	-0.3	-0.3	0.6	-9
Potassium D-K	2.0	mg/L	-60	3	7	-20	7	5	7	-60
Selenium D-Se	0.20	mg/L	-6	-0.2	-0.2	-2	-0.2	-0.2	-0.2	-6
Silicon D-Si	0.050	mg/L	11.9	2.06	11.9	39	6.86	23.3	29.6	29
Silver D-Ag	0.010	mg/L	-0.3	-0.01	-0.01	-0.1	-0.01	-0.01	-0.01	-0.3
Sodium D-Na	2.0	mg/L	-60	14	34	35	44.9	6	8	-60
Strontium D-Sr	0.0050	mg/L	1.73	0.347	0.715	0.976	1.31	0.7	1.01	0.5
Thallium D-Tl	0.20	mg/L	-6	-0.2	-0.2	-2	-0.2	-0.3	0.4	-6
Tin D-Sn	0.030	mg/L	-0.9	-0.03	-0.03	-0.3	-0.03	-0.03	-0.03	-0.9
Titanium D-Ti	0.010	mg/L	-0.3	-0.01	-0.01	-0.1	-0.01	-0.01	0.01	-0.3
Vanadium D-V	0.030	mg/L	-0.9	-0.03	-0.03	-0.3	-0.03	-0.03	-0.03	-0.9
Zinc D-Zn	0.0050	mg/L	4900	128	13.7	1660	99.3	151	222	6130
Water Type			3	3	2	3	3	3	3	3

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD37	SRK-FD38	SRK-FD38B	SRK-FD40	SRK-FD40	SRK-FD40	SRK-FD40	SRK-FD40 (A30)
Date Sampled			6/8/2003	9/12/2002	6/8/2003	6/6/2003	9/12/2003	6/3/2004	9/26/2004	9/13/2002
Field Parameters										
pH (WTW)			2.38	7	3.07	3.35	6.2	3.53	7.01	3.23
Conductivity (uS/cm)		uS/cm	11980	3970	2440	789	692	1664	1192	938
Temperature (C)		OC	7.8	8.6	6.8	1.4	3.1	8.6	2.8	4.9
ORP (mV)		mV	663	313	689	738	494	720	443	540
Flow (L/min)		L/min	120	2.5	10	Abundant	120	900	30	>1000
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	10300	3830	2240	780	676	1790	1190	877
pH	0.010		2.59	6.83	3.21	3.5	7.24	3.14	7.04	3.52
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	10900	792	740	117	43	318	77.8	135
Alkalinity-Total CaCO3	1.0	mg/L	-1	83	-1	-1	29	-1	27.8	-1
Chloride Cl	0.50	mg/L	-0.5	0.7	-0.5	0.7	0.5	0.83	-5	-0.5
Sulphate SO4	0.50	mg/L	13200	3380	1690	379	334	926	661	445
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	71.1	-0.6	9.1	4.1	-0.2	13.5	-0.2	4
Antimony D-Sb	0.20	mg/L	0.3	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	9.7	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	-0.01	-0.03	-0.01	0.03	0.02	0.025	0.018	0.02
Beryllium D-Be	0.0050	mg/L	0.009	-0.02	0.005	-0.005	-0.005	0.0079	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	0.5	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	10	0.62	0.45	0.06	0.02	0.154	0.034	0.07
Calcium D-Ca	0.050	mg/L	216	504	235	23.2	69.7	99.7	124	33.6
Chromium D-Cr	0.010	mg/L	-0.01	-0.03	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	3.23	0.53	0.26	0.12	-0.01	0.233	-0.01	0.13
Copper D-Cu	0.010	mg/L	120	0.06	2.38	0.53	0.01	1.95	0.032	0.58
Iron D-Fe	0.030	mg/L	1040	-0.09	33.8	3.91	-0.03	29.5	-0.03	2.51
Lead D-Pb	0.050	mg/L	0.6	-0.2	1.78	0.08	-0.05	0.394	0.093	0.1
Lithium D-Li	0.010	mg/L	0.13	0.13	0.06	0.01	0.01	0.052	0.028	0.02
Magnesium D-Mg	0.10	mg/L	235	215	67.9	47.1	37	105	75.9	52.5
Manganese D-Mn	0.0050	mg/L	132	44.4	16	3.19	0.037	6.63	0.12	3.79
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.09	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	3.17	0.9	0.32	0.1	0.06	0.268	0.156	0.12
Phosphorus D-P	0.30	mg/L	3.2	-0.9	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	-2	10	4	-2	-2	-2	-2	-2
Selenium D-Se	0.20	mg/L	0.7	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	16.7	6.3	5.51	5.82	9.25	12.8	9.58	8.02
Silver D-Ag	0.010	mg/L	0.1	-0.03	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	-2	11	3	2	3	4.4	4.6	3
Strontium D-Sr	0.0050	mg/L	0.283	1.78	0.499	0.118	0.19	0.404	0.362	0.154
Thallium D-Tl	0.20	mg/L	0.6	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.09	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.03	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.09	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	7840	595	287	38.9	20.7	108	44.2	46.7
Water Type			3	2	3	3	2	3	2	3

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-FD44	SRK-FD44	SRK-FD46	SRK-FD47	SRK-FD48	SRK-FD49	SRK-FD50	SRK-GD01
Date Sampled			6/8/2003	5/26/2004	9/13/2003	5/26/2004	5/26/2004	5/28/2004	5/30/2004	6/11/2002
Field Parameters										
pH (WTW)			7.1	6.47	2.88	3.08	6.53	6.05	7.35	6.69
Conductivity (uS/cm)		uS/cm	2470	974	5750	1940	1748	9030	1190	2170
Temperature (C)		OC	7.7	8	5.6	13.3	2.5	10.3	11.1	1.8
ORP (mV)		mV	621	291	652	560	339	421	352	272
Flow (L/min)		L/min	1	4	15	Trace	12.5	Trace	Trace	100
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	2290	1060	5670	1940	1750	8970	1200	2080
pH	0.010		6.84	7.91	2.8	3.11	7.29	6.29	8.16	7.66
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	99	6.5	6550	392	20.8	122	2.6	38
Alkalinity-Total CaCO3	1.0	mg/L	83	57.4	-1	-1	135	22.1	211	337
Chloride Cl	0.50	mg/L	-0.5	-0.5	5.5	1.76	0.59	-0.5	-0.5	1.7
Sulphate SO4	0.50	mg/L	1850	472	5040	1130	910	8180	476	1220
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	71	13.5	-0.2	1.17	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-2	-0.2	-0.2	-0.6	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-2	-0.2	-0.2	-0.6	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.01	0.013	-0.1	0.024	0.014	-0.03	0.024	0.03
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.05	0.0126	-0.005	-0.015	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-2	-0.2	-0.2	-1.5	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-1	-0.1	-0.1	-0.3	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	0.04	-0.01	1.8	0.04	-0.01	0.091	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	300	89.1	190	160	126	368	91.9	283
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.1	0.014	-0.01	-0.03	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	0.12	0.016	1.2	0.584	0.031	0.56	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	7.8	2.15	-0.01	0.075	-0.01	-0.01
Iron D-Fe	0.030	mg/L	0.04	0.101	385	98.8	-0.03	0.948	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	0.9	0.861	-0.05	-0.15	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.16	0.062	0.2	0.092	0.18	0.419	0.11	0.02
Magnesium D-Mg	0.10	mg/L	215	69.4	293	65.8	120	1750	97.7	141
Manganese D-Mn	0.0050	mg/L	5.73	0.519	78.4	11.7	1.19	26.3	-0.005	0.059
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.3	-0.03	-0.03	-0.09	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.16	-0.05	1.5	0.54	0.061	1.84	-0.05	0.26
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-3	-0.3	-0.3	-0.9	-0.3	-0.3
Potassium D-K	2.0	mg/L	15	5.7	-20	5.6	9.3	21.4	8.6	5
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-2	-0.2	-0.2	-0.6	-0.2	-0.2
Silicon D-Si	0.050	mg/L	1.18	0.525	3.7	8.25	1.06	2.33	0.643	3.98
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.1	-0.01	-0.01	-0.03	-0.01	-0.01
Sodium D-Na	2.0	mg/L	11	3.1	-20	-2	65.1	10.9	8.4	7
Strontium D-Sr	0.0050	mg/L	1.68	0.485	0.33	0.651	1.46	1.22	1.19	0.914
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-2	-0.2	-0.2	-0.6	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.3	-0.03	-0.03	-0.09	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	0.1	-0.01	-0.01	-0.03	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.3	-0.03	-0.03	-0.09	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	28.2	3.07	1380	24.2	10.8	73.6	0.0678	5.07
Water Type			2	1	3	3	2	2	1	1b

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD01	SRK-GD01	SRK-GD01	SRK-GD01	SRK-GD01	SRK-GD01	SRK-GD01 dup	SRK-GD02
Date Sampled			9/11/2002	6/4/2003	09/14/2003	5/28/2004	9/23/2004	9/23/2004	9/14/2003	6/11/2002
Field Parameters										
pH (WTW)			6.91	6.93	7.26	7.71	7.06	As GD01		7.02
Conductivity (uS/cm)		uS/cm	2490	2670	2610	2110	2780			2460
Temperature (C)		OC	2.5	2.4	2.5	2.1	3.6			3.2
ORP (mV)		mV	272	488	459	414	285			235
Flow (L/min)		L/min	340	105	150	400	180			30
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	2460	2530	2530	2030	2700	2700	2520	2430
pH	0.010		7.27	7.82	8.09	7.44	7.77	7.78	8.04	8.02
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	69	25	16	44.2	23	23.8	18	19
Alkalinity-Total CaCO3	1.0	mg/L	497	534	559	255	583	585	556	494
Chloride Cl	0.50	mg/L	1.5	2.2	2.4	1.17	-5	-5	2.3	1.8
Sulphate SO4	0.50	mg/L	1200	1320	1210	1080	1270	1270	1330	1100
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.06	0.05	0.05	0.037	0.043	0.041	0.05	0.04
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	351	316	367	259	348	341	351	302
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	0.05	-0.01	-0.01	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.02	0.03	0.02	0.018	0.027	0.028	0.02	0.02
Magnesium D-Mg	0.10	mg/L	216	223	233	146	239	234	228	206
Manganese D-Mn	0.0050	mg/L	0.062	0.044	0.053	0.998	0.056	0.055	0.051	0.121
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.29	0.43	0.34	0.43	0.351	0.37	0.32	0.34
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	8	8	8	5.4	8.3	8.4	8	8
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	4.09	4.36	4.46	2.83	4.08	3.99	4.32	3.74
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	9	10	10	5	10.1	9.7	9	10
Strontium D-Sr	0.0050	mg/L	1.31	1.3	1.48	0.912	1.36	1.32	1.36	1.2
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	2.48	4.58	2.98	17.2	3.69	3.63	2.94	2.76
Water Type			1b	1b	1b	1b	1b	1b	1b	1b

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD02	SRK-GD02	SRK-GD02 duplicate	SRK-GD04	SRK-GD05	SRK-GD05	SRK-GD05	SRK-GD05
Date Sampled			9/11/2002	9/14/2003	6/11/2002	6/11/2002	6/11/2002	9/11/2002	5/28/2004	9/24/2004
Field Parameters										
pH (WTW)			6.96	7.2		7.6	7.74	7.45	7.83	7.64
Conductivity (uS/cm)		uS/cm	2540	2650		3260	2670	2550	3180	3010
Temperature (C)		OC	4	2.2		2.5	3.1	3.7	4.9	4.7
ORP (mV)		mV	298	444		248	273	292	399	577
Flow (L/min)		L/min	2	Trace		1.5	7.5	30	20	10
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1580	2580	2400	3220	2570	2470	2960	2930
pH	0.010		7.56	8.07	7.85	8.06	8.14	7.88	8.03	8.01
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	27	16	30	18	13	28	19.9	4.8
Alkalinity-Total CaCO3	1.0	mg/L	278	574	494	477	527	600	583	609
Chloride Cl	0.50	mg/L	0.9	2.4	1.9	1.9	2.2	1.9	2.09	-5
Sulphate SO4	0.50	mg/L	665	1340	1130	1350	1220	1080	1680	1440
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.04	0.06	0.04	0.02	0.03	0.02	0.038	0.034
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	0.0056
Bismuth D-Bi	0.20	mg/L	-0.4	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	335	380	296	352	358	349	392	361
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	0.01	0.03	-0.01	-0.01	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.01	0.01	0.02	0.04	0.04	0.03	0.043	0.052
Magnesium D-Mg	0.10	mg/L	213	251	200	347	211	199	269	263
Manganese D-Mn	0.0050	mg/L	0.114	-0.005	0.159	0.207	0.189	0.008	0.0931	0.009
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.32	0.29	0.32	0.42	0.59	0.51	0.644	0.705
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	7	8	7	10	8	7	7.8	8.3
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	3.89	4.45	3.66	3.65	5.66	6.06	5.48	5.07
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	9	10	9	16	14	11	12.8	13.5
Strontium D-Sr	0.0050	mg/L	1.26	1.58	1.17	1.59	1.52	1.41	1.68	1.6
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	0.033	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	2.31	2.31	2.77	3.68	3.54	2.65	4.92	4.21
Water Type			1b	1b	1b	1b	1b	1b	1b	1b

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD05B	SRK-GD05B	SRK-GD06	SRK-GD06	SRK-GD06	SRK-GD06	SRK-GD07	SRK-GD07
Date Sampled			6/4/2003	09/14/2003	6/11/2002	9/11/2002	6/4/2003	9/14/2003	6/11/2002	6/4/2003
Field Parameters										
pH (WTW)			7.8	7.84	7.62	7.35	7.67	7.74	7.24	7.37
Conductivity (uS/cm)		uS/cm	2550	2610	2640	2540	2510	2540	1267	1328
Temperature (C)		OC	3.9	1.7	3.5	3.1	3.1	3.1	3.1	2.4
ORP (mV)		mV	421	402	269	314	473	486	254	424
Flow (L/min)		L/min	20	21	15	30	-	15	5	10
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	2480	2510	2540	2480	2430	2500	1210	1300
pH	0.010		8.04	8.11	8.1	8	8.02	8.28	8.18	7.73
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	15	14	17	26	18	1	6	15
Alkalinity-Total CaCO3	1.0	mg/L	638	627	557	700	643	646	336	338
Chloride Cl	0.50	mg/L	2.4	2.8	2.5	1.8	2.6	2.5	2	1.9
Sulphate SO4	0.50	mg/L	1230	1180	947	1040	1150	1120	413	575
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.03	0.03	0.03	0.03	0.03	0.03	0.07	0.05
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	312	337	361	348	337	325	178	194
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.03	0.03	0.04	0.02	0.03	0.03	-0.01	-0.01
Magnesium D-Mg	0.10	mg/L	199	212	209	196	214	199	69.6	79.1
Manganese D-Mn	0.0050	mg/L	0.007	0.013	0.23	0.008	0.011	0.008	-0.005	-0.005
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	0.38	0.44	0.52	0.42	0.38	0.41	-0.05	-0.05
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	7	7	9	7	7	7	4	3
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	5.51	5.66	5.87	6.07	6.15	5.64	3.79	4
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	12	11	14	11	13	11	3	3
Strontium D-Sr	0.0050	mg/L	1.36	1.48	1.56	1.39	1.49	1.41	0.604	0.656
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	0.04	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	1.73	2.02	3.94	2.73	2.39	2.34	0.021	0.008
Water Type			1b	1b	1b	1b	1b	1b	1a	1a

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD07	SRK-GD07	SRK-GD07B	SRK-GD08	SRK-GD09	SRK-GD10	SRK-GD11	SRK-GD11
Date Sampled			9/14/2003	9/24/2004	9/11/2002	6/11/2002	6/11/2002	6/11/2002	6/11/2002	6/4/2003
Field Parameters										
pH (WTW)			6.97	7.1	6.87	7.85	7.6	7.65	6.67	6.84
Conductivity (uS/cm)		uS/cm	1373	1421	1332	555	1031	385	1586	1660
Temperature (C)		OC	5	5.2	3.7	0.8	4.6	5.6	2.5	3.2
ORP (mV)		mV		281	2.45	235	238	256	232	434
Flow (L/min)		L/min	Trace	1	2	1	3	-0.5	54	7.5
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1360	1380	1250	542	999	384	1570	1610
pH	0.010		8.08	7.92	7.51	8.31	8.22	8.3	7.69	7.59
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	9	12.2	40	-1	3	-1	31	23
Alkalinity-Total CaCO3	1.0	mg/L	405	433	405	209	379	186	371	413
Chloride Cl	0.50	mg/L	2.5	-5	1.8	2.3	2.1	1.3	2.1	2.3
Sulphate SO4	0.50	mg/L	455	428	362	88	194	26	593	715
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.06	0.061	0.11	0.08	0.11	0.05	0.05	0.03
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Calcium D-Ca	0.050	mg/L	219	208	205	75.3	142	45.4	201	208
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.01	0.01
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	0.02	0.01
Magnesium D-Mg	0.10	mg/L	74.1	72.1	63.6	26.8	54.5	24.2	108	121
Manganese D-Mn	0.0050	mg/L	0.007	0.011	1.92	-0.005	-0.005	-0.005	0.26	0.425
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.22	0.28
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	3	2.2	2	-2	-2	-2	4	3
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	5.08	4.67	4.61	3.64	3.23	3.32	3.39	3.83
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	3	2.8	3	-2	-2	-2	4	5
Strontium D-Sr	0.0050	mg/L	0.75	0.712	0.719	0.365	0.492	0.205	0.815	0.864
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	-0.005	-0.005	0.01	-0.005	-0.005	-0.005	2.11	3.75
Water Type			1a	1a	1a	1a	1a	1a	1b	1b

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD11	SRK-GD12	SRK-GD12	SRK-GD12	SRK-GD12	SRK-GD12	SRK-GD12	SRK-GD13	SRK-GD13
Date Sampled			5/29/2004	9/11/2002	6/4/2003	9/14/2003	5/29/2004	9/24/2004	9/12/2002	6/4/2003	
Field Parameters											
pH (WTW)			6.65	7.47	7.76	7.8	7.36	7.77	7.8	7.35	
Conductivity (uS/cm)		uS/cm	1086	648	538	621	370	608	1190	1178	
Temperature (C)		OC	2.1	2.8	1.7	3.6	3	4.8	4.6	1.5	
ORP (mV)		mV	431	335	379	475	400	333	201	414	
Flow (L/min)		L/min	360	300	-	9	240	1	10	4	
Physical Tests											
Conductivity (uS/cm)	2.0	uS/cm	1040	6300	517	618	392	658	1190	1150	
pH	0.010		7.46	7.87	7.95	8.31	8.1	8.21	7.73	8.05	
Dissolved Anions											
Acidity (to pH 8.3) CaCO3	1.0	mg/L	33.2	13	5	-1	2.7	1.8	29	7	
Alkalinity-Total CaCO3	1.0	mg/L	282	268	227	289	168	285	388	402	
Chloride Cl	0.50	mg/L	0.75	-0.5	1.3	1.7	0.77	-2.5	0.9	1.4	
Sulphate SO4	0.50	mg/L	332	83	7	81	46.9	95.8	386	313	
Dissolved Metals											
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Barium D-Ba	0.010	mg/L	0.021	0.1	0.07	0.09	0.049	0.088	0.11	0.09	
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Calcium D-Ca	0.050	mg/L	115	86.3	60.9	75.5	41.6	77.8	168	153	
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Cobalt D-Co	0.010	mg/L	0.032	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Copper D-Cu	0.010	mg/L	0.041	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Iron D-Fe	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	
Lithium D-Li	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Magnesium D-Mg	0.10	mg/L	69.8	40.4	34.2	39	23	38.6	71.4	70.6	
Manganese D-Mn	0.0050	mg/L	0.618	0.028	-0.005	-0.005	-0.005	0.0273	0.007	0.053	
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	
Nickel D-Ni	0.050	mg/L	0.272	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.07	
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	
Potassium D-K	2.0	mg/L	2.5	-2	-2	-2	-2	-2	3	-2	
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Silicon D-Si	0.050	mg/L	2.53	4.02	3.34	4.23	2.72	3.97	5.69	5.05	
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Sodium D-Na	2.0	mg/L	-2	2	-2	-2	-2	-2	3	3	
Strontium D-Sr	0.0050	mg/L	0.487	0.329	0.256	0.322	0.185	0.327	0.823	0.788	
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	
Zinc D-Zn	0.0050	mg/L	5.48	-0.005	-0.005	-0.005	-0.005	-0.005	0.028	0.007	
Water Type			1b	1a	1a	1a	1a	1a	1a	1a	

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD13	SRK-GD13	SRK-GD13	SRK-GD13 duplicate	SRK-GD16	SRK-GD17	SRK-GD17	SRK-GD18
Date Sampled			9/14/2003	5/28/2004	9/24/2004	6/4/2003	5/28/2004	5/28/2004	5/28/2004	5/28/2004
Field Parameters										
pH (WTW)			7.26	7.65	7.41	#N/A	7.47	See GD17	7.44	7.74
Conductivity (uS/cm)		uS/cm	1268	1212	1500	#N/A	3280		3990	741
Temperature (C)		OC	1.6	1.9	3.7	#N/A	3.4		5.1	3
ORP (mV)		mV	418	417	519	#N/A	504		397	403
Flow (L/min)		L/min	9	15	8	#N/A	30		15	15
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	1230	1080	1500	1160	3040	3750	3740	742
pH	0.010		8.24	7.94	8.04	8.08	7.72	7.44	7	8.07
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	2	12.2	8.6	6	43	157	158	5.9
Alkalinity-Total CaCO3	1.0	mg/L	392	269	447	399	619	187	195	108
Chloride Cl	0.50	mg/L	1.6	1.05	-5	1.7	2.14	2.72	1.99	0.74
Sulphate SO4	0.50	mg/L	338	360	468	323	1680	2820	2770	302
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.11	0.098	0.118	0.1	0.041	0.012	0.014	0.023
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	0.062	0.061	-0.01
Calcium D-Ca	0.050	mg/L	178	142	206	164	382	393	356	80.4
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	-0.01	0.012	-0.01	-0.01	0.03	0.231	0.214	-0.01
Copper D-Cu	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Iron D-Fe	0.030	mg/L	-0.03	0.205	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Lead D-Pb	0.050	mg/L	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Lithium D-Li	0.010	mg/L	-0.01	-0.01	0.014	-0.01	0.048	0.103	0.088	0.014
Magnesium D-Mg	0.10	mg/L	80.8	66.1	94	74	253	450	413	43.8
Manganese D-Mn	0.0050	mg/L	-0.005	0.608	-0.005	0.059	1.75	3.38	3.1	0.038
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	-0.05	0.129	0.13	0.07	0.701	1.29	1.08	0.051
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	-2	-2	2.6	-2	7	13.5	11.5	3
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	5.32	3.75	5.83	5.47	4.59	1.41	1.31	1.57
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	4	2.4	3.7	3	12	6.5	6.2	-2
Strontium D-Sr	0.0050	mg/L	0.9	0.758	1.04	0.869	1.67	1.31	1.21	0.359
Thallium D-Tl	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	0.24	-0.2	-0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	0.007	0.0114	0.0159	0.007	10.4	119	110	0.105
Water Type			1a	1a	1a	1a	1b	2	2	1a

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Sample ID	Minimum detection level	Units	SRK-GD19	SRK-GD20	SRK-GD21	SRK-GD21	SRK-VD01	SRK-VD01	SRK-VD01	SRK-VD02
Date Sampled			5/29/2004	5/29/2004	5/28/2004	9/24/2004	6/10/2002	6/6/2003	5/29/2004	6/6/2003
Field Parameters										
pH (WTW)			5.73	6.2	7.47	7.1	6.43	6.83	6.38	6.56
Conductivity (uS/cm)		uS/cm	2580	2450	3390	3860	3120	2780	966	3510
Temperature (C)		OC	1.1	1.7	3.4	4	10	11.4	7.7	16
ORP (mV)		mV	336	322	394	536	136	390	325	352
Flow (L/min)		L/min	30	30	7.5	Trace	Trace Flow	Trace	3	Trace
Physical Tests										
Conductivity (uS/cm)	2.0	uS/cm	2500	2410	3140	3770	3080	3210	646	3270
pH	0.010		5.75	7.59	7.86	8.1	7.23	6.62	6.38	7.03
Dissolved Anions										
Acidity (to pH 8.3) CaCO3	1.0	mg/L	238	198	27.6	6.3	115	224	38	182
Alkalinity-Total CaCO3	1.0	mg/L	38.7	130	393	628	38	27	13.7	258
Chloride Cl	0.50	mg/L	0.58	0.9	1.26	-5	-0.5	-0.5	-0.5	-0.5
Sulphate SO4	0.50	mg/L	1710	1530	1990	2170	2340	2880	323	2690
Dissolved Metals										
Aluminum D-Al	0.20	mg/L	0.28	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Antimony D-Sb	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Arsenic D-As	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Barium D-Ba	0.010	mg/L	0.011	0.012	0.036	0.016	-0.01	-0.01	0.026	0.02
Beryllium D-Be	0.0050	mg/L	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
Bismuth D-Bi	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Boron D-B	0.10	mg/L	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Cadmium D-Cd	0.010	mg/L	0.178	0.063	-0.01	-0.01	0.12	0.28	0.044	0.12
Calcium D-Ca	0.050	mg/L	321	346	315	365	261	329	71.1	436
Chromium D-Cr	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cobalt D-Co	0.010	mg/L	0.696	0.446	0.026	-0.01	0.23	0.49	0.082	0.88
Copper D-Cu	0.010	mg/L	2.11	0.12	-0.01	-0.01	-0.01	-0.01	0.016	-0.01
Iron D-Fe	0.030	mg/L	46.4	27.3	-0.03	-0.03	0.25	0.12	1.2	0.21
Lead D-Pb	0.050	mg/L	0.135	-0.05	-0.05	-0.05	0.1	0.07	-0.05	-0.05
Lithium D-Li	0.010	mg/L	0.045	0.027	0.066	0.041	0.07	0.07	-0.01	0.04
Magnesium D-Mg	0.10	mg/L	167	150	403	438	370	408	54.6	329
Manganese D-Mn	0.0050	mg/L	7.52	6.62	0.271	0.0619	16.4	31.2	4.97	42.2
Molybdenum D-Mo	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Nickel D-Ni	0.050	mg/L	2.65	1.46	0.345	0.409	0.78	1.2	0.216	1.98
Phosphorus D-P	0.30	mg/L	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Potassium D-K	2.0	mg/L	6.5	6.5	12.3	10	8	6	-2	12
Selenium D-Se	0.20	mg/L	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Silicon D-Si	0.050	mg/L	3.69	4.04	2.3	3.89	1.73	1.75	0.861	5.85
Silver D-Ag	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Sodium D-Na	2.0	mg/L	4.5	4.7	14.9	17.1	5	3	-2	10
Strontium D-Sr	0.0050	mg/L	1.02	1.32	1.53	1.63	1.69	1.89	0.374	1.61
Thallium D-Tl	0.20	mg/L	-0.3	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	0.2
Tin D-Sn	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Titanium D-Ti	0.010	mg/L	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Vanadium D-V	0.030	mg/L	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Zinc D-Zn	0.0050	mg/L	107	97.9	2.52	1.82	71.6	125	24.5	83.4
Water Type			3	2	1b	1b	2	2	2	2

Note: Results are expressed as milligrams per litre except where noted.

Note 2: '-' = Less than the detection limit indicated.

Appendix B

Thermal and Pore Gas Monitoring Results

Appendix B Results of Thermal and Gas Monitoring

Appendix B-1 Gas Monitoring Results

Location: Faro
Hole ID: 60M1

Date		19-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7A	19.6	17.1	18.9	19.2	7.6	18.6
0.7	0.7B	19.6	16.9	18.9	19.2	7.5	18.6
1.4	1.4A	19.7	17.1	19.1	18.3	6.7	18.6
1.4	1.4B	19.7	17.5	19.1	18.3	6.6	18.6
2.8	2.8A	18.5	15.7	15.3	17.2	5.9	15.1
2.8	2.8B	18.5	15.7	15.0	17.3	5.9	14.7
5.6	5.6A	14.9	15.7	13.4	15.5	6	14.5
5.6	5.6B	15.6	15.5	13.2	15.2	6.3	14.3
10	10B	17.0	12.2	11.1	14	9.2	10.7
10	20	16.8	12.2	11.1	14.1	9.3	10.7
20	10A	10.0	5.5	5.8	6.4	3.7	6.9
30	30	20.9	9.5	8.4	8.9	9	8.5
40	40	19.8	19.8	19.0	19.5	19.3	19.3
60	60	19.8	19.4	17.6	18.8	11.9	18.3

Note : Port 20 and Port 10 A labels reversed

Location: Faro
Hole ID: 30M1

Date		19-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7A	19.4	16.6	16.8	17.4	16.4	19
0.7	0.7B	19.4	16.6	16.8	plugged	16.4	19
1.4	1.4A	19.3	16.6	16.7	plugged	16.4	19
1.4	1.4B	19.3	16.6	16.8	plugged	16.4	19
2.8	2.8A	19.3	16.6	16.8	17.3	16.6	19
2.8	2.8B	19.3	16.6	16.8	17.3	16.6	19
5.6	5.6A	19.7	17.0	17.6	17.3	17.9	19.4
5.6	5.6B	19.7	17.0	17.6	plugged	17.9	19.4
10	10A	19.4	16.1	17.6	17	16.9	19.1
10	10B	19.4	16.1	17.7	plugged	16.9	19.1
20	20	20.2	16.1	19.7	plugged	16.4	19.3
30	30	12.9	7.4	12.7	10.1	6.7	9.1

Location: Grum

Hole ID: 10M2

Date		20-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7	20.6	20.1	20.6	Not recorded	20.6	20.6
1.4	1.4A	14.8	10.0	10.2	Not recorded	0.2	14.3
1.4	1.4B	10.0	8.8	9.8	Not recorded	20.3	13.2
2.8	2.8A	0.6	14.7	2.5	Not recorded	0.2	3.5
2.8	2.8B	3.4	11.6	2.5	Not recorded	3.5	3.5
5.6	5.6A	1.0	10.9	12.7	Not recorded	10.2	10.4
5.6	5.6B	1.0	11.1	12.7	Not recorded	10.2	10.4
10	10	1.3	15.1	12.3	Not recorded	15.2	9.6

Location: Grum

Hole ID: 10M3

Date		20-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7A	20.6	20.6	20.5	20.6	20.7	20.7
0.7	0.7B	20.6	20.6	20.5	20.6	20.7	20.7
1.4	1.4A	19.0	18.9	20.1	20.5	20.1	19.7
1.4	1.4B	18.9	18.7	20.1	plugged	20	19.5
2.8	2.8A	16.3	16.0	13.7	16.1	16.6	13.1
2.8	2.8B	15.9	16.0	13.7	16.2	16.6	13.2
5.6	5.6A	13.7	15.0	14.6	plugged	15.8	14.2
5.6	5.6B	13.7	15.0	14.6	14.4	15.8	14.2
10	10A	16.0	13.5	14.5	15.7	14.1	14.4
10	10B	16.0	14.1	14.5	15.7	*18.2	14.4

*suspect value

Location: Grum

Hole: 30M3

Date		20-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7A	18.4	20.7	20.5	plugged	20.7	20.3
0.7	0.7B	18.4	20.7	20.5	20.6	20.7	20.4
1.4	1.4A	19.1	20.8	20.5	plugged	20.7	20.3
1.4	1.4B	19.0	20.6	20.4	20.4	20.7	20.3
2.8	2.8A	17.5	20.5	19.8	20.2	20.5	19.9
2.8	2.8B	17.5	20.5	19.8	20.2	20.5	19.9
5.6	5.6A	15.6	20.5	19.3	20.2	20.5	19.5
5.6	5.6B	15.5	20.5	19.3	20.2	20.5	19.5
10	10A	5.7	15.6	5.4	plugged	18	0
10	10B	5.5	15.9	5.4	0.0	18	0
20	20A	4.9	4.0	0.0	0.0	0.3	0.4
20	20B	4.9	3.7	0.0	0.0	0.3	0.4
30	30A	3.7	0.6	0.4	plugged	0.9	1
30	30B	3.8	0.6	0.4	0.0	0.9	1

Location: Vangorda

Hole ID: 10M4

Date		20-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7	20.6	18.6	19.6	19	18.4	19.8
1.4	1.4	20.9	20.3	20.6	19.9	20.3	20.7
2.8	2.8A	21.0	20.7	20.8	20	20.7	20.8
2.8	2.8B	21.0	20.7	20.8	20	20.7	20.8
5.6	5.6A	20.8	20.6	20.0	19.8	20.7	20.1
5.6	5.6B	20.8	20.7	20.0	19.8	20.7	20.1
10	10	20.2	19.3	19.3	17.9	20.1	19.4

Location: Vangorda
Hole ID: 30M4

Date		20-Feb-03	07-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Depth	Port Label	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)	Oxygen (%)
0.7	0.7A	0.0	19.9	0.8	2.8	19.3	2.2
0.7	0.7B	0.0	20.0	1.1	3.1	19.5	2.7
1.4	1.4A	0.0	17.4	0.0	0.1	14.6	0
1.4	1.4B	0.0	17.6	0.0	0.1	14.7	0
2.8	2.8A	0.0	0.0	0.0	0	0.1	0
2.8	2.8B	2.4	15.4	2.3	plugged	*18.6	*8.7
5.6	5.6A	2.4	2.8	2.3	2.1	1.7	1.8
5.6	5.6B	2.3	1.0	2.3	2.1	1.7	1.8
10	10A	2.3	6.9	2.2	plugged	*4.4	*2
10	10B	8.3	6.9	6.4	plugged	*7.5	*6.9
20	20	0.2	0.0	0.0	0	0	0
30	30	14.9	0.4	4.4	2.7	0.7	4.9

*suspect value

Appendix B-2

Thermal Monitoring Results

Location: Faro
Hole ID: 60M1

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	0.0	3.2	13.5	9.4	4.7	15	7.8
1.4	-0.1	7.9	14.3	15.6	7.5	14.9	13.6
2.8	0.1	16.9	18.6	23	14.9	17.8	22.5
5.6	0.0	29.2	28.1	30.7	27.2	26.6	30.7
10	-0.1	41.8	41.3	40.6	40.1	39.8	39.3
20	0.1	49.1	49	48.8	48.2	48.1	48.3
30	-0.1	36	36.3	36.4	36.8	36.8	37.2
40	-0.1	24.2	24.6	24.9	25.5	35.6	25.9
60	-0.1	6.3	6.5	7	7	7.1	7.7

Location: Faro
Hole ID: 30M1

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	0.1	1.7	7.4	11.2	3.4	11.2	9.6
1.4	-0.1	4	7.2	12.9	5.4	12.9	12.3
2.8	0.1	8.5	8.5	14.5	9.4	14.5	15.6
5.6	0.1	17.3	16.8	18.6	18.3	18.6	20.1
10	-0.1	27	27.4	27.4	28.4	27.4	28
20	0.2	34.5	35.5	35.8	34.7	35.8	36
30	0.0	34.6	34.2	34.7	34.6	34.7	35.2

Location: Grum
Hole ID: 10M2 Outside PVC

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	0.1	-4.8	5	4.1	-0.6	5.3	2.9
1.4	0.2	-0.2	-0.2	6.6	-0.3	-0.1	5.4
2.8	0.2	1.2	0.3	6.2	0.7	0.5	6
5.6	0.0	3	2	3.9	2.4	2.1	5.2
10	0.1	3.3	3.1	2.9	3.3	3.2	3.1

Location: Grum
Hole ID: 10M2 Inside PVC

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	0.1	-3.3	3.7	4.9	Not recorded	3.6	3.2
1.4	0.2	-0.3	-0.4	6.6	Not recorded	-0.3	5.1
2.8	0.2	1.2	0.3	6	Not recorded	0.6	6.6
5.6	0.0	3.1	2	3.8	Not recorded	2.1	5.1
10	0.1	3.4	3.1	3	Not recorded	3.2	3.1

Location: Grum
Hole ID: 10M3

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	0.2	-4.9	6.1	6.5	-0.9	7.3	4.2
1.4	0.2	-1.9	2.1	7.9	-1	3	5.9
2.8	0.2	1.1	0	6.8	0.2	0.3	7.1
5.6	0.0	3.8	2.2	4.8	2.6	2.2	5.8
10	0.1	5	4.6	4.3	4.5	4.3	4.3

Location: Grum
Hole ID: 30M3

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	-0.1	-4.6	5.2	7	-1.3	5.5	4.6
1.4	0.0	-1.4	1.8	8	-1	2.1	6.5
2.8	0.1	2	1	7.5	1.2	1.4	8
5.6	-0.1	6.1	4.7	6.9	5.4	4.7	7.8
10	0.1	9.8	9.4	9.6	10.3	9.3	9.5
20	0.1	11.8	12	11.8	12.3	12.2	12.2
30	0.1	10	9.9	9.8	10.1	10	10

Location: Vangorda

Hole ID: 10M4

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	0.1	-0.7	13	10.2	3.3	14	6.8
1.4	0.0	3.7	12.9	15.3	5.6	12.7	11.5
2.8	0.2	7.5	12.7	18.4	9	12.2	15.3
5.6	-0.1	16.7	15.2	22.6	14.1	14.4	20.8
10	0.0	31.6	29.3	29.5	27	27.3	27.6

Location: Vangorda

Hole ID: 30M4

Date		20-Feb-03	7-Jun-03	16-Sep-03	27-Apr-04	7-Jun-04	30-Sep-04
Bead	Correction factor	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)	Corrected Temp (°C)
0.7	-0.1	-5.3	8.6	7.4	-1.3	10.4	5.4
1.4	0.0	-1.3	6	10.3	-0.6	7.2	8.2
2.8	0.0	3.7	4.5	11.7	3.1	5.5	11.9
5.6	-0.1	11.7	9.9	12.5	10.7	10.2	14
10	-0.1	16	16	15.6	16.5	16.4	16.2
20	-0.2	17.3	17.6	17.6	18.4	18.5	18.5
30	0.0	13.5	13.8	13.8	14.7	14.7	15