KENO VALLEY/DUBLIN GULCH
ENVIRONMENTAL BASELINE ASSESSMENT

VOLUME I: PROJECT OVERVIEW
APPENDIX A
APPENDIX B

Prepared for
Waste Management Program
Indian and Northern Affairs Canada

By
Environmental Services
Public Works and Government Services Canada

March, 2000

At the request of the client, there has been no interpretation of data compiled and gathered for this assessment. Therefore, this report does not draw comparisons or make references to environmental quality criteria, guidelines, or codes of practice, and makes no recommendations for future action.

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VOLUME II – Keno Valley Sites #1 to #20
Figures, photos and analytical results attached to individual site reports.

VOLUME III – Keno Valley Sites #21 to #40
Figures, photos and analytical results attached to individual site reports.

VOLUME IV – Keno Valley Sites #41 to #66, #68 to #70
Figures, photos and analytical results attached to individual site reports.

VOLUME V – Keno Valley Sites #71 to #73, #75 to #81
Dublin Gulch Sites #85 to #86, #88 to #94, and #96
Figures, photos and analytical results attached to individual site reports.
Site #78 (Elsa Village): figure in pocket.

KENO VALLEY/DUBLIN GULCH
ENVIRONMENTAL BASELINE ASSESSMENT

INTRODUCTION

I1. Project Objective

The Government of Canada, in cooperation with the Yukon Territorial Government and Yukon First Nations, is interested in obtaining baseline environmental information for areas and sites throughout the Yukon. Generally, these sites are associated with exploration, mining, or industrial activities and operations.

This report describes current baseline environmental conditions in the Keno Valley and Dublin Gulch areas near Keno City, Yukon, an area of extensive mining exploration and development.

I2. Study Areas

The Keno Valley and Dublin Gulch study areas are located in the central Yukon Territory, approximately 354 km due north of Whitehorse in the vicinity of the villages of Elsa and Keno City (Figure I1). Together, the study areas comprise a geographical area of 660 square kilometers (Figures I2 – I5). Keno City is populated by 30-50 full-time residents, while the village of Elsa is presently unoccupied. Some of Elsa s structures and homes are maintained by United Keno Hill Mines (UKHM) which is in a state of care and maintenance.

Access to the area is via a Yukon Territory Government (YTG) maintained two-lane paved highway from Whitehorse to Mayo and an all-weather gravel road running 45 km northeast from Mayo to Keno City, a total distance of 452 km. Dublin Gulch is accessible via the South McQuesten River road which junctions the Silver Trail at km 87.

I3. Baseline Assessment Report Format

For ease of use, this report is presented as a three-part document:

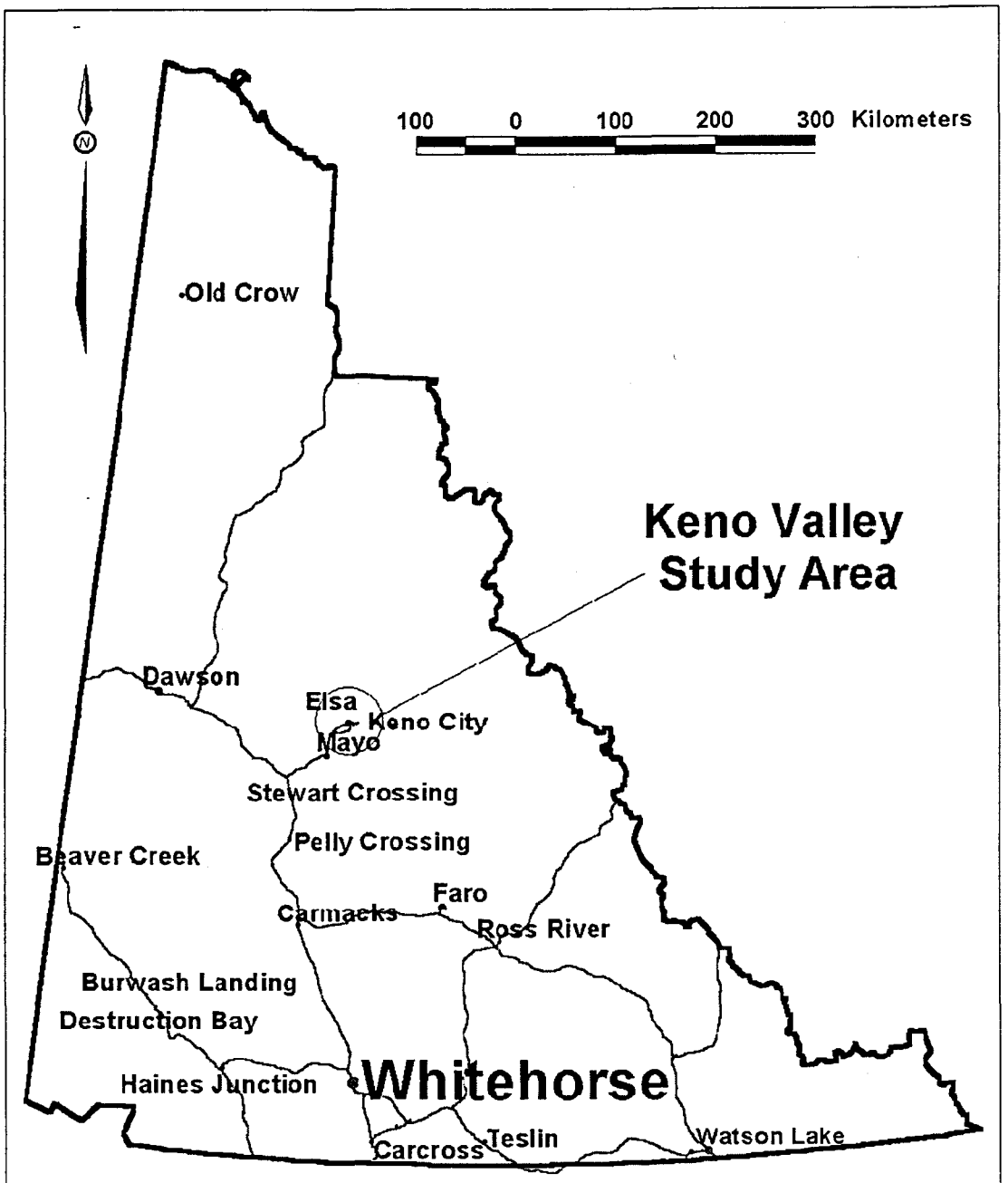
Part A: Compilation of available and current information describing the physical setting and resources of Keno Valley and Dublin Gulch;

Part B: Description of traditional and other non-mining land uses in the study area, and

Part C: Identification of a) mine tenure status, b) historical mine exploration, development, and operational activities, c) potential or acid rock drainage conditions, and d) health/safety risks associated with specific Keno Valley and Dublin Gulch exploration and mining sites.

In Part C, site-specific reports are presented sequentially, following the site numbering scheme used during this assessment. Figure I1 through I5 show the study areas, and Table I1 lists the sites both by the project-specific site number and the site name as recorded in DIAND Minfile records.

During the field phase, Site Nos. 67 (Nero) and 74 (Havrenak) in the Keno Valley area and Site Nos. 82 (Erin[Tag]), 83 (Gwaihir), 84 (Skate), 87 (Sheppard[TinDome]), and 95 (Lynx) in Dublin Gulch were eliminated from further assessment. Except for Sheppard, none of the sites could be found from the ground or by air; Sheppard was (prudently!) dropped after the field crew encountered a grizzly bear killing its prey near the site. The Village of Elsa (Site No. 78) was included in this assessment because of the extensive mine, milling and mine operations support facilities in the village.



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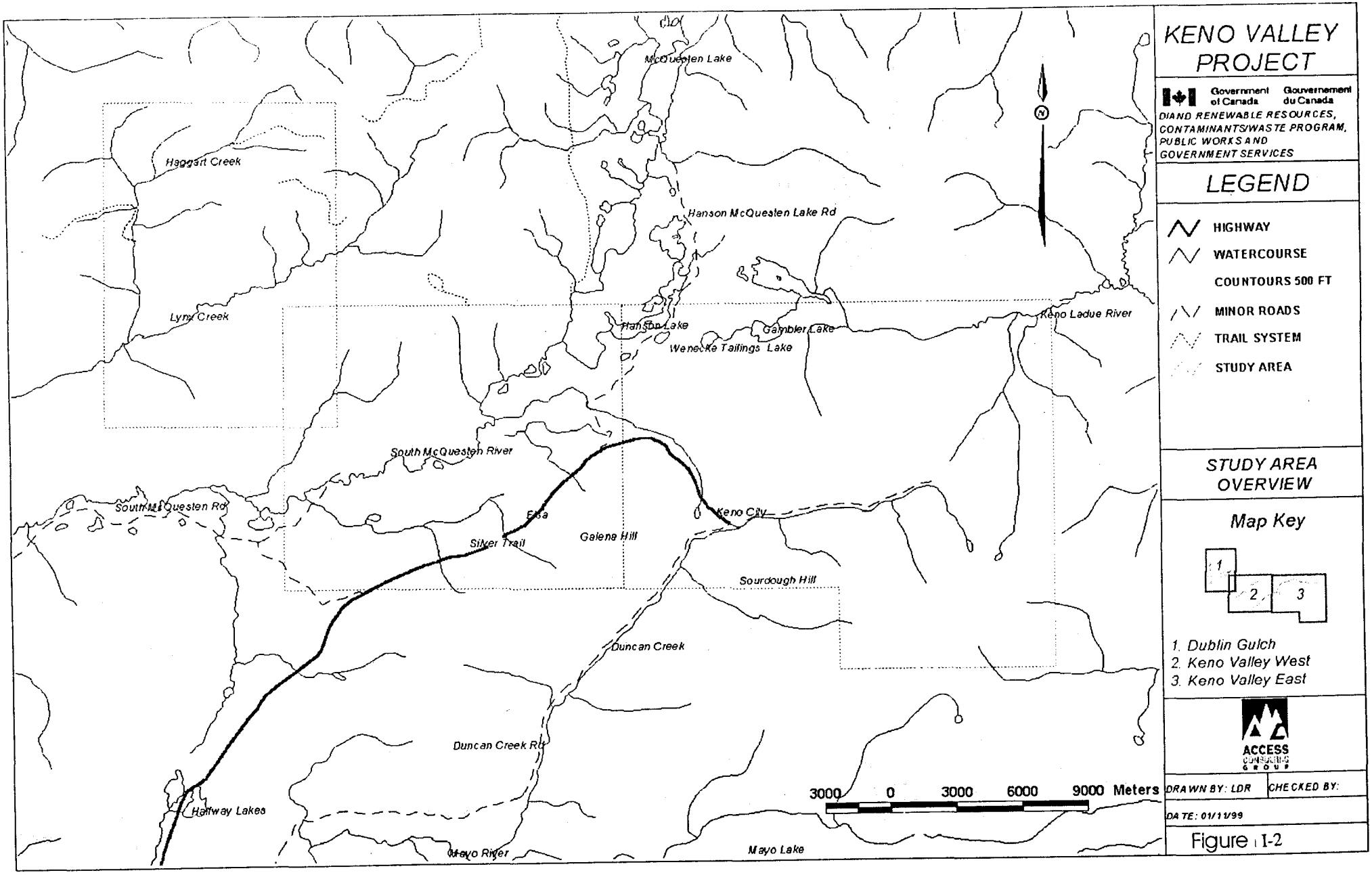
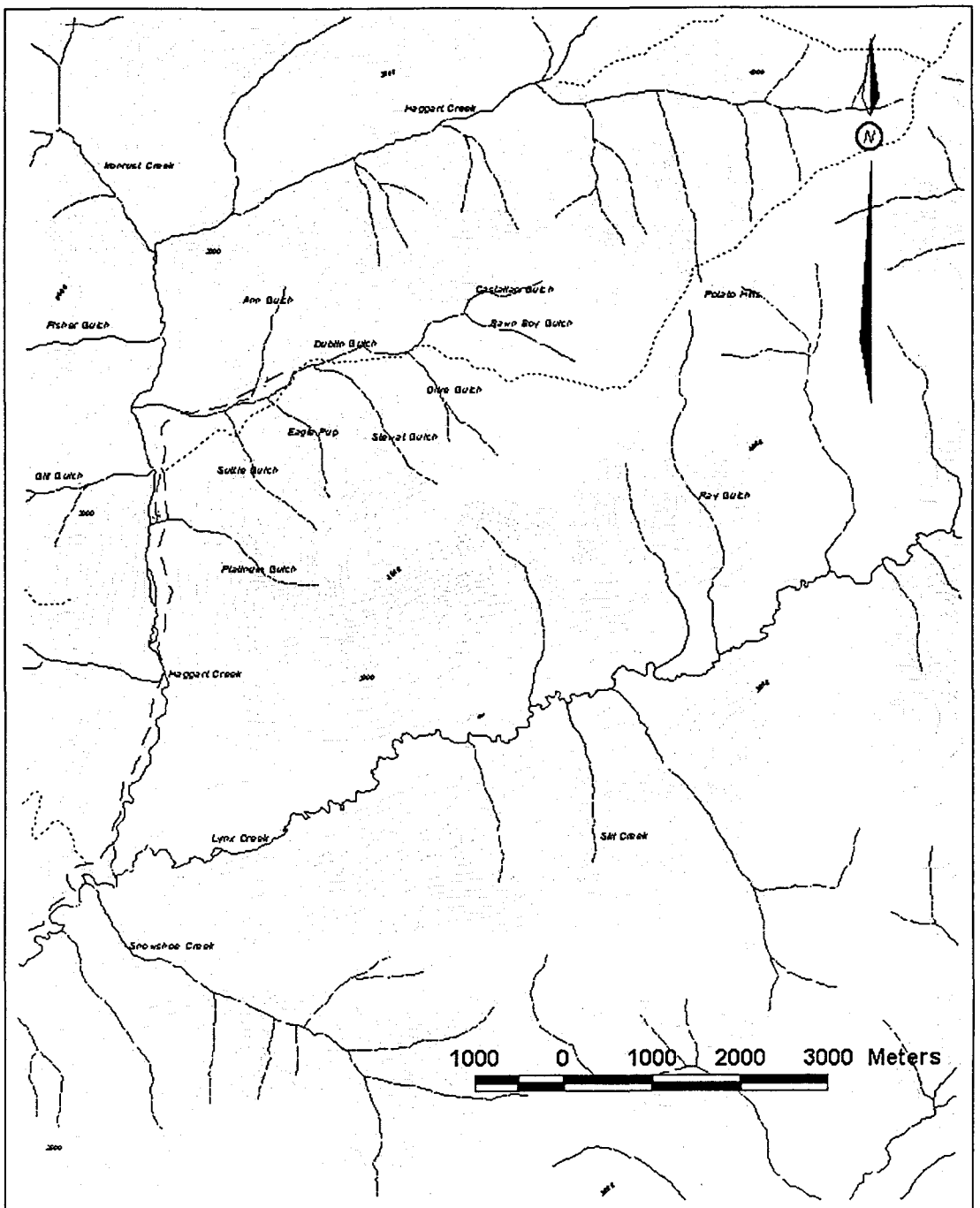
DIAND RENEWABLE RESOURCES, CONTANINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

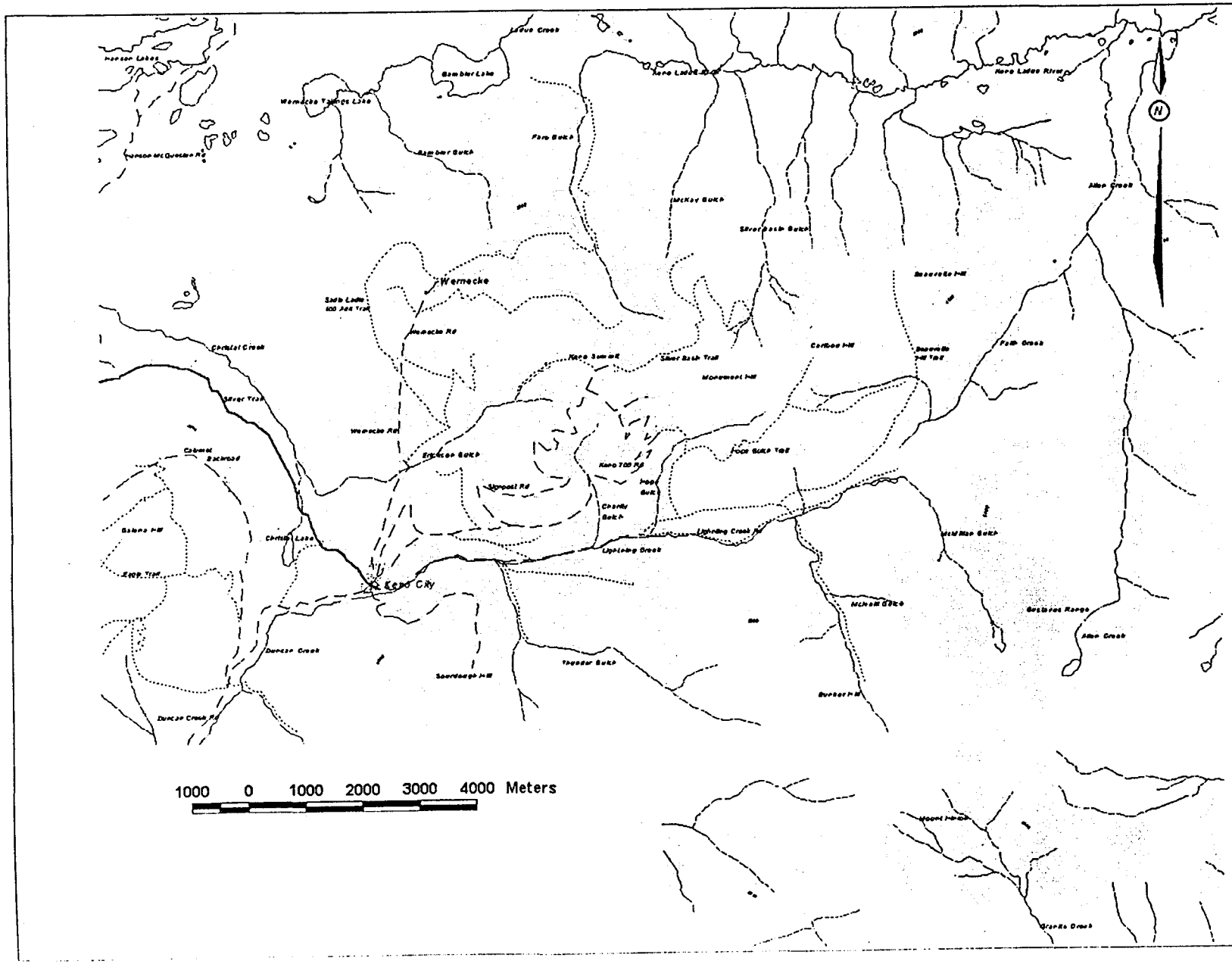
GENERAL LOCATION MAP

DRAWN BY: LDR	CHECKED BY:
DATE: 31/10/99	Figure I-1


McQuesten Lake
Haggart Creek
Hanson McQuesten Lake Rd
Lynx Creek
Hanson Lake
Gambler Lake
Wenecke Tailings Lake
Keno Ladue River
South McQuesten River
South McQuesten Rd
Elsa
Keno City
Silver Trail
Galena Hill
Sourdough Hill
Duncan Creek
Duncan Creek Rd
Halfway Lakes
Mayo River
Mayo Lake
3000 0 3000 6000 9000 Meters
KENO VALLEY PROJECT
Government of Canada / Gouvernement du Canada
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES
LEGEND
HIGHWAY
WATERCOURSE
COUNTOURS 500 FT
MINOR ROADS
TRAIL SYSTEM
STUDY AREA
STUDY AREA OVERVIEW
Map Key
1
2
3
1. Dublin Gulch
2. Keno Valley West
3. Keno Valley East
ACCESS CONSULTING GROUP
DRAWN BY: LDR
CHECKED BY:
DATE: 01/11/99
Figure 1-2



ACCESS CONSULTING GROUP	Government of Canada / Gouvernement du Canada DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES	MINOR_ROAD WATERCOURSE CONTOURS 100 FT BUILDINGS	STUDY AREA: DUBLIN GULCH DRAWN BY: LDR / CHECKED BY: Figure I-3



KENO VALLEY PROJECT

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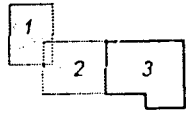
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

LEGEND

- HIGHWAY
- WATERCOURSE
- COUNTOURS 100 FT
- MINOR ROADS
- TRAIL SYSTEM
- BUILDINGS

STUDY AREA: KENO VALLEY EAST

Map Key



1. Dublin Gulch
2. Keno Valley West
3. Keno Valley East

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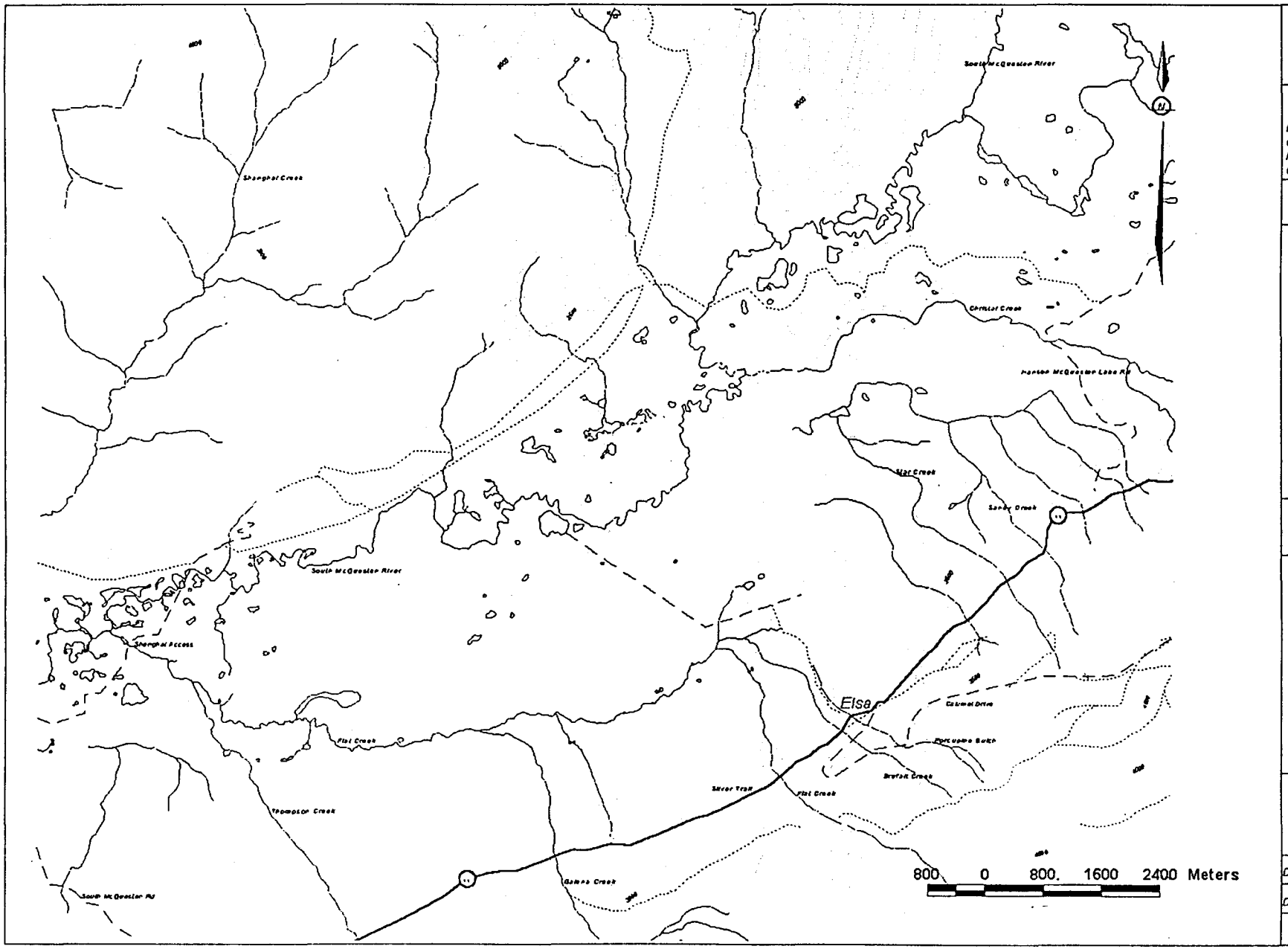
DATE: 01/11/99

Figure 14.



KENO VALLEY PROJECT

Government of Canada / Gouvernement du Canada

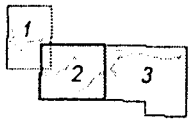
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

LEGEND

- HIGHWAY
- WATERCOURSE
- COUNTOURS 100 FT
- MINOR ROADS
- TRAIL SYSTEM
- BUILDINGS

STUDY AREA KENO VALLEY WEST

Map Key



1. Dublin Gulch
2. Keno Valley West
3. Keno Valley East

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DATE: 01/11/99

Figure I5.

Table I1. Keno Valley/Dublin Gulch Mine Site List

SITES LISTED BY ASSIGNED NUMBER			SITES LISTED ALPHABETICALLY BY NAME		
Assigned Site No.	Site Name	MinFile No.	Site Name	Assigned Site No.	MinFile No.
Keno MinFile Sites					
1	Silver King	105M001ba	Apex	48	105M009
2	Husky & Husky SW	105M001bb	Avenue	69	105M 053
3	Elsa	105M001a	Bellekeno	22	105M001y
4	Dixie	105M001b	Bema	75	105M 073
5	Coral & Wigwam	105M001c	Bermingham & Ruby (Arctic & Mastiff)	6	105M001d,e
6	Bermingham & Ruby (Arctic & Mastiff)	105M001d,e	Betty	8	105M001g
7	No Cash	105M001f	Black Cap, Shepherd & SQ Adit	25	105M001ac
8	Betty	105M001g	Bluebird	14	105M001p
9	Hector Calumet	105M001h,i	Caribou (Segsworth) & Alice	39	105M001aw,x
10	Dragon & Miller	105M001j	Christal (Dorothy)	71	105M 061
11	Galkeno	105M001l,m	Christine	51	105M012
12	Galkeno 900	105M001m	Coral & Wigwam	5	105M001c
13	Fisher Creek	105M001o	Cream & Jean	61	105M024
14	Bluebird	105M001p	Croesus No.1	24	105M001ab
15	Tin Can	105M001q	Cub & Bunny	30	105M001aj
16	Rico	105M001r	Devon	41	105M001az
17	Duncan Creek	105M001s	Divide	40	105M001ay
18	Flame & Moth	105M001t	Dixie	4	105M001b
19	Onek	105M001u	Dragon & Miller	10	105M001j
20	Klondike-Keno	105M001v	Duncan	43	105M003
21	Sadie Ladue	105M001w,x	Duncan Creek	17	105M001s
22	Bellekeno	105M001y	Eagle	59	105M021
23	Kijo	105M001aa	Elsa	3	105M001a
24	Croesus No.1	105M001ab	Faith	42	105M002
25	Black Cap, Shepherd & SQ Adit	105M001ac	Fisher	60	105M022
26	Lucky Queen	105M001ad	Fisher Creek	13	105M001o
27	Lake	105M001ae	Flame & Moth	18	105M001t
28	Shamrock	105M001ah	Formo (Yukeno)	57	105M018
29	Highlander	105M001ai	Fox	38	105M001av
30	Cub & Bunny	105M001aj	Galkeno	11	105M001l,m
31	Stone	105M001ak	Galkeno 900	12	105M001m
32	Keno 700	105M001at	Gambler	73	105M 069
33	Main Fualt & Nabob	105M001aq	Gerlitski	63	105M026
34	Lake View	105M001ar	Gold Hill No. 2	37	105M001au
35	Nabob No. 2	105M001as	Gold Queen	44	105M004
36	Keno No. 9 System	105M001am-ap 105M008	Hector Calumet	9	105M001h,i
37	Gold Hill No. 2	105M001au	Highlander	29	105M001ai
38	Fox	105M001av	Hogan	54	105M015
39	Caribou (Segsworth) & Alice	105M001aw,x	Homestake	50	105M011
40	Divide	105M001ay	Husky & Husky SW	2	105M001bb

Table I1. Keno Valley/Dublin Gulch Mine Site List

SITES LISTED BY ASSIGNED NUMBER			SITES LISTED ALPHABETICALLY BY NAME		
Assigned Site No.	Site Name	MinFile No.	Site Name	Assigned Site No.	MinFile No
41	Devon	105M001az	Ironclad (Ankeno)	72	105M 063
42	Faith	105M002	Keno No. 9 System	36	105M001am-ap 105M008
43	Duncan	105M003	Keno 700	32	105M001at
44	Gold Queen	105M004	Kijo	23	105M001aa
45	Silver Basin	105M005	Klondike-Keno	20	105M001v
46	Nabob	105M006	Lake	27	105M001ae
47	Monument & Ladue Fraction	105M007	Lake View	34	105M001ar
48	Apex	105M009	Lucky Queen	26	105M001ad
49	Vanguard	105M010	Main Fault & Nabob	33	105M001aq
50	Homestake	105M011	Maybrun	53	105M014
51	Christine	105M012	Mo	52	105M013
52	Mo	105M013	Monument & Ladue Fraction	47	105M007
53	Maybrun	105M014	Moon	66	105M 046
54	Hogan	105M015	Mt. Hinton	68	105M 052
55	Runer	105M016	Nabob	46	105M006
56	Wernecke Railroad	105M017	Nabob No. 2	35	105M001as
57	Formo (Yukeno)	105M018	No Cash	7	105M001f
58	Paddy	105M020	Nord	62	105M025
59	Eagle	105M021	Onek	19	105M001u
60	Fisher	105M022	Paddy	58	105M020
61	Cream & Jean	105M024	Rico	16	105M001r
62	Nord	105M025	Runer	55	105M016
63	Gerlitski	105M026	Sadie Ladue	21	105M001w,x
64	Titan	105M027	Shamrock	28	105M001ah
65	Shanghai	105M 028	Shanghai	65	105M 028
66	Moon	105M 046	Silver Basin	45	105M005
68	Mt. Hinton	105M 052	Silver King	1	105M001ba
69	Avenue	105M 053	Stone	31	105M001ak
70	Yono	105M 055	Tin Can	15	105M001q
71	Christal (Dorothy)	105M 061	Titan	64	105M027
72	Ironclad (Ankeno)	105M 063	Vanguard	49	105M010
73	Gambler	105M 069	Wernecke (Railroad)	56	105M017
75	Bema	105M 073	Yono	70	105M 055
Non-MinFile Sites					
76	Townsite Mine		Elsa Tailings	79	
77	Sadie Ladue 600 Adit		Elsa Village	78	
78	Elsa Village		Mackeno	81	
79	Elsa Tailings		Sadie Ladue 600 Adit	77	
80	Wernecke Tailings		Townsite Mine	76	
81	Mackeno		Wernecke Tailings	80	

Table I1. Keno Valley/Dublin Gulch Mine Site List

SITES LISTED BY ASSIGNED NUMBER			SITES LISTED ALPHABETICALLY BY NAME		
Assigned Site No.	Site Name	MinFile No.	Site Name	Assigned Site No.	MinFile No
Dublin Gulch Sites					
85	Barker	106D 022	Barker	85	106D 022
86	Meilecke	106D 023	Dublin Gulch - Eagle	88	106D 025a
88	Dublin Gulch - Eagle	106D 025a	Dublin Gulch - Olive	89	106D 025b
89	Dublin Gulch - Olive	106D 025b	Dublin Gulch - Shamrock	90	106D 025c
90	Dublin Gulch - Shamrock	106D 025c	Dublin Gulch - Stewart & Catto	91	106D 025d
91	Dublin Gulch - Stewart & Catto	106D 025d	Ellis	94	106D 028
92	Potato Hills	106D 026	Garnet	93	106D 027
93	Garnet	106D 027	Haggart	96	
94	Ellis	106D 028	Meilecke	86	106D 023
96	Haggart		Potato Hills	92	106D 026

PART A - ENVIRONMENTAL SETTING

A1. Study Area Physiography

During the 1999 program, water quality and waste rock samples were collected to build upon existing empirical data and anecdotal information derived from personal interviews. Much of the environmental setting information for the study area had already been compiled by Access Mining Consultants (1996); consequently, to avoid duplication of effort, the relevant sections of Access' (1996) report are quoted extensively. Regional and local geology have been very well described by Boyle (1962), and again, relevant descriptions from his work have been extensively quoted.

The physiography of the study area is well-described in Boyle (1965):

> "Galena Hill trends northeast between Duncan Creek and the McQuesten River valley. It has an elevation of 4,740 feet, a moderately steep southwestern slope, and steeper north, northwestern, and southeastern slopes. The terrain above 4,300 feet is relatively flat and rolling, and marked by several level grassy meadows. The north, northwestern, and southeastern slopes of the hill are crossed by several streams that have cut steep gulches into the rock strata. The principal streams responsible for these gulches are Galena, Flat, Brefalt, and Sandy Creeks and Porcupine Gulch an the northwestern slope and Hinton and Fisher Creeks on the eastern and southeastern slopes."
>
> "Keno Hill and Sourdough Hill are adjacent hills separated by Lightning Creek. Keno Hill trends northeast and lies between the Keno Ladue-McQuesten River valley and Allen, Faith, Lightning, and Christal Creeks. The hill has relatively gentle southern and southeastern slopes and a precipitous northern slope, marked by two cirques, Faro Gulch and Silver Basin Gulch. The terrain above 4,500 feet is relatively flat and rolling with five prominent rocky knolls known as Keno, Minto, Monument (the highest point on Keno Hill, elevation 6,065 feet), Caribou, and Beauvette. On the slopes of the hill several streams follow steep gulches in the rock strata, the principal ones being Gambler, Faro, McKay, and Silver Basin on the northern slope, Faith, Hope, and Charity on the northeastern and southern slopes, and Erickson on the western slope."
>
> "Sourdough Hill...lies southwest of Keno Hill and trends north between Thunder, Lightning, and Duncan Creeks. The...northern and northwestern slopes...are gentle up to 4,200 feet and from there rise abruptly to a steep rocky hogsback that trends

southwest for some 6,000 feet....Below an elevation of 4,400 feet rock outcrops are sparse, and the slopes are covered with till, soil, rock debris, muck, and muskeg, in which conifers, birch, aspen, Arctic black-birch, and other vegetation grow abundantly. Above this elevation the soil is thin, outcrops are more numerous, the ground is covered with local rock float, the terrain is treeless, and the vegetation is limited to alpine species and grassy meadows."

"The lower slopes of the hills were severely glaciated during Pleistocene time by ice-sheets that spread, from the east, over the entire area. Glacial till, gravel, and other debris lie in a series of benches on the slopes of the hills and floor the valleys. The deposits are generally 5 to 20 feet thick, but in some areas as on the southern slope of Keno Hill facing Lightning Creek and north of Christal Lake, they are 30 to 50 feet thick or more."

"The Keno Hill-Galena Hill area is in the region of permanently frozen ground...The permafrost is irregularly distributed and its occurrence is dependent upon the elevation, hillside exposure, depth of overburden, amount of vegetative cover, and presence of flowing underground and surface water. At high elevations and on slopes with a northern exposure it is generally present. Thus, at Keno Hill, the mine workings on the top of the hill and on the northern slope encountered permafrost some 400 feet below the surface. On the northern slopes of Sourdough Hill and Galena Hill a similar situation prevails, and frost and ice lenses have been encountered at depths of 250 feet or more in the mine workings. On the lower southern slope of Keno Hill, however, the workings of the Onek and Mount Keno mines show little evidence of permafrost. In places where surface and underground water are flowing the permafrost has been thawed out and frost-free windows and strips are present. These provide access and egress for waters that are oxidizing the lodes."

"The effects of frost action, soil creep, and slope wash are marked on the hills, particularly at the higher elevations. Frost action is responsible for features such as stone rings and stripes, and produces a general 'boiling action' that brings rock float, mineralized float, and soil from deeper layers to the surface...."

A2. Bedrock Geology

Bedrock geology of the Keno Hill - Galena Hill area has for many years been characterized as three

formations, namely the "lower schist", "central quartzite" and the "upper schist". Most ore deposits have been found in the "central quartzite" formation. Access Mining Consultants (1996) report provided additional description of the area s bedrock:

> "The "lower schist" is now correlated by Roots and Murphy (1992) with the Devonian and Mississippian Earn Group and includes carbonaceous phyllite, siliceous carbonaceous meta-siltstone and rare calcareous greywacke. Intercalated with the meta-sedimentary rocks are waxy green, locally quartz and feldspar porphyritic, felsic, meta-volcanic phyllite, particularly abundant in the top 100 meters. The "central quartzite" is now referred to by Roots and Murphy (1992) as the Keno Hill Quartzite. It is thought to be of Mississippian age and consists of finely to coarsely foliated, lineated, light to dark grey, vitreous quartzite; interlayered are carbonaceous failed, chloritic failed and rare limestone. Intrusive into both these units are foliation concordant meta-diorite bodies (actinolite-calorie-plagioclase bearing, fine to coarse grained green stone) thought to be of mid-Triassic age. The "upper schist" is now thought to be an imbricated and/or isoclinally folded zone comprising intercalated rocks of late pre-Cambrian Holland Group and Keno Hill Quartzite (Roots and Murphy, 1992). The structurally overlying Holland Group is a meta-sedimentary sequence consisting of medium brown, foliated and liberated failed and psammite (a sandstone); quartz and feldspar pebble psammite; with lesser calc-failed, marble and carbonaceous failed. The metasedimentary rocks are intruded by dykes and sills of fine grained, locally porphyritic, locally altered, aplite and granite. These dykes and sills are neither common nor large. They are most abundant in the north flank of Keno Hill."

> "Irrespective of stratigraphic formations or regional map units only a few major rock types are commonly encountered in the area of the old mine workings. These are:

- schists and phyllites with variable carbon content;
- chloritic phyllites or schists;
- quartzites and phyllitic quartzites;
- sericite-quartz phyllites; and,
- greenstones.

Boyle (1962) provides a classic description of the Keno Hill/Galena Hill district s major rock types:

> **"Argillites, Phyllites, Slates, and Schists**

Of this group of rocks, schists are the most abundant, followed by phyllites and argillites; slates have a limited local occurrence."

"The argillites occur in beds ranging in thickness from a few inches to 10 feet or more and are generally interbedded with the various types of schists, phyllites and quartzites. All varieties of argillite exhibit a poorly developed cleavage approximately parallel with the bedding. In many occurrences they are crumpled, fractured, or crushed and contain numerous carbonate and quartz stringers."

"In hand specimens most argillites are grey, but some are dense black and contain much carbonaceous matter and pyrite."

"In thin sections the grey argillites are seen to contain white mica (sericite) and/or brown mica (biotite), microcrystalline quartz and leucoxene, chlorite, isotropic colloidal material, and pyrite. Some contain a little carbonate....The texture is commonly banded, with layers containing essentially sericite, leucoxene, and a little quartz alternating with layers containing quartz, carbonate, and subordinate sericite and/or biotite. In most sections the small irregular masses of pyrite are strung out along particular bands."

"The black argillites are composed mainly of layers of carbonaceous material containing much fine-grained pyrite and minor amounts of carbonate minerals, quartz, and sericite. These generally alternate with layers containing quartz, sericite, carbonate minerals, some carbonaceous material, and a little pyrite."

"Mineralogically, the phyllites are essentially the same as the argillites....Mineralogically, the slates are similar to the argillites and phyllites...."

"The varieties of schist found in the area include graphitic schists, quartz-sericite schist, and chlorite schist....Under the microscope the principal mineral constituents are dense opaque carbonaceous matter (graphite), quartz, sericite, 'carbonate minerals, feldspar, chlorite, isotropic colloidal material, and numerous metacrysts of pyrite....Microboudins of quartz, many containing a cube of pyrite, are common in nearly all sections."

"In thin sections the quartz-sericite schists are seen to consist essentially of quartz and sericite with subordinate amounts of carbonate minerals and leucoxene....[A] few pyrite metacrysts are also present in most sections. The texture is schistose with laminae, shreds, and wisps of sericite and leucoxene enclosing irregular elongated lenses and

bands composed principally of quartz with some shreds of sericite and a few cubes of pyrite."

"Quartzites

Quartzites occur throughout the sedimentary sequence, but tend to be concentrated in well-defined bands in the various formations. Both thick and thin-bedded varieties are present...Both varieties are interbedded with assemblages of schist, argillite, and phyllite."

"Thin sections show that the quartzites consist essentially of quartz, with minor amounts of white mica (sericite) and, locally, carbonate minerals. Calcareous varieties contain up to 30 percent carbonate minerals. The black quartzites contain much carbonaceous material. Accessory minerals in all varieties include irregular patches and specks of leucoxene, tourmaline, zircon, apatite, and pyrite. The pyrite occurs mainly as cubes, distorted cubes, and crystal groups...."

"Greenstones

The greenstones are schistose, greyish green to dark green rocks that occur in conformable elongated lenses and sills, principally in the schistose formations and to a lesser extend in the quartzite formations.... In some bodies narrow shear zones, joints, and irregular fractures contain small lenses and masses of quartz, epidote, and calcite."

"The principal minerals now present in the greenstones are hornblende, actinolite, saussurite..., plagioclase..., chlorite, stilpnomelane, biotite, white mica (sericite), leucoxene, and carbonate minerals....[P]yrite is present in some bodies."

A3. Soils

Study area soils are again best described by Boyle (1965):

Soil development has been affected by four principal factors: the variability of parent materials, the marked relief of the country, the climatic and vegetative forces under which the soil developed, and the presence of permafrost."

"In the Keno Hill-Galena Hill area both bedrock and glacial materials have served as

parents for soil. The marked relief has had the effect of producing deeper soils in the valleys and on the lower slopes of the hills. The difference in the exposure of the hillsides has been responsible for the occurrence of greatly different soils within short distances. South-facing slopes are generally less densely wooded and freer from permafrost than north-facing slopes. On the former the soils are somewhat better developed; the latter are covered in most places by deposits of muck, peat, and half-bog soils."

"Except for a few localized areas, the soils are not strongly weathered or deeply leached. They also exhibit a poor profile development, particularly those underlain by permafrost."

"The soils in the area can be conveniently classified into two general types: (1) residual, and (2) muck peat, and half-bog. The residual soils were formed principally from the weathering of the various types of bedrock, or as is evident in some places, particularly in the vicinity of Dublin Gulch, from the decomposition of a till that predates the last glaciation."

"The thickness of the residual soils varies, depending on the slope of the hills. On the tops of the hills they are rarely more than 3 feet thick and in places are entirely absent, lower down on the slopes the soils, thickened by slope wash and land creep, may exceed 10 feet. In most areas they are highly disturbed by solifluction and frost-boiling, and their profile development is either immature or non-existent.... Most residual soils are moderately well drained on the lower slopes of the hills, but poorly drained on the tops of the hills, where the upper layers of the soil are water-saturated all summer. The pH of most residual soils varies from 5.2 to 6.5."

"The muck, peat, and half-bog soils are largely developed on the north slopes of the hills and on low-lying poorly drained ground. In most occurrences the profiles show the following sequence from the surface downwards:

HORIZON	DESCRIPTION
Surface A_{00}	Trees, grasses, low shrubs, mosses, loose leaves, etc.
A_0	Slightly compressed undecomposed organic matter consisting of woody fragments, roots, mosses, leaves, and minor amounts of mineral matter; 8 to 16 cm thick; unfrozen during summer
A_1	Muck composed of dark brown to black decomposed organic matter and humus with a slight admixture of clay, sand, etc.; 15 to 25 cm thick; generally permanently frozen below top few cm
B + C (Residual Soils)	Residual soil or till, gravel, and sand; generally frozen; thickness varies
D (Glacial Materials)	Thickness varies
Bedrock D	Quartzite, phyllite, greenstone and schist

The muck, peat, and half bog soils are very poorly drained and are water saturated all summer. Their pH varies from 6.0 to 7.0.

A4. Vegetation

A synthesis of vegetation descriptions for the study area was provided in Access Mining Consultants (1996):

> The Elsa-Keno Hill area is located within the Mayo Lake-Ross River Ecoregion (Oswald and Senyk, 1977). The region is characterized by discontinuous widespread permafrost, with much of the area poorly drained and underlain by perennially frozen ground. Many valleys include peatlands, palsas, fens and meadows of sedge tussocks. Upper slopes may be covered with scree material, with treeline occurring at 1350 to 1500 meters. The predominant tree cover in the area consists of white spruce *(Picea glauca),* black spruce *(Picea mariana)* and willows *(Salix spp.).* Less commonly occurring trees are trembling aspen (*Populus tremuloides),* balsam poplar (*Populus balsamifera),* white birch *(Betula papyrifera).* Alpine fir (*Abies lasiocarpa) is* common at higher elevations and alder *(Alnus crispa)* occurs along creek banks and in disturbed areas. Isolated pockets of lodgepole pine *(Pinus contorta)* can also be found."
>
> "Most south-facing slopes are covered with white spruce along with aspen, balsam poplar and willows, while north-facing slopes are underlain by permafrost and covered with stunted black spruce. Much of the drier south-facing slopes has been burned at some point during the past century...."

"The shrub layer on the north facing slopes and peatbog areas consists of dwarf birch *(Betula glandulosa),* willows (*Salix spp.*), shrubby cinquefoil (*Potentilla fruticosa),* crowberrry (*Empetrum nigrum),* cloudberry *(Rubus chamaemorous)* and dwarf raspberry *(Rubus acaulis),* as well as ericaceous shrubs such as Labrador tea *(Ledum decumbens),* bearberry *(Arctostaphylos rubra),* blueberry *(Vaccinium uliginosum*), cranberry (*Vaccinium vitis-idaea*) and bog cranberry (*Oxycoccus microcarpus*). The drier south-facing slopes have a shrub layer which includes rose (*Rosa acicularis*), twinflower *(Linnaea borealis),* and gooseberry (*Ribes oxyacanthoides*)."

"Alpine areas support a variety of a plant communities. The low ground vegetation mainly consists of mat forming plants such as moss campion (*Silene acaulis*) and ericaceous shrubs such as heather (*Cassiope spp.*). A variety of alpine flowering forb species are also found. Dry areas, particularly well-drained rocky alpine sites, have extensive lichen development."

"Wetland species are mostly graminoids, including sedges such as Carex aquatilus and Carex lugens, cotton-grass sedges *(Eriophorum augustifolium, Eriophorum russeolum* and *Eriophorum vaginatum),* and grasses such as reed-bentgrass *(Calamagrostis canadensis).* Forb species such as Sudeten lousewort *(Pedicularis sudetica),*wintergreen *(Pyrola spp.)* and coltsfoot (*Petasites spp.*) are also scattered throughout wetland areas."

"Aquatic plants commonly found in the area include water-milfoil *(Myriophyllum exalbescens),* pondweed (*Potamogeton richardsonii),* mare's-tail (*Hippuris vulgaris)* and bur-reed (*Sparganium spp.*)."

"Common horsetail (*Equisetum arvense*) is the predominant species of vegetation occurring on the unsubmerged portion of the Elsa tailings impoundment. Squirrel-tail grass (*Hordeum jubatum*) is found in large patches in the higher, drier areas. Hairgrass *(Deschampsia caespitosa*) and willows (*Salix spp.*) are scattered throughout. Sedge (*Carex aquatilus*) is the predominant plant in the wetter tailings and shallow water, along with occasional occurrences of willow, water horsetail (*Equisetum arvense*) and sloughgrass *(Beckmannia syzigachne).*"

"Metal levels in local wetland plant species were investigated as part of the Galkeno 900 pilot wetlands testwork. Samples for metal analyses were collected from wetland plant tissue and sediments to determine the extent of metal uptake by plants. Test results

indicate that sediments contain considerable quantities of metals, while plant tissue metal levels remain near reported values for non-enriched sites....

A5. Hydrology and Water Quality

A5.1. Data Sources

Water quality data for the Keno Valley area is available from several sources including UKHM Ltd., Access Mining Consultants (sampled by Laberge Environmental Services), Environment Canada, DIAND Water Resources, and DIAND Waste Management Program. Water quality monitoring has been collected in the area for over 25 years. Some hardcopy transcription was undertaken for the Keno Valley area, but the raw water quality data was primarily in electronic format (up to 1996). Several years of additional data has been collected by the Na-cho Ny'ak Dun First Nation for the McQuesten River Valley.

Dublin Gulch water quality information was gathered from various sources including Hallam Knight Piesold's (1996) Initial Environmental Evaluation - Volume II Environmental Setting report and Access Mining Consultants Ltd. Water Licence Application, 1997. These data were collected to characterize background water quality in New Millennium Mining Limited's proposed area of mining.

A5.2. Study Area Hydrology

A5.2.1. GENERAL

Streamflows in the Yukon are generally characterized by peak flows in the spring and low flows in the winter. Maximum discharges typically occur during the spring as the result of snowmelt or-rain-on-snow events, with flows gradually decreasing following the disappearance of snow. Sizeable flood events may also occur in the late summer due to intense rainstorms. These rainfall events are particularly significant on small basins. The smallest discharges of the year occur in mid-winter, since major icing develops on all rivers and many streams freeze to bottom. Winter flows in small streams are essentially zero or immeasurable.

Year round regional data in the Yukon is available for only a few rivers and all relevant streamflow stations have drainage basins much larger than those in the study area (aside from the South McQuesten River). Data for more representative basins is collected by INAC, but flows are only recorded in the summer months and many of the watersheds have active placer operations. Further, the climate and hydrology of the Yukon is extremely basin specific, with adjacent basins sometimes exhibiting dramatically different runoff regimes. Because of the extremely cold and lengthy winters, runoff is significantly affected by snowmelt. As well, total runoff volumes and distributions are very dependent on basin elevations due to freezing levels and orographic influences.

There are many factors which influence runoff and consequently, considerable uncertainty is associated with deriving runoff estimates. The average long-term site runoff and streamflow values presented in this report are best estimates, based on accepted hydrological practices and sound engineering judgment. As more site-specific data becomes available, these estimated values may be refined.

The following describes the procedures and analysis undertaken to estimate runoff and streamflow values at key locations on the minesite streams in the Keno Valley and Dublin Gulch areas.

A5.2.2. *AVAILABLE DATA*

The hydrology of the study area streams was characterized using a mix of both site-specific and regional data. The site-specific data can be categorized into two groups. The first group encompasses a series of spot flow measurements made at the water quality stations by UKHM and New Millennium Mining personnel, government agencies, and consultants. The second group is data collected at various streamflow gauging stations established on study area streams between 1993 and 1995. The hydrological monitoring stations locations, catchment boundaries and their associated hydrological characteristics are shown in Figures A1, A2 and A3.

The site-specific data on their own are inadequate to fully characterize the hydrology of the study area streams. This is because the spot flow measurements collected at the water quality monitoring stations are sparse and generally do not cover all seasons. Also, the streamflow records at the study area gauging stations are still of short length and, in the case of the manual gauges, are also intermittent.

In the absence of long-term and complete records of streamflow for the study area streams, resort was made to data collected at the hydrometric networks of the Water Survey of Canada (WSC) and the Water Resources Division of DIAND. Regional streamflow and precipitation records were used to

generate synthetic long-term flow values (see Table A1 and Figures A1, A2 and A3). The data collected by the WSC and DIAND were used to characterize study area hydrology using a technique known as regional analysis. Essentially, this involved deriving empirical relationships between the measured streamflow of the regional stations and the physical characteristics of the catchments, which generated the streamflow. These empirical relationships then formed the basis for estimating flows at ungauged study area streams (or, as was often the case, streams with limited flow measurements).

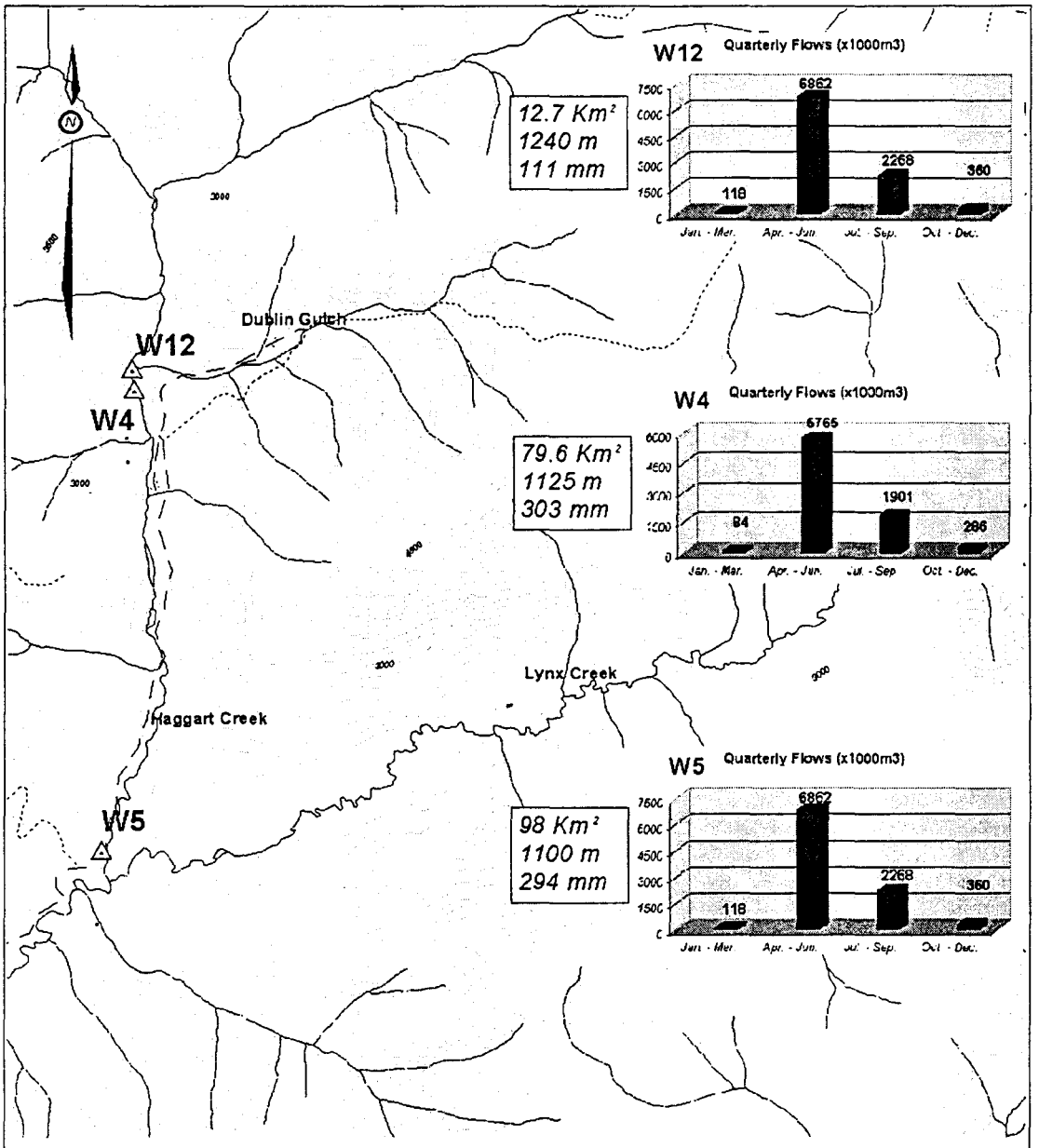
The streamflow gauges operated by the WSC are typically sited on streams with large catchments (say greater than 500 km^2) and are monitored on a year-round basis. In contrast, the DIAND gauges are normally located on streams with small catchments and are operated seasonally during the period of open water. The networks of both government agencies were examined to identify regional gauging stations that could be useful in characterizing the average flows of the study area streams.

Table A1. Catchment Area Quarterly Flows

Catchment Area	Location: Actual Flow Measurement	Quarterly Flows (x1000 m^3)				Total Flow Volume (x1000m3)	Source of Data/ Comment
		Jan. - Mar.	Apr. - Jun.	Jul. - Sep.	Oct. - Dec.		
Keno Valley Area							
Catchment Area 1, Christal Creek above Station LES-6 (S18)	Flow at Station LES-6 (S18)	151.63	1083.47	605.49	286.91	2127.50	Computed (total of all inflows within catchment area)
Catchment Area 2, Christal Creek between Stations LES-7 (S19) and LES-6 (S18)	Flow at Station LES-7 (S19)	547.06	5565.53	2938.03	1262.70	10313.32	Computed (total of all inflows within catchment area)
Catchment Area 3, Sandy Creek above Highway 2	Flow at Station LES-63	31.18	355.93	185.11	77.29	649.50	Computed (total of all inflows within catchment area)
Catchment Area 4, No Cash Creek above Highway 2	Flow at Station LES-21	547.06	5565.53	2938.03	1262.70	10313.32	Computed (total of all inflows within catchment area)
Catchment Area 5, South McQuesten River between Stations LES-2 (S10) and LES-1	Flow at Station LES-2 (S10)	6135.64	68862.16	35887.64	15048.50	125933.94	Computed (total of all inflows within catchment area), including flows from areas 1-3 and S. McQuesten River above LES 1.flows flows
Catchment Area 6, Elsa Tailings Impoundment	Totals	37.15	424.15	220.59	92.11	774.00	Computed (total of all inflows within catchment area)
Catchment Area 7, Porcupine Creek Diversion Channel	Flow at Station LES-47	130.90	1494.40	777.20	324.51	2727.00	Computed (total of all inflows within catchment area)

Table A1. Catchment Area Quarterly Flows

Catchment Area	Location: Actual Flow Measurement	Quarterly Flows (x1000 m^3)				Total Flow Volume (x1000m3)	Source of Data/ Comment
		Jan. - Mar.	Apr. - Jun.	Jul. - Sep.	Oct. - Dec.		
Catchment Area 8, Galena Creek above the mouth	Flow at Station LES-57	169.63	1465.40	777.09	352.25	2764.37	Computed (total of all inflows within catchment area)
Catchment Area 9, Flat Creek above Station LES-9 (S9) and below Porcupine Creek Diversion Channel	Flow at Station LES-9 (S9)	618.00	6316.48	3312.75	1426.28	11673.51	Computed (total of all inflows within catchment area), including flows from areas 6-8
Catchment Area 10, South McQuesten River between Stations LES-4 (S11) and LES-2 (S10)	Flow at Station LES-4 (S11)	6983.27	77800.27	40563.82	17044.08	142391.45	Computed (total of all inflows within catchment area), including flows from areas 5 & 9f
Catchment Area 11, South McQuesten River between Stations LES-5 and LES-4 (S11) [Note: Station Outside Study Area]	Flow at Station LES-5	8747.75	97944.75	51040.42	21418.52	179151.45	Computed (total of all inflows within catchment area)
Dublin Gulch Area							
Dublin Gulch watershed immediately upstream of confluence with Haggart Creek	Dublin Gulch @Haggart Creek	6.150	814.583	262.704	29.097	1112.533	Estimated using the monthly runoff depths for each nominal elevation and the proportion of the total drainage area represented by that elevation (runoff depths were converted to average monthly streamflows based on the total catchment area for each site).
Haggart Creek (& tributaries) Watershed above Station H4	Haggart Creek @ Station H4	83.580	5765.398	1900.755	286.166	8035.899	
Haggart Creek (& tributaries) Watershed above Station H5	Haggart Creek @ Station H5	117.600	6861.690	2268.339	359.811	9607.440	



ACCESS CONSULTING GROUP

Government of Canada / Gouvernement du Canada

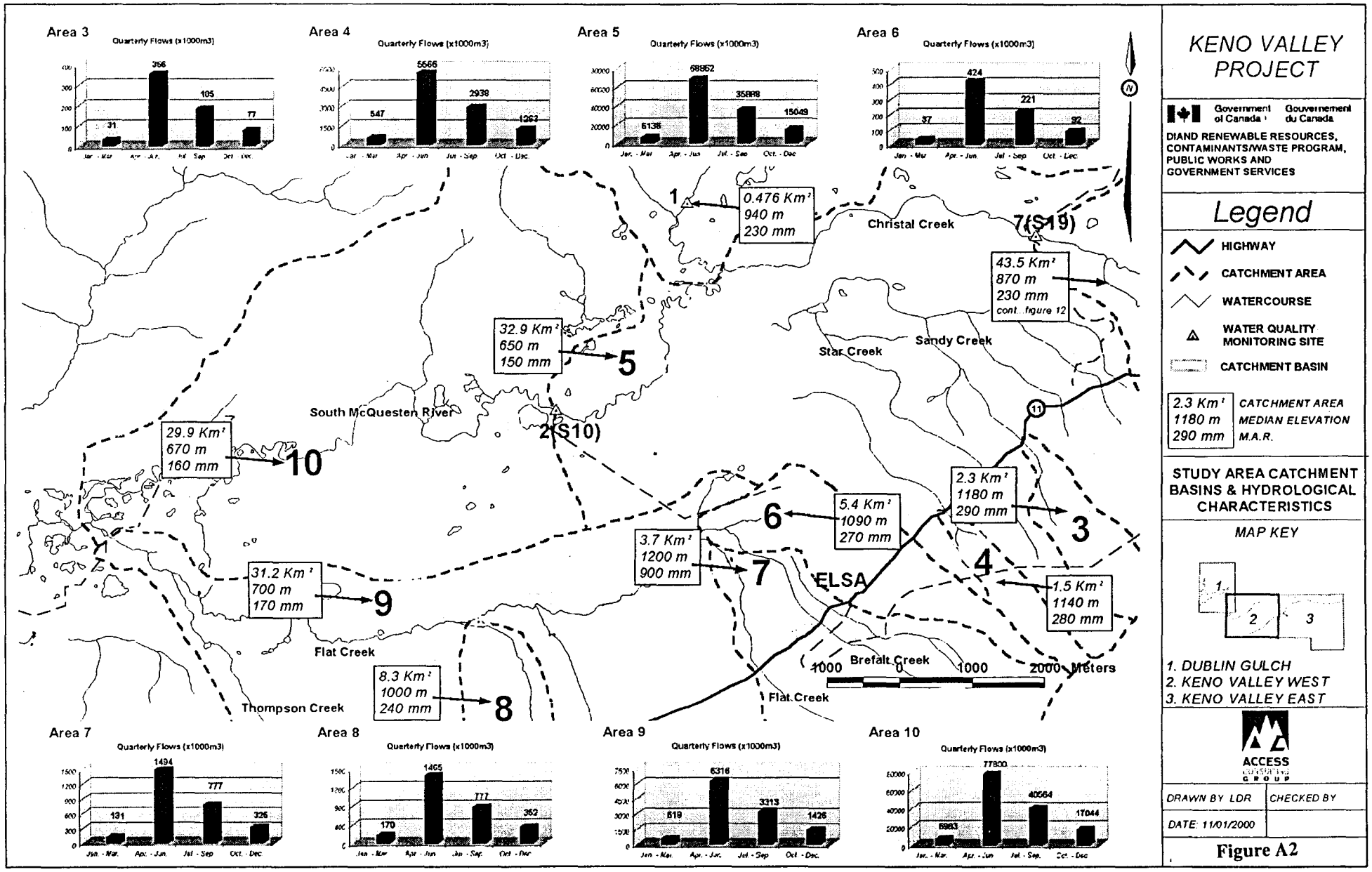
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

WATERCOURSE

WATER QUALITY MONITORING SITE

STUDY AREA CATCHMENT BASINS & HYDROLOGICAL CHARACTERISTICS

DRAWN BY: LDR	CHECKED BY:
DATE: 11/01/2000	Figure A1.



KENO VALLEY PROJECT

Government of Canada / Gouvernement du Canada

DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

Legend

- HIGHWAY
- CATCHMENT AREA
- WATERCOURSE
- WATER QUALITY MONITORING SITE
- CATCHMENT BASIN

2.3 Km²	CATCHMENT AREA
1180 m	MEDIAN ELEVATION
290 mm	M.A.R.

STUDY AREA CATCHMENT BASINS & HYDROLOGICAL CHARACTERISTICS

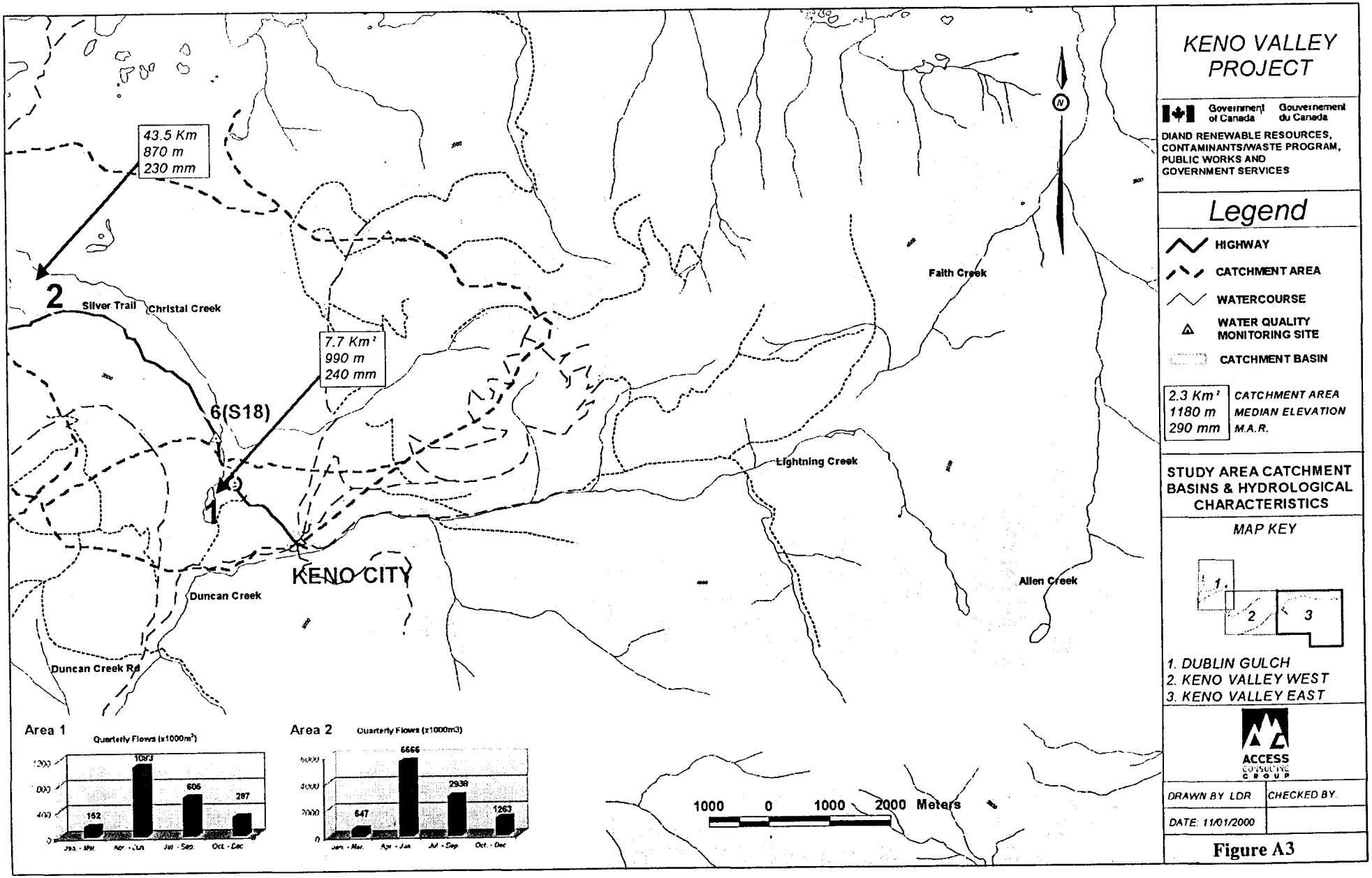
MAP KEY

1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST

ACCESS CONSULTING GROUP

DRAWN BY LDR	CHECKED BY
DATE: 11/01/2000	

Figure A2


43.5 Km
870 m
230 mm
2
Silver Trail
Christal Creek
7.7 Km²
990 m
240 mm
6(S18)
3
1
KENO CITY
Duncan Creek
Duncan Creek Rd
Faith Creek
Lightning Creek
Allen Creek
N
Area 1
Quarterly Flows (x1000m³)
152
1053
606
287
Area 2
Quarterly Flows (x1000m3)
647
6666
2938
1263
1000 0 1000 2000 Meters
KENO VALLEY PROJECT
Government of Canada
Gouvernement du Canada
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES
Legend
HIGHWAY
CATCHMENT AREA
WATERCOURSE
WATER QUALITY MONITORING SITE
CATCHMENT BASIN
2.3 Km²
1180 m
290 mm
CATCHMENT AREA
MEDIAN ELEVATION
M.A.R.
STUDY AREA CATCHMENT BASINS & HYDROLOGICAL CHARACTERISTICS
MAP KEY
1
2
3
1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST
ACCESS CONSULTING GROUP
DRAWN BY LDR
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DATE: 11/01/2000

Figure A3

The study area was then divided into various catchment basins that collectively contribute to the South McQuesten River. The area, median elevation, and mean annual run-off for each of these catchment basins are shown on Figures A1, A2, and A3. In addition, the estimated average quarterly flow rate for primary watercourses in the various catchment basins is shown.

Median elevation is a physical characteristic of the catchment and is defined as the contour that divides the catchment exactly into halves. Mean annual runoff for each regional gauge is expressed in two types of units, namely a long-term average flow rate and a depth. "Depth" may be interpreted as the depth to which the average annual runoff volume would spread uniformly over the total catchment area.

The subsections below describe the steps undertaken to apply the regional analysis to the study area streams. Missing from these subsections is a discussion of how the site-specific data were used to validate flow estimates made by the regional analysis. In general, the measured flows in the study area were found to closely match the estimated flows derived by regional analysis.

A5.2.3. MEAN ANNUAL RUNOFF

Elevation generally accounts for a large proportion of the variation in mean annual precipitation within a mountainous region. It follows, therefore, that mean annual runoff (MAR) would also be a function of elevation. Figure A4 shows how this observation was used to estimate the average flows of the study area streams. The vertical axis of this figure displays values of MAR expressed as equivalent depths of water. The horizontal axis, on the other hand, shows values of median elevation, which is the variable adopted to characterize the elevation characteristics of the regional and study area catchments. The following sources of data were assembled to derive a relationship between these two variables for the study area:

- Fifteen pairs of MAR and median elevation data provided by the WSC and DIAND stations;
- Two pairs of MAR and median elevation values provided by two incremental catchments monitored by the WSC (as explained below); and,
- Two point estimates of unit runoff based on the climatic data (explained below).

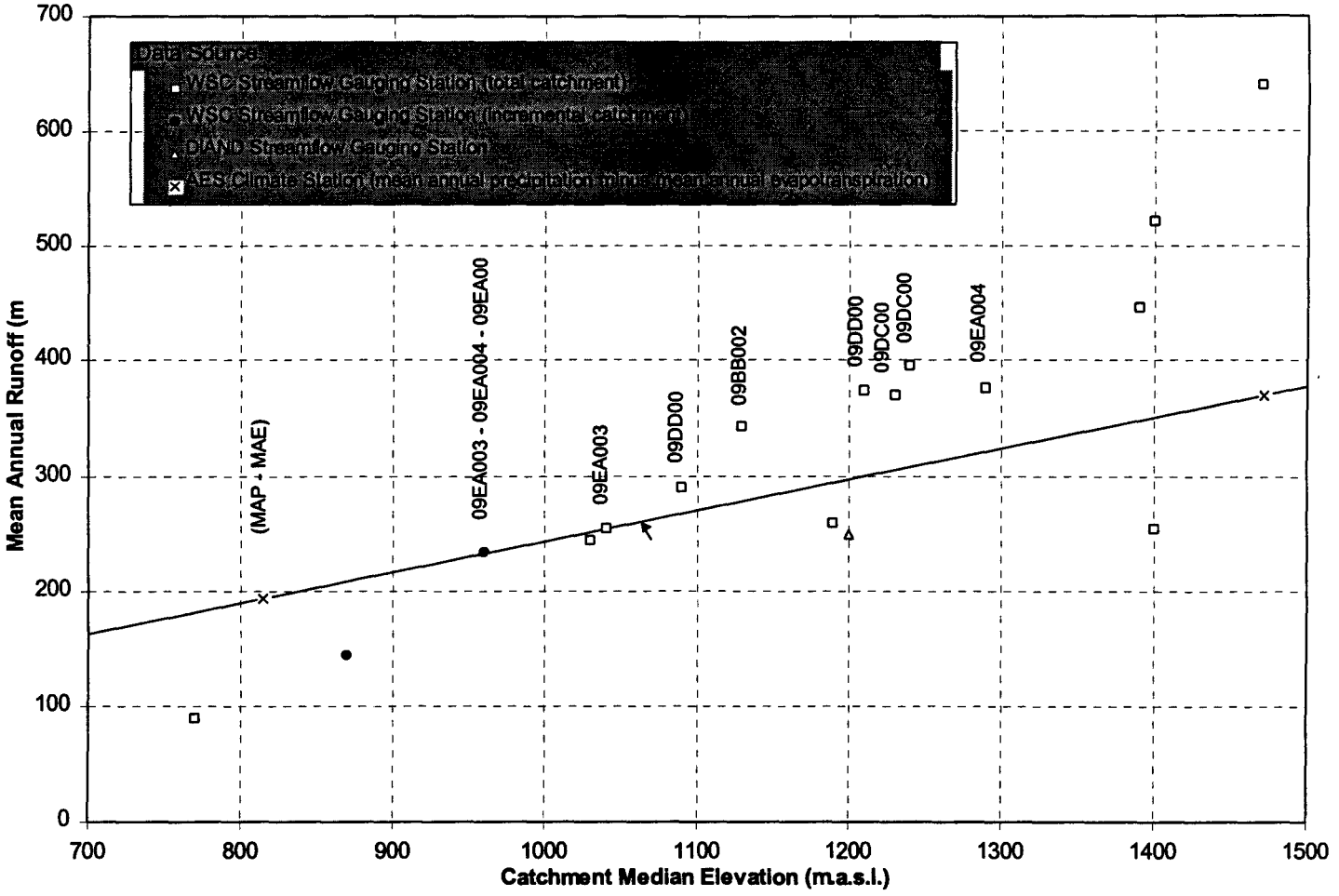


Figure A4. Mean Annual Runoff as a Function of Elevation, Keno Valley Area

Some preparatory work was required to assemble the first source of data. In all but one case, the MAR for the regional station was simply extracted from the agency's published streamflow records. For the one exceptional case, the gauging station was operated on a seasonal basis and, accordingly, a correlation had to be conducted to fill in missing data so that the MAR could be estimated. Median elevations for all the stations were measured from topographic maps using a planimeter.

The second source of data is essentially a subset of the first. Where more than one streamflow gauge was located on a stream, it was possible to provide a set of MAR and median elevation values for the intervening catchment area between the gauges. For example, the runoff generated by the lower Stewart River watershed was quantified by subtracting the flows measured at Station 09DC002 from those at Station 09DD003. The median elevation of this incremental catchment was measured by examining only the area that lies between these two gauging stations.

The third source of information made use of climatic data to derive indirect estimates of runoff. Essentially, this was done by subtracting an estimate of average annual evapotranspiration from the average annual precipitation measured at each of the Elsa and Keno Hill climate stations. For example, the Keno Hill station has a mean annual precipitation of 590 mm and an estimated average annual evapotranspiration of 200 mm. Subtraction of the evapotranspiration rate from the mean annual precipitation suggests that the area in the immediate vicinity of the Keno Hill station generates an average of 390 mm of runoff per year.

Once all the data were assembled and processed, a curve was fitted to the data to develop a relationship that was believed to represent the conditions within the study area. Fitting this curve was a somewhat subjective exercise, involving a comparison between the physical characteristics of the WSC and DIAND catchments with those of the study area catchments. In addition, emphasis was placed on the point estimates of unit runoff derived from the climatic data. In the end, a straight line running through the two estimates provided by the climatic data was adopted to represent the conditions within the study area. It is of interest to note that this line intersects the data point provided by the WSC station on the McQuesten River, which is of course the catchment that contains the minesites.

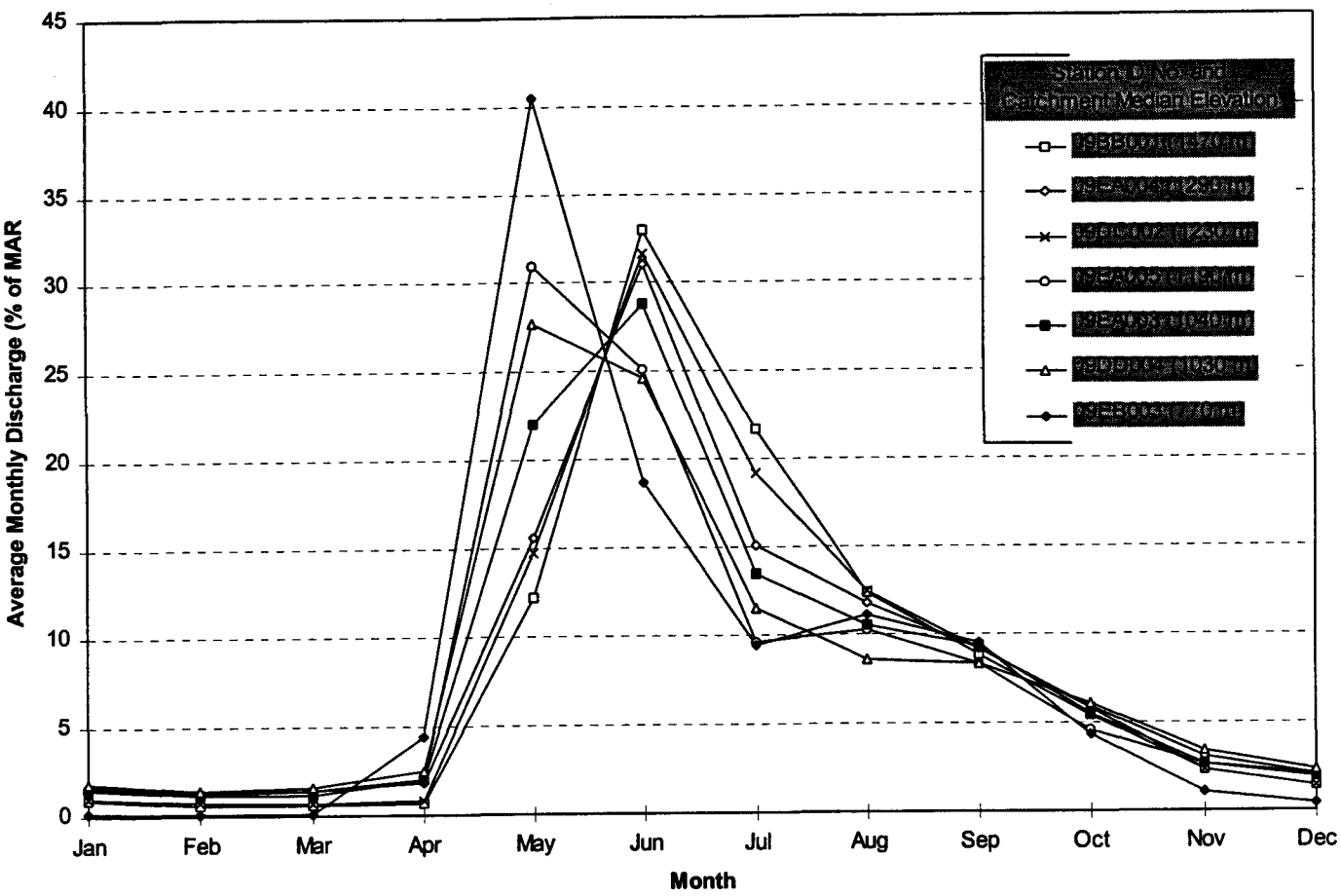
The relationship on Figure A4 was used to estimate the average flows on the study area streams using the following four-step algorithm:

1) A point of interest was defined and its catchment boundary outlined on a topographic map;
2) Using a planimeter, both the catchment area and catchment median elevation were measured;
3) The curve on Figure A4 was entered at the appropriate value of median elevation and the corresponding unit MAR value was read from the graph's vertical axis; and,
4) The product of unit MAR and measured catchment area was calculated to estimate the long-term average annual runoff volume for the point of interest.

A5.2.4. SEASONAL RUNOFF DISTRIBUTION

The runoff pattern within the study area was estimated by examining the average quarterly hydrographs of regional gauging stations. Figure A5 graphically presents the monthly distributions, expressed as percentages of MAR, of seven regional stations. These stations were selected to illustrate the distributions from catchments with a broad range of physical characteristics. All distributions are characterized by high spring flows during snowmelt and low winter flows during prolonged freezing conditions.

Figure A5. Average Monthly Discharges of Seven Regional Stations



Examination of the distributions indicates median elevation is a reasonably good predictor of the shape of a stream's average monthly hydrograph. Two trends with median elevation are apparent. First, the occurrence of the peak monthly flow is correlated with median elevation: low elevation catchments generally experience earlier peaks than high elevation catchments. Second, the relative magnitude of the winter base flow appears related to elevation. The relative magnitude of the base flow seems to increase as the median elevation increases from about 700 m to 1200 m. Above approximately 1200 m, the trend reverses.

A comparison of the physical characteristics of the study area and WSC catchments suggests the McQuesten River (Station No. 09DD004) likely best represents the streamflow distributions of most of the study area drainages. For some of the higher elevation catchments, such as Lightning Creek, the distribution for the North Klondike River may be more suitable.

A6. Study Area Water Quality

A6.1. Dublin Gulch Water Quality

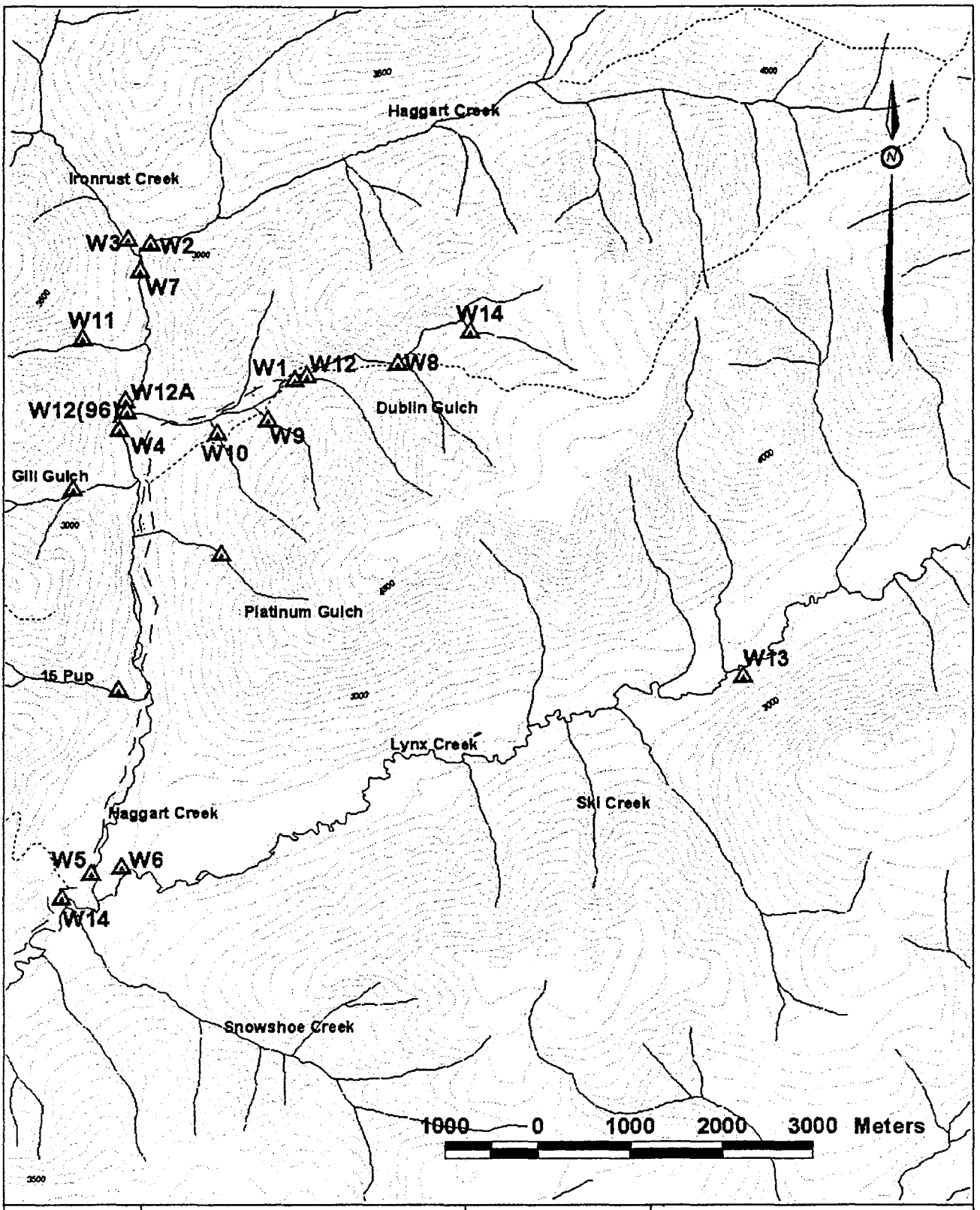
Baseline monitoring of surface water quality in the project area was first conducted by First Dynasty Mines Ltd. from 1993 through 1995, and then by NMML, until the present, as part of the mine development and environmental assessment processes. The program was designed to define the surface water quality of watercourses draining the working areas of the Dublin Gulch property. A total of thirteen water quality monitoring sites were selected based on their relation to the deposit and current mine development plans and designed to monitor existing background conditions at the site and assess potential impacts from the planned mine development (Access Mining Consultants Ltd., 1997).

NMML continues to monitor water quality at selected stations as part of their baseline data collection program. Monitoring stations in the Dublin Gulch watershed include W8-W12, W14, and W2, W5, W7, W12A and W14 (See Figure A6). A number of water quality monitoring stations are located in the Haggart Creek drainage including W2, W5, W7, W12A, and W14. Lynx Creek is represented by two water quality monitoring stations, W6 and W13.

Table A2 describes Dublin Gulch water quality monitoring stations. "LES" sites were those sampled by Laberge Environmental Services (LES) for UKHM. Water quality monitoring data for Dublin Gulch are presented in Appendix A.

Table A2. Water Quality Monitoring Stations, Dublin Gulch

LES Site #	Site Description	LES Site #	Site Description
W1	Dublin Gulch (downstream of confluence with Stewart Gulch)	W9	Lower Eagle Pup
		W10	Lower Stuffle Gulch
W2	Haggart Creek (upstream of confluence with Ironrust Creek)	W11	Fisher Gulch (upstream of confluence with Haggart Creek)
W3	Ironrust Creek (upstream of confluence with Haggart Creek)	W12	Stewart Gulch (upstream of confluence with Dublin Gulch)
W4	Haggart Creek (downstream of confluence with Dublin Gulch)		
W5	Haggart Creek (upstream of confluence with Lynx Creek)	W12(96)	Dublin Gulch (immediately upstream of Haggart Creek)
W6	Lynx Creek (upstream of confluence with Haggart Creek)	W12A(96)	Haggart Creek (upstream of confluence with Dublin Gulch)
W7	Haggart Creek (downstream of confluence with Ironrust Creek)	W13	Upper Lynx Creek
		W14	Lower Bawn Bay Gulch
W8	Dublin Gulch (downstream of confluence with Olvie Gulch)		



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DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

WATERCOURSE
MINOR ROADS
TRAIL SYSTEM
WATER QUALITY MONITORING SITE
BUILDINGS

WATER QUALITY MONITORING SITES DUBLIN GULCH

DRAWN BY: LDR	CHECKED BY:
DATE: 26/10/99	Figure A6.

A6.2. Keno Valley Area Water Quality

Keno Valley area water quality sampling and analyses have been carried out by UKHM and by various regulatory authorities over the period of UKHM's operation. These data (presented in Appendix A) have been compiled from the following sources:

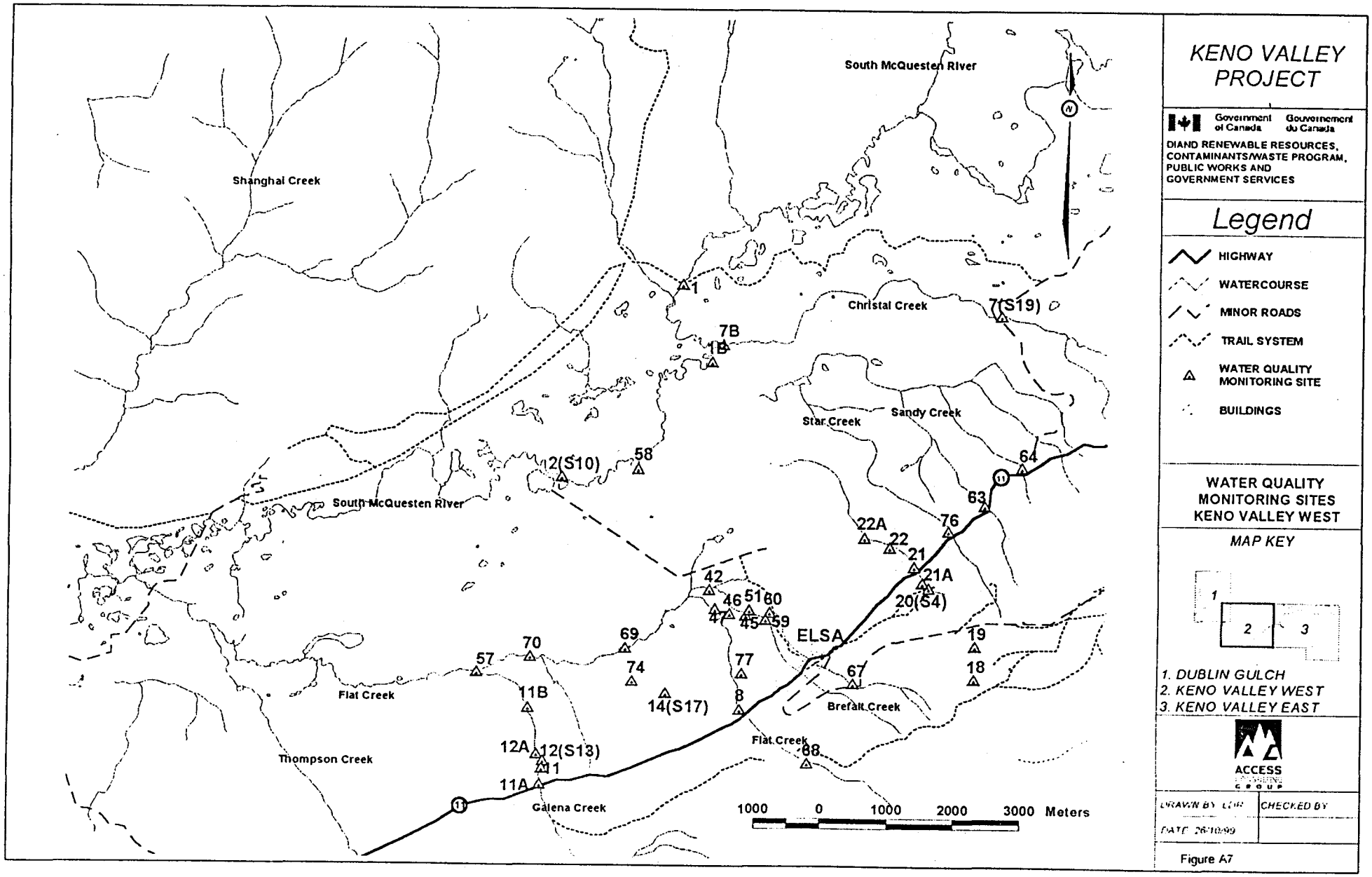
- Water Licence monitoring stations, from 1990 through to 1995. There are earlier data which are not entered into the database for all stations.
- water quality sampling and analysis by DIAND periodically from 1985 through to 1995. Stations sampled were primarily receiving waters, and some adit discharge stations. In some cases this sampling was done at the same time as samples were collected by UKHM to provide a basis for comparison of data.
- water quality sampling and analysis by Environment Canada, Environmental Protection Service of receiving water stations (notably Christal Creek) and contributing point sources (notably Galkeno 900 adit), periodically from 1986 through to 1998.
- water quality sampling by Laberge Environmental Services (LES) for UKHM, with analysis at Quanta Trace Laboratories in Vancouver. These programs cover the most extensive area of the site, with the intention of identifying current and potential sources and pathways of metals loadings. The sampling stations included all UKHM sampling stations plus receiving waters throughout the site area. Six sampling events were completed in 1994 and 1995.

Water sampling stations are shown on Figures A7 and A8 and are described in Table A3. In cases where the LES stations are the same as UKHM stations, only the LES number is shown on the Figure(s).

Table A3. Water Quality Monitoring Stations, Keno Valley Area

LES Site #	Site Description	LES Site #	Site Description
1	South McQuesten R upstream Christal Cr	39	Bellekeno adit (S-12)
1B	South McQuesten R downstream Christal Cr	39A	Beliekeno decant from tailings ponds
2	South McQuesten R @ Pumphouse (S-1 0)	39B	Bellekeno, seep below decant
3	South McQuesten R. upstream Flat Cr	40	Onek adit (S-8)
4	South McQuesten R downstream Flat Cr (S-11)	41	Lightning Cr @ Keno City Road Crossing
5	South McQuesten R 9 km downstream Flat Cr	42	Tailing Pond # 3 water
6	Christal Cr @ Keno Highway (S-1 8)	45	Brefault Cr upstream Porcupine Diversion
7	Chdstal Cr @ Hanson Road (S-1 9)	46	Flat Cr upstream Porcupine Diversion
7B	Chdstal Cr. @ mouth	47	Porcupine Diversion (Flat Creek) downstream of all inputs
8	Flat Cr @ Keno Highway	48	Hope Gulch
9	Flat Cr upstream South McQuesten R (S-9)	51	Combined Seepages in Porcupine Div. u/s Brefault Cr
10	Haldane Cr @ South McQuesten Road		Thunder Gulch upstream Bellekeno adit
11A	Galena Creek upstream Elsa Road	52	Old Galkeno freshwater pumphouse water
11	Galena Cr upstream Silver King adit	53	Thunder Gulch downstream Bellekeno adit
11B	Galena Cr 700 m d/s Silver King tailings ponds	54	Inflow to south end of Christal Lake
		55	
12	Silver King adit (S-13)	56	Christal Lake
12A	Silver King decant, pond # 2	57	Galena Cr @ mouth Oust upstream of Flat Cr)
14	Husky South West adit (S-1 7)	58	Mystery Cr (approximately I km upstream of S 10)
18	Bermingham adit (S-3)		
19	Ruby adit (S-1 5)	59	Buried Tails Seepage (Elsa side)
		60	Exposed Tails Seepage (Pond side)
20	No Cash 500 adit (S-4)	61	Small flow into Christal Cr. parallel to Hwy @S 18 near
21	No Cash Creek @ Keno Highway		
21A	No Cash Creek u/s Adit, above old wood culvert	62	Small flow into Ch(istal Cr. @ S-18, farthest from road
22	No Cash Creek upstream Hwy (1.4 km NW of Keno Highway)	63	Sandy Creek @ Highway Unnamed Creek 60m towards Elsa on Keno
22A	No Cash Creek just u/s of confluence with old ditch	64	Hwy from Hanson turnoff
		65	
30	UN adit (S-2)	65	Galkeno 300 Seep below power line along Hwy
31 or 31E	Galkeno 900 adit (S-5)	66	Spring along Duncan Cr Road
31A	Galkeno 900 from Pond # 1	67	Porcupine Gulch @ Calumet Rd X-ing
31B	Galkeno 900 decant Pond# 2	68	Flat Creek @ Ballpark Rd X-ing
31C	Galkeno 900 seep below Pond # 1	69	Flat Creek midway between tailings and Husky S.W.
31D	Galkeno 900 seep below Pond #2	70	Flat Creek between Husky S.W. and Galena
31F	Galkeno 900 Seep near Swamp effluent	71	Flat Creek d/s Galena Creek
31G	Galkeno 900 flow along old path 5m u/s Christal Lake	72	Tailings decant (S-1)
		73	Seepage at toe of #3 dam
31H	Galkeno 900 Seep below wetland access road	74	Husky Southwest flow 500 m d/s adit
32	Galkeno 300 adit		
34	Erickson Gulch @ Road to Lucky Queen	75	Seepage along road between Galkeno 300 & Duncan Cr Rd.
35	Sadie Ladue adit (S-7)		
37	Lightning Cr upstream Hope Gulch	76	Star Creek @ Keno Hwy
38	Kano 700 adit (S-6)	77	Husky Shaft
		78	Seep along road to Galkeno 900, 80 m from adit clearing

Note: S-series stations indicate UKHM Water Licence monitoring stations



KENO VALLEY PROJECT

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Legend

- HIGHWAY
- WATERCOURSE
- MINOR ROADS
- TRAIL SYSTEM
- WATER QUALITY MONITORING SITE
- BUILDINGS

WATER QUALITY MONITORING SITES KENO VALLEY WEST

MAP KEY

1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST

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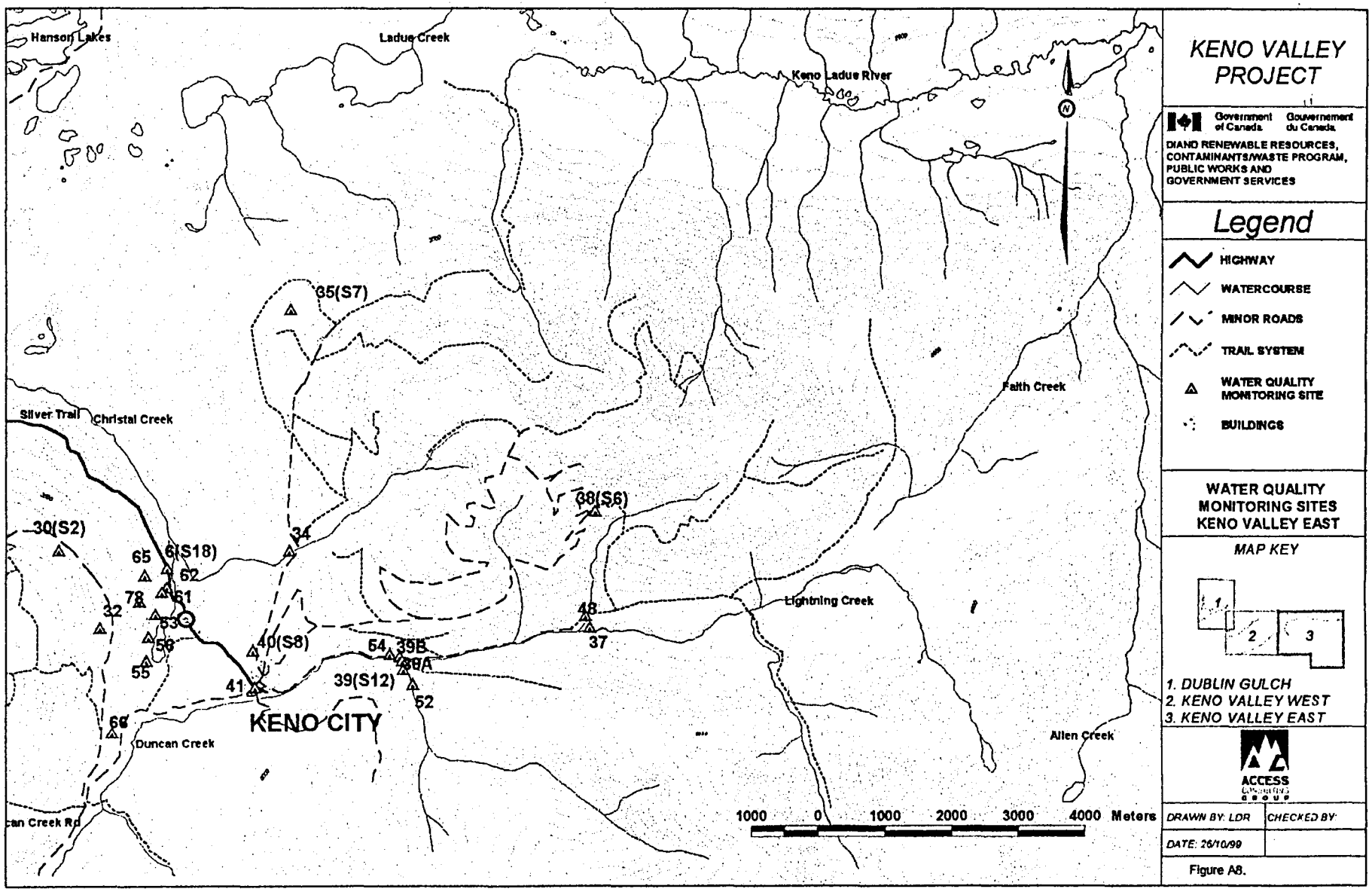
DRAWN BY: LMR | CHECKED BY:

DATE: 26/10/99

Figure A7


Hanson Lakes
Ladue Creek
Keno Ladue River
35(S7)
Faith Creek
Silver Trail
Christal Creek
38(S6)
30(S2)
34
6(S18)
65
62
61
78
32
63
56
55
40(S8)
54
39B
38A
41
39(S12)
52
48
37
Lightning Creek
KENO CITY
66
Duncan Creek
Allen Creek
1000 0 1000 2000 3000 4000 Meters
KENO VALLEY PROJECT
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DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES
Legend
HIGHWAY
WATERCOURSE
MINOR ROADS
TRAIL SYSTEM
WATER QUALITY MONITORING SITE
BUILDINGS
WATER QUALITY MONITORING SITES KENO VALLEY EAST
MAP KEY
1
2
3
1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST
ACCESS CONSULTING GROUP
DRAWN BY: LDR
CHECKED BY:
DATE: 26/10/99

Figure A8.

A7. Terrestrial Wildlife

A summary of wildlife presence in the Elsa-Keno Hill area is included in Access Mining Consultants (1996):

> "This area is included in the range of the Mayo woodland caribou herd, although only anecdotal information on the herd is available. Little is known about the caribou population in the area, as no recent inventories have been carried out. Caribou are occasionally harvested in the area."
>
> "Aerial moose surveys in the Mayo area in 1988 and 1993 included the area between the Mayo-Elsa-Keno highway and the South McQuesten River. The estimated density in 1993 was 119 moose/1000 km^2 compared to a density of 104 moose/1000 km^2 in 1988. The estimated average density for the entire Yukon is 127 moose/1000 km^2 (Ward, 1993). The resident non-native harvest in the survey area (game management zones 2-58, 4-01, and 4-04) averages about 11 moose per year. The area is not currently hunted by non-residents. No accurate record for the native harvest of moose is available...."
>
> "The South McQuesten River area is known as good quality fur-bearer habitat, although fur harvest records for traplines in the area are not currently available. The most commonly harvested fur-bearers are marten, wolverine and lynx...."
>
> "Other small mammals common to the area include muskrat, beaver, ground squirrel, red squirrel, varying hare, fox, mink, weasel, vole and shrew. Less common are porcupine, river otter and chipmunk. Alpine areas have local populations of hoary marmot and pika. Large carnivores include black bear, grizzly bear and timber wolf."
>
> "Information on waterfowl populations is restricted to casual observations. No systematic surveys have been carried out. There are reports of Canada geese nesting on wetlands in the area, and large numbers of Canada, snow and white-fronted geese have been seen to use the area during spring and fall migrations. Loons, grebes and diving ducks have been seen on larger water bodies such as McQuesten Lake and dabbling ducks have been observed in the wetlands."
>
> "Game birds common to the area include spruce grouse and ptarmigan. Less common are ruffed grouse, blue grouse and sharp-tailed grouse. The health of the local wildlife populations near the Galena - Keno Hills area has not been studied. Within the last two years local people have expressed concern over the health of local wildlife which are

routinely consumed. Government programs have attempted to address this issue by collecting wildlife muscle, kidney, and liver tissue-, particularly for caribou and moose, and analyzing these tissues for metal and organochlorine levels. To date, a limited number of moose (2 samples) and caribou samples have been specifically collected from the South McQuesten River area. Although a detailed comparison is not possible, metal levels from the moose tissue were not atypical of other animal results in the territory."

A8. Fish Resources

White Mountain Environmental Consulting (1995) investigated fish resources and habitat in the Keno Valley Study area. Their report (reproduced in Appendix B), provides an assessment of habitat and a description of habitat use in the South McQuesten River, Christal Lake, and Christal, Flat, and Lightning Creeks. As well, fish species distribution and systematics are described, and the results of heavy metals analyses of fish tissue from the study area are discussed.

A9. Data Gaps

Na-cho Ny ak Dun First Nation has been collecting water quality data for the McQuesten River valley since the early 1990 s. Assuming they are of comparable quality to agency data, these data would help complete a water quality database for the Keno Valley area.

Inclusion of water quality monitoring points downstream of the study area are also required to document water quality in the whole South McQuesten River drainage. For example, the South McQuesten River bridge water quality monitoring location is located downstream of all UKHM operations and also downstream of Haggart Creek (Dublin Gulch area), another drainage impacting by mining activities. This site would measure the cumulative impacts on the South McQuesten River resulting from upstream activities.

Water quality sampling is ongoing on the NMML property at Dublin Gulch (Hans Smit, 1999). Data from 1993 to 1997 has been included in Appendix B; water quality data collected after 1997 may be available from NMML.

Quality control and assurance is suspect for UKHM water quality data collected prior to 1990 and therefore data accuracy for this period is highly questionable. This data has not been included as a part of this report and may be considered a gap in available data.

Part A
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PART B LAND USES OTHER THAN MINING

B1. Data Sources

In order to characterize and identify land tenure and land use in the study area, various government agencies, individuals, and non-government groups were consulted. Information was initially gathered at the Lands Branch of DIAND, in Whitehorse. An examination of the land disposition ledgers and maps, as well as land use permits issued in the area was conducted to delineate current land status. The Yukon Territorial Government Lands and Agriculture Branches were also visited.

The Silver Trail Tourism Association provided information on visitor usage patterns, activities, and annual volumes. Local residents and business owners commented on their current and historic knowledge of land use in the study area. YTG Renewable Resources officials responsible for the area commented on trapping, hunting, and sport fishing uses. A brief meeting with the Mining Land Use inspector in Mayo was also conducted.

B2. Land Tenure

Land tenure in the study area is comprised of various mining claims and leases, and commercial, recreational, and residential surface properties (leases, titled fee simple and determinable, crown grants, etc.). Regional and local land status and current land uses in the study area are listed in Table B1, and boundaries of tenured land is shown in Figures B1, B2 and B3.

The Dublin Gulch area holds some surface leases, primarily restricted to mining companies, but the majority of land tenure is comprised of sub-surface mineral claims and leases, and crown grants for both hard-rock and placer purposes (Access Mining Consultants Ltd., 1987 and Hallam Knight Piesold, 1996). Figure B1 shows the location of surface leases in the Dublin Gulch area.

Table B1. Current Land Tenure in Keno Valley Study Area

Tenure Type	*Tenure Holder*	*Description*
General Study Area		
Outfitting		
ROC #4	Rick Furniss	Big Moose Outfitting Ltd. - Whitehorse
ROC #7	Phil Taylor	Rogue River Outfitters Ltd. - Whitehorse
Camping		
Recreational	Yukon Territorial Government	Hanson Lake (Lease #2973, 0.81ha.)
Campground	Yukon Territorial Government	Land Lease #1241 Campground at Hanson Lake (Lot 1064, Group 1054, Hanson Lake 49.30ha.)
Base Map Sheet #1 - Dublin Gulch (NTS Quad. 106 D/4)		
Trapping Concessions		
RTC #39	Brad Keenan B	Dawson
RTC #81	Mary Beattie B	Whitehorse
Mining		
Various Surface Leases	New Millennium Mining Ltd.	Associated Mining Surface Leases for Infrastructure Development (See Figure B1)
Base Map Sheet #2 - Keno Valley West (NTS Quad. 105 M/13)		
Trapping Concessions		
RTC #43	Not Active	
RTC #44	K. Hepner & S. Stange - Elsa	Includes 1.0 ha. Trappers Residence on Cache Creek, 1km south of McQuesten Lake
RTC #82	Mark Eichhorn	Concession Transfer Pending Estate Settlement (Current Holder Deceased)
RTC #85	Dennis Buyck	Resident of Mayo
Mining		
Lease #1679	United Keno Hill Mines Ltd.	Elsa Campsite (56.16ha.)
Lease #1734	United Keno Hill Mines Ltd.	In Vicinity of Elsa Camp (26.82 ha.)
Other	United Keno Hill Mines Ltd.	Two other surface Leases East of Elsa at Hector Calumet Adit and No Cash Adit (see Figure B2)

Table B1. Current Land Tenure in Keno Valley Study Area

Tenure Type	*Tenure Holder*	*Description*
Base Map Sheet #3 - Keno Valley East (NTS Quad. 105 M/14)		
Trapping Concessions		
RTC #83	Christine Hager- Mayo	
RTC #86	George Nicloux -Dawson	Ownership pending estate settlement (Registered Trapper Deceased)
Mining		
Lease #1660	United Keno Hill Mines Ltd.	Galena Hill (41.81ha.)
Lease #1672	United Keno Hill Mines Ltd.	Lot 24, Group 1054, (18.55ha.)
Lease #1661	United Keno Hill Mines Ltd.	Lot 223, Group 1054, (18.29ha.)
Other	United Keno Hill Mines Ltd.	Two other surface Leases at Keno 700 Adit and Keno Summit (see Figure B3)
Block Land Transfer	Yukon Territorial Government	Keno City PC 1987-1703 (Various fee simple properties, YTG - Fire Hall reserve, YTG- communications reserve Northwest Tel/Canadian Broadcasting Company)

Keno City is comprised of various fee simple land titles within a federal block land transfer to YTG (Privy Council 1987-1706). The Hamlet of Elsa is held as a commercial lease by UKHM (lease #1679) and is approximately 56.2 hectares in area. United Keno Hill Mines holds various other surface leases in the study area (See Figures B2 and B3).

Recreational, residential and trapping properties in the study area are primarily held under fee simple title. There are currently no agricultural leases, timber harvesting permits, or quarry permits within the study area. The Na-cho Nyak Dun First Nation holds Category A and Category B land in the region, and those selections falling either completely or partially within the study area are shown in Figures B1, B2, and B3.

B3. Tourism, Recreational, and Residential Uses

Keno Valley is part of the historic Silver Trail mining area: historic hardrock silver mining and associated land uses have been conducted in the Keno Valley area since the late 1800s. While it has been historically recognized for its significance as a mining locale, Keno Valley also attracts visitors curious about the pioneering efforts of gold rush pioneers and their contributions to the regional character. Many descendants of the original non-native settlers to the area still live and work in the region.

Tourism and recreation are significant economic activities in the region (Table B2). Visitors to the area travel the Silver Trail north from Mayo to Elsa and Keno City. The many lakes and rivers in the area provide ample opportunities for fishing, boating, hiking, and camping. Several campgrounds lie just beyond the study area, including one on the South McQuesten Road south of Elsa, and two in the vicinity of McQuesten Lake and the Hanson Lakes. The Keno Community Club campground near Lightning Creek in Keno City is the only campground falling immediately within the study area. In addition to campgrounds, there are several recreational properties, specifically cabins, on the Hanson Lakes and other lakes and rivers in the area.

Table B2. Tourism/Recreational Land Use Activities, Keno Valley Study Area

Activity Type	Proprietor	Description
Charter Air Service	Mayo Flying Service	Sport Fishing Excursions
Charter Air Service	Black Sheep Aviation	Sport Fishing Excursions
Charter Air Service	Action Aviation	Sport Fishing Excursions
Historic Interpretation	Mike Mancini	Keno City Mining Museum
Hiking and Scenic Viewing	Silver Trail Tourism Association	Various hiking trails and scenic viewing area in around Keno City and along the Silver Trail
Outdoor Adventure Guiding	Dick Brost	Subarctic Wilderness Tours - Keno City
Outdoor Adventure Guiding	Keno City Packers	Keno City Packers
Keno City Community Campground	Keno City Community Club	Vicinity of Keno City at Lightning Creek

Keno City maintains a mining museum, which portrays the history of mining in the Elsa and Keno City area, and is a local tourism attraction. The museum saw over 3000 visitors in 1999 (Mike Mancini, 1999). Tourists often ascend Keno Hill to see the famous signpost or to view the picturesque McQuesten River valley. Various other trails in the Keno City area offer hikers a multitude of outdoor exploration activities. The Silver Trail Tourism Association maintains a number of hiking trails in the area, with pamphlets depicting the trails available for local travelers. (Silver Trail Tourism Association, 1999).

Paddlers and other boating enthusiasts make use of the McQuesten and Hanson Lakes, the South McQuesten and Beaver Rivers and other local rivers and streams. Organized tours of the region are offered by several groups in the Keno City area including Keno City Packers and Subarctic Wilderness Tours operated by Dick Brost of Keno City (Silver Trail Tourism Association, 1999).

The potential exists for the area to continue to become a significant tourism attraction in the near and long term. The mine workings and infrastructure date back to the 1920s and in themselves represent a tourism potential. This potential is also recognized by UKHM which has discussed the possible restoration of select mine sites as tourism ventures. (Access Mining Consultants Ltd. •UKHM Ltd. - Closure Plan for Current Conditions, 1996). It is conceivable that interested entrepreneurs may find more opportunities for the Keno Valley area.

Access for potential users of other resource uses in the area, (e.g., fishing, hiking, hunting) are unimpeded since all access to Keno City and beyond or to the Hanson Lakes area and beyond is via territorial roadways.

The Wind River Trail, which starts at the Hanson Lake road just west of Keno City follows the Hanson Lake road and eventually to a winter cat trail leading into the Wind River and Bonnet Plume River valleys. The trail was established to support mining exploration in the area and is also used by local outfitters to access their outfitting areas (see Figure B2).

An International Biological Program site (IBP Site 46) is situated in the study area (IBP site #46). This area has been designated for its ecological significance. The northern boundaries of IBP Site 46 are shown in Figure B2.

Figures B2 and B3 show the locations of walking trails, recreational areas and tourism sites in the Keno Valley study area.

B4. Trapping, Hunting, and Sport Fishery Uses

Eight trapping concessions are partially or completely within the Keno Valley study area (Figure B4 and Table B1). Trapping continues to be an important part of life for many residents and Na-cho Nyak Dun First Nation members of the area, and future productivity may be enhanced by the current lack of hard-rock mining in the area. Species trapped in the area include black bear, beaver, red fox, lynx, marten, mink, muskrat, squirrel, weasel, wolf, and wolverine. The three primary species trapped are marten, lynx, and beaver, comprising more than 90% of the total catch, respectively (Hallam Knight Piesold Ltd., 1995).

Non-native hunting in the Keno Valley can be characterized as mostly local hunting pressure, primarily for ungulates (moose and caribou). More than 50% of the animals harvested in the study are taken by local hunters from Mayo, Keno City, or other outlying areas (Bill Lacey, Personal Communication). Figure B5 shows the historic annual moose and caribou harvest in the Keno Valley.

Moose are a relatively highly exploited species in the area. Harvest levels for the various Game Management Sub-Zones have averaged approximately twenty animals per year since 1979. Caribou harvest is substantially lower, with only twelve animals having been harvested since 1979 (YTG • Renewable Resources, 1999). These values do not include harvest by first nation hunters.
Registered outfitting concessions in the study area (Figure B5) include #4 •Big Moose Outfitting Ltd. (Rick Furniss •Whitehorse) and #7 •Rogue River Outfitters Ltd. (Phil Taylor •Whitehorse).

Fishing in the study area is comprised of the Na-cho Nyak Dun First Nation fishery and the YTG regulated sport fishery. Keno Valley offers many opportunities for sport fishing including the Hanson Lakes, McQuesten Lake, and Mayo Lake, and the numerous rivers and streams in the region. According to DFO and YTG Renewable Resources there have been no subsistence or commercial fishing permits issued for salmon, and only one subsistence fishing permit issued for whitefish in McQuesten Lake which has not been exploited since 1995 (Jacques Jobin and Aaron Foos, 1999). Regional watercourses provide habitat for various species including arctic grayling, lake trout, Chinook salmon, burbot, inconnu, whitefish, and northern pike.

Aviation companies which support sport-fishing excursions to the Keno Valley include Mayo Flying Service, Black Sheep Aviation, and Action Aviation.

Part B
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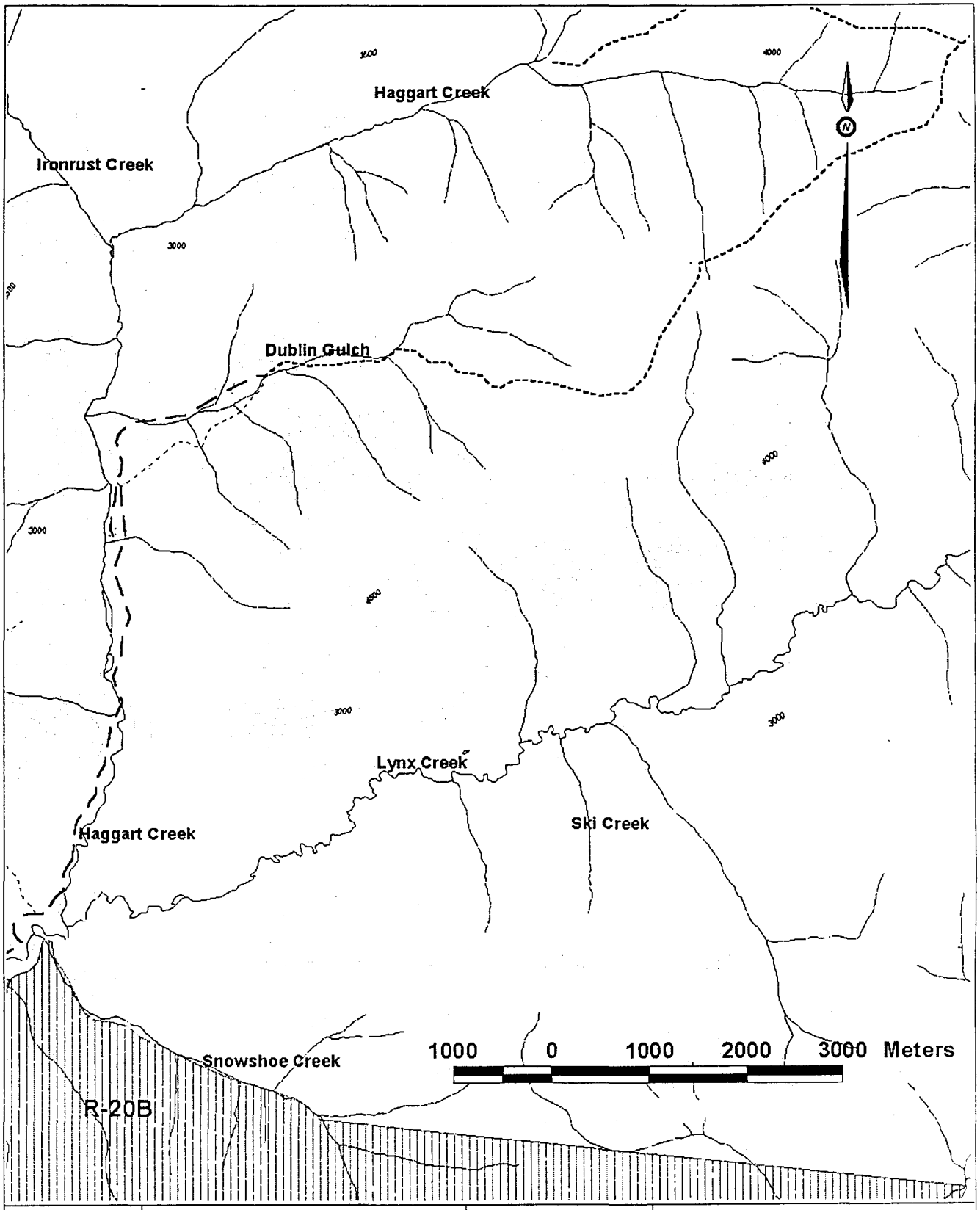

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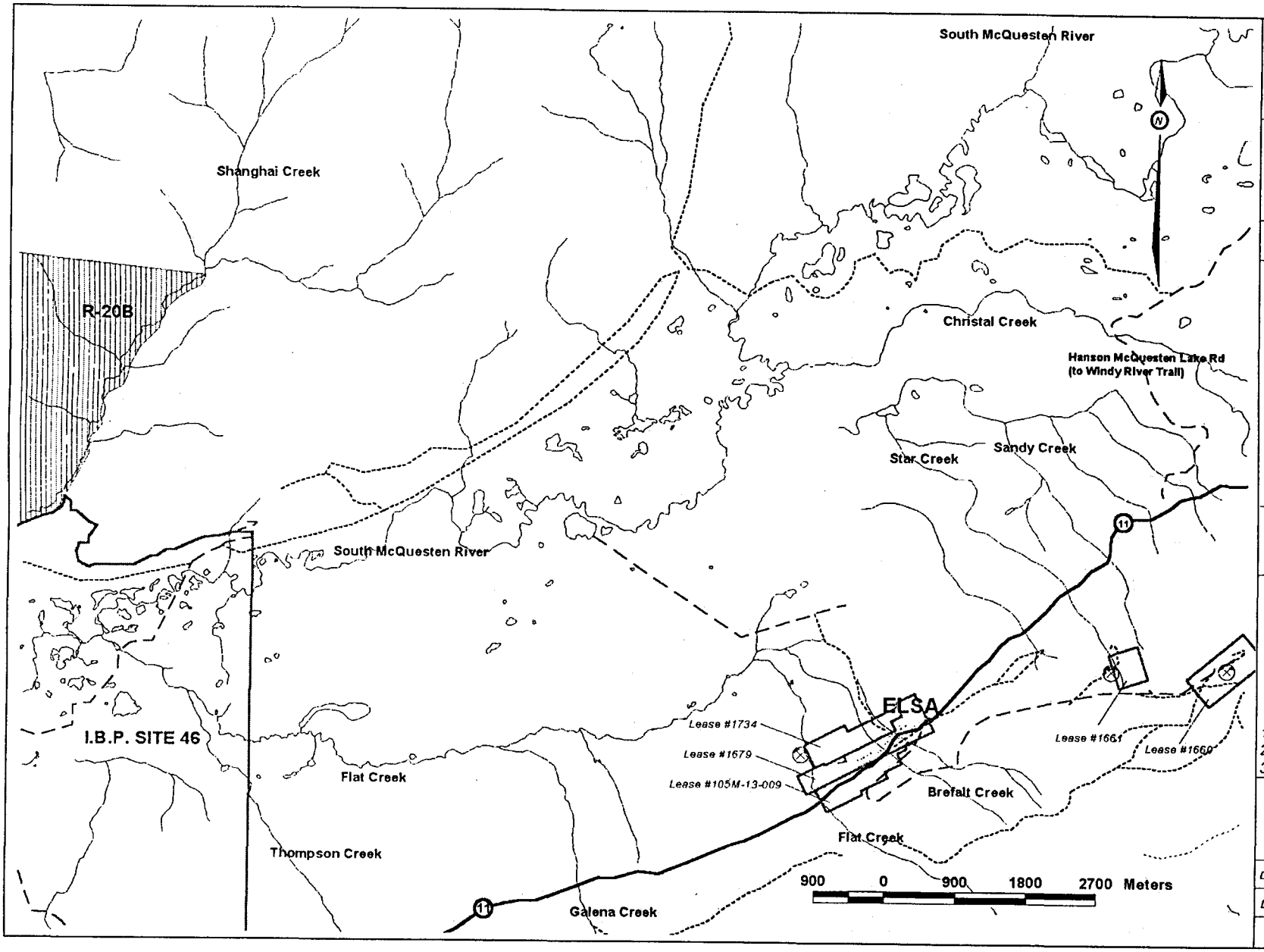
WATERCOURSE
MINOR ROADS
TRAIL SYSTEM
SURFACE LEASE
NND SETTLEMENT LAND
BUILDINGS

CURRENT LAND USE/ LAND TENURE DUBLIN GULCH

DRAWN BY: LDR	CHECKED BY:
DATE 03/11/99	Figure B1.



KENO VALLEY PROJECT

Government of Canada / Gouvernement du Canada

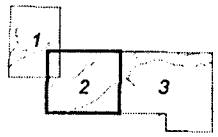
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

Legend

- HIGHWAY
- WATERCOURSE
- MINOR ROADS
- TRAIL SYSTEM
- WATER QUALITY MONITORING SITE
- BUILDINGS

CURRENT LAND USE/ LAND TENURE KENO VALLEY WEST

MAP KEY

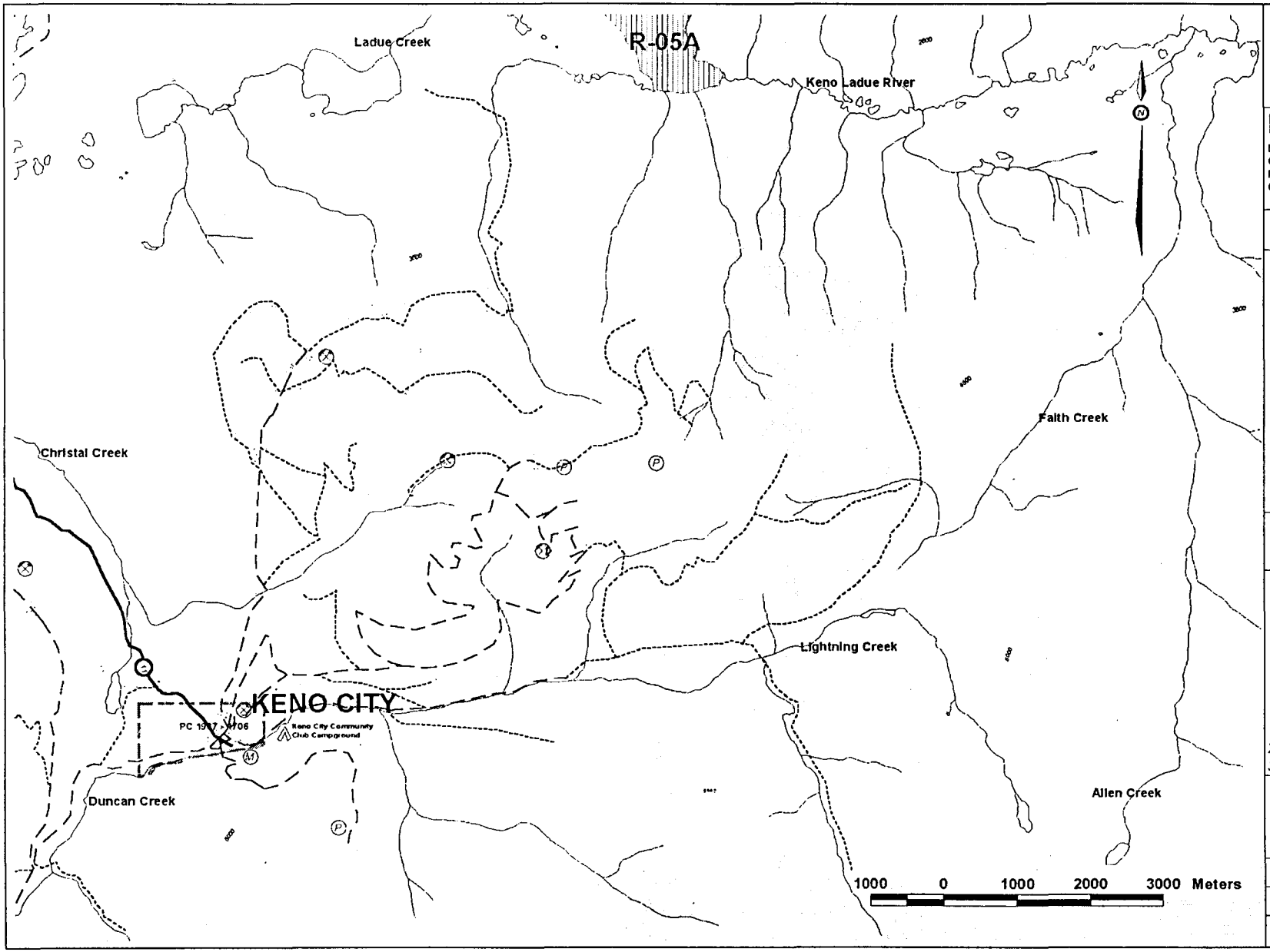


1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST

ACCESS CONSULTING GROUP

DRAWN BY: LDR	CHECKED BY
DATE: 26/10/99	

Figure B2.



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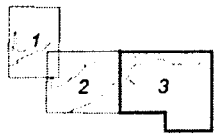
Legend

- HIGHWAY
- WATERCOURSE
- MINOR ROADS
- TRAIL SYSTEM
- YTG BLOCK LAND TRANSFER
- NND SETTLEMENT LAND
- SURFACE LEASE
- BUILDINGS
- HISTORIC SITE
- MUSEUM
- POINT OF INTEREST

CURRENT LAND USE/ LAND TENURE KENO VALLEY EAST

MAP KEY

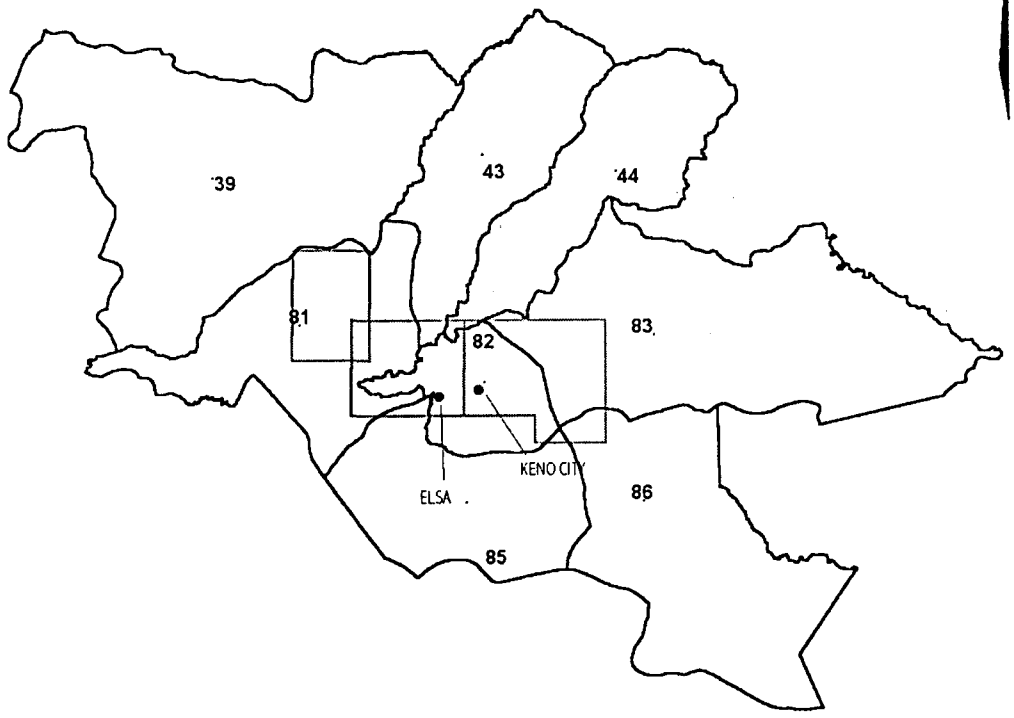


1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST

ACCESS CONSULTING GROUP

DRAWN BY LDR	CHECKED BY
DATE: 29/10/99	

Figure B3.



KENO VALLEY PROJECT

Government of Canada / Gouvernement du Canada

DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

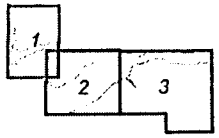
Legend

TRAPPING CONCESSIONS

STUDY AREA

REGISTERED TRAPPING CONCESSIONS

MAP KEY

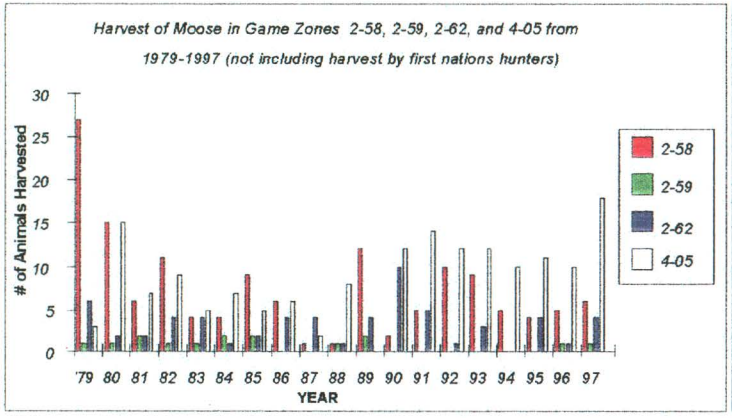


1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST

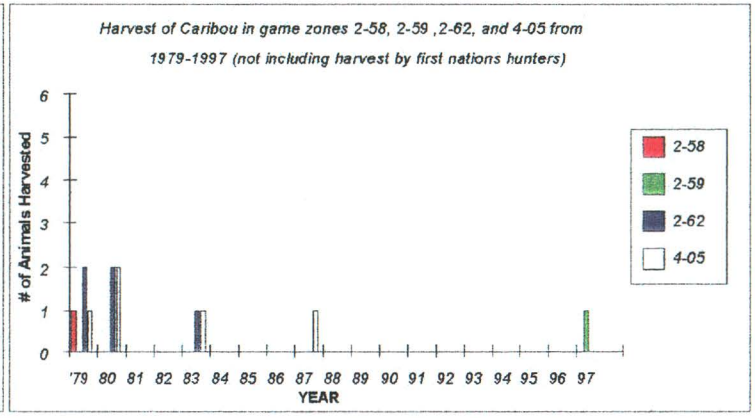
ACCESS CONSULTING GROUP

DRAWN BY: LDP | CHECKED BY:

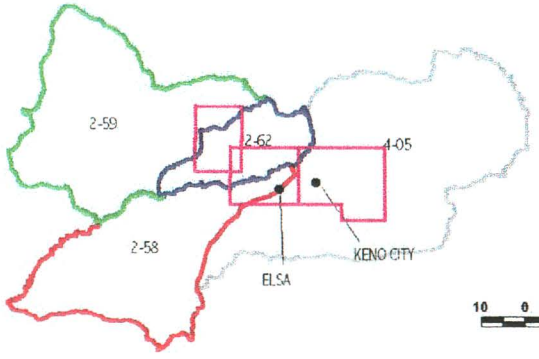
Figure B4



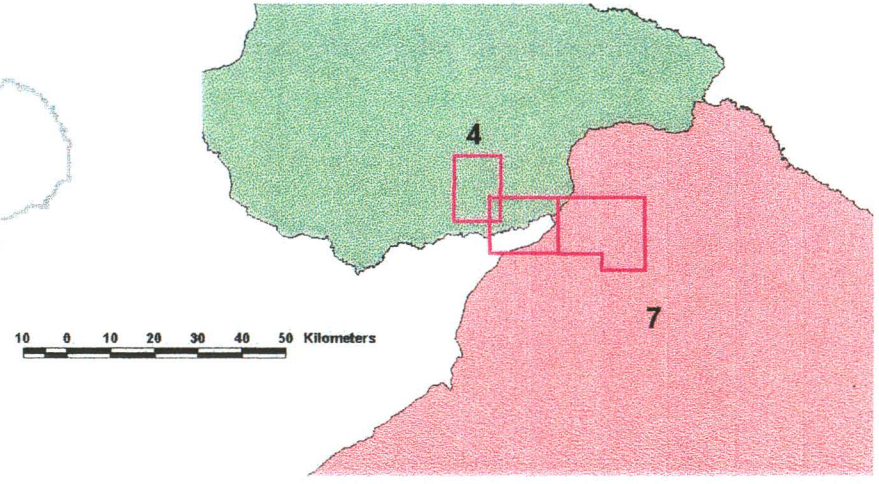
Source: Yukon Territorial Government, Dept. of Renewable Resources, 1999.



Source: Yukon Territorial Government, Dept. of Renewable Resources, 1999.



GAME MANAGEMENT ZONES



REGISTERED OUTFITTING CONCESSIONS

KENO VALLEY PROJECT

Government of Canada / Gouvernement du Canada

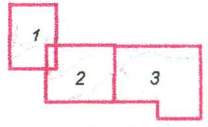
DIAND RENEWABLE RESOURCES, CONTAMINANTS/WASTE PROGRAM, PUBLIC WORKS AND GOVERNMENT SERVICES

Legend

- GAME ZONE 258
- GAME ZONE 259
- GAME ZONE 262
- GAME ZONE 405
- STUDY AREA
- OUTFITTING CONCESSIONS

GAME MANAGEMENT ZONES AND OUTFITTING CONCESSIONS

MAP KEY



1. DUBLIN GULCH
2. KENO VALLEY WEST
3. KENO VALLEY EAST

ACCESS CONSULTING GROUP

DRAWN BY: LDR	CHECKED BY:
DATE: 26/10/99	

Figure B5.

PART C KENO VALLEY/DUBLIN GULCH MINE SITE ASSESSMENT REPORTS

C1. Mine Site Assessment Components

The field program identified human safety risks and environmental and aesthetic conditions at 93 exploration and mining sites on Galena Hill, Keno Hill, Sourdough Hill, and the northern half of the Gustavus Range (Figures C-1 thru C-3). At each mine site, the assessment has been limited to the area specifically developed or occupied for mine exploration or mining purposes, as well as environmental resources believed to be affected by mine exploration or mining activities. Access roadways to mine sites have not been included in the assessments.

Each site assessment included a compilation of available site history information and a field investigation component as described below.

C2. Compilation of Historical Mine Data

Mining Recorder records were searched to determine the locations and status of active mine claims and identify locations of inactive or abandoned claims and workings. If available, additional information was compiled which included:

- Aerial photographs, site maps, records, existing permits, water licences, operating permits, inspection reports, non-compliance reports, listings, etc. pertaining to the site, users and occupants;
- Operational history of the site including process changes, waste management changes, spills, leaks, operational upsets, regulatory actions, complaints, etc.;
- Process information including, but not limited to chemicals used, feedstock and by products produced, liquid waste management, solid waste management, air emissions control, dust control, storage areas, toxic substance use, on-site laboratories, on-site explosives manufacturing, and changes over period of use, etc.;
- Locations of adits, pits, and other mine openings, mine-related infrastructure, mine and other waste disposal areas;
- Approved or conceptual abandonment plans and any requirement to submit an abandonment plan for review and approval; and
- Whether there is a security mechanism in place and if so, a description of the mechanism.

C3. Field Investigation Activities

The following activities were included (as applicable) in the inspection of each site:

- Identify human safety risks associated with open mine adits, pits or other mine openings, and stored or loose explosives;
- Using the services of a professional mining geologist, inspect, sample and map waste rock and tailings disposal areas for subsequent analyses of physical and chemical parameters and testing of acid mine drainage potential;
- Inventory types and quantities of non-hazardous, non-combustible solid wastes. Document locations and visible contents of mine site landfills and dumps and sample any leachate;
- Sample and analyze the contents of all ASTs, drums, or other containers containing petroleum products or other liquid hazardous wastes;
- Sample significant areas of stained soil and soil from wastewater treatment/disposal areas to identify the nature and areal extent of contamination;
- Sample adjacent streams, seeps and surface water bodies to determine background and mine-related metal concentrations;
- Assess existing structures and equipment (including tailings dams an ponds) to determine their structural integrity. Document obvious instances of structural instability, particularly where there is potential risk to human health and safety;
- Identify adjacent environmentally-sensitive areas and site-specific aesthetic concerns;
- Identify locations and water quality of any potable wells or water reservoirs on or down-gradient of a mine site of interest;
- Develop a preliminary listing of potential contaminants which may be present, based on research and reconnaissance; and
- If an approved abandonment plan is in place for a site, determine (from site inspection) whether the site has been abandoned in accordance with the abandonment plan, and if the site meets the standards of all relevant legislation.

All significant mine features (including site infrastructure, buildings, waste rock and tailings disposal areas, and mine openings) were photo-documented and mapped using a 1:500, 1:1000, or other map scale as appropriate.

C4. 1999 Keno Hill/Dublin Gulch Watershed Water Quality

In addition to water quality sampling at individual mine sites, all potentially-impacted water courses and water bodies within the Keno Hill and Dublin Gulch watersheds were sampled during the 1999 PWGSC mine site assessment program. Watershed sample locations were chosen for their proximity to the individual mine sites or to replicate previous water quality sampling carried out by other parties. Laboratory analytical regimes were similar for each sample collected, and included measurement of total metals, macronutrients, electrical conductivity and pH. Field measurement of electrical conductivity and pH was also performed on most samples.

The mine sites are located within five regional watersheds, all draining into the South McQuesten River. Analytical results for watershed water quality samples (tabulated by each of the five regional watersheds) are provided in Appendix C. Each table provides sample results and identifies a) the water course or water body which was sampled, b) the sample points in relation to mine workings and c) corresponding sample numbers, if applicable, from previous sampling events. For each watershed, sample results are ordered from furthest upstream to furthest downstream. Regional watershed sample points are shown on Figures C-4 thru C-6. Note that the water quality sample results in Appendix C do not include results from seeps, standing water or other mine drainage surface water; those sample results are included in the analyses associated with the site-specific assessment reports.

The five regional watersheds comprise:

1. Keno Ladue River and headwaters including:
- Gambler Gulch;
- Gambler Lake;
- Ladue Creek;
- McKay Gulch;
- Silver Basin Gulch;
- Nero Gulch;
- Faith Creek; and
- Allan Creek as well as other unnamed creeks and tributaries.

This system drains north and east from the north side of Keno Hill.

2. Lightning Creek and Duncan Creek and headwaters including:
   - McMillan Gulch;
   - McNeill Gulch;

- Hope Gulch;
- Charity Gulch; and
- Forty Pup as well as other unnamed creeks and tributaries.

This system drains the south side of Keno Hill, the north, east and west side of Bunker Hill, the south and west sides of Sourdough Hill and the south east side of Galena Hill.

3. Christal Creek and upper reaches of South McQuesten River and headwater including:
   - Erickson Gulch;
   - Christal Lake;
   - Sandy Creek; and
   - Star Creek as well as other unnamed creeks and tributaries.

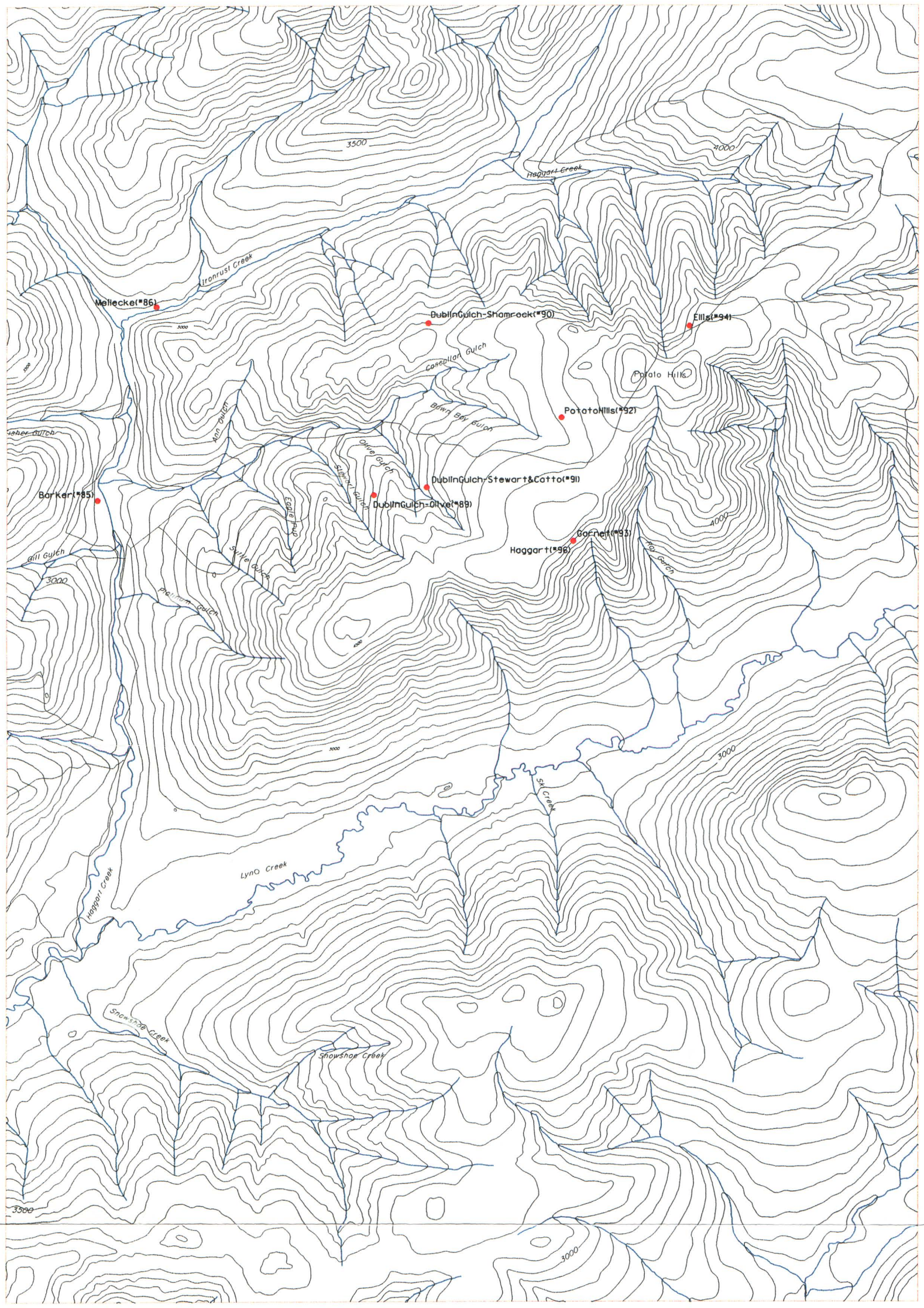
This system drains the east side of Keno Hill and the north, east and west side of Galena Hill, as well as the flats to the north of Keno City.

4. Flat Creek and headwaters including:
   - Porcupine Gulch;
   - Brefalt Creek;
   - Galena Creek; and
   - the area surrounding Elsa Townsite as well as other unnamed creeks and tributaries.

This system drains the south west side of Galena Hill.

5. Haggart Creek, Dublin Gulch and headwaters including:
   - Olive Gulch;
   - Stewart Gulch;
   - Eagle Pup;
   - Stuttle Gulch;
   - Ann Gulch;
   - Ironrust Creek;
   - Fisher Gulch; and
   - Gill Gulch as well as other unnamed tributaries.

This system drains the area west of Potato Hill and is the only watershed on the north side of McQuesten River.



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Scale 1:50000

CAD FILE: dublinsite.DGN

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Travaux publics et Services gouvernementaux Canada

Architectural & Engineering Services
Western Region

Drawing title: Titre du dessin:

Figure C–1
Mine Site LocationsDublin

Yukon Territory

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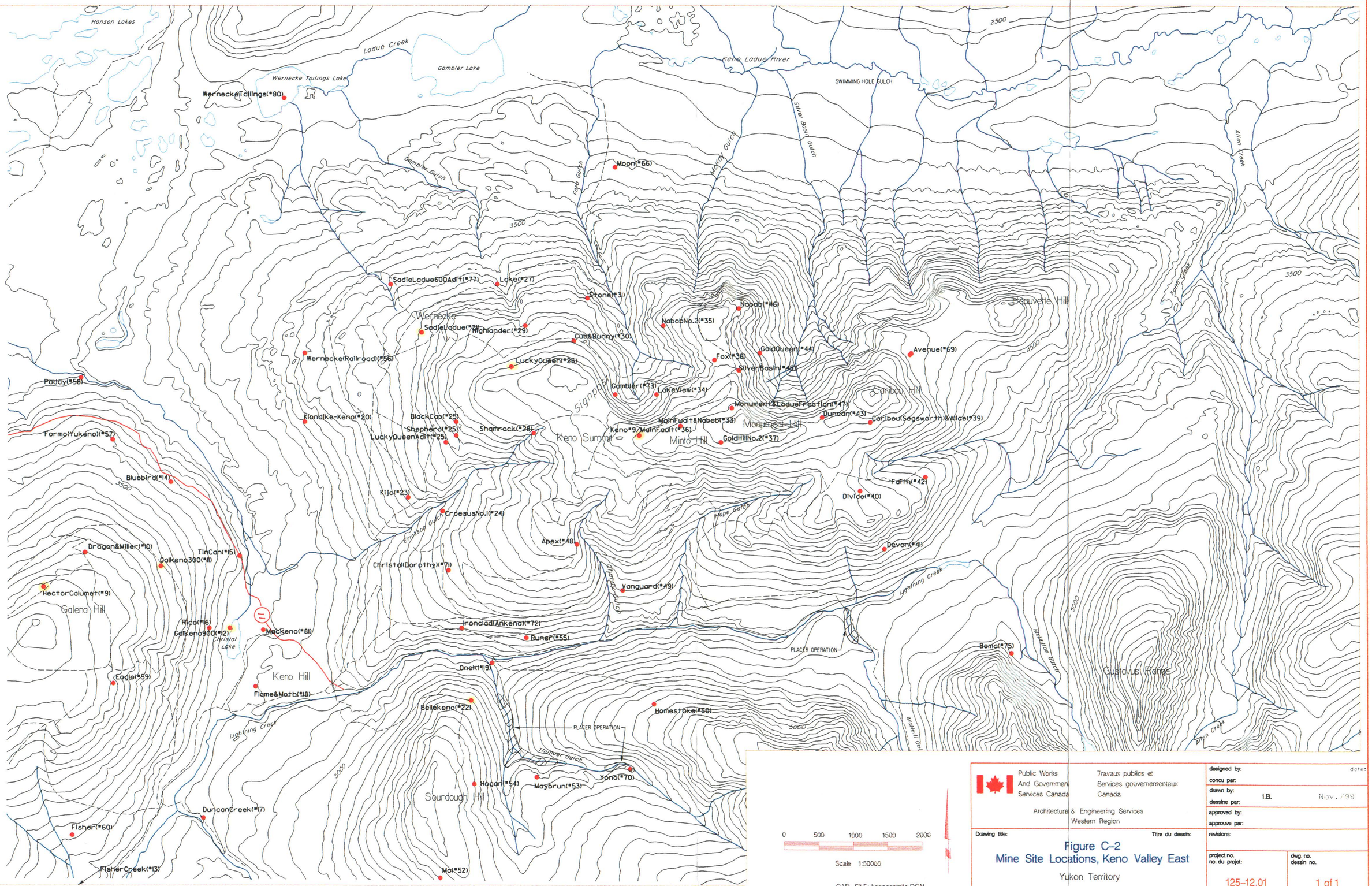
drawn by: / dessine par:	I.B. Nov./99
approved by: / approuve par:	
revisions:	
project no. / no. du projet:	125–12.01
dwg. no. / dessin no.	1 of 1



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revisions:

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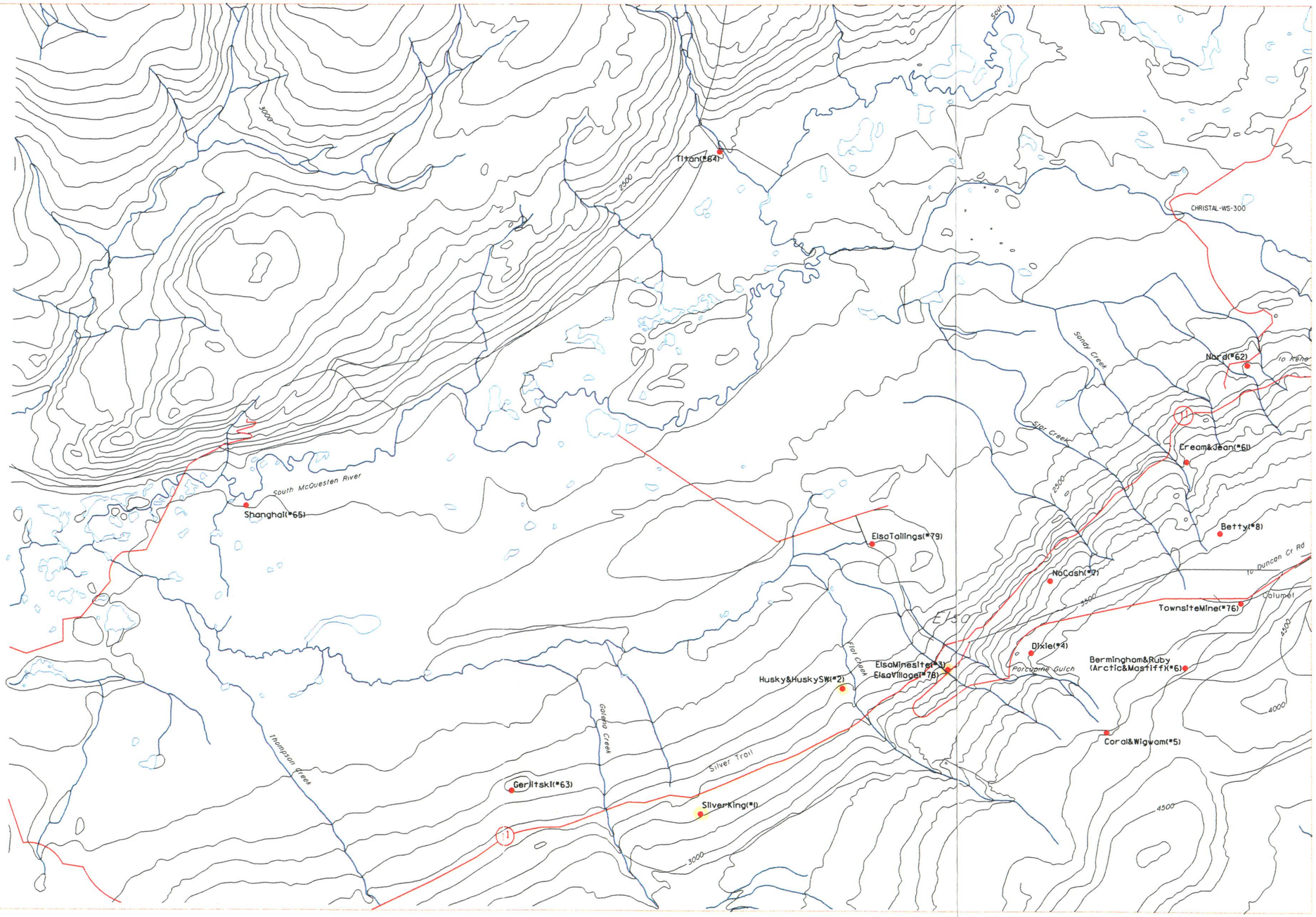
Figure C-2
Mine Site Locations, Keno Valley East

Yukon Territory

project no. / no. du projet: 125-12.01

dwg. no. / dessin no. 1 of 1



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revisions:	
project no. / no. du projet:	125-12.01
dwg. no. / dessin no.	1 of 1

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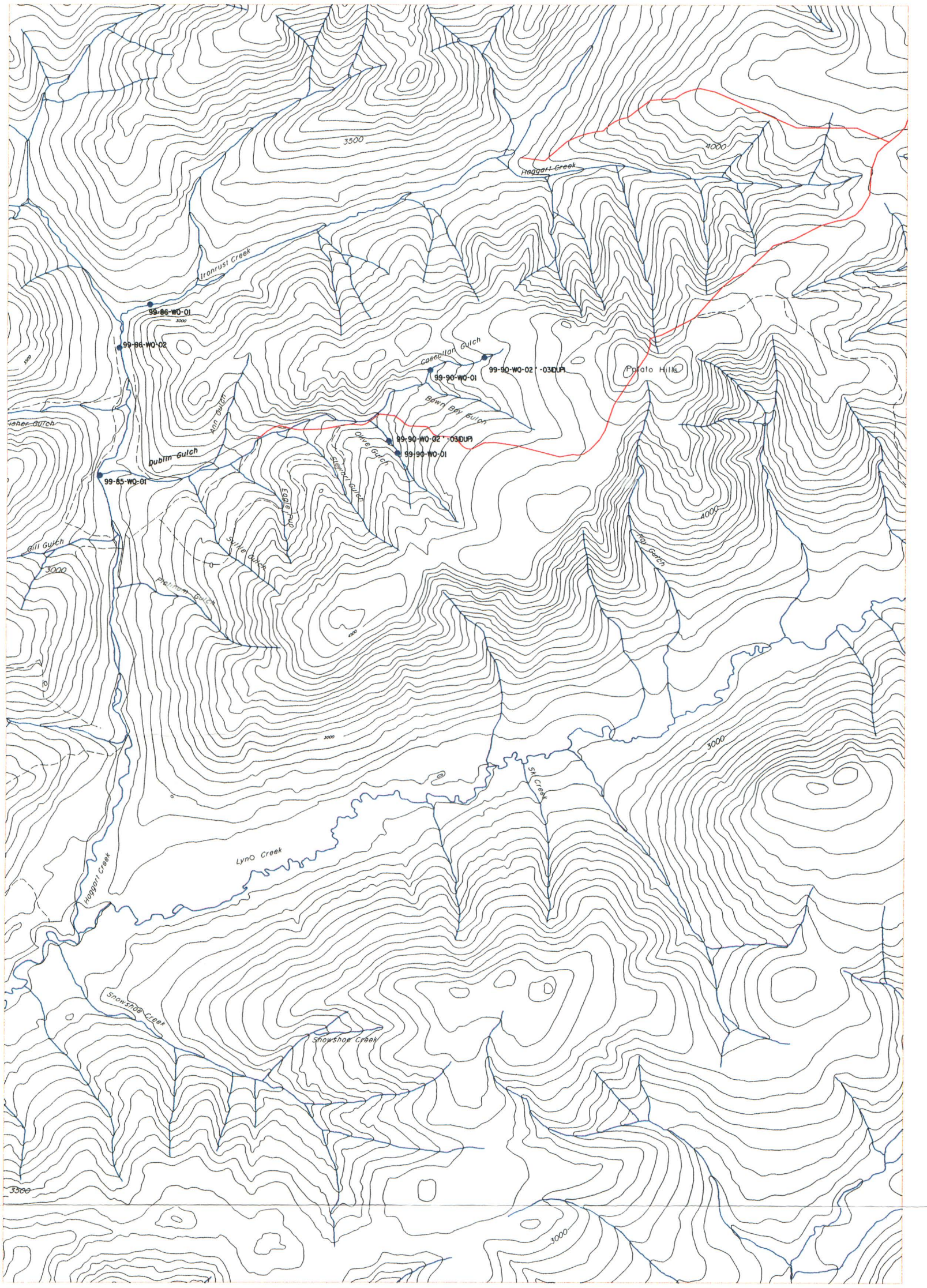
Figure C-3
Mine Site Location, Keno Valley West

Yukon Territory



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Scale 150000

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Western Region

Drawing title: Figure C–4 Titre du dessin:

Regional Watershed Sampling Points, Dublin Gulch

Yukon Territory

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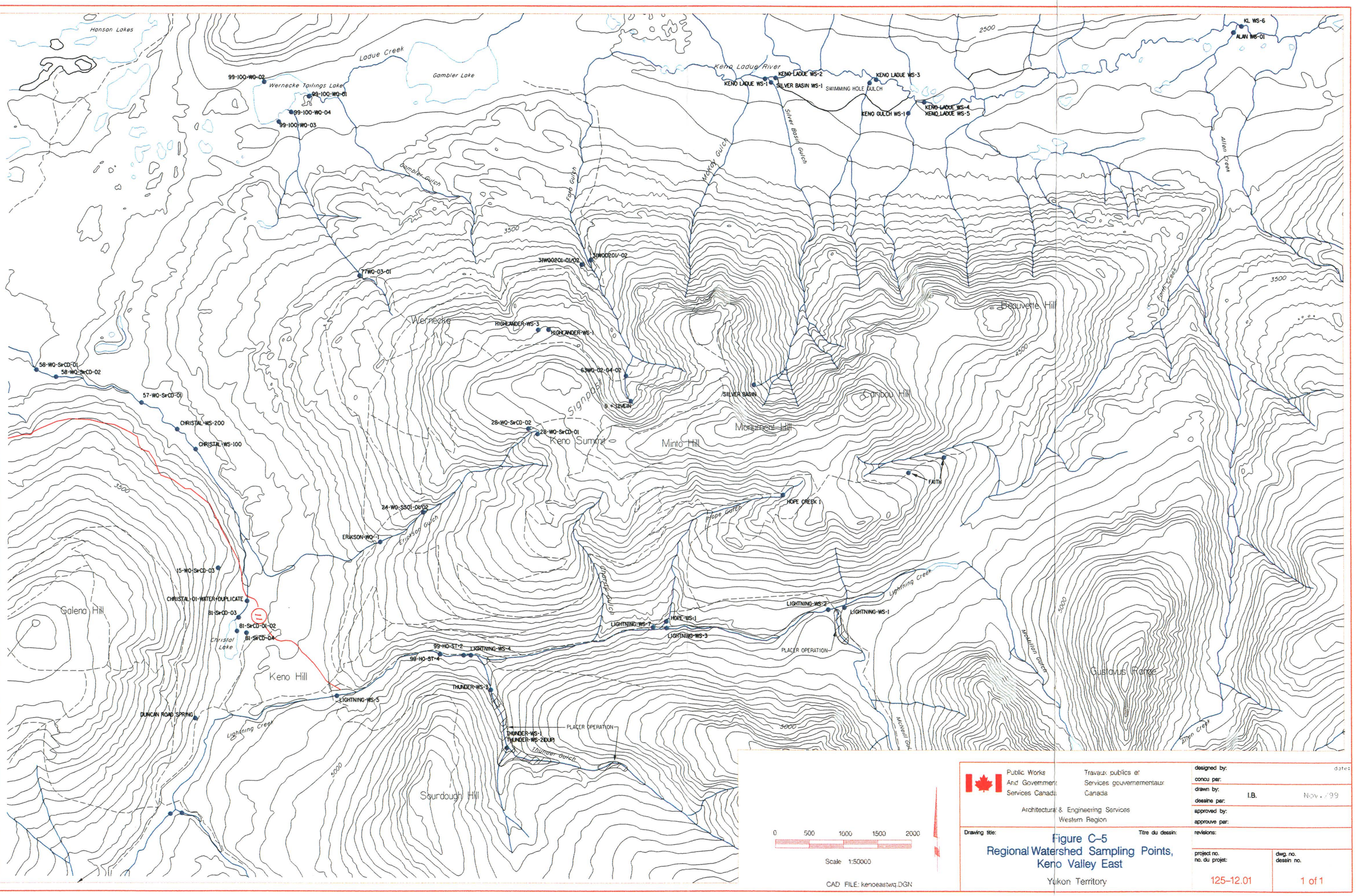
revisions:	
project no. / no. du projet:	dwg. no. / dessin no.
125–12.01	1 of 1



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revisions:

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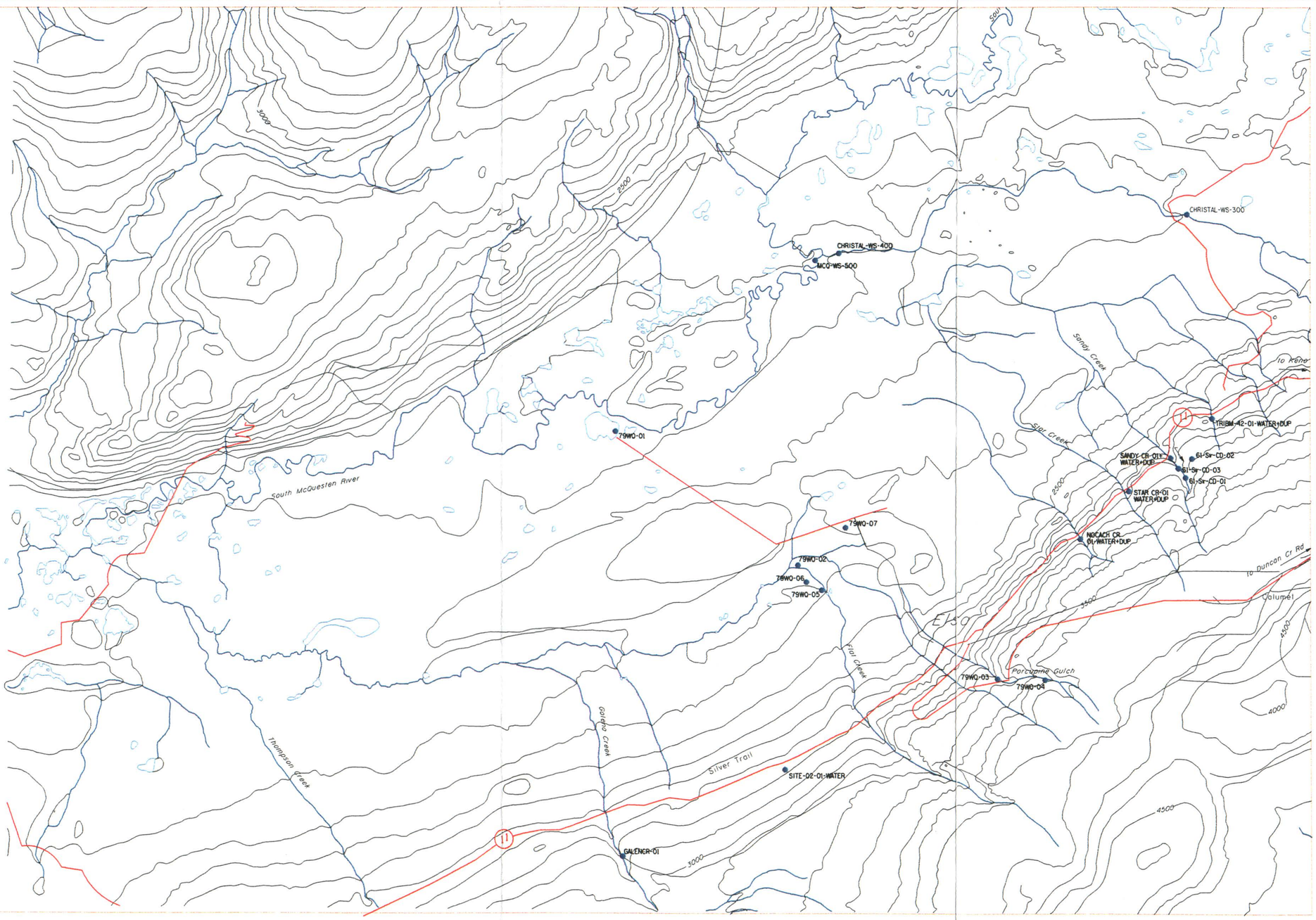
Figure C-5
Regional Watershed Sampling Points, Keno Valley East

Yukon Territory

project no. / no. du projet: 125-12.01

dwg. no. / dessin no. 1 of 1



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Western Region

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approved by: / approuve par:	
revisions:	
project no. / no. du projet:	125-12.01
dwg. no. / dessin no.	1 of 1

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Figure C-6
Regional Watershed Sampling Points, Keno Valley West
Yukon Territory

Appendix A

Water Quality Monitoring Data
Dublin Gulch and Keno Valley Area

(1) Note:

The analyses performed on the samples vary with the laboratory and the time period of sampling and include any, or all, of:

- Total metals analysis: ICP analysis on an unfiltered, preserved (nitric acid), digested water sample (methods as described in Standard Methods for the Examination of Water and Wastewater 18th Edition published by the American Public Health Association, 1992, or EPA Methods 3015 and 200.15)
- Extractable metals analysis: by external laboratories, ICP analysis on an unfiltered, preserved water sample (APHA, 1992). Extractable metals are denoted by ext. in the database.
- Extractable metals analysis: by UKHM laboratory, AA analysis on an unfiltered, preserved water sample. Extractable metals are denoted by ext. or Me_E in the database.
- Dissolved metals analysis: ICP analysis on a filtered (0.45μm filter), preserved water sample (APHA, 1992 or EPA Method 200.15).
- Field pH, conductivity and TDS measurements using hand-held calibrated probes with automatic temperature correction.
- Laboratory pH, conductivity measurements using laboratory probes.
- TDS (total dissolved solids), sulphate, and cyanide analysis as in Standard Methods (APHA, 1992).

Water Quality Monitoring Data
Dublin Gulch

Station:	Site W1 Water Quality Data									
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-03	7-Jul-03	5-Aug-03	4-Sep-03	10-Mar-04	15-Jul-04	1-May-05	3-Jul-05	2-Aug-05	13-Sep-05
Physical Parameters										
pH	6.95	7.7	7.55	7.48	6.91	7.65	7.2	7.53	7.77	7.51
Electrical Conductivity, µmho/cm	68	98.3	116	125	203	108	45.2	100	120	126
Total Dissolved Solids, mg/l	41	60	74	81	121	65	52	65	77	88
Total Suspended Solids, mg/l	3	2	1	<1	33	<1	18	<1	<1	<1
Hardness, $CaCO_3$ mg/l	30.4	46.8	61.1	61.7	90.9	48.6	23.9	48.3	56.2	61.1
Turbidity, NTU	1.29	0.35	0.38	2.54	142	0.18	7.15	0.16	1.41	0.5
Anions										
Alkalinity, $CaCO_3$ mg/l	26.5	41.5	44.5	51.2	63.4	43.6	18.7	38.4	46.8	56.3
Chloride, mg/l	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5
Fluoride, mg/l	0.06	0.08	0.08	0.09	0.1	00.02	0.11	0.06	0.08	0.11
Sulphate (SO_4), mg/l	8.7	10.3	10.9	13.2	36.9	11.5	6.6	9.9	12	13.7
Nutrients										
Ammonia Nitrogen (NH_4), mg/l	00.005	00.005	00.005	00.005	0.006	00.005	0.009	00.005	0.005	00.005
Nitrate Nitrogen (NO_3), mg/l	0.019	0.011	00.005	0.018	0.171	0.018	0.014	0.014	0.028	0.019
Nitrite Nitrogen (NO_2), mg/l	0.002	0.001	00.001	0.002	0.002	0.002	0.005	0.001	0.001	0.001
Dissolved ortho-Phosphate, mg/l	0.006	0.002	0.004	0.003	0.005	0.003	0.006	0.004	0.003	0.004
Total Dissolved Phosphate, mg/l	0.007	0.007	0.004	0.003	0.009	0.003	0.006	0.004	0.003	0.004
Total Phosphorus, mg/l	0.016	0.007	0.004	0.004	0.013	0.003	0.044	0.028	0.005	0.004
Cyanide										
Total Cyanide (CN^-), mg/l	00.001	0.005	00.001	00.005	00.001	0.001	0.015	0.002	0.001	0.002
Total Metals										
Aluminum (total), mg/l	0.087	0.023	0.032	0.022	0.339	0.016	3.48	0.086	0.1	0.022
Antimony (total), mg/l	0.0009	0.001	0.0012	0.0012	0.0043	0.001	0.0005	0.0008	0.0007	0.0011
Arsenic (total), mg/l	0.0324	0.0348	0.0372	0.0338	0.0578	0.0321	0.029	0.0332	0.0338	0.0399
Barium (total), mg/l	0.023	0.039	0.049	0.047	0.051	0.048	0.033	0.042	0.045	0.047
Beryllium (total), mg/l	00.005	00.005	00.005	00.005	00.005	00.005	00.005	00.005	00.005	00.005
Bismuth (total), mg/l	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10
Boron (total), mg/l	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10
Cadmium (total), mg/l	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002
Calcium (total), mg/l	8.43	13.3	16.8	16.6	21.8	12.9	6.61	13.6	15.8	16.2
Chromium (total), mg/l	00.001	00.001	00.001	00.001	00.001	00.001	0.001	00.001	00.001	00.001
Cobalt (total), mg/l	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001
Copper (total), mg/l	0.001	00.001	00.001	0.001	0.001	00.001	00.001	00.001	00.001	00.001
Iron (total), mg/l	0.065	0.035	00.030	00.030	0.464	00.030	0.317	00.030	00.030	00.030
Lead (total), mg/l	00.001	00.001	00.001	00.001	0.003	00.001	00.001	00.001	00.001	00.001
Magnesium (total), mg/l	2.34	3.48	4.76	5.01	9.12	4.05	1.79	3.67	4.51	4.77
Manganese (total), mg/l	00.005	00.005	00.005	00.005	0.059	00.005	0.023	00.005	00.005	00.005
Mercury (total), mg/l	00.00001	00.00001	00.00001	00.00001	00.00001	00.00001	00.00001	00.00001	00.00001	00.00001
Molybdenum (total), mg/l	0.001	0.001	0.002	0.002	00.001	0.003	0.001	00.001	0.002	0.002
Nickel (total), mg/l	00.001	00.001	00.001	00.001	0.003	00.001	00.001	00.001	00.001	00.001
Selenium (total), mg/l	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005
Silicon (total), mg/l	4.65	5.37	6.36	5.91	5.63	5.58	2.42	5.42	5.64	5.58
Silver (total), mg/l	00.0001	00.0001	0.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001
Strontium (total), mg/l	0.056	0.071	0.094	0.096	0.126	0.078	0.045	0.078	0.096	0.099
Titanium (total), mg/l							0.012	00.010	00.010	00.010
Uranium (total), mg/l	0.00025	0.00035	0.00028	0.00046	0.00037	0.00033	0.00054	0.0003	0.00057	0.00046
Vanadium (total), mg/l	00.030	00.030	00.030	00.030	00.030	00.030	00.030	00.030	00.030	00.030
Zinc (total), mg/l	00.005	00.005	00.005	00.005	0.005	00.005	0.006	00.005	00.005	00.005
Dissolved Metals										
Aluminum (dissolved), mg/l	0.027	0.014	0.008	0.007	0.012	0.011	0.219	0.039	0.009	0.01
Antimony (dissolved), mg/l	0.0009	0.001	0.0012	0.0011	0.0039	0.0009	0.0004	0.001	0.0007	0.0011
Arsenic (dissolved), mg/l	0.0293	0.0348	0.0328	0.029	0.0405	0.0321	00.0001	0.0317	0.0338	0.0358
Barium (dissolved), mg/l	0.023	0.039	0.049	0.047	0.044	0.044	0.028	0.042	0.045	0.049
Beryllium (dissolved), mg/l	00.005	00.005	00.005	00.005	00.005	00.005	00.005	00.005	00.005	00.005
Bismuth (dissolved), mg/l	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10
Boron (dissolved), mg/l	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10	00.10
Cadmium (dissolved), mg/l	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002
Calcium (dissolved), mg/l	8.36	13.1	16.7	16.5	21.5	12.9	6.61	13.4	15.2	16.5
Chromium (dissolved), mg/l	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001
Cobalt (dissolved), mg/l	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001
Copper (dissolved), mg/l	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001
Iron (dissolved), mg/l	00.030	00.030	00.030	00.030	0.105	00.030	0.16	00.030	00.030	00.030
Lead (dissolved), mg/l	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001	00.001
Magnesium (dissolved), mg/l	2.32	3.44	4.72	4.97	9.06	3.97	1.81	3.61	4.44	4.83
Manganese (dissolved), mg/l	00.005	00.005	00.005	00.005	0.043	00.005	0.015	00.005	00.005	00.005
Molybdenum (dissolved), mg/l	00.001	0.001	0.002	0.002	00.001	0.003	00.001	00.001	0.002	0.002
Nickel (dissolved), mg/l	00.001	00.001	00.001	00.001	0.003	00.001	00.001	00.001	00.001	00.001
Potassium (dissolved), mg/l	0.5	0.57	0.78	0.65	1.81	0.81	0.91	0.69	0.88	0.6
Selenium (dissolved), mg/l	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005
Silicon (dissolved), mg/l	4.61	5.28	6.35	5.9	5.47	5.58	2.27	5.33	5.56	5.63
Silver (dissolved), mg/l	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001
Sodium (dissolved), mg/l	1.07	1.49	1.64	1.65	1.98	1.55	0.67	1.65	1.78	2.21
Strontium (dissolved), mg/l	0.051	0.071	0.094	0.094	0.126	0.077	0.045	0.078	0.094	0.1
Titanium (dissolved), mg/l							00.010	00.010	00.010	00.010
Uranium (dissolved), mg/l	0.00025	0.00033	0.00028	0.00042	0.0003	0.00027	0.00047	0.00029	0.00054	0.00045
Vanadium (dissolved), mg/l	00.030	00.030	00.030	00.030	00.030	00.030	00.030	00.030	00.030	00.030
Zinc (dissolved), mg/l	00.005	00.005	00.005	00.005	0.005	00.005	0.005	00.005	00.005	00.005
Organic Parameters										
Total Organic Carbon, mg/l						1.8	22.1	1.6	1.7	1.7

NMML 14-Sep-95	NMML 15-Sep-95	NMML 16-Sep-95	NMML 17-Sep-95	NMML 18-Sep-95	NMML 19-Sep-95	NMML 1-Oct-95
7.83	7.9	7.94	7.95	7.93	7.95	7.85
125	126	125	125	125	124	114
86	85	82	83	83	86	84
<1	1	1	6	5	7	3
59.8	61.6	57.5	57.4	58.8	57.8	58.9
0.4	0.5	1.1	10.7	4.6	4.3	1.1
53.6	52.2	49.6	49	49.3	56.1	49
0.5	<0.5	0.6	0.8	<0.5	<0.5	0.5
0.11	0.11	0.1	0.09	0.09	0.09	0.09
13.4	13.5	13.4	13.7	13.7	13.4	14.6
00.005	00.005	00.005	0.006	00.005	00.005	00.005
0.026	0.041	0.022	0.032	0.042	0.063	0.039
0.001	0.001	0.001	0.005	0.002	0.002	0.001
0.003	0.004	0.003	0.004	0.002	0.002	0.004
0.003	0.004	0.003	0.004	0.003	0.004	0.005
0.006	0.005	0.006	0.028	0.013	0.016	0.009
0.002	0.001	0.002	0.001	0.001	0.001	00.001
0.022	0.029	0.079	0.26	0.16	0.12	0.05
0.0012	0.0011	0.0012	0.0015	0.0013	0.0011	0.0013
0.0389	0.0333	0.0357	0.0433	0.039	0.0371	0.034
0.046	0.047	0.05	0.057	0.051	0.05	0.045
00.005	00.005	00.005	00.005	00.005	00.005	00.005
00.10	00.10	00.10	00.10	00.10	00.10	00.10
00.10	00.10	00.10	00.10	00.10	00.10	00.10
00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002
15.8	16.2	15.1	15.4	15.3	14.8	16
00.001	00.001	00.001	00.001	00.001	00.001	00.001
00.001	00.001	00.001	00.001	00.001	00.001	00.001
0.002	00.001	00.001	00.001	00.001	00.001	00.001
00.030	00.030	0.045	0.192	0.102	0.067	0.03
00.001	00.001	00.001	0.001	00.001	00.001	00.001
4.68	4.82	4.75	4.89	4.79	4.65	4.56
00.005	00.005	00.005	0.013	0.008	0.008	00.005
00.00001	00.00001	00.00001	00.00001	00.00001	00.00001	00.00001
0.002	0.002	0.003	0.002	0.002	0.002	0.002
00.001	00.001	00.001	00.001	00.001	00.001	00.001
00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005
5.4	5.43	5.57	5.72	5.7	5.49	5.79
00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001
0.098	0.099	0.095	0.097	0.096	0.093	0.093
00.010	00.010	00.010	00.010	00.010	00.010	00.010
0.00048	0.0005	0.0003	0.0003	0.00036	0.00039	0.00056
00.030	00.030	00.030	00.030	00.030	00.030	00.030
00.005	0.005	00.005	00.005	00.005	00.005	00.005
0.008	0.054	0.009	0.019	0.021	0.013	0.019
0.0011	0.001	00.0001	00.0001	00.0001	00.0001	0.0012
0.0239	0.0357	0.0331	0.0341	0.035	0.0315	0.0333
0.044	0.045	0.05	0.05	0.05	0.045	0.045
00.005	00.005	00.005	00.005	00.005	00.005	00.005
00.10	00.10	00.10	00.10	00.10	00.10	00.10
00.10	00.10	00.10	00.10	00.10	00.10	00.10
00.0002	00.0002	00.0002	00.0002	00.0002	00.0002	00.0002
16.1	16.6	15.2	15.1	15.6	15.3	16.1
00.001	00.001	00.001	00.001	00.001	00.001	00.001
00.001	00.001	00.001	00.001	00.001	00.001	00.001
00.001	00.001	00.001	00.001	00.001	00.001	00.001
00.030	00.030	00.030	00.030	00.030	00.030	00.030
00.001	00.001	00.001	00.001	00.001	00.001	00.001
4.75	4.91	4.75	4.77	4.83	4.75	4.56
00.005	00.005	00.005	00.005	00.005	00.005	00.005
0.002	0.002	0.003	0.002	0.002	0.002	0.003
00.001	00.001	00.001	00.001	00.001	00.001	00.001
0.57	0.56	0.87	0.91	0.88	0.81	0.61
00.0005	00.0005	00.0005	00.0005	00.0005	00.0005	00.0005
5.43	5.53	5.53	5.47	5.58	5.51	5.77
00.0001	00.0001	00.0001	00.0001	00.0001	00.0001	00.0001
2.24	2.24	1.76	1.89	1.86	1.86	2.05
0.099	0.101	0.096	0.094	0.097	0.095	0.093
00.010	00.010	00.010	00.010	00.010	00.010	00.010
0.00047	0.0005	0.0003	0.0003	0.0003	0.00032	0.00055
00.030	00.030	00.030	00.030	00.030	00.030	00.030
0.005	0.012	00.005	00.005	0.005	00.005	00.005
1.7	1.6	1.9	1.9	2	1.7	1.5

Station:	Site W2 Water Quality Data									
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	10-Mar-94	15-Jul-94	1-May-95	4-Jul-95	2-Aug-95	1-Oct-95
Physical Parameters										
pH	7.55	7.9	7.8	7.73	7.46	7.86	7.16	7.75	7.91	7.89
Electrical Conductivity, µmho/cm	182	222	283	256	419	256	78.1	269	266	272
Total Dissolved Solids, mg/l	108	137	199	180	272	180	74	194	185	194
Total Suspended Solids, mg/l	1	2	2	3	3	<1	29	<1	3	2
Hardness, $CaCO_3$ mg/l	86.8	116	163	138	225	138	42.1	145	134	138
Turbidity, NTU	0.24	0.53	0.31	3	0.27	0.15	4.73	0.16	0.77	0.22
Anions										
Alkalinity, $CaCO_3$ mg/l	59.5	78.1	100	90.9	153	92	29.4	96.4	91.2	103
Chloride, mg/l	<0.5	0.6	<0.5	0.6	0.5	<0.5	1.2	<0.5	1	0.6
Fluoride, mg/l	0.05	0.06	0.07	0.07	0.09	0.09	0.07	0.06	0.07	0.07
Sulphate (SO_4), mg/l	29.4	34.2	45	43.2	72.4	42.4	12.9	47.9	44	44.6
Nutrients										
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	0.061	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.078	0.059	0.044	0.074	0.202	0.06	0.018	0.067	0.073	0.158
Nitrite Nitrogen (NO_2), mg/l	0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.005	0.001	0.001	<0.001
Dissolved ortho-Phosphate, mg/l	0.002	0.002	0.003	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	0.001
Total Dissolved Phosphate, mg/l	0.003	0.002	0.003	0.003	0.003	0.002	0.003	<0.001	0.001	0.001
Total Phosphorus, mg/l	0.005	0.005	0.003	0.003	0.003	0.002	0.029	0.009	0.004	0.002
Cyanide										
Total Cyanide (CN^-), mg/l	<0.001	0.003	<0.001	<0.005	<0.001	0.003	0.011	0.002	0.002	<0.001
Total Metals										
Aluminum (total), mg/l	0.02	0.04	0.039	0.023	0.005	0.016	0.393	0.069	0.049	0.035
Antimony (total), mg/l	0.0003	0.0002	0.0003	0.0004	0.0003	0.0002	<0.0001	0.0003	0.0003	0.0004
Arsenic (total), mg/l	0.0004	0.0008	0.0011	0.0009	0.001	0.0008	0.0016	0.0008	0.0011	0.0009
Barium (total), mg/l	0.023	0.031	0.036	0.032	0.049	0.033	0.022	0.033	0.029	0.034
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002
Calcium (total), mg/l	26	33.8	46.2	39.1	57.7	37.2	12.1	40	38.5	39.8
Chromium (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001
Iron (total), mg/l	<0.030	0.068	<0.030	<0.030	0.044	<0.030	0.334	<0.030	<0.030	<0.030
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	6.06	7.6	11.7	9.83	19.6	9.34	2.9	10.3	9.13	9.34
Manganese (total), mg/l	<0.005	<0.005	0.005	<0.005	0.01	<0.005	0.029	<0.005	<0.005	<0.005
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (total), mg/l	<0.001	0.003	0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001	<0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	2.6	2.96	3.49	3.32	3.38	3.13	1.57	3	3.21	3.04
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.134	0.165	0.241	0.198	0.329	0.187	0.065	0.205	0.202	0.204
Titanium (total), mg/l							<0.010	<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00032	0.00052	0.00064	0.0006	0.0014	0.00063	0.00023	0.00083	0.00083	0.00091
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
Dissolved Metals										
Aluminum (dissolved), mg/l	0.007	0.02	0.025	0.014	0.005	0.012	<0.005	0.054	0.025	0.024
Antimony (dissolved), mg/l	0.0003	0.0002	0.0003	0.0004	0.0002	0.0001	<0.0001	0.0003	0.0003	0.0004
Arsenic (dissolved), mg/l	0.0004	0.0007	0.001	0.0009	0.001	0.0008	0.0005	0.0009	0.0009	0.0009
Barium (dissolved), mg/l	0.023	0.031	0.036	0.032	0.049	0.033	0.021	0.033	0.033	0.031
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	25.7	33.8	46.2	39.1	57.7	37.2	12.1	40.6	38.6	39.8
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Iron (dissolved), mg/l	<0.030	0.042	<0.030	<0.030	0.04	<0.030	0.196	<0.030	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	6.01	7.6	11.7	9.83	19.6	9.34	2.9	10.6	9.15	9.37
Manganese (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	0.02	<0.005	<0.005	<0.005
Molybdenum (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	<0.001	0.003	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Potassium (dissolved), mg/l	0.52	0.58	0.85	0.66	1.31	0.83	0.76	0.8	1.17	0.59
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	2.56	2.96	3.49	3.32	3.37	3.13	1.51	3.02	3.21	3.05
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	0.93	1.32	1.77	1.72	2.93	1.63	0.59	1.79	1.93	2
Strontium (dissolved), mg/l	0.134	0.165	0.241	0.198	0.329	0.187	0.065	0.208	0.202	0.205
Titanium (dissolved), mg/l							<0.010	<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00032	0.00051	0.00063	0.00047	0.0014	0.00062	0.00019	0.0008	0.00082	0.00091
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
Organic Parameters										
Total Organic Carbon, mg/l						2.6	25.9	1.9	2.9	2.2

Station:	Site W3 Water Quality Data									
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	10-Mar-94	15-Jul-94	1-May-95	4-Jul-95	2-Aug-95	1-Oct-95
Physical Parameters										
pH	7.38	7.68	7.58	7.61	6.93	7.57	6.86	7.58	7.79	7.66
Electrical Conductivity, µmho/cm	176	206	235	218	319	220	52.9	220	226	213
Total Dissolved Solids, mg/l	106	126	162	149	200	150	58	158	157	155
Total Suspended Solids, mg/l	3	1	9	3	<1	<1	112	<1	<1	<1
Hardness, $CaCO_3$ mg/l	82	97	125	111	154	112	27.7	111	114	109
Turbidity, NTU	0.84	1.71	7.92	2.05	0.45	0.76	47.1	0.83	1.05	0.84
Anions										
Alkalinity, $CaCO_3$ mg/l	44.1	47	57.6	57.6	79	57.2	14.7	55.8	57	57.4
Chloride, mg/l	<0.5	0.9	<0.5	0.5	<0.5	0.5	1.4	0.5	0.7	0.6
Fluoride, mg/l	0.1	0.11	0.14	0.13	0.1	0.15	0.06	0.1	0.14	0.14
Sulphate (SO_4), mg/l	40.8	42	57.2	50.6	82.7	51.5	11.2	57.6	53.8	54.3
Nutrients										
Ammonia Nitrogen (NH_4), mg/l	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	0.015	<0.005	0.013	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.056	0.02	0.024	0.034	0.06	0.042	<0.005	0.043	0.033	0.06
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.009	0.001	0.001	0.001
Dissolved ortho-Phosphate, mg/l	0.001	0.001	0.005	0.001	0.001	0.001	0.005	<0.001	0.001	<0.001
Total Dissolved Phosphate, mg/l	0.004	0.005	0.005	0.003	0.003	0.002	0.006	<0.001	0.001	<0.001
Total Phosphorus, mg/l	0.007	0.005	0.01	0.003	0.003	0.002	0.059	0.017	0.003	0.001
Cyanide										
Total Cyanide (CN^-), mg/l	0.001	0.004	0.001	<0.005	<0.001	0.004	**0.026**	0.003	<0.001	<0.001
Total Metals										
Aluminum (total), mg/l	0.036	0.04	**0.256**	0.031	0.005	0.021	**0.836**	0.048	0.035	0.021
Antimony (total), mg/l	<0.0001	<0.0001	0.0002	0.0003	<0.0001	<0.0001	0.0002	0.0001	0.0003	<0.0001
Arsenic (total), mg/l	<0.0001	0.0003	0.0007	0.0004	0.0006	0.0002	0.0037	0.0003	0.0003	0.0004
Barium (total), mg/l	0.026	0.033	0.044	0.037	0.049	0.038	0.049	0.033	0.029	0.033
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	17.8	20.6	26.6	22.3	29.9	23.2	6.11	22.4	22.4	21.4
Chromium (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Iron (total), mg/l	0.191	**0.413**	**0.453**	0.262	0.082	0.229	**1.84**	0.164	0.181	0.225
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	9.18	10.6	15.4	13.5	21.6	13.2	3.18	13.7	14	13.8
Manganese (total), mg/l	0.062	0.072	0.108	0.125	0.201	0.104	0.201	0.058	0.073	0.074
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Nickel (total), mg/l	0.003	0.003	0.002	0.002	0.003	0.001	0.002	0.002	0.002	0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	3.82	4.35	5.17	4.64	4.92	4.69	2.19	4.43	4.59	4.72
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	**0.0002**	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.107	0.106	0.148	0.116	0.162	0.115	0.037	0.118	0.125	0.112
Titanium (total), mg/l							0.02	<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00014	0.00009	0.00015	0.00016	0.00023	0.00018	0.0002	0.0002	0.0003	0.00018
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	0.018	<0.005	<0.005	<0.005
Dissolved Metals										
Aluminum (dissolved), mg/l	0.018	0.036	0.022	0.023	<0.005	0.012	0.01	0.029	0.03	0.012
Antimony (dissolved), mg/l	<0.0001	<0.0001	0.0002	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001
Arsenic (dissolved), mg/l	<0.0001	0.0002	0.0005	0.0004	0.0006	0.0002	0.0003	0.0002	0.0003	0.0003
Barium (dissolved), mg/l	0.026	0.033	0.034	0.037	0.049	0.035	0.029	0.033	0.033	0.029
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	17.7	20.6	25.5	22.3	28.2	23.1	5.91	22.1	22.5	21
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Iron (dissolved), mg/l	0.136	0.222	0.071	0.249	0.055	0.161	0.402	0.103	0.123	0.126
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	9.18	10.6	15	13.5	20.3	13.1	3.14	13.5	14	13.6
Manganese (dissolved), mg/l	0.053	0.067	0.085	0.125	0.188	0.102	0.118	0.056	0.072	0.07
Molybdenum (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	0.002	0.003	0.002	0.002	0.003	<0.001	<0.001	0.001	0.001	0.002
Potassium (dissolved), mg/l	0.64	0.65	0.94	0.75	1.43	0.9	0.84	0.89	1.12	0.87
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	3.8	4.35	4.85	4.64	4.58	4.67	1.56	4.38	4.58	4.64
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.08	1.21	1.52	1.33	1.69	1.34	0.46	1.49	1.6	1.57
Strontium (dissolved), mg/l	0.107	0.106	0.139	0.116	0.151	0.115	0.035	0.116	0.124	0.111
Titanium (dissolved), mg/l							<0.010	<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00012	0.00009	0.00015	0.00016	0.00022	0.00017	0.00009	0.00017	0.00026	0.00018
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	0.012	0.005	0.006	0.005
Organic Parameters										
Total Organic Carbon, mg/l						2.2	25.4	1.9	2.2	2.4

Station:	Site W4 Water Quality Data															
Collected By:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Date:	11-Jun-03	7-Jul-03	5-Aug-03	4-Sep-03	10-Mar-04	15-Jul-04	1-Sep-05	4-Jul-05	2-Aug-05	13-Sep-05	11-Apr-06	16-May-06	16-Aug-06	17-Jan-06	15-Jun-06	19-Sep-06	1-Oct-06
Physical Parameters																	
pH	7.67	7.86	7.8	7.85	7.43	7.76	7	7.72	7.9	7.89	8.16	7.87	7.89	7.66	7.9	7.92	7.88
Electrical Conductivity, µmhos/cm	186	241	264	261	421	270	77.1	260	277	233	242	246	254	254	253	256	268
Total Dissolved Solids, mg/l	113	173	198	187	270	186	73	200	192	168	175	181	180	185	186	191	193
Total Suspended Solids, mg/l	80	273	11	19	<1	1	1020	<1	<1	5	3	3	<1	4	2	2	2
Hardness, $CaCO_3$, mg/l	88.5	118	156	137	207	142	38.3	147	140	116	122	125	125	129	126	131	139
Turbidity, NTU	66.2	150	14	20	1	2.74	780	0.72	1.19	5.7	3.5	2.3	1.6	1.6	1.3	0.8	1.35
Anions																	
Alkalinity, $CaCO_3$, mg/l	96.2	98.9	88.5	81.7	130	87.8	25.8	91.6	90.4	81.2	84.6	88.2	86.7	80.5	82.7	87.7	80.8
Chloride, mg/l	<0.5	1.2	0.7	0.5	0.7	0.7	1.2	<0.5	<0.5	<0.5	0.5	<0.5	0.8	0.5	<0.5	<0.5	0.7
Fluoride, mg/l	0.07	0.08	0.1	0.1	0.1	0.11	0.08	0.08	0.1	0.11	0.11	0.1	0.1	0.1	0.1	0.09	0.1
Sulphate (SO_4), mg/l	33.6	41.3	55.5	54.2	93.1	51.5	15.7	57.1	52.4	44.3	46.2	48.4	47.7	49	48.6	49.9	52.2
Nutrients																	
Ammonia Nitrogen (NH_4), mg/l	<0.005	0.037	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.055	0.046	0.041	0.058	0.12	0.048	0.012	0.052	0.052	0.083	0.088	0.088	0.089	0.094	0.102	0.095	0.105
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.004	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Dissolved ortho-Phosphate, mg/l	0.005	0.005	0.006	0.004	0.001	0.007	0.004	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Phosphate, mg/l	0.005	0.005	0.006	0.007	0.003	0.007	0.005	0.013	0.001	<0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001
Total Phosphorus, mg/l	0.087	0.182	0.006	0.013	0.003	0.006	0.774	0.013	0.002	0.015	0.01	0.006	0.003	0.004	0.004	0.003	0.004
Cyanide																	
Total Cyanide (CN^-), mg/l	<0.001	0.01	<0.001	<0.005	<0.001	0.002	0.034	0.003	0.003	0.007	0.004	0.005	0.004	0.003	0.004	0.002	<0.001
Total Metals																	
Aluminum (total), mg/l	1.77	3.21	0.248	0.335	0.019	0.046	2.66	0.089	0.049	0.15	0.068	0.051	0.033	0.085	0.042	0.058	0.033
Antimony (total), mg/l	0.0008	0.0016	0.0004	0.0006	0.0002	0.0004	0.0008	0.0004	0.0004	0.0003	0.0004	0.0004	0.0004	0.0005	0.0003	0.0005	0.0003
Arsenic (total), mg/l	0.0077	0.0203	0.0023	0.004	0.0015	0.0014	0.0308	0.0015	0.0018	0.0022	0.002	0.002	0.0018	0.0024	0.0018	0.0025	0.0019
Barium (total), mg/l	0.046	0.066	0.036	0.042	0.049	0.038	0.154	0.04	0.036	0.035	0.035	0.036	0.033	0.035	0.033	0.035	0.032
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	23.2	31.2	39	34.6	48.9	36.7	12.1	38.3	34.7	30	31.3	32.4	31.5	32.5	32	32.9	35.3
Chromium (total), mg/l	0.003	0.007	<0.001	<0.001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	0.002	0.009	<0.001	0.002	<0.001	<0.001	0.002	0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Iron (total), mg/l	3	7.06	0.186	0.267	0.074	0.115	5.27	0.045	0.048	0.173	0.126	0.104	0.063	0.183	0.084	0.136	0.06
Lead (total), mg/l	0.003	0.006	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	7.48	10.4	14.4	12.3	22.6	12.6	4.41	13.5	12.5	10.1	10.5	11.1	11.3	11.7	11.7	11.9	12.4
Manganese (total), mg/l	0.055	0.163	0.045	0.055	0.055	0.036	0.543	0.018	0.02	0.033	0.028	0.029	0.025	0.043	0.026	0.043	0.024
Mercury (total), mg/l	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (total), mg/l	0.005	0.017	0.002	0.001	0.001	<0.001	0.013	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	5.31	7.67	4.04	4.11	4.21	3.83	4.33	3.94	3.89	3.79	3.74	3.75	3.7	3.76	3.68	3.71	3.82
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.12	0.15	0.191	0.172	0.24	0.172	0.057	0.182	0.165	0.15	0.161	0.169	0.167	0.173	0.17	0.174	0.178
Titanium (total), mg/l							0.057	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00038	0.00061	0.00052	0.00055	0.0012	0.00068	0.0011	0.00079	0.00087	0.00046	0.00051	0.00053	0.00042	0.00036	0.00038	0.00043	0.0008
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	0.034	0.038	<0.005	<0.005	0.007	<0.005	0.032	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dissolved Metals																	
Aluminum (dissolved), mg/l	0.015	0.019	0.016	0.157	<0.005	0.01	0.724	0.047	0.036	0.03	0.033	0.012	0.014	0.02	0.012	0.013	0.011
Antimony (dissolved), mg/l	0.0003	0.0005	0.0004	0.0006	0.0002	0.0003	0.0002	0.0004	0.0003	0.0003	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0001	0.0003
Arsenic (dissolved), mg/l	0.0027	0.0006	0.001	0.0038	0.0015	0.0011	0.0029	0.0013	0.0016	0.0015	0.0019	0.0019	0.0017	0.0018	0.0016	0.0019	0.0019
Barium (dissolved), mg/l	0.026	0.041	0.034	0.042	0.048	0.036	0.031	0.04	0.036	0.034	0.031	0.036	0.034	0.033	0.033	0.033	0.032
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	23.2	31.2	38.7	32.6	45.6	36.3	9.96	36.4	35.2	29.8	31.5	32	31.5	32.6	31.9	32.6	35.3
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	0.002	<0.001	0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (dissolved), mg/l	0.045	0.075	<0.030	0.264	0.045	0.039	0.713	<0.030	<0.030	0.052	0.058	0.048	0.045	<0.030	<0.030	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	7.44	9.81	14.4	11.3	22.7	12.8	3.51	13.8	12.6	10	10.4	11	11.3	11.7	11.7	12	12.4
Manganese (dissolved), mg/l	0.022	0.037	0.035	0.053	0.054	0.036	0.105	0.017	0.019	0.026	0.026	0.024	0.023	0.024	0.025	0.024	0.023
Molybdenum (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	<0.001	0.003	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium (dissolved), mg/l	0.67	0.71	0.99	0.85	1.85	1.05	0.88	1.09	1.19	0.85	0.85	0.85	1.02	1	0.93	0.96	0.77
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	3.13	3.43	3.96	4.11	4.16	3.73	2.43	3.84	3.7	3.67	3.62	3.67	3.96	3.69	3.85	3.88	3.7
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.03	1.4	1.7	11.6	2.52	1.81	0.56	1.81	1.91	1.95	2.01	2.05	1.59	1.69	1.69	1.81	2.03
Strontium (dissolved), mg/l	0.12	0.145	0.191	0.172	0.236	0.172	0.052	0.182	0.167	0.15	0.156	0.167	0.166	0.171	0.168	0.174	0.179
Titanium (dissolved), mg/l							0.025	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00029	0.00043	0.00051	0.00055	0.0011	0.00059	0.00041	0.00078	0.0008	0.00043	0.0005	0.00053	0.00029	0.00036	0.00038	0.00039	0.00061
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.007	0.017	<0.005	<0.005	0.005	<0.005	0.008	0.005
Organic Parameters																	
Total Organic Carbon, mg/l						2.4	23.9	1.9	2.4	4.3	3.7	3.3	3.8	3.1	2.8	2.8	2.2

Station:	Site W5 Water Quality Data														
Collected By:	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.	NIMM.
Date:	11-Jun-85	7-Jul-85	5-Aug-85	4-Sep-85	10-Mar-94	15-Jul-94	1-Sep-94	3-Jul-95	2-Aug-95	13-Sep-95	14-Sep-95	15-Sep-95	16-Sep-96	17-Sep-95	18-Sep-95
Physical Parameters															
pH	7.75	7.89	7.72	7.85	7.29	8	7.15	7.9	8.03	7.75	8.04	7.92	7.98	7.94	7.97
Electrical Conductivity, µmhos/cm	219	208	305	264	512	315	97.5	318	337	276	286	286	293	308	296
Total Dissolved Solids, mg/l	134	117	222	185	339	223	64	236	239	196	204	214	217	229	224
Total Suspended Solids, mg/l	92	45	1	<1	<1	124	1360	7	7	9	9	13	7	9	21
Hardness, $CaCO_3$, mg/l	106	96.4	165	139	255	163	48.4	173	174	139	146	143	151	156	148
Turbidity, NTU	98.2	15.2	0.33	1.2	0.52	128	1530	8.25	8.71	13	10.2	16.1	8.1	8.9	22.6
Anions															
Alkalinity, $CaCO_3$ mg/l	85.2	81.7	96.3	87.7	155	97.3	32.2	103	106	95.1	96.1	102	105	110	110
Chloride, mg/l	<0.5	0.8	0.5	0.6	0.8	1.2	1.2	0.5	0.5	0.8	0.5	0.9	0.7	<0.5	<0.5
Fluoride, mg/l	0.08	0.07	0.09	0.09	0.1	0.14	0.08	0.09	0.13	0.12	0.13	0.12	0.12	0.12	0.11
Sulphate (SO_4), mg/l	42.2	30.9	61.9	46.6	124	68.7	20.7	70.4	69.1	51.6	54.3	56.5	58.4	64.9	64
Nutrients															
Ammonia Nitrogen (NH_3), mg/l	0.006	<0.005	<0.005	<0.005	<0.005	0.007	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.06	0.058	0.023	<0.005	0.126	0.039	0.032	0.041	0.042	0.077	0.108	0.074	0.077	0.091	0.082
Nitrite Nitrogen (NO_2), mg/l	<0.001	0.001	<0.001	0.003	<0.001	0.002	0.005	0.006	0.003	0.004	0.004	0.004	0.002	0.003	0.006
Dissolved ortho-Phosphate, mg/l	0.006	0.002	0.002	<0.001	0.001	0.003	0.003	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Total Dissolved Phosphate, mg/l	0.008	0.002	0.003	0.003	0.003	0.005	0.003	0.012	0.002	0.003	0.002	0.001	0.002	0.001	0.001
Total Phosphorus, mg/l	0.047	0.035	0.01	0.003	0.003	0.077	0.928	0.029	0.015	0.009	0.01	0.007	0.014	0.015	0.012
Cyanide															
Total Cyanide (CN^-), mg/l	0.003	0.015	<0.001	<0.005	<0.001	0.003	0.026	0.003	0.002	0.007	0.005	0.004	0.004	0.003	<0.001
Total Metals															
Aluminum (total), mg/l	2.16	0.744	0.029	0.02	0.015	0.896	3.7	0.17	0.11	0.16	0.12	0.1	0.13	0.12	0.022
Antimony (total), mg/l	0.0023	0.0005	0.0004	0.0006	0.0011	0.003	0.0019	0.0017	0.0016	0.0011	0.001	0.0011	0.0009	0.0012	0.0011
Arsenic (total), mg/l	0.0275	0.008	0.008	0.0062	0.003	0.0036	0.0066	0.0054	0.0051	0.0049	0.0049	0.0056	0.0049	0.0064	0.0063
Barium (total), mg/l	0.058	0.048	0.065	0.047	0.063	0.064	0.211	0.042	0.043	0.04	0.043	0.044	0.043	0.043	0.045
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	27.9	31.1	53	45	86.8	40.6	16.9	41.4	42.7	34.2	36.1	35.3	36.7	37.4	36.7
Chromium (total), mg/l	0.004	0.001	<0.001	<0.001	<0.001	<0.001	0.012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	0.003	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	0.01	0.004	<0.001	0.001	<0.001	0.006	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
Iron (total), mg/l	3.89	1.31	<0.030	0.032	0.089	1.97	8.3	0.115	0.112	0.21	0.195	0.174	0.155	0.131	0.274
Lead (total), mg/l	0.006	<0.001	<0.001	<0.001	<0.001	0.018	0.001	<0.001	0.002	<0.001	<0.001	0.001	<0.001	<0.001	0.001
Magnesium (total), mg/l	9.82	4.61	8.12	6.86	27.5	15	6.25	16	16.5	12.5	13.2	13.8	14.3	14.6	14.8
Manganese (total), mg/l	0.106	0.04	0.008	0.007	0.101	0.175	0.758	0.023	0.038	0.033	0.034	0.035	0.031	0.039	0.043
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	0.003	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (total), mg/l	0.006	0.005	0.002	<0.001	0.002	0.004	0.001	0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	6.15	4.43	4.42	4.02	3.84	4.51	5.36	3.71	3.86	3.82	3.83	3.78	3.82	3.77	3.85
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.144	0.112	0.191	0.178	0.322	0.202	0.088	0.214	0.234	0.18	0.192	0.195	0.198	0.208	0.2
Titanium (total), mg/l							0.072	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00083	0.00027	0.00047	0.0004	0.0022	0.0012	0.00185	0.00137	0.00181	0.00076	0.0008	0.00054	0.00057	0.0081	0.00062
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	0.04	0.005	<0.005	<0.005	<0.005	0.011	0.06	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dissolved Metals															
Aluminum (dissolved), mg/l	0.024	0.04	0.02	0.014	0.007	0.015	0.056	0.046	0.028	0.016	0.009	0.01	0.013	0.017	0.017
Antimony (dissolved), mg/l	0.0011	0.0004	0.0004	0.0005	0.0011	0.002	0.0005	0.0019	0.0014	0.0011	0.001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic (dissolved), mg/l	0.0053	0.0046	0.0053	0.0062	0.003	0.0033	0.0037	0.0043	0.0042	0.0035	0.0037	0.0036	0.004	0.0037	0.0041
Barium (dissolved), mg/l	0.038	0.033	0.054	0.047	0.063	0.041	0.029	0.042	0.041	0.037	0.039	0.041	0.041	0.041	0.041
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	27.1	31.1	52.9	44.5	86.8	40.6	12.2	42.2	42.6	34.9	36.5	34.8	37	37.8	35.9
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	0.003	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (dissolved), mg/l	0.048	0.132	<0.030	<0.030	0.067	<0.030	0.299	<0.030	<0.030	0.048	0.042	<0.030	<0.030	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	9.38	4.55	8.1	6.79	27.5	15	4.34	16.4	16.4	12.6	13.3	13.6	14.3	14.9	14.3
Manganese (dissolved), mg/l	0.067	0.013	<0.005	0.008	0.101	0.075	0.109	0.018	0.032	0.026	0.025	0.025	0.024	0.034	0.026
Molybdenum (dissolved), mg/l	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	<0.001	0.003	0.002	<0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium (dissolved), mg/l	0.91	0.82	1.23	0.91	2.03	1.66	0.91	1.77	1.9	0.9	0.92	1.45	1.36	1.43	1.31
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	3.22	3.63	4.42	4	3.84	3.99	1.67	3.67	3.78	3.64	3.66	3.6	3.71	3.7	3.58
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.21	1.27	2.04	1.73	2.88	1.93	0.86	2.13	2.33	2.32	2.37	1.93	1.96	1.97	2
Strontium (dissolved), mg/l	0.144	0.112	0.191	0.174	0.319	0.202	0.084	0.219	0.233	0.182	0.195	0.193	0.196	0.206	0.198
Titanium (dissolved), mg/l							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00049	0.00023	0.00045	0.0004	0.0021	0.00082	0.00155	0.00133	0.00156	0.00073	0.00079	0.00049	0.00052	0.00045	0.00061
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	0.007	<0.005	<0.005	<0.005	0.012
Organic Parameters															
Total Organic Carbon, mg/l						2.8	23.7	2.1	2.3	4.4	3.8	4.2	3.6	3.1	3.2

NIMW	NIMW
19-Sep-95	1-Oct-95
7.96	7.95
297	317
226	234
4	3
148	169
2.8	2.04
113	110
<0.5	0.5
<0.02	0.11
53.5	66.1
<0.005	<0.005
0.068	0.064
0.002	0.005
<0.001	<0.001
0.001	<0.001
0.006	0.006
0.002	0.002
0.057	0.056
0.0009	0.0011
0.0046	0.005
0.041	0.04
<0.005	<0.005
<0.10	<0.10
<0.10	<0.10
<0.0002	<0.0002
38.2	41.2
<0.001	<0.001
<0.001	<0.001
0.001	<0.001
0.064	0.068
<0.001	<0.001
14.3	15.6
0.026	0.028
<0.00001	<0.00001
<0.001	<0.001
<0.001	<0.001
<0.0005	<0.0005
3.64	3.86
<0.0001	<0.0001
0.186	0.217
<0.010	<0.010
0.00095	0.00122
<0.030	<0.030
0.007	<0.005
0.012	0.008
<0.0001	0.001
0.0042	0.0042
0.041	0.04
<0.005	<0.005
<0.10	<0.10
<0.10	<0.10
<0.0002	<0.0002
35.7	41.8
<0.001	<0.001
<0.001	<0.001
<0.001	<0.001
<0.030	<0.030
<0.001	<0.001
14.2	15.8
0.024	0.025
<0.001	<0.001
<0.001	<0.001
1.3	1.04
<0.0005	<0.0005
3.54	3.76
<0.0001	<0.0001
2.07	2.4
0.186	0.218
<0.010	<0.010
0.00051	0.0012
<0.030	<0.030
<0.005	0.008
3	2.6

Station:	Site W6 Water Quality Data							
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	15-Jul-94	3-Jul-95	2-Aug-95	1-Oct-95
Physical Parameters								
pH	7.65	7.88	7.88	7.88	7.64	7.7	7.95	7.74
Electrical Conductivity, µmho/cm	212	250	286	248	264	260	248	261
Total Dissolved Solids, mg/l	131	139	198	176	186	193	179	191
Total Suspended Solids, mg/l	6	<1	<1	<1	<1	<1	1	3
Hardness, $CaCO_3$ mg/l	103	117	157	137	139	137	126	134
Turbidity, NTU	0.64	0.62	0.28	1.15	0.35	0.43	0.87	0.21
Anions								
Alkalinity, $CaCO_3$ mg/l	66.7	77.9	102	84.8	88.2	86.4	86.1	90.9
Chloride, mg/l	0.8	0.8	0.6	<0.5	0.8	0.6	0.6	0.8
Fluoride, mg/l	0.08	0.06	0.07	0.08	0.1	0.08	0.09	0.09
Sulphate (SO_4), mg/l	38.1	35.1	44.5	45.4	47.1	51.2	41.3	46.6
Nutrients								
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.052	0.055	0.053	0.058	0.024	0.027	0.014	0.081
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	0.002	0.004	0.002	0.001	0.001	0.001
Dissolved ortho-Phosphate, mg/l	0.005	<0.001	0.001	<0.001	0.002	0.002	0.001	<0.001
Total Dissolved Phosphate, mg/l	0.005	0.002	0.003	0.002	0.004	0.002	0.003	0.002
Total Phosphorus, mg/l	0.011	0.004	0.003	0.002	0.004	0.02	0.005	0.003
Cyanide								
Total Cyanide (CN^-), mg/l	0.001	0.006	<0.001	<0.005	0.005	<0.001	0.007	0.004
Total Metals								
Aluminum (total), mg/l	0.045	0.032	0.026	0.021	0.184	0.078	0.058	0.017
Antimony (total), mg/l	0.0004	0.0002	0.0003	0.0004	0.0004	0.0024	0.0001	0.0003
Arsenic (total), mg/l	0.0049	0.0008	0.0011	0.0009	0.0079	0.0048	0.0056	0.007
Barium (total), mg/l	0.035	0.028	0.034	0.032	0.053	0.048	0.045	0.045
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	33	34.2	44.3	38.2	44.6	43.9	40.3	42.9
Chromium (total), mg/l	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001
Iron (total), mg/l	0.083	0.074	<0.030	<0.030	0.271	<0.030	0.048	0.09
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	5.16	7.86	11.6	10.2	6.62	6.82	6.36	6.94
Manganese (total), mg/l	0.005	0.007	<0.005	0.009	0.04	<0.005	0.007	0.073
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (total), mg/l	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	3.64	3.02	3.29	3.36	4.15	4.03	4	4.05
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.134	0.166	0.225	0.194	0.173	0.178	0.167	0.172
Titanium (total), mg/l						<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00026	0.00053	0.00066	0.00057	0.00046	0.00045	0.00059	0.00052
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005
Dissolved Metals								
Aluminum (dissolved), mg/l	0.01	0.019	0.019	0.011	0.011	0.087	0.035	0.02
Antimony (dissolved), mg/l	0.0003	0.0002	0.0003	0.0004	0.0003	0.0005	<0.0001	0.0003
Arsenic (dissolved), mg/l	0.0045	0.0008	0.0009	0.0008	0.0034	0.0047	0.0055	0.0055
Barium (dissolved), mg/l	0.035	0.025	0.034	0.032	0.05	0.046	0.045	0.045
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	32.9	34.2	44	38.2	44.6	43.7	40.1	42.5
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Iron (dissolved), mg/l	0.03	0.042	<0.030	<0.030	0.037	<0.030	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	5.12	7.76	11.5	10.2	6.82	6.8	6.31	6.77
Manganese (dissolved), mg/l	0.005	<0.005	<0.005	0.005	0.013	<0.005	0.007	0.017
Molybdenum (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium (dissolved), mg/l	0.9	0.6	0.84	0.87	1.16	1.21	1.15	0.82
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	3.62	2.97	3.29	3.35	4.15	4.03	3.98	4.02
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.26	1.35	1.75	1.67	1.75	1.96	1.83	2.1
Strontium (dissolved), mg/l	0.134	0.166	0.219	0.194	0.173	0.177	0.167	0.169
Titanium (dissolved), mg/l						<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00022	0.00051	0.00066	0.00057	0.00038	0.00043	0.00058	0.0005
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008
Organic Parameters								
Total Organic Carbon, mg/l					3.9	3.8	5.4	4.5

Station:	Site W7 Water Quality Data														
Collected By:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Date:	11-Jun-03	7-Jul-03	5-Aug-03	4-Sep-03	16-Mar-94	15-Jul-94	4-Jul-95	2-Aug-95	13-Sep-95	14-Sep-95	15-Sep-95	16-Sep-95	17-Sep-95	18-Sep-95	19-Sep-95	1-Oct-95
Physical Parameters															
pH	7.78	7.61	7.89	7.79	7.51	7.88	7.98	7.94	7.84	7.99	7.91	7.99	8	8	7.93	7.93
Electrical Conductivity, µmhos/cm	183	98.3	96.3	103	415	257	265	269	234	242	243	250	249	253	257	267
Total Dissolved Solids, mg/l	108	48	60	51	262	176	186	187	166	174	176	177	184	166	190	196
Total Suspended Solids, mg/l	2	3	3	<1	6	3	<1	2	2	<1	<1	1	<1	3	2	3
Hardness, $CaCO_3$ mg/l	89	38.3	47.6	47.2	201	134	143	136	115	122	126	122	129	126	130	143
Turbidity, NTU	0.38	0.56	0.44	0.62	1.9	0.62	0.39	0.78	0.6	0.4	0.4	0.5	0.5	0.6	0.3	0.2
Anions																
Alkalinity, $CaCO_3$ mg/l	89.5	31.6	37.5	42	142	89.9	94.9	93.6	89	91.6	93.7	94	97.5	101	104	101
Chloride, mg/l	<0.5	0.5	<0.5	<0.5	0.5	0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Fluoride, mg/l	0.05	0.07	0.05	0.08	0.1	0.06	0.06	0.07	0.05	0.06	0.08	0.07	0.06	0.07	0.09	0.07
Sulphate (SO_4), mg/l	29.6	7.7	8.1	9.7	78.2	42.4	50.2	45.4	38.2	40	40.2	41.7	42.5	42.9	43.6	45
Nutrients																
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.081	0.033	0.005	0.019	0.177	0.057	0.086	0.072	0.107	0.12	0.131	0.125	0.136	0.142	0.147	0.156
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	0.001	0.001	<0.001	0.002	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	<0.001
Dissolved ortho-Phosphate, mg/l	0.001	0.003	0.003	0.005	<0.001	0.002	0.002	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Phosphate, mg/l	0.003	0.006	0.004	0.005	0.002	0.003	0.002	0.001	0.001	0.002	0.002	0.001	0.001	<0.001	<0.001	0.001
Total Phosphorus, mg/l	0.003	0.006	0.018	0.005	0.003	0.003	0.002	0.005	0.002	0.002	0.003	0.002	0.001	0.001	0.003	0.002
Cyanide																
Total Cyanide (CN^-), mg/l	<0.001	0.002	<0.001	<0.005	0.001	0.003	0.003	0.003	0.005	0.005	0.004	0.003	0.002	0.002	<0.001	0.002
Total Metals																
Aluminum (total), mg/l	0.028	0.036	0.033	0.017	0.021	0.025	0.026	0.077	0.046	0.031	0.033	0.028	0.016	0.017	0.022	0.015
Antimony (total), mg/l	0.0002	0.0011	0.0012	0.0013	0.0002	0.0002	0.0003	0.0001	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002
Arsenic (total), mg/l	0.0004	0.0445	0.0464	0.0378	0.0012	0.001	0.001	0.0011	0.001	0.0007	0.001	0.0008	0.0008	0.0008	0.0009	0.0009
Barium (total), mg/l	0.023	0.028	0.034	0.037	0.047	0.034	0.033	0.036	0.031	0.034	0.029	0.032	0.033	0.033	0.033	0.028
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Calcium (total), mg/l	25.5	11.2	14.2	14	49.6	38.5	40.2	39.1	33.5	35.2	35.9	35.5	35.6	36.1	36.9	39.7
Chromium (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001
Iron (total), mg/l	0.032	0.048	<0.030	<0.030	0.136	0.036	<0.030	0.035	0.048	0.037	0.035	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	6.07	2.05	2.98	2.86	18.7	9.53	10.3	9.83	7.98	8.41	8.72	8.97	9.13	9.2	8.38	9.66
Manganese (total), mg/l	<0.005	<0.005	<0.005	<0.005	0.043	<0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	0.002	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (total), mg/l	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	2.55	5.34	6.03	5.88	3.41	3.14	3.06	3.28	3.18	3.16	3.15	3.14	3.12	3.08	3.09	3.06
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.134	0.06	0.07	0.072	0.262	0.187	0.207	0.207	0.173	0.184	0.19	0.191	0.194	0.195	0.196	0.204
Titanium (total), mg/l							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00029	0.0002	0.00025	0.00028	0.0014	0.00067	0.00081	0.0008	0.00062	0.00055	0.00056	0.0004	0.00045	0.00047	0.00045	0.0009
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dissolved Metals																
Aluminum (dissolved), mg/l	0.007	0.015	0.017	0.005	<0.005	0.011	0.004	0.041	0.022	0.009	0.016	0.016	0.015	0.016	0.02	0.011
Antimony (dissolved), mg/l	0.0002	0.0011	0.0012	0.0013	0.0002	0.0001	0.0003	<0.0001	0.0003	0.0003	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Arsenic (dissolved), mg/l	0.0004	0.0429	0.0445	0.0378	0.0009	0.0008	0.001	0.0011	0.0009	0.0008	0.0009	0.0008	0.0008	0.0008	0.0009	0.001
Barium (dissolved), mg/l	0.023	0.028	0.034	0.037	0.044	0.034	0.033	0.036	0.029	0.036	0.028	0.033	0.033	0.033	0.033	0.032
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	25.3	11.2	14.2	14	49.6	37.8	40.1	38.5	33.1	35.1	36	34.5	36.2	36	36.6	41
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	0.044	<0.030	<0.030	<0.030	0.031	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	6.05	2.04	2.96	2.88	18.7	9.53	10.3	9.86	7.92	8.32	8.73	8.72	9.16	9.22	9.3	9.85
Manganese (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	0.041	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Molybdenum (dissolved), mg/l	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium (dissolved), mg/l	0.53	0.49	0.89	0.96	1.42	0.89	0.84	0.98	0.55	0.55	0.54	0.9	0.84	0.98	0.81	0.83
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	2.55	5.32	6	5.86	3.4	3.14	3.06	3.22	3.14	3.14	3.17	3.06	3.14	3.07	3.06	3.11
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	0.94	1.52	1.67	1.68	3.02	1.63	1.87	1.93	2.01	2.06	2.11	1.89	1.71	1.72	1.84	2.02
Strontium (dissolved), mg/l	0.132	0.05	0.07	0.072	0.261	0.187	0.207	0.202	0.172	0.183	0.19	0.186	0.195	0.196	0.195	0.21
Titanium (dissolved), mg/l							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00026	0.00016	0.00021	0.00028	0.0014	0.00059	0.0008	0.0008	0.00051	0.00055	0.00056	0.0004	0.00041	0.00045	0.00045	0.0009
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	0.005	<0.005	0.005	<0.005	0.019	0.006	0.005	0.009
Organics																
Total Organic Carbon, mg/l						2.7	1.9	2.6	4.2	3.9	3.5	3.6	3.1	2.9	2.7	2.3

Station:	Site W8 Water Quality Data							
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	15-Jul-94	3-Jul-95	2-Aug-95	1-Oct-95
Physical Parameters								
pH	7.55	8.17	8.12	8.14	7.4	7.64	7.77	7.63
Electrical Conductivity, µmho/cm	52.4	345	316	321	93.4	89	98	101
Total Dissolved Solids, mg/l	30	196	214	224	62	57	61	70
Total Suspended Solids, mg/l	9	5	5	5	3	<1	7	5
Hardness, $CaCO_3$ mg/l	22.5	173	160	176	42.8	41.2	44.9	46.8
Turbidity, NTU	2.26	3.87	2.12	1.36	0.76	0.31	1.15	1.28
Anions								
Alkalinity, $CaCO_3$ mg/l	18.7	137	131	141	37.9	32.8	41	41.6
Chloride, mg/l	<0.5	0.7	0.5	0.5	0.8	<0.5	0.7	0.6
Fluoride, mg/l	0.06	0.14	0.15	0.14	0.09	0.06	0.08	0.08
Sulphate (SO_4), mg/l	6.2	35.3	36.3	39.6	9.9	9	9.1	11.5
Nutrients								
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.019	0.304	0.296	0.425	0.041	0.016	0.031	0.058
Nitrite Nitrogen (NO_2), mg/l	0.002	<0.001	0.001	0.004	0.002	<0.001	0.001	0.001
Dissolved ortho-Phosphate, mg/l	0.006	0.007	0.005	0.004	0.005	0.01	0.003	0.004
Total Dissolved Phosphate, mg/l	0.012	0.01	0.005	0.004	0.005	0.014	0.003	0.007
Total Phosphorus, mg/l	0.021	0.013	0.007	0.007	0.009	0.014	0.007	0.014
Cyanide								
Total Cyanide (CN^-), mg/l	<0.001	0.002	<0.001	<0.001	0.002	0.002	0.001	0.001
Total Metals								
Aluminum (total), mg/l	0.066	0.166	0.215	0.057	0.046	0.084	0.075	0.067
Antimony (total), mg/l	0.001	0.0005	0.0006	0.0007	0.001	0.0009	0.001	0.0012
Arsenic (total), mg/l	0.0425	0.0191	0.0195	0.017	0.0399	0.0446	0.0449	0.041
Barium (total), mg/l	0.023	0.075	0.076	0.079	0.038	0.033	0.036	0.034
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	6.89	37.1	37.2	36.2	12.7	12.2	13.2	13.7
Chromium (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (total), mg/l	0.123	0.172	<0.030	0.051	0.039	<0.030	<0.030	<0.030
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	1.39	19.8	21.3	20.7	2.68	2.54	2.79	2.96
Manganese (total), mg/l	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	0.001	0.002	<0.001	0.001	0.002	<0.001	0.002	0.002
Nickel (total), mg/l	0.005	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	4.61	3.92	4.07	3.97	5.37	5.16	5.49	5.62
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.04	0.289	0.297	0.298	0.065	0.068	0.077	0.074
Titanium (total), mg/l						<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00025	0.0058	0.0044	0.005	0.00029	0.00025	0.00046	0.00039
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dissolved Metals								
Aluminum (dissolved), mg/l	0.022	0.012	0.021	<0.005	0.013	0.039	0.028	0.012
Antimony (dissolved), mg/l	0.0008	0.0005	0.0006	0.0007	0.0009	0.0009	0.0009	0.0012
Arsenic (dissolved), mg/l	0.0332	0.0165	0.0181	0.0163	0.0367	0.0432	0.0445	0.0413
Barium (dissolved), mg/l	0.018	0.071	0.076	0.079	0.038	0.03	0.036	0.036
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	6.8	36.9	37.2	36.2	12.7	12.3	13.3	13.8
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	1.35	19.6	21.3	20.7	2.68	2.53	2.81	2.99
Manganese (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Molybdenum (dissolved), mg/l	0.001	0.002	<0.001	<0.001	0.002	<0.001	0.002	0.002
Nickel (dissolved), mg/l	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium (dissolved), mg/l	0.41	0.92	1.04	0.89	0.72	0.57	0.74	0.57
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	4.52	3.77	4.04	3.97	5.37	5.22	5.52	5.63
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.07	2.4	2.42	2.59	1.58	1.88	1.86	2.08
Strontium (dissolved), mg/l	0.04	0.287	0.297	0.298	0.065	0.068	0.078	0.075
Titanium (dissolved), mg/l						<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00016	0.0045	0.0029	0.005	0.00023	0.00024	0.00046	0.00037
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Organic Parameters								
Total Organic Carbon, mg/l					1.6	1.5	1.7	1.5

Station:	Site W9 Water Quality Data								
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	15-Jul-94	1-May-95	3-Jul-95	2-Aug-95	1-Oct-95
Physical Parameters									
pH	8.01	7.9	7.65	7.82	8.04	6.99	8.14	8.14	8.13
Electrical Conductivity, µmho/cm	273	336	305	279	341	43	334	340	317
Total Dissolved Solids, mg/l	165	185	212	192	233	58	240	228	232
Total Suspended Solids, mg/l	13	2	4	<1	<1	626	47	251	35
Hardness, $CaCO_3$ mg/l	141	161	175	152	183	24.2	190	178	170
Turbidity, NTU	8.52	0.55	0.51	0.4	0.4	207	25.4	228	12.2
Anions									
Alkalinity, $CaCO_3$ mg/l	114	119	126	115	148	17.7	146	137	151
Chloride, mg/l	<0.5	0.6	0.5	<0.5	0.8	1.6	<0.5	0.9	1
Fluoride, mg/l	0.13	0.11	0.11	0.1	0.17	0.04	0.12	0.15	0.15
Sulphate (SO_4), mg/l	31.4	36.4	36.2	35.1	39.7	6.2	42.4	39	37.1
Nutrients									
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.009	0.008	0.009	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.439	0.013	<0.005	<0.005	0.277	0.141	0.346	0.484	0.503
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	0.001	0.005	0.002	0.006	0.001	0.001	0.002
Dissolved ortho-Phosphate, mg/l	0.006	0.001	0.004	0.001	0.006	0.006	0.005	0.004	0.002
Total Dissolved Phosphate, mg/l	0.008	0.006	0.004	0.005	0.006	0.006	0.005	0.004	0.004
Total Phosphorus, mg/l	0.019	0.006	0.008	0.005	0.006	0.352	0.072	0.122	0.042
Cyanide									
Total Cyanide (CN^-), mg/l	0.001	**0.008**	0.002	0.004	0.003	**0.029**	0.004	0.003	<0.001
Total Metals									
Aluminum (total), mg/l	**0.27**	0.037	**0.121**	0.029	0.056	**2.86**	**0.31**	**1.96**	**0.23**
Antimony (total), mg/l	0.0005	0.0034	0.0028	0.0023	0.0005	0.0006	0.0005	0.0006	0.0007
Arsenic (total), mg/l	0.0146	0.0212	0.0183	0.0143	0.0134	**0.0778**	0.019	**0.0556**	0.022
Barium (total), mg/l	0.082	0.068	0.076	0.074	0.086	0.119	0.077	0.117	0.073
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	29.9	46.8	48	42.1	39	8.05	39.3	37.5	34.5
Chromium (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	**0.008**	<0.001	**0.003**	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	0.001	<0.001
Copper (total), mg/l	0.001	0.001	<0.001	0.001	<0.001	**0.011**	<0.001	**0.007**	<0.001
Iron (total), mg/l	0.176	0.042	<0.030	<0.030	0.05	**3.73**	0.295	**2.3**	0.118
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	**0.004**	<0.001	**0.008**	0.001
Magnesium (total), mg/l	17	10.8	13.3	11.7	21.2	3.41	22.6	21.4	19.8
Manganese (total), mg/l	0.006	<0.005	<0.005	<0.005	<0.005	0.182	0.008	0.117	0.006
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001	0.001
Nickel (total), mg/l	<0.001	0.002	0.001	0.001	<0.001	0.007	0.001	0.003	0.002
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	3.76	4.82	5.36	5.17	3.8	4.15	3.95	6.19	4
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.254	0.166	0.176	0.158	0.284	0.064	0.314	0.319	0.295
Titanium (total), mg/l						0.104	0.011	0.072	<0.010
Uranium (total), mg/l	0.0051	0.00063	0.00043	0.00036	0.0074	0.00179	0.0072	0.0071	0.00624
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.022	<0.005	0.01	<0.005
Dissolved Metals									
Aluminum (dissolved), mg/l	0.02	0.016	0.031	0.016	0.017	0.448	0.096	0.068	0.021
Antimony (dissolved), mg/l	0.0005	0.0034	0.0028	0.0023	0.0005	0.0002	0.0007	0.0006	0.0008
Arsenic (dissolved), mg/l	0.0111	0.0184	0.0179	0.0142	0.0118	0.0065	0.0152	0.0174	0.0177
Barium (dissolved), mg/l	0.073	0.067	0.076	0.074	0.086	0.029	0.074	0.075	0.074
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	29.1	46.7	48	41.8	38.6	5.99	39.1	37	35.1
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001
Iron (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	0.274	<0.030	0.045	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	16.6	10.8	13.3	11.7	21	2.25	22.4	20.8	20
Manganese (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.019	<0.005	0.013	<0.005
Molybdenum (dissolved), mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002
Nickel (dissolved), mg/l	<0.001	0.002	0.001	<0.001	<0.001	0.002	<0.001	0.001	0.001
Potassium (dissolved), mg/l	0.92	1.25	1.38	1.16	1.2	0.94	1.21	1.72	1.01
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	3.54	4.82	5.36	5.17	3.75	1.65	3.53	3.88	3.88
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.94	1.76	1.81	1.66	2.57	0.53	3.06	3.04	3.35
Strontium (dissolved), mg/l	0.25	0.166	0.176	0.158	0.284	0.044	0.312	0.314	0.298
Titanium (dissolved), mg/l						<0.010	<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.0049	0.00055	0.00039	0.00035	0.0062	0.00178	0.00717	0.00689	0.00611
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	0.007
Organic Parameters									
Total Organic Carbon, mg/l					3.1	28.5	2.6	2.7	2.3

Station:	Site W10 Water Quality Data							
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	15-Jul-94	1-May-95	2-Aug-95	1-Oct-95
Physical Parameters								
pH	7.93	7.67	7.66	7.68	8	6.79	8.04	7.99
Electrical Conductivity, µmho/cm	354	242	267	259	712	49.3	223	205
Total Dissolved Solids, mg/l	224	143	193	193	504	67	155	141
Total Suspended Solids, mg/l	72	7	39	7	9	3270	9	1
Hardness, $CaCO_3$ mg/l	180	106	133	128	385	25.7	116	105
Turbidity, NTU	24.6	3.92	35.3	4.55	4.49	1850	3.48	1.6
Anions								
Alkalinity, $CaCO_3$ mg/l	135	34.1	43.9	46.9	311	14.9	82.1	80.9
Chloride, mg/l	<0.5	0.7	0.7	<0.5	0.7	1.5	0.7	0.8
Fluoride, mg/l	0.12	0.11	0.15	0.14	0.3	0.04	0.1	0.11
Sulphate (SO_4), mg/l	56	68.6	84.7	84.9	97.5	12.6	33.8	30.9
Nutrients								
Ammonia Nitrogen (NH_4), mg/l	0.067	<0.005	0.009	<0.005	0.133	0.009	0.019	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.018	0.045	0.029	0.042	0.009	0.045	<0.005	0.036
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	0.001	0.001	0.004	0.006	0.002	0.002
Dissolved ortho-Phosphate, mg/l	0.01	0.005	0.002	0.003	0.033	0.007	0.003	0.003
Total Dissolved Phosphate, mg/l	0.014	0.008	0.005	0.006	0.036	0.019	0.004	0.003
Total Phosphorus, mg/l	0.055	0.012	0.022	0.012	0.066	2	0.007	0.007
Cyanide								
Total Cyanide (CN^-), mg/l	0.004	0.007	0.002	0.003	0.002	0.054	0.008	0.003
Total Metals								
Aluminum (total), mg/l	0.791	0.106	0.674	0.11	0.079	7.55	0.17	0.066
Antimony (total), mg/l	0.0038	0.0004	0.0007	0.0005	0.0012	0.0022	0.0022	0.002
Arsenic (total), mg/l	0.0618	0.001	0.0033	0.0011	0.75	0.281	0.0167	0.012
Barium (total), mg/l	0.105	0.025	0.041	0.032	0.051	0.583	0.061	0.05
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002
Calcium (total), mg/l	43.6	32.2	36.7	36	76.8	18.1	31.7	30.2
Chromium (total), mg/l	0.002	<0.001	0.002	<0.001	<0.001	0.028	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	0.001	<0.001	<0.001	0.016	<0.001	<0.001
Copper (total), mg/l	0.005	0.002	0.004	0.001	<0.001	0.064	0.004	0.002
Iron (total), mg/l	1.24	0.328	2.17	0.337	0.848	25	0.151	0.077
Lead (total), mg/l	<0.001	<0.001	0.002	<0.001	<0.001	0.053	<0.001	<0.001
Magnesium (total), mg/l	17.4	6.65	10	9.29	47	5.43	8.33	8.36
Manganese (total), mg/l	0.209	0.047	0.12	0.093	0.297	1.06	0.071	<0.005
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Nickel (total), mg/l	0.007	0.004	0.007	0.002	0.002	0.037	0.003	0.002
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	5.46	3.95	5.55	4.57	6.05	8.33	3.86	3.99
Silver (total), mg/l	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.218	0.112	0.129	0.127	0.533	0.089	0.134	0.121
Titanium (total), mg/l						0.201	<0.010	<0.010
Uranium (total), mg/l	0.0014	0.00015	0.00026	0.00022	0.0063	0.00381	0.00054	0.0005
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	0.034	<0.030	<0.030
Zinc (total), mg/l	0.022	<0.005	0.018	<0.005	<0.005	0.126	<0.005	<0.005
Dissolved Metals								
Aluminum (dissolved), mg/l	0.018	0.041	0.043	0.057	0.012	<0.005	0.023	0.026
Antimony (dissolved), mg/l	0.0033	0.0004	0.0004	0.0005	0.0012	0.0006	0.0022	0.002
Arsenic (dissolved), mg/l	0.0456	0.0007	0.0007	0.001	0.75	0.0062	0.0156	0.0123
Barium (dissolved), mg/l	0.097	0.025	0.032	0.032	0.048	0.043	0.057	0.044
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	43.6	31.6	36.7	36	76.8	7.4	32.3	28.8
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	0.002	0.002	<0.001	<0.001	<0.001	<0.001	0.004	0.002
Iron (dissolved), mg/l	0.112	0.145	0.045	0.288	0.318	0.518	<0.030	<0.030
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	17.4	6.53	10	9.29	47	1.76	8.47	8.08
Manganese (dissolved), mg/l	0.199	0.04	0.086	0.093	0.283	0.108	0.067	<0.005
Molybdenum (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	0.003	0.002	0.002	0.002	0.001	0.003	0.003	0.001
Potassium (dissolved), mg/l	2.05	0.54	0.82	0.82	4.75	0.99	1.68	0.91
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	4.68	3.84	5.05	4.57	6.05	1.5	3.83	3.78
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	2.46	1.11	1.41	1.3	5.82	0.42	1.85	1.93
Strontium (dissolved), mg/l	0.217	0.112	0.129	0.127	0.533	0.036	0.136	0.116
Titanium (dissolved), mg/l						<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.0013	0.00011	0.00013	0.00022	0.0051	0.0038	0.00053	0.00049
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Organic Parameters								
Total Organic Carbon, mg/l					2.7	32	0.8	7.3

Station:	Site W11 Water Quality Data							
Collected By:	NMML	NMML	NMML	NMML	NMML	NMML	NMML	NMML
Date:	11-Jun-93	7-Jul-93	5-Aug-93	4-Sep-93	15-Jul-94	4-Jul-95	2-Aug-95	1-Oct-95
Physical Parameters								
pH	7.6	7.97	7.62	7.87	7.5	7.45	7.66	7.41
Electrical Conductivity, µmho/cm	217	243	234	261	271	287	340	323
Total Dissolved Solids, mg/l	133	138	166	184	190	214	252	245
Total Suspended Solids, mg/l	5	1	11	21	3	1	1	3
Hardness, $CaCO_3$ mg/l	100	113	124	134	130	147	171	166
Turbidity, NTU	1.51	0.9	7.4	22.7	2.53	0.97	1.51	1.12
Anions								
Alkalinity, $CaCO_3$ mg/l	34.9	77.7	59.6	83	43.4	48.6	54.9	47.8
Chloride, mg/l	<0.5	0.9	0.5	<0.5	<0.5	0.5	0.5	0.6
Fluoride, mg/l	0.13	0.06	0.12	0.1	0.17	0.12	0.16	0.16
Sulphate (SO_4), mg/l	62.9	35.1	59	54.5	83.4	91.4	111	110
Nutrients								
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate Nitrogen (NO_3), mg/l	0.032	0.057	0.02	0.044	0.034	0.03	0.023	0.045
Nitrite Nitrogen (NO_2), mg/l	<0.001	<0.001	<0.001	<0.001	0.002	0.001	0.001	0.001
Dissolved ortho-Phosphate, mg/l	0.003	0.001	0.005	0.004	0.003	<0.001	0.001	<0.001
Total Dissolved Phosphate, mg/l	0.005	0.003	0.006	0.01	0.005	<0.001	0.001	0.002
Total Phosphorus, mg/l	0.009	0.004	0.007	0.019	0.007	0.006	0.002	0.003
Cyanide								
Total Cyanide (CN^-), mg/l	0.001	0.006	<0.001	0.002	0.003	0.003	0.003	<0.001
Total Metals								
Aluminum (total), mg/l	0.048	0.036	0.226	0.314	0.065	0.096	0.048	0.025
Antimony (total), mg/l	0.0004	0.0002	0.0001	0.0007	0.0003	0.0003	0.0001	0.0002
Arsenic (total), mg/l	0.0005	0.0008	0.0006	0.0049	0.001	0.0007	0.0007	0.0007
Barium (total), mg/l	0.023	0.027	0.038	0.042	0.033	0.033	0.036	0.029
Beryllium (total), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (total), mg/l	<0.10	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (total), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (total), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (total), mg/l	27.6	34.1	25.6	33.6	36.1	40.5	47.3	43.9
Chromium (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Copper (total), mg/l	0.001	0.001	<0.001	0.001	0.002	<0.001	<0.001	<0.001
Iron (total), mg/l	0.135	0.071	0.411	0.392	0.206	0.124	0.174	0.208
Lead (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (total), mg/l	7.76	6.84	14.8	12.1	9.61	11.5	12.9	12.9
Manganese (total), mg/l	0.026	<0.005	0.1	0.057	0.071	0.06	0.106	0.257
Mercury (total), mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (total), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (total), mg/l	0.002	0.001	0.002	0.002	0.002	0.001	0.002	0.002
Selenium (total), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (total), mg/l	3.97	2.97	4.89	4.07	4.44	4.44	4.53	4.52
Silver (total), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (total), mg/l	0.107	0.164	0.137	0.175	0.129	0.143	0.18	0.158
Titanium (total), mg/l						<0.010	<0.010	<0.010
Uranium (total), mg/l	0.00014	0.00051	0.00019	0.00059	0.00023	0.00024	0.00041	0.00025
Vanadium (total), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (total), mg/l	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005
Dissolved Metals								
Aluminum (dissolved), mg/l	0.014	0.021	0.015	0.008	0.014	0.049	0.014	0.134
Antimony (dissolved), mg/l	0.0003	0.0002	0.0001	0.0006	0.0003	0.0004	<0.0001	0.0002
Arsenic (dissolved), mg/l	0.0005	0.0008	0.0004	0.0028	0.0007	0.0005	0.0007	0.0009
Barium (dissolved), mg/l	0.023	0.027	0.034	0.037	0.033	0.029	0.036	0.032
Beryllium (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bismuth (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Boron (dissolved), mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (dissolved), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium (dissolved), mg/l	27.3	34.1	25.2	33.6	36.1	40	47.4	45.2
Chromium (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved), mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (dissolved), mg/l	0.075	0.041	0.067	0.037	0.096	0.076	0.093	0.283
Lead (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (dissolved), mg/l	7.75	6.84	14.7	12.1	9.61	11.3	12.9	13
Manganese (dissolved), mg/l	0.023	<0.005	0.085	0.044	0.061	0.058	0.106	0.268
Molybdenum (dissolved), mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (dissolved), mg/l	<0.001	<0.001	0.002	<0.001	0.002	<0.001	0.002	0.001
Potassium (dissolved), mg/l	0.71	0.58	0.94	0.86	0.86	0.82	1.02	0.75
Selenium (dissolved), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (dissolved), mg/l	3.95	2.96	4.79	4.02	4.44	4.38	4.5	4.55
Silver (dissolved), mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium (dissolved), mg/l	1.12	1.32	1.53	1.64	1.4	1.66	1.81	1.83
Strontium (dissolved), mg/l	0.106	0.164	0.135	0.173	0.129	0.143	0.179	0.161
Titanium (dissolved), mg/l						<0.010	<0.010	<0.010
Uranium (dissolved), mg/l	0.00014	0.00032	0.00017	0.00053	0.00021	0.00024	0.0004	0.00024
Vanadium (dissolved), mg/l	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc (dissolved), mg/l	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.005	0.035
Organic Parameters								
Total Organic Carbon, mg/l					2.1	2.2	2.4	2.9

Station:	Sites W12 & W13 Water Quality Data				
Collected By:	NMML	NMML			
Date:	3-Jul-95	2-Aug-95			
Physical Parameters					
pH	7.86	7.69			
Electrical Conductivity, µmho/cm	257	208			
Total Dissolved Solids, mg/l	179	139			
Total Suspended Solids, mg/l	1	<1			
Hardness, $CaCO_3$ mg/l	142	104			
Turbidity, NTU	0.92	1.07			
Anions					
Alkalinity, $CaCO_3$ mg/l	107	68.5			
Chloride, mg/l	<0.5	0.6			
Fluoride, mg/l	0.1	0.08			
Sulphate (SO_4), mg/l	31.1	36.1			
Nutrients					
Ammonia Nitrogen (NH_4), mg/l	<0.005	<0.005			
Nitrate Nitrogen (NO_3), mg/l	0.112	0.037			
Nitrite Nitrogen (NO_2), mg/l	0.001	0.003			
Dissolved ortho-Phosphate, mg/l	0.009	0.003			
Total Dissolved Phosphate, mg/l	0.009	0.004			
Total Phosphorus, mg/l	0.015	0.007			
Cyanide					
Total Cyanide (CN^-), mg/l	0.004	0.009			
Total Metals					
Aluminum (total), mg/l	0.11	0.26			
Antimony (total), mg/l	<0.0001	0.0002			
Arsenic (total), mg/l	0.0203	0.0075			
Barium (total), mg/l	0.054	0.049			
Beryllium (total), mg/l	<0.005	<0.005			
Bismuth (total), mg/l	<0.10	<0.10			
Boron (total), mg/l	<0.10	<0.10			
Cadmium (total), mg/l	<0.0002	<0.0002			
Calcium (total), mg/l	31.8	33.7			
Chromium (total), mg/l	<0.001	<0.001			
Cobalt (total), mg/l	<0.001	<0.001			
Copper (total), mg/l	<0.001	0.001			
Iron (total), mg/l	<0.030	0.267			
Lead (total), mg/l	<0.001	<0.001			
Magnesium (total), mg/l	15.1	5.19			
Manganese (total), mg/l	<0.005	0.018			
Mercury (total), mg/l	<0.00001	<0.00001			
Molybdenum (total), mg/l	<0.001	<0.001			
Nickel (total), mg/l	<0.001	0.002			
Selenium (total), mg/l	<0.0005	<0.0005			
Silicon (total), mg/l	4.78	4.08			
Silver (total), mg/l	<0.0001	<0.0001			
Strontium (total), mg/l	0.236	0.115			
Titanium (total), mg/l	<0.010	<0.010			
Uranium (total), mg/l	0.00268	0.00035			
Vanadium (total), mg/l	<0.030	<0.030			
Zinc (total), mg/l	<0.005	<0.005			
Dissolved Metals					
Aluminum (dissolved), mg/l	0.05	0.07			
Antimony (dissolved), mg/l	<0.0001	0.0002			
Arsenic (dissolved), mg/l	0.0197	0.0061			
Barium (dissolved), mg/l	0.055	0.044			
Beryllium (dissolved), mg/l	<0.005	<0.005			
Bismuth (dissolved), mg/l	<0.10	<0.10			
Boron (dissolved), mg/l	<0.10	<0.10			
Cadmium (dissolved), mg/l	<0.0002	<0.0002			
Calcium (dissolved), mg/l	31.8	33.1			
Chromium (dissolved), mg/l	<0.001	<0.001			
Cobalt (dissolved), mg/l	<0.001	<0.001			
Copper (dissolved), mg/l	<0.001	<0.001			
Iron (dissolved), mg/l	<0.030	0.1			
Lead (dissolved), mg/l	<0.001	<0.001			
Magnesium (dissolved), mg/l	15.1	5.08			
Manganese (dissolved), mg/l	<0.005	0.01			
Molybdenum (dissolved), mg/l	<0.001	<0.001			
Nickel (dissolved), mg/l	<0.001	0.001			
Potassium (dissolved), mg/l	1.12	<0.01			
Selenium (dissolved), mg/l	<0.0005	<0.0005			
Silicon (dissolved), mg/l	4.77	3.95			
Silver (dissolved), mg/l	<0.0001	<0.0001			
Sodium (dissolved), mg/l	1.81	1.5			
Strontium (dissolved), mg/l	0.236	0.112			
Titanium (dissolved), mg/l	<0.010	<0.010			
Uranium (dissolved), mg/l	0.00266	0.00033			
Vanadium (dissolved), mg/l	<0.030	<0.030			
Zinc (dissolved), mg/l	<0.005	0.007			
Organic Parameters					
Total Organic Carbon, mg/l	2.9	8.5			

Water Quality Monitoring Data
Keno Valley Area

Station	South McQuesten R upstream Christal Cr (LES 1)						
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	740715	750606	750709	850709	850921	860425	860723
Physical Parameters							
pH			8.00	8.00	7.50		
pH (in Field)	7.80	7.90	8.00	8.40	8.10		
Conductivity, mircro<mho/cm				240.00	250.00		
Conductivity (in Field), mircro<mho/cm	153.00	100.00	165.00	170.00	165.00		
Total Suspended Solids, mg/L	<5		10.00	<5	<5		
Turbidity, NTU	0.70		0.01	0.45	0.16		
Dissolved Susspended Solids, mg/L							
Flow, L/s				5900.00	3300.00		
Temp., degrees Celcius	18.00	9.80	20.50	16.00	11.00	5.90	17.40
Hardness, $CaCO_3$, mg/L	100.00		100.00	132.00	136.00	154.00	128.00
Dissolved Oxygen	10.90	10.10	8.90	8.30	10.40		
Anions							
Alkalinity, CaCO3, mg/L			73.3	85.7	86.0		
Sulphate (SO4), mg/L				30.00	42.00	56.90	38.00
Nutrients							
Nitrite Nitrogen (NO2), mg/L				<0.005	<0.005		
Nitrate Nitrogen (NO3), mg/l				0.01	0.01		
N<NH3, mg/L				0.01	0.01		
Total Phosphorus, mg/L				0.007	<0.002		
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							0.05
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							

Station	South McQuesten R upstream Christal Cr (LES 1)						
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	740715	750606	750709	850709	850921	860425	860723
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)						0.01	0.02
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)	Ag			<0.03	<0.0005	<0.0005	
Arsenic (As)	As				<0.05	<0.05	
Boron (B)	B				0.011	0.019	
Barium (Ba)	Ba				0.044	0.044	
Beryllium (Be)	Be				<0.001	<0.001	
Calcium (Ca)	Ca	26.0		28.0	36.8	36.9	
Cadmium (Cd)	Cd	0.01		0.01	0.0014	0.0005	
Cobalt (Co)	Co				<0.005	<0.005	
Chromium (Cr)	Cr				<0.005	<0.005	
Copper (Cu)	Cu	0.01		0.01	0.003	0.001	
Iron (Fe)	Fe			0.18	0.199	0.103	
Magnesium (Mg)	Mg	9.17		8.00	9.7	10.4	
Manganese (Mn)	Mn	0.030			0.070	0.018	
Molybdenum (Mo)	Mo	0.1		0.3	<0.005	<0.005	
Sodium (Na)	Na				1.0	1.2	
Nickel (Ni)	Ni			<0.1	<0.02	<0.02	
Phosphorus (P)	P				<0.05	<0.05	
Lead (Pb)	Pb	0.02		0.02	0.018	0.001	
Antimony (Sb)	Sb			<0.3	<0.05	<0.05	
Selenium (Se)	Se				<0.05	<0.05	
Silicon (Si)	Si				1.3	1.8	
Tin (Sn)	Sn				<0.01	<0.03	
Stronium (Sr)	Sr				0.145	0.152	
Titanium (Ti)	Ti				<0.002	<0.002	
Vanadium (V)	V				<0.005	<0.005	
Zinc (Zn)	Zn	0.01		0.01	0.008	0.002	
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)	0.044	0.004	0.020	0.030	0.026	0.025	0.039
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)	0.009	0.014	0.022	0.029	0.033	0.007	0.015

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	860919	870409	870617	871029	871208	880413	880804
Physical Parameters							
pH							
pH (in Field)							
Conductivity, mircro<mho/cm							
Conductivity (in Field), mircro<mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	6.80	2.90	15.00	3.30		0.40	16.10
Hardness, $CaCO_3$, mg/L	129.00	188.00	170.00	161.00	172.00	177.00	127.00
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L	41.30	68.00		54.80	58.00	57.00	37.00
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)	0.03	0.02	0.03	0.04	0.03	0.04	0.02
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	860919	870409	870617	871029	871208	880413	880804
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.03	0.01	0.03	0.01	0.02	0.01	0.01
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)	0.017	0.024					
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)	0.007	0.009					

Station						
Collected By:	EPS	EPS	UKHM	UKHM	LES	UKHM
Sample Date	900724	900920	940531	940627	940726	940729
Physical Parameters						
pH		8.10	7.90	8.40	8.10	8.20
pH (in Field)	8.27		8.25	7.92	8.43	8.80
Conductivity, mircro<mho/cm	272.00		200.00	200.00	260.00	200.00
Conductivity (in Field), mircro<mho/cm	222.00	168.00			246.00	
Total Suspended Solids, mg/L	<10	<10	8.00	4.00	< 5.	0.00
Turbidity, NTU	0.20	0.20				
Dissolved Susspended Solids, mg/L			210.00	222.00	179.00	185.00
Flow, L/s					2964.70	
Temp., degrees Celcius	17.40	6.80	8.60	12.00	18.20	17.00
Hardness, $CaCO_3$, mg/L	131.00	131.00				
Dissolved Oxygen	9.11	10.80			8.50	
Anions						
Alkalinity, CaCO3, mg/L	94	89			88	
Sulphate (SO4), mg/L	38.00	41.3			45.5	
Nutrients						
Nitrite Nitrogen (NO2), mg/L	<0.002	<0.002				
Nitrate Nitrogen (NO3), mg/l	0.01	0.03				
N<NH3, mg/L	0.01	0.006			0.06	
Total Phosphorus, mg/L	0.003	0.005				
Total Metals (mg/L)						
Silver (Ag)					< 0.0001	
Aluminum (Al)					0.1	
Arsenic (As)					< 0.02	
Barium (Ba)					0.0503	
Beryllium (Be)					< 0.0002	
Bismuth (Bi)					< 0.02	
Calcium (Ca)					38.8	
Cadmium (Cd)					< 0.0005	
Cobalt (Co)					< 0.001	
Chromium (Cr)					< 0.001	
Copper (Cu)					0.009	
Iron (Fe)					0.135	
Potassium (K)					0.3	
Lithium (Li)					< 0.002	
Magnesium (Mg)	0.03				11	
Manganese (Mn)					0.036	
Molybdenum (Mo)					< 0.005	
Sodium (Na)					1.3	
Nickel (Ni)					0.005	
Lead (Pb)					< 0.001	
Sulphur (S)					16.2	
Antimony (Sb)					< 0.02	
Selenium (Se)					< 0.001	
Silicon (Si)					1.52	
Tin (Sn)					< 0.01	
Stronium (Sr)					0.17	

Station						
Collected By:	EPS	EPS	UKHM	UKHM	LES	UKHM
Sample Date	900724	900920	940531	940627	940726	940729
Titanium (Ti)					< 0.001	
Vanadium (V)					< 0.002	
Zinc (Zn)					0.013	
Zirconium (Zr)					< 0.001	
					< 0.0001	
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)			0.000	0.040		0.000
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)			0.000	0.000		0.010
Iron (Fe)			0.02	0.04		0.46
Magnesium (Mg)		10.7			0.116	
Manganese (Mn)		0.025	0.27	0.03	10.6	0.21
Molybdenum (Mo)		<0.01			0.024	
Sodium (Na)		1.4			<0.01	
Nickel (Ni)		<0.02			1.1	
Phosphorus (P)		<0.1			<0.02	
Lead (Pb)		0.0006	0.070	0.010	<0.1	0.050
Antimony (Sb)		<0.05			0.0008	
Selenium (Se)		<0.05			<0.05	
Silicon (Si)		1.63			<0.05	
Tin (Sn)		<0.05			1.90	
Stronium (Sr)		0.163			<0.05	
Titanium (Ti)		<0.002			0.148	
Vanadium (V)		<0.01			<0.002	
Zinc (Zn)		0.003	0.03	0.04	<0.01	0.03
Dissolved Metals						
Silver (Ag)					< 0.0001	
Aluminum (Al)					0.08	
Arsenic (As)					< 0.02	
Barium (Ba)					0.0488	
Calcium (Ca)					38.4	
Cadmium (Cd)					0.0005	
Copper (Cu)					0.002	
Magnesium (Mg)					10.9	
Iron (Fe)					0.041	
Molybdenum (Mo)					< 0.005	
Sodium (Na)					1.24	
Lead (Pb)					0.001	
Antimony (Sb)					< 0.02	
Selenium (Se)					< 0.001	
Zinc (Zn)					0.008	

Station						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	940907	941027	941031	941129	950101	950206
Physical Parameters						
pH	8.00	8.00	8.40	7.35	7.60	7.10
pH (in Field)	8.25	7.92	7.46			
Conductivity, mircro<mho/cm			190.00	320.00	480.00	550.00
Conductivity (in Field), mircro<mho/cm	262.00	184.00				
Total Suspended Solids, mg/L	<5	< 5.	4.00	28.00	0.00	0.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	210.00	222.00	200.00			
Flow, L/s	1585.70					
Temp., degrees Celcius	9.00	0.20	0.50	0.50	0.50	0.50
Hardness, $CaCO_3$, mg/L						
Dissolved Oxygen	13.70	11.00				
Anions						
Alkalinity, CaCO3, mg/L	93	111				
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)	<0.001	< 0.001				
Aluminum (Al)	0.05	0.03				
Arsenic (As)	<0.02	< 0.02				
Barium (Ba)	0.0469	0.0494				
Beryllium (Be)	<0.0002	< 0.0002				
Bismuth (Bi)	<0.02	< 0.02				
Calcium (Ca)	38.6	42.9				
Cadmium (Cd)	<0.0005	< 0.0005				
Cobalt (Co)	<0.001	< 0.001				
Chromium (Cr)	<0.001	< 0.001				
Copper (Cu)	0.005	0.009				
Iron (Fe)	0.173	0.163				
Potassium (K)	0.4	0.3				
Lithium (Li)	<0.002	0.004				
Magnesium (Mg)	12.5	12.7				
Manganese (Mn)		0.031				
Molybdenum (Mo)	<0.005	< 0.005				
Sodium (Na)	1.55	1.65				
Nickel (Ni)	0.005	0.003				
Lead (Pb)	<0.01	< 0.01				
Sulphur (S)	17.9	17.4				
Antimony (Sb)	<0.02	< 0.02				
Selenium (Se)	<0.02	< 0.02				
Silicon (Si)	1.72	1.82				
Tin (Sn)	<0.01	< 0.01				
Stronium (Sr)	0.17	0.18				

Station						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	940907	941027	941031	941129	950101	950206
Titanium (Ti)	<0.001	0.002				
Vanadium (V)	<0.002	0.005				
Zinc (Zn)	0.011	0.011				
Zirconium (Zr)	<0.001	< 0.001				
	<0.001	< 0.001				
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)			0.001	0.001	0.001	0.001
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)			0.002	0.002	0.002	0.002
Iron (Fe)			0.40	0.60	0.60	0.40
Magnesium (Mg)						0.19
Manganese (Mn)			0.32	0.10	0.12	0.005
Molybdenum (Mo)						0.05
Sodium (Na)						
Nickel (Ni)						
Phosphorus (P)						
Lead (Pb)			0.005	0.010	0.005	
Antimony (Sb)					0.12	
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)			0.01	0.03		
Dissolved Metals						
Silver (Ag)	<0.001	< 0.001				
Aluminum (Al)	0.03	0.02				
Arsenic (As)	<0.02	< 0.02				
Barium (Ba)	0.0465	0.0469				
Calcium (Ca)	38.5	38.6				
Cadmium (Cd)	0.0005	0.0005				
Copper (Cu)	0.003	0.006				
Magnesium (Mg)	12.5	11.6				
Iron (Fe)	0.099	0.073				
Molybdenum (Mo)	<0.005	< 0.005				
Sodium (Na)	1.53	1.5				
Lead (Pb)	0.010	0.010				
Antimony (Sb)	<0.02	< 0.02				
Selenium (Se)	<0.02	< 0.02				
Zinc (Zn)	0.011	0.01				

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	950329	950427	950503	950606	950710	950811	950903
Physical Parameters							
pH	7.00	7.48	7.31	7.20	8.10	8.05	8.14
pH (in Field)					8.80		
Conductivity, mircro<mho/cm	530.00	280.00	215.00	175.00	250.00	195.00	180.00
Conductivity (in Field), mircro<mho/cm					295.00		
Total Suspended Solids, mg/L	0.00	4.00	44.00	12.00	< 5.	14.00	8.00
Turbidity, NTU							
Dissolved Susspended Solids, mg/L					185.00		
Flow, L/s					3402.90		
Temp., degrees Celcius	1.00	2.00	1.00	13.00	18.00	14.00	11.00
Hardness, $CaCO_3$, mg/L							
Dissolved Oxygen					8.40		
Anions							
Alkalinity, CaCO3, mg/L					78		
Sulphate (SO4), mg/L					53.6		
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)					< 0.001		
Aluminum (Al)					0.1		
Arsenic (As)					< 0.02		
Barium (Ba)					0.0466		
Beryllium (Be)					< 0.0002		
Bismuth (Bi)					< 0.02		
Calcium (Ca)					36		
Cadmium (Cd)					< 0.0005		
Cobalt (Co)					< 0.001		
Chromium (Cr)					< 0.001		
Copper (Cu)					0.013		
Iron (Fe)					0.206		
Potassium (K)					< 0.2		
Lithium (Li)					0.003		
Magnesium (Mg)					11.2		
Manganese (Mn)					0.042		
Molybdenum (Mo)					< 0.005		
Sodium (Na)					1.49		
Nickel (Ni)					0.007		
Lead (Pb)					< 0.01		
Sulphur (S)					15.5		
Antimony (Sb)					< 0.02		
Selenium (Se)					< 0.02		
Silicon (Si)					1.59		
Tin (Sn)					< 0.01		
Stronium (Sr)					0.16		

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	950329	950427	950503	950606	950710	950811	950903
Titanium (Ti)					< 0.001		
Vanadium (V)					< 0.002		
Zinc (Zn)					0.029		
Zirconium (Zr)					< 0.001		
					< 0.001		
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.001	0.001	0.001	0.001		0.001	0.001
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.002	0.002	0.002	0.002		0.002	0.002
Iron (Fe)	0.20	0.40	1.40	0.20		0.20	0.2
Magnesium (Mg)	0.19	0.07	0.14	0.05		0.04	0.036
Manganese (Mn)	0.005	0.030	0.005	0.005		0.010	0.005
Molybdenum (Mo)	0.04	0.02	0.05	0.04		0.04	0.03
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Dissolved Metals							
Silver (Ag)					< 0.001		
Aluminum (Al)					0.08		
Arsenic (As)					< 0.02		
Barium (Ba)					0.0449		
Calcium (Ca)					35.6		
Cadmium (Cd)					0.0005		
Copper (Cu)					0.01		
Magnesium (Mg)					11.1		
Iron (Fe)					0.039		
Molybdenum (Mo)					< 0.005		
Sodium (Na)					1.49		
Lead (Pb)					0.010		
Antimony (Sb)					< 0.02		
Selenium (Se)					< 0.02		
Zinc (Zn)					0.029		

Station	
Collected By:	LES
Sample Date	950906
Physical Parameters	
pH	7.90
pH (in Field)	7.46
Conductivity, mircro<mho/cm	250.00
Conductivity (in Field), mircro<mho/cm	243.00
Total Suspended Solids, mg/L	< 5.
Turbidity, NTU	
Dissolved Susspended Solids, mg/L	200.00
Flow, L/s	4316.40
Temp., degrees Celcius	7.60
Hardness, $CaCO_3$, mg/L	
Dissolved Oxygen	
Anions	
Alkalinity, CaCO3, mg/L	82
Sulphate (SO4), mg/L	50.00
Nutrients	
Nitrite Nitrogen (NO2), mg/L	< 1.
Nitrate Nitrogen (NO3), mg/l	< 0.5
N<NH3, mg/L	
Total Phosphorus, mg/L	
Total Metals (mg/L)	
Silver (Ag)	
Aluminum (Al)	
Arsenic (As)	
Barium (Ba)	
Beryllium (Be)	
Bismuth (Bi)	
Calcium (Ca)	
Cadmium (Cd)	
Cobalt (Co)	
Chromium (Cr)	
Copper (Cu)	
Iron (Fe)	
Potassium (K)	
Lithium (Li)	
Magnesium (Mg)	
Manganese (Mn)	
Molybdenum (Mo)	
Sodium (Na)	
Nickel (Ni)	
Lead (Pb)	
Sulphur (S)	
Antimony (Sb)	
Selenium (Se)	
Silicon (Si)	
Tin (Sn)	
Stronium (Sr)	

Station	
Collected By:	LES
Sample Date	950906
Titanium (Ti)	
Vanadium (V)	
Zinc (Zn)	
Zirconium (Zr)	
Extractable Metals	
Silver (Ag)	
Arsenic (As)	
Boron (B)	
Barium (Ba)	
Beryllium (Be)	
Calcium (Ca)	
Cadmium (Cd)	
Cobalt (Co)	
Chromium (Cr)	
Copper (Cu)	
Iron (Fe)	
Magnesium (Mg)	
Manganese (Mn)	
Molybdenum (Mo)	
Sodium (Na)	
Nickel (Ni)	
Phosphorus (P)	
Lead (Pb)	
Antimony (Sb)	
Selenium (Se)	
Silicon (Si)	
Tin (Sn)	
Stronium (Sr)	
Titanium (Ti)	
Vanadium (V)	
Zinc (Zn)	
Dissolved Metals	
Silver (Ag)	< 0.001
Aluminum (Al)	0.08
Arsenic (As)	< 0.02
Barium (Ba)	0.0458
Calcium (Ca)	38.3
Cadmium (Cd)	0.0005
Copper (Cu)	0.003
Magnesium (Mg)	12.5
Iron (Fe)	0.048
Molybdenum (Mo)	< 0.005
Sodium (Na)	1.35
Lead (Pb)	0.005
Antimony (Sb)	< 0.02
Selenium (Se)	< 0.02
Zinc (Zn)	0.026

Station	South McQuesten R downstream Christal Cr (LES 1b)	
Collected By:	EPS	EPS
Sample Date	97/05/22	98/06/11
Physical Parameters		
pH (in Field)	7.74	7.92
Conductivity (in Field), mircro<mho/cm	129	265
Total Suspended Solids, mg/L	32	7
Tota Hardness, mg/L	63.9	130
Anions		
Alkalinity, CaCO3, mg/L	47.0	95.1
Sulphate (SO4), mg/L	18	45
Nutrients		
Nitrite Nitrogen (NO2), mg/L	<0.005	<0.005
Nitrate Nitrogen (NO3), mg/l	0.006	0.014
N<NH3, mg/L	0.013	0.01
Total Phosphorus, mg/L	0.012	0.002
Total Metals (mg/L)		
Manganese (Mn)	0.102	0.084
Zinc (Zn)	0.056	0.053
Dissolved Metals		
Silver (Ag)	<.01	<.01
Arsenic (As)	<.05	<.05
Barium (Ba)	0.026	0.042
Calcium (Ca)	<.005	<.005
Cadmium (Cd)	<.005	<.005
Copper (Cu)	<.005	<.005
Iron (Fe)	0.187	0.059
Molybdenum (Mo)	<.01	<.01
Sodium (Na)	0.5	0.9
Lead (Pb)	<.05	<.05
Antimony (Sb)	<.05	<.05
Selenium (Se)	<.05	<.05
Zinc (Zn)	0.035	0.032

Station	South McQuesten R @ Pumphouse (LES 2, UKHM S-10)						
Collected By:	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND
Sample Date	69/7/15	70/1/31	70/2/28	70/3/31	70/5/19	70/6/11	70/7/16
Physical Parameters							
pH	7.90	7.90	8.30	8.10	7.20	7.70	7.90
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	14.0						
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L	132	162	204				126
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L	91	102	149	163	45	74	93
Sulphate (SO4), mg/L	40.0	62.0	58.5	57.9	43.0	28.0	37.5
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station	South McQuesten R @ Pumphouse (LES 2, UKHM S-10)						
Collected By:	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND
Sample Date	69/7/15	70/1/31	70/2/28	70/3/31	70/5/19	70/6/11	70/7/16
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.001	0.01	0.01	0.02	0.01	0.01	0.01
Iron (Fe)	0.24	0.17	0.14	0.1	0.53	0.73	0.13
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.04	0.03	0.01		0.04	0.01
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.05	0.01	0.02	0.05	0.13	0.13	0.06
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND
Sample Date	71/2/26	71/3/26	73/6/23	73/7/17	73/7/28	73/8/6	73/8/14
Physical Parameters							
pH	8.20		7.60	8.10	8.10	7.80	7.90
pH (in Field)							
Conductivity, mircro-mho/cm			187	206	1000	224	199
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L			15	41	6		
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius			12.5		19.0	6.5	
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L			97.9	110	535	125	107
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L			70.8	78	79.4	90.2	75
Sulphate (SO4), mg/L			24.5	27.2	437.0	31.5	29.2
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND
Sample Date	71/2/26	71/3/26	73/6/23	73/7/17	73/7/28	73/8/6	73/8/14
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)			0.009	<0.005			
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.002		0.002	0.005	0.12	0.002	0.004
Iron (Fe)	0.14	0.17	0.47	0.34	0.48	0.41	0.37
Magnesium (Mg)							
Manganese (Mn)							0.11
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)		0.02	0.008	0.001	0.2	0.013	0.003
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.04	0.57	0.06	0.04	1.08	0.03	0.1
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND
Sample Date	73/9/4	73/10/31	73/12/8	74/3/12	74/4/4	74/6/11	74/7/3
Physical Parameters							
pH	8.00	8.50	7.90	7.80	7.80	7.80	8.10
pH (in Field)							
Conductivity, mircro-mho/cm	223	264	347	637	1340	212	227
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius					2.0		
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L	118	149	181	549	776	112	119
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L	85.3	102	131	228	502	82.8	86.3
Sulphate (SO4), mg/L	29.4	35.3	48.9	129.0	308.0	25.0	28.6
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND	DIAND
Sample Date	73/9/4	73/10/31	73/12/8	74/3/12	74/4/4	74/6/11	74/7/3
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)			0.005	<0.005	<0.005		
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.001	0.001	0.013	0.004	0.002	0.002	0.001
Iron (Fe)	0.4	0.13	1.8	0.85	0.44	0.28	0.15
Magnesium (Mg)							
Manganese (Mn)	0.05	0.03	0.32	0.21	1.1	0.03	0.02
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.004	0.001	0.12	0.001	0.001	0.004	0.001
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.035	0.02	0.16	0.008	0.009	0.002	0.017
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	DIAND	DIAND	DIAND	UKHM	DIAND	UKHM	UKHM
Sample Date	74/8/14	74/9/5	74/12/4	75/1/7	75/1/22	75/2/18	75/3/24
Physical Parameters							
pH	8.00	8.00	7.8	7.05	8.00	7.10	6.90
pH (in Field)							
Conductivity, mircro-mho/cm	217	255	664		411		
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L						1	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius			0.0	1.0		1.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L	115	135	339		217		
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L	83.5	95.5	132		163		
Sulphate (SO4), mg/L	28.7	36.0	172		53.8		
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	DIAND	DIAND	DIAND	UKHM	DIAND	UKHM	UKHM
Sample Date	74/8/14	74/9/5	74/12/4	75/1/7	75/1/22	75/2/18	75/3/24
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)						<0.002	<0.002
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)				0.010		0.010	0.01
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.006	0.001	<0.001	0.010	<0.001	0.010	0.01
Iron (Fe)	0.15	0.13	1.2	0.13	0.18	0.24	0.32
Magnesium (Mg)							
Manganese (Mn)	0.04	0.03	0.12		0.05		
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.001	0.001	0.001	0.1	0.001	0.1	0.1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.03	0.02	<0.001	0.01	0.02	0.010	0.15
Dissolved Metals							
Silver (Ag)				< 0.001			
Aluminum (Al)				0.06			
Arsenic (As)				< 0.02			
Barium (Ba)				0.0507			
Calcium (Ca)				43.4			
Cadmium (Cd)				< 0.001			
Copper (Cu)				0.003			
Magnesium (Mg)				13.2			
Iron (Fe)				0.035			
Molybdenum (Mo)				< 0.005			
Sodium (Na)				1.62			
Lead (Pb)				0.005			
Antimony (Sb)				< 0.02			
Selenium (Se)				< 0.02			
Zinc (Zn)				0.038			

Station							
Collected By:	UKHM	DIAND	UKHM	DIAND	UKHM	DIAND	UKHM
Sample Date	75/4/21	75/5/8	75/5/30	75/6/19	75/6/24	75/7/16	75/7/16
Physical Parameters							
pH	6.90	7.90	7.10	7.90	7.00	8.10	7.55
pH (in Field)							
Conductivity, mircro-mho/cm		205		184		204	
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	31		45		19	<5	3
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	2.0		6.0	15.0	14.0		18.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L		99		100		111	
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L		68		69		80	
Sulphate (SO4), mg/L		38.0		26.0			
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	DIAND	UKHM	DIAND	UKHM	DIAND	UKHM
Sample Date	75/4/21	75/5/8	75/5/30	75/6/19	75/6/24	75/7/16	75/7/16
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)						<0.005	
Arsenic (As)			0.005		<0.002	<0.0005	<0.001
Boron (B)							
Barium (Ba)						0.13	
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010		0.010		0.010	0.0002	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.001	0.01	0.001	0.010	0.001	0.01
Iron (Fe)	0.42	0.39	0.30	0.29	0.25	0.13	0.07
Magnesium (Mg)							
Manganese (Mn)		0.09		0.02		0.03	
Molybdenum (Mo)						0.0006	
Sodium (Na)							
Nickel (Ni)						<0.001	
Phosphorus (P)							
Lead (Pb)	0.1	0.016	0.1	0.006	0.1	0.002	0.1
Antimony (Sb)							
Selenium (Se)						<0.0005	
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.01	0.06	0.010	0.02	0.06	0.021	0.10
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	75/8/15	75/9/16	75/10/15	75/11/17	76/4/20	76/5/17	76/6/16
Physical Parameters							
pH	7.60	7.70	8.00	7.50	7.00	8.00	8.10
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	1	5	10	5	4	3
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	13.0	8.0	2.0	2.0	1.0	5.0	17.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	75/8/15	75/9/16	75/10/15	75/11/17	76/4/20	76/5/17	76/6/16
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)	<0.002	<0.002	<0.002	<0.002	<0.004	<0.02	<0.004
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.02	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.03	0.1	0.10	0.10	0.1	0.1	0.1
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.20	0.09	0.04	0.05	0.010	0.06	0.03
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	DIAND
Sample Date	76/7/15	76/8/17	76/9/16	76/10/14	76/11/16	76/12/21	78/5/30
Physical Parameters							
pH	8.05	8.05	8.00	7.70	7.80	7.70	7.70
pH (in Field)							
Conductivity, mircro-mho/cm							210
Conductivity (in Field), mircro-mho/cm							110
Total Suspended Solids, mg/L	12	8	4	3	5	2	<5
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	17.0	11.0	7.0	2.0	6.0	4.0	4.5
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							104
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							76
Sulphate (SO4), mg/L							29.0
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							0.01
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	DIAND
Sample Date	76/7/15	76/8/17	76/9/16	76/10/14	76/11/16	76/12/21	78/5/30
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							<0.005
Arsenic (As)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0010
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							31.7
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010	0.0005
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.002
Iron (Fe)	0.1	0.1	0.1	0.1	0.1	0.1	0.47
Magnesium (Mg)							6.0
Manganese (Mn)							0.07
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.1	0.1	0.1	0.1	0.1	0.1	0.006
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.04	0.04	0.02	0.03	0.04	0.05
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station								
Collected By:	DIAND	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	78/7/11	79/1/1	79/2/1	79/3/1	79/4/1	79/5/1	79/6/1	79/7/1
Physical Parameters								
pH		7.60	7.80	7.46	7.40	7.28	7.82	8.01
pH (in Field)								
Conductivity, mircro-mho/cm								
Conductivity (in Field), mircro-mho/cm	285							
Total Suspended Solids, mg/L		15	17	6	4	32	4	3
Turbidity, NTU								
Dissolved Susspended Solids, mg/L								
Flow, L/s								
Temp., degrees Celcius	21.0	4.0	2.0	2.0	3.0	9.0	15.0	17.0
Hardness, $CaCO_3$, mg/L								
Tota Hardness, mg/L								
Dissolved Oxygen								
LC50								
Anions								
Alkalinity, CaCO3, mg/L								
Sulphate (SO4), mg/L								
Nutrients								
Nitrite Nitrogen (NO2), mg/L								
Nitrate Nitrogen (NO3), mg/l								
N-NH3, mg/L								
Total Phosphorus, mg/L								
Total Metals (mg/L)								
Silver (Ag)								
Aluminum (Al)								
Arsenic (As)								
Boron (B)								
Barium (Ba)								
Beryllium (Be)								
Bismuth (Bi)								
Calcium (Ca)								
Cadmium (Cd)								
Cobalt (Co)								
Chromium (Cr)								
Copper (Cu)								
Iron (Fe)								
Mercury (Hg)								
Potassium (K)								
Lithium (Li)								
Magnesium (Mg)								
Manganese (Mn)								
Molybdenum (Mo)								
Sodium (Na)								
Nickel (Ni)								
Lead (Pb)								
Sulphur (S)								
Antimony (Sb)								
Selenium (Se)								
Silicon (Si)								

Station								
Collected By:	DIAND	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	78/7/11	79/1/1	79/2/1	79/3/1	79/4/1	79/5/1	79/6/1	79/7/1
Tin (Sn)								
Stronium (Sr)								
Tellurium (Te)								
Titanium (Ti)								
Thallium (Tl)								
Vanadium (V)								
Zinc (Zn)								
Zirconium (Zr)								
Extractable Metals								
Silver (Ag)								
Arsenic (As)		<0.002	<0.002	<0.002	0.008	0.008	0.005	0.005
Boron (B)								
Barium (Ba)								
Beryllium (Be)								
Calcium (Ca)								
Cadmium (Cd)		0.010	0.01	0.010	0.010	0.010	0.01	0.01
Cobalt (Co)								
Chromium (Cr)								
Copper (Cu)		0.010	0.01	0.010	0.010	0.010	0.01	0.01
Iron (Fe)		0.010	0.01	0.010	0.010	0.08	0.21	0.01
Magnesium (Mg)								
Manganese (Mn)								
Molybdenum (Mo)								
Sodium (Na)								
Nickel (Ni)								
Phosphorus (P)								
Lead (Pb)		0.010	0.01	0.010	0.010	0.010	0.13	0.14
Antimony (Sb)								
Selenium (Se)								
Silicon (Si)								
Tin (Sn)								
Stronium (Sr)								
Titanium (Ti)								
Vanadium (V)								
Zinc (Zn)		0.010	0.01	0.010	0.010	0.010	0.01	0.01
Dissolved Metals								
Silver (Ag)								
Aluminum (Al)								
Arsenic (As)								
Barium (Ba)								
Calcium (Ca)								
Cadmium (Cd)								
Copper (Cu)								
Magnesium (Mg)								
Iron (Fe)								
Molybdenum (Mo)								
Sodium (Na)								
Lead (Pb)								
Antimony (Sb)								
Selenium (Se)								
Zinc (Zn)								

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	79/8/1	79/9/1	79/10/1	79/11/1	79/12/1	80/1/15	80/2/18
Physical Parameters							
pH	7.87	8.01	7.77	7.62	7.99	7.62	7.46
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	7	6	3	7	9	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	12.0	8.0	4.0	3.0	4.0	3.0	3.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	79/8/1	79/9/1	79/10/1	79/11/1	79/12/1	80/1/15	80/2/18
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)	<0.002	<0.002	<0.002		0.002	0.002	<0.002
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.01	0.01	0.010	0.01	0.01	0.01	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.01	0.010	0.01	0.01	0.01	0.010
Iron (Fe)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.01	0.010	0.01	0.01	0.01	0.010
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	80/3/18	80/4/16	80/5/16	80/6/18	80/7/17	80/8/29	80/9/29
Physical Parameters							
pH	7.71	7.35	7.85	7.80	7.08	7.62	7.79
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	5	6	11	1	3	5
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	3.0	3.0	9.0		8.0	10.0	4.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	80/3/18	80/4/16	80/5/16	80/6/18	80/7/17	80/8/29	80/9/29
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)	0.002	0.002	0.002	0.002	<0.002	0.002	<0.002
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Iron (Fe)	0.01	0.01	0.13	0.07	0.03	0.04	0.01
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.010	0.01	0.01	0.01	0.01	0.01	0.06
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	80/10/30	80/11/24	80/12/16	81/10/19	81/11/16	82/1/18
Physical Parameters						
pH	7.99	7.96	7.83	7.30	7.62	7.45
pH (in Field)						
Conductivity, mircro-mho/cm						
Conductivity (in Field), mircro-mho/cm						
Total Suspended Solids, mg/L	8	5	5	4	3	6
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s						
Temp., degrees Celcius	13.0	4.0	4.0	0.1	0.1	3.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
LC50						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	80/10/30	80/11/24	80/12/16	81/10/19	81/11/16	82/1/18
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)	<0.002	0.002	0.005			
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.01	0.01	0.01	0.010	0.010	0.010
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	0.01	0.010	0.010	0.010
Iron (Fe)	0.01	0.01	0.01	0.020	0.230	0.010
Magnesium (Mg)						
Manganese (Mn)				0.000	0.000	0.000
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Phosphorus (P)						
Lead (Pb)	0.01	0.01	0.01	0.01	0.01	0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.01	0.01	0.01	0.010	0.010	0.010
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Magnesium (Mg)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	82/2/17	82/3/18	82/4/12	82/4/26	82/5/25	82/6/17	82/7/19
Physical Parameters							
pH	7.73	8.61	7.71	7.69	8.08	7.75	7.86
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	7	5	6	3	5	5	6
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.1	0.0	3.0	0.0	4.0	10.0	14.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	82/2/17	82/3/18	82/4/12	82/4/26	82/5/25	82/6/17	82/7/19
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.020	0.010	0.010	0.010	0.010	0.010	0.020
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.310	0.220	0.010	0.040	0.200	0.060	0.010
Magnesium (Mg)							
Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.010	0.010	0.010	0.040	0.010	0.010
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	82/8/11	82/9/28	82/10/20	82/11/23	82/12/6	83/1/27	83/2/7
Physical Parameters							
pH	7.98	7.97	8.01	8.33	8.33	7.67	7.71
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	2	3	2	6	5	2	3
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.0	8.0	5.0	4.0	6.0	0.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	82/8/11	82/9/28	82/10/20	82/11/23	82/12/6	83/1/27	83/2/7
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.120	0.010	0.010	0.010	0.040	0.010	0.070
Magnesium (Mg)							
Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.01	0.01	0.010	0.010	0.01	0.010
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.020	0.010	0.010	0.010	0.010	0.010	0.010
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM
Sample Date	83/3/28	83/4/11	83/5/27	83/7/27	83/8/25	83/9/22	83/9/22
Physical Parameters							
pH	7.64	7.61	7.54	8.02	8.21	8.10	8.13
pH (in Field)							
Conductivity, mircro-mho/cm						291	
Conductivity (in Field), mircro-mho/cm						180	
Total Suspended Solids, mg/L	4	3	6	10	10	<5	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.0	2.0	0.0	0.0	12.0	6.0	0.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L						156	
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L						98	
Sulphate (SO4), mg/L						48.0	
Nutrients							
Nitrite Nitrogen (NO2), mg/L						0.03	
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L						0.011	
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM
Sample Date	83/3/28	83/4/11	83/5/27	83/7/27	83/8/25	83/9/22	83/9/22
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)						<0.0005	
Arsenic (As)						<0.05	
Boron (B)							
Barium (Ba)						0.052	
Beryllium (Be)						<0.001	
Calcium (Ca)						42.8	
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.002	0.010
Cobalt (Co)						<0.005	
Chromium (Cr)						0.005	
Copper (Cu)	0.010	0.010	0.010	0.080	0.010	0.005	0.010
Iron (Fe)	0.070	0.010	0.100	0.010	0.270	0.119	0.020
Magnesium (Mg)						11.8	
Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.038	0.000
Molybdenum (Mo)						<0.005	
Sodium (Na)						1.3	
Nickel (Ni)						<0.02	
Phosphorus (P)							
Lead (Pb)	0.01	0.010	0.01	0.01	0.01	0.02	0.010
Antimony (Sb)						<0.05	
Selenium (Se)						<0.05	
Silicon (Si)						2.1	
Tin (Sn)						<0.01	
Stronium (Sr)						0.162	
Titanium (Ti)						<0.002	
Vanadium (V)						<0.01	
Zinc (Zn)	0.010	0.010	0.010	0.010	0.020	0.062	0.020
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	83/10/27	83/12/15	84/1/6	84/1/26	84/3/28	84/4/30	84/6/4
Physical Parameters							
pH	7.89		7.66	7.63	7.43	7.95	7.58
pH (in Field)							
Conductivity, mircro-mho/cm			370				
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	6	7	11	0	5	8	6
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	1.0	0.1	0.0	0.0	0.0	1.0	11.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	83/10/27	83/12/15	84/1/6	84/1/26	84/3/28	84/4/30	84/6/4
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.020	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.030	0.600	0.420	0.080	0.200	0.340	0.080
Magnesium (Mg)							
Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.050	0.050	0.010	0.030	0.040	0.040
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
Sample Date	84/6/27	84/7/25	84/9/27	84/11/3	85/5/23	85/5/29	85/6/26
Physical Parameters							
pH	7.68	7.03	7.50	7.82	7.40	8.13	7.89
pH (in Field)							
Conductivity, mircro-mho/cm					155		
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	4	6	3	52	20	12
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	17.0	0.0	0.0	0.0		0.0	0.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L					104		
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L					50		
Sulphate (SO4), mg/L					24.0		
Nutrients							
Nitrite Nitrogen (NO2), mg/L					<0.005		
Nitrate Nitrogen (NO3), mg/l					0.015		
N-NH3, mg/L					0.01		
Total Phosphorus, mg/L					0.060		
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)					0.003		
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)					0.006		
Iron (Fe)					2.69		
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)					0.327		
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)					0.07		
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
Sample Date	84/6/27	84/7/25	84/9/27	84/11/3	85/5/23	85/5/29	85/6/26
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)					0.178		
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)					<0.05		
Boron (B)					0.004		
Barium (Ba)					0.05		
Beryllium (Be)					<0.001		
Calcium (Ca)					24.1		
Cadmium (Cd)	0.010	0.010	0.010	0.040	0.002	0.010	0.010
Cobalt (Co)					<0.005		
Chromium (Cr)					<0.005		
Copper (Cu)	0.010	0.010	0.010	0.020	0.005	0.010	0.010
Iron (Fe)	0.250	0.000	0.010	0.010	1.35	0.560	0.250
Magnesium (Mg)					6.3		
Manganese (Mn)	0.000	0.000	0.000	0.000	0.327	0.000	0.000
Molybdenum (Mo)					<0.005		
Sodium (Na)					0.8		
Nickel (Ni)					<0.02		
Phosphorus (P)							
Lead (Pb)	0.010	0.010	0.010	0.010	0.06	0.010	0.01
Antimony (Sb)					<0.05		
Selenium (Se)					<0.05		
Silicon (Si)					0.2		
Tin (Sn)					<0.01		
Stronium (Sr)					0.085		
Titanium (Ti)					0.009		
Vanadium (V)					<0.005		
Zinc (Zn)	0.060	0.010	0.020	0.130	0.172	0.070	0.010
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM	EPS
Sample Date	85/7/31	85/9/6	85/10/17	85/11/27	85/11/27	86/2/4	86/4/25
Physical Parameters							
pH	8.16	7.98	8.00	7.90	7.60	7.67	
pH (in Field)							
Conductivity, mircro-mho/cm				415	340	390	
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	1	1	1	7	1	1	
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.0	6.0	0.0		0.0	0.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L				213			172
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L				144			
Sulphate (SO4), mg/L				74.0			69.0
Nutrients							
Nitrite Nitrogen (NO2), mg/L				<0.005			
Nitrate Nitrogen (NO3), mg/l				0.149			
N-NH3, mg/L				0.037			
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							0.143
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM	EPS
Sample Date	85/7/31	85/9/6	85/10/17	85/11/27	85/11/27	86/2/4	86/4/25
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							0.121
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)				<0.05			
Boron (B)				0.008			
Barium (Ba)				0.068			
Beryllium (Be)				<0.001			
Calcium (Ca)				55.1			
Cadmium (Cd)	0.020	0.010	0.010	0.002	0.010	0.010	
Cobalt (Co)				<0.005			
Chromium (Cr)				<0.005			
Copper (Cu)	0.010	0.010	0.010	0.005	0.020	0.010	
Iron (Fe)	0.130	0.110	0.010	0.091	0.080	0.300	
Magnesium (Mg)				18.1			
Manganese (Mn)	0.000	0.000	0.000	0.27	0.000	0.000	
Molybdenum (Mo)				<0.005			
Sodium (Na)				4.6			
Nickel (Ni)				<0.02			
Phosphorus (P)							
Lead (Pb)	0.01	0.010	0.010	0.02	0.01	0.010	
Antimony (Sb)				<0.05			
Selenium (Se)				<0.05			
Silicon (Si)				2.5			
Tin (Sn)				<0.01			
Stronium (Sr)				0.207			
Titanium (Ti)				<0.002			
Vanadium (V)				<0.005			
Zinc (Zn)	0.010	0.010	0.040	0.067	0.100	0.080	
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							0.116

Station							
Collected By:	UKHM	UKHM	EPS	UKHM	UKHM	EPS	UKHM
Sample Date	86/5/28	86/7/1	86/7/24	86/7/31	86/9/3	86/9/19	86/10/12
Physical Parameters							
pH	7.88	8.05		7.41	8.15		8.63
pH (in Field)							
Conductivity, mircro-mho/cm	120	203		240	244		291
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	38	1		1	7		10
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.0	0.0	12.5	0.0	0.0	7.2	0.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L			154			140	
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L			51.7			53.7	
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)			0.042			0.045	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	EPS	UKHM	UKHM	EPS	UKHM
Sample Date	86/5/28	86/7/1	86/7/24	86/7/31	86/9/3	86/9/19	86/10/12
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)			0.040			0.061	
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010		0.010	0.010		0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010		0.010	0.010		0.010
Iron (Fe)	0.970	0.130		0.240	0.230		0.140
Magnesium (Mg)							
Manganese (Mn)	0.000	0.000		0.000	0.000		0.000
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.010		0.010	0.010		0.50
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.120	0.010		0.010	0.030		0.120
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)			0.021			0.038	

Station							
Collected By:	UKHM	EPS	UKHM	EPS	UKHM	UKHM	UKHM
Sample Date	86/11/1	87/4/9	87/6/4	87/6/17	87/7/16	87/8/4	87/9/24
Physical Parameters							
pH	8.00		7.69		8.10	7.95	8.06
pH (in Field)							
Conductivity, mircro-mho/cm	322		152		202	210	210
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	1		35		4	3	2
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.0	2.9	6.0		14.0	15.0	6.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L		208					
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L		88.0					
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)		0.060					
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	EPS	UKHM	EPS	UKHM	UKHM	UKHM
Sample Date	86/11/1	87/4/9	87/6/4	87/6/17	87/7/16	87/8/4	87/9/24
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)		0.079					
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010		0.010		0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.030		0.010		0.010	0.010	0.010
Iron (Fe)	0.220		1.020		0.120	0.100	0.160
Magnesium (Mg)							
Manganese (Mn)	0.000		0.000		0.000	0.000	0.000
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.50		0.01		0.010	0.01	0.010
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.090		0.120		0.060	0.040	0.040
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)		0.071					

Station							
Collected By:	UKHM	EPS	EPS	EPS	EPS	UKHM	UKHM
Sample Date	87/10/16	87/10/29	87/12/8	88/4/13	88/8/4	89/5/4	89/5/31
Physical Parameters							
pH	7.60					7.51	7.74
pH (in Field)							
Conductivity, mircro-mho/cm	244					130	180
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	2					12	28
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	3.0			1.0		2.0	13.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L				189			
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)				0.060			
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	EPS	EPS	EPS	EPS	UKHM	UKHM
Sample Date	87/10/16	87/10/29	87/12/8	88/4/13	88/8/4	89/5/4	89/5/31
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)				0.060			
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010					0.000	0.000
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010					0.000	0.010
Iron (Fe)	0.140					2.800	0.130
Magnesium (Mg)							
Manganese (Mn)	0.000					0.250	0.030
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01					0.17	0.02
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.040					0.180	0.060
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)				0.057			

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	89/7/3	89/7/30	89/9/13	89/10/16	89/11/14	89/12/27	90/2/2
Physical Parameters							
pH	8.11	7.93	8.24	8.25			7.69
pH (in Field)							
Conductivity, mircro-mho/cm	250	270	270	285	310	230	285
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	20	4	4	4	22	14	12
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	16.0	14.0	10.0	3.0	0.0	0.0	0.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	89/7/3	89/7/30	89/9/13	89/10/16	89/11/14	89/12/27	90/2/2
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.000	0.000	0.010	0.000	0.000	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.000	0.000	0.010	0.010	0.020	0.040	0.000
Iron (Fe)	0.010	0.570	0.230	0.020	0.060	0.150	0.040
Magnesium (Mg)							
Manganese (Mn)	0.050	0.100	0.000	0.050	0.070	0.050	0.250
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.28	0.11	0.06	0.00	0.00	0.00	0.03
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.040	0.280	0.310	0.190	0.260	0.160	0.210
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	EPS	UKHM	UKHM
Sample Date	90/4/8	90/4/28	90/5/19	90/7/4	90/7/24	90/8/2	90/8/31
Physical Parameters							
pH	7.82	7.57	7.20	7.77		7.63	8.17
pH (in Field)							
Conductivity, mircro-mho/cm	380	200	123	330	319	240	180
Conductivity (in Field), mircro-mho/cm					233		
Total Suspended Solids, mg/L	28	28	16	14	<10	28	20
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.0	3.0	10.7	13.0	14.9	10.0	8.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L					148		
Dissolved Oxygen					8.93		
LC50							
Anions							
Alkalinity, CaCO3, mg/L					106		
Sulphate (SO4), mg/L					51.7		
Nutrients							
Nitrite Nitrogen (NO2), mg/L					<0.002		
Nitrate Nitrogen (NO3), mg/l					0.021		
N-NH3, mg/L					0.013		
Total Phosphorus, mg/L					0.002		
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)					0.005		
Iron (Fe)					0.148		
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)					0.042		
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)					0.0034		
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	EPS	UKHM	UKHM
Sample Date	90/4/8	90/4/28	90/5/19	90/7/4	90/7/24	90/8/2	90/8/31
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)					0.016		
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.000	0.000	0.000	0.010		0.000	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.020	0.030	0.020	0.010		0.010	0.020
Iron (Fe)	0.290	0.220	0.400	0.160		0.030	0.170
Magnesium (Mg)							
Manganese (Mn)	0.220	0.010	0.020	0.070		0.030	0.020
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.00	0.00	0.00	0.04		0.10	0.02
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.070	0.020	0.060	0.000		0.000	0.010
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	EPS	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/9/20	90/9/28	90/10/30	90/11/30	90/12/20	91/1/31	91/2/28
Physical Parameters							
pH	8.1	8.04	7.87	7.90	7.62	7.48	7.35
pH (in Field)							
Conductivity, mircro-mho/cm	298	200	280	220	180	0	0
Conductivity (in Field), mircro-mho/cm	150						
Total Suspended Solids, mg/L	<10	16	32	16	12	1	1
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	7.2	7.0	0.5	0.5	0.5	0.0	10.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L	142						
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L	95						
Sulphate (SO4), mg/L	53.7						
Nutrients							
Nitrite Nitrogen (NO2), mg/L	<0.002						
Nitrate Nitrogen (NO3), mg/l	0.034						
N-NH3, mg/L	0.014						
Total Phosphorus, mg/L	0.004						
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)	0.0004						
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.0012						
Iron (Fe)	0.172						
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.045						
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.0021						
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	EPS	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/9/20	90/9/28	90/10/30	90/11/30	90/12/20	91/1/31	91/2/28
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.061						
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)	0.0004						
Arsenic (As)	<0.05						
Boron (B)	<0.01						
Barium (Ba)	0.058						
Beryllium (Be)	<0.001						
Calcium (Ca)	39.6						
Cadmium (Cd)	0.0004	0.020	0.010	0.010	0.010	0.010	0.020
Cobalt (Co)	<0.005						
Chromium (Cr)	<0.005						
Copper (Cu)	0.0013	0.020	0.010	0.010	0.010	0.010	0.030
Iron (Fe)	0.114	0.490	0.120	0.140	0.140	0.000	0.010
Magnesium (Mg)	11.9						
Manganese (Mn)	0.041	0.050	0.040	0.030	0.010	0.010	0.010
Molybdenum (Mo)	<0.01						
Sodium (Na)	1.5						
Nickel (Ni)	<0.02						
Phosphorus (P)	<0.1						
Lead (Pb)	0.0036	0.27	0.50	0.01	0.01	0.00	0.010
Antimony (Sb)	<0.05						
Selenium (Se)	<0.05						
Silicon (Si)	1.81						
Tin (Sn)	<0.05						
Stronium (Sr)	0.161						
Titanium (Ti)	<0.002						
Vanadium (V)	<0.01						
Zinc (Zn)	0.019	0.050	0.010	0.010	0.010	0.010	0.010
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/3/19	91/4/29	91/5/22	91/6/22	91/7/31	91/8/20	91/9/16
Physical Parameters							
pH	7.42	7.92	7.20	8.10	7.60	8.07	7.61
pH (in Field)							
Conductivity, mircro-mho/cm	205	150	125	160	180	140	160
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	1	8	12	8	12	12	8
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.5	4.0	8.6	12.0	7.0	8.0	8.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/3/19	91/4/29	91/5/22	91/6/22	91/7/31	91/8/20	91/9/16
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.020	0.010	0.070	0.010	0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.210	0.040	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.080	0.150	0.210	0.710	0.700	0.110	0.040
Magnesium (Mg)							
Manganese (Mn)	0.040	0.010	0.010	0.010	0.010	0.040	0.010
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.010	0.010	0.04	0.010	0.01	0.010	0.010
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.010	0.130	0.030	0.010	0.010	0.030
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/10/10	91/11/19	91/12/16	92/1/24	92/2/27	92/3/20	92/3/20
Physical Parameters							
pH	8.01	7.69	7.45	7.56	7.54	7.58	7.90
pH (in Field)							
Conductivity, mircro-mho/cm	180	210	190	200	220	230	220
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	8	12	8	12	4	8	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	1.0	1.0	0.5	0.5	0.5	0.5	0.5
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/10/10	91/11/19	91/12/16	92/1/24	92/2/27	92/3/20	92/3/20
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.500	1.670	0.510	0.230	0.140	0.160	0.180
Magnesium (Mg)							
Manganese (Mn)	0.010	0.010	0.080	0.060	0.010	0.020	0.010
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.02	0.010	0.010	0.02	0.01	0.010
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.280	0.110	0.490	0.340	0.100	0.120	0.120
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/4/23	92/5/27	92/6/25	92/7/29	92/8/28	92/10/5	92/10/28
Physical Parameters							
pH	7.59	7.22	7.74	8.01	7.51	8.17	7.91
pH (in Field)							
Conductivity, mircro-mho/cm	158	90	180	200	200	160	351
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	16	8	8	4	4	8
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	1.0	5.0	7.0	10.0	8.0	2.0	0.1
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/4/23	92/5/27	92/6/25	92/7/29	92/8/28	92/10/5	92/10/28
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.020	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.020
Iron (Fe)	0.010	0.370	0.220	0.040	0.060	0.090	0.080
Magnesium (Mg)							
Manganese (Mn)	0.060	0.010	0.050	0.050	0.040	0.050	0.010
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.01	0.01	0.010	0.010	0.02	0.05
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.190	0.190	0.130	0.110	0.020	0.010
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/11/18	92/12/14	93/1/29	93/2/24	93/3/22	93/4/24	93/5/26
Physical Parameters							
pH	8.42	7.62	7.53	7.85	7.58	8.04	7.52
pH (in Field)							
Conductivity, mircro-mho/cm	240	320	370	320	300	260	170
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	8	8	8	8	12	0
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.1	0.1	0.1	0.1	0.1	2.0	4.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/11/18	92/12/14	93/1/29	93/2/24	93/3/22	93/4/24	93/5/26
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.020	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.020	0.010	0.020	0.010	0.010	0.010
Iron (Fe)	0.180	0.030	1.040	0.770	0.000	0.260	0.320
Magnesium (Mg)							
Manganese (Mn)	0.100	0.020	0.010	0.010	0.010	0.010	0.030
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.010	0.020	0.020	0.060	0.030	0.080
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/6/28	93/7/21	93/8/25	93/9/29	93/10/26	93/11/25	93/12/16
Physical Parameters							
pH	7.46	8.00	7.80	7.80	7.70	7.90	7.40
pH (in Field)							
Conductivity, mircro-mho/cm	220	280	250	200	200	240	240
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	0	0	8	4	4	4	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	7.0	16.9	6.0	1.3	1.5	1.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/6/28	93/7/21	93/8/25	93/9/29	93/10/26	93/11/25	93/12/16
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.030	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.150	0.150	0.010	0.170	0.120	0.180	0.110
Magnesium (Mg)							
Manganese (Mn)	0.030	0.060	0.010	0.070	0.010	0.020	0.030
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)	0.010	0.010	0.020	0.030	0.060	0.080	0.080
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Magnesium (Mg)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM
Sample Date	94/1/27	94/2/24	94/3/28	94/4/23	94/5/10	94/5/10
Physical Parameters						
pH	7.60	8.00	8.00	8.00	7.70	7.10
pH (in Field)						
Conductivity, mircro-mho/cm	260	370	310	210	190	160
Conductivity (in Field), mircro-mho/cm					199	
Total Suspended Solids, mg/L	4	4	4	8	27	4
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s						
Temp., degrees Celcius	1.0	1.0	2.0	3.0	5.3	6.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L					83.7	
Dissolved Oxygen						
LC50						
Anions						
Alkalinity, CaCO3, mg/L					75	
Sulphate (SO4), mg/L					29.0	
Nutrients						
Nitrite Nitrogen (NO2), mg/L					<1	
Nitrate Nitrogen (NO3), mg/l					<0.1	
N-NH3, mg/L					<0.05	
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)					0.0133	
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)					0.01	
Iron (Fe)					1.03	
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)					0.176	
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)					0.01	
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM
Sample Date	94/1/27	94/2/24	94/3/28	94/4/23	94/5/10	94/5/10
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)					0.362	
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)					0.0012	
Arsenic (As)					<0.05	
Boron (B)					<0.01	
Barium (Ba)					0.046	
Beryllium (Be)					<0.001	
Calcium (Ca)					38.2	
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.0004	0.020
Cobalt (Co)					<0.005	
Chromium (Cr)					0.005	
Copper (Cu)	0.010	0.010	0.010	0.010	0.0012	0.010
Iron (Fe)	0.140	0.180	0.120	0.110	0.122	0.250
Magnesium (Mg)					11.2	
Manganese (Mn)	0.080	0.120	0.130	0.100	0.043	0.100
Molybdenum (Mo)					<0.01	
Sodium (Na)					1.2	
Nickel (Ni)					<0.02	
Phosphorus (P)					<0.1	
Lead (Pb)	0.03	0.03	0.03	0.02	0.0027	0.01
Antimony (Sb)					<0.05	
Selenium (Se)					<0.05	
Silicon (Si)					1.99	
Tin (Sn)					<0.05	
Stronium (Sr)					0.147	
Titanium (Ti)					<0.002	
Vanadium (V)					<0.01	
Zinc (Zn)	0.060	0.070	0.090	0.020	0.048	0.110
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Magnesium (Mg)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	LES	LES	LES			
Sample Date	94/7/28	94/9/6	94/10/28	94/10/31	94/11/29	95/1/1
Physical Parameters						
pH	8.1	8.1	8.1	8.00	7.56	7.4
pH (in Field)	7.99	8.20	7.89			
Conductivity, mircro-mho/cm	295			250	320	395
Conductivity (in Field), mircro-mho/cm	274	299	341			
Total Suspended Solids, mg/L	5	5	5	0	4	0
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	197	226	228			
Flow, L/s	3264.2	1892.7	0			
Temp., degrees Celcius	14.8	8.5	0.2	0.5	0.5	0.5
Hardness, $CaCO_3$, mg/L			119			
Tota Hardness, mg/L						
Dissolved Oxygen	10.0	13.3	11.8			
LC50						
Anions						
Alkalinity, CaCO3, mg/L	109	102	119			
Sulphate (SO4), mg/L	52.6					
Nutrients						
Nitrite Nitrogen (NO2), mg/L	< 1.					
Nitrate Nitrogen (NO3), mg/l	< 0.5					
N-NH3, mg/L	< 0.05					
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)	< 0.0001	<0.001	< 0.001			
Aluminum (Al)	0.06	0.04	0.02			
Arsenic (As)	< 0.02	<0.02	< 0.02			
Boron (B)	0.0569	0.0584	0.0562			
Barium (Ba)	< 0.0002	<0.0002	0.0003			
Beryllium (Be)	< 0.02	<0.02	< 0.02			
Bismuth (Bi)						
Calcium (Ca)	44.4	44.8	46			
Cadmium (Cd)	0.0005	<0.0005	< 0.0005			
Cobalt (Co)	< 0.001	<0.001	< 0.001			
Chromium (Cr)	< 0.001	<0.001	< 0.001			
Copper (Cu)	0.004	0.003	0.009			
Iron (Fe)	0.124	0.157	0.157			
Mercury (Hg)						
Potassium (K)	0.4	0.5	0.6			
Lithium (Li)	< 0.002	<0.002	0.003			
Magnesium (Mg)	12.8	13.4	13.2			
Manganese (Mn)	0.038		0.045			
Molybdenum (Mo)	< 0.005	<0.005	< 0.005			
Sodium (Na)	1.37	1.62	1.66			
Nickel (Ni)	0.003	0.005	0.004			
Lead (Pb)	0.001	0.01	0.01			
Sulphur (S)	17.5	20.7	18.6			
Antimony (Sb)	< 0.02	<0.02	< 0.02			
Selenium (Se)	< 0.001	<0.02	< 0.02			
Silicon (Si)	1.67	1.86	1.95			

Station						
Collected By:		LES	LES	LES			
Sample Date		94/7/28	94/9/6	94/10/28	94/10/31	94/11/29	95/1/1
Tin (Sn)		< 0.01	<0.01	< 0.01			
Stronium (Sr)		0.17	0.17	0.17			
Tellurium (Te)							
Titanium (Ti)		< 0.001	<0.001	0.002			
Thallium (Tl)							
Vanadium (V)		0.003	<0.002	0.005			
Zinc (Zn)		0.027	0.017	0.027			
Zirconium (Zr)		< 0.001	<0.001	< 0.001			
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)					0.001	0.001	0.001
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)					0.002	0.002	0.002
Iron (Fe)					0.4	0.3	0.4
Magnesium (Mg)							
Manganese (Mn)					0.044	0.14	0.105
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Phosphorus (P)							
Lead (Pb)					0.005	0.03	0.01
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)					0.03	0.078	0.135
Dissolved Metals							
Silver (Ag)				<0.001			
Aluminum (Al)	Aluminum	Al	0.05	0.03			
Arsenic (As)	Arsenic	As	< 0.02	<0.02			
Barium (Ba)	Barium	Ba	0.0569	0.0557			
Calcium (Ca)	Calcium	Ca	44.2	44.6			
Cadmium (Cd)	Cadmium	Cd	0.0005	<0.001			
Copper (Cu)	Copper	Cu	0.002	0.002			
Magnesium (Mg)	Magnesium	Mg	12.4	13.5			
Iron (Fe)	Iron	Fe	0.052	0.065			
Molybdenum (Mo)	Molybdenum	Mo	< 0.005	<0.005			
Sodium (Na)	Sodium	Na	1.37	1.61			
Lead (Pb)	Lead	Pb	0.001	0.01			
Antimony (Sb)	Antimony	Sb	< 0.02	<0.02			
Selenium (Se)	Selenium	Se	< 0.001	<0.02			
Zinc (Zn)	Zinc	Zn	0.025	0.014			

Station							
Collected By:			EPS				LES
Sample Date	95/2/6	95/3/29	95/4/12	95/4/27	95/5/3	95/6/6	95/7/14
Physical Parameters							
pH	7.5	7.1	7.86	8.35	8.43	7.1	8.2
pH (in Field)							8.32
Conductivity, mircro-mho/cm	420	380	482	280	200	230	
Conductivity (in Field), mircro-mho/cm							270
Total Suspended Solids, mg/L	16	0	<10	4	32	20	5
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							214
Flow, L/s							3329.6
Temp., degrees Celcius	0.5	0.5		0.5	1.5	4	16.2
Hardness, $CaCO_3$, mg/L							96
Tota Hardness, mg/L			238				
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L			164				96
Sulphate (SO4), mg/L			83.8				58
Nutrients							
Nitrite Nitrogen (NO2), mg/L			<0.005				
Nitrate Nitrogen (NO3), mg/l			0.094				
N-NH3, mg/L			0.03				
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							< 0.001
Aluminum (Al)							0.06
Arsenic (As)			0.0004				< 0.02
Boron (B)							0.0529
Barium (Ba)							< 0.0002
Beryllium (Be)							< 0.02
Bismuth (Bi)							
Calcium (Ca)							40.5
Cadmium (Cd)							< 0.0005
Cobalt (Co)							< 0.001
Chromium (Cr)							< 0.001
Copper (Cu)			0.0128				0.011
Iron (Fe)			0.22				0.195
Mercury (Hg)							
Potassium (K)							< 0.2
Lithium (Li)							0.003
Magnesium (Mg)							12.7
Manganese (Mn)			0.1				0.041
Molybdenum (Mo)							< 0.005
Sodium (Na)							1.44
Nickel (Ni)							0.006
Lead (Pb)			<0.06				0.01
Sulphur (S)							17.9
Antimony (Sb)							< 0.02
Selenium (Se)							< 0.02
Silicon (Si)							1.64

Station							
Collected By:			EPS				LES
Sample Date	95/2/6	95/3/29	95/4/12	95/4/27	95/5/3	95/6/6	95/7/14
Tin (Sn)							< 0.01
Stronium (Sr)							0.17
Tellurium (Te)							
Titanium (Ti)							< 0.001
Thallium (Tl)							
Vanadium (V)							< 0.002
Zinc (Zn)			0.048				0.021
Zirconium (Zr)							< 0.001
Extractable Metals							
Silver (Ag)			<0.001				
Arsenic (As)			<0.02				
Boron (B)							
Barium (Ba)			0.034				
Beryllium (Be)			<0.0002				
Calcium (Ca)			23.0				
Cadmium (Cd)	0.001	0.001	0.0095	0.001	0.001	0.001	
Cobalt (Co)			<0.001				
Chromium (Cr)			<0.001				
Copper (Cu)	0.002	0.002	0.005	0.002	0.002	0.002	
Iron (Fe)	1.2	0.2	0.536	0.2	1.6	0.2	
Magnesium (Mg)			5.9				
Manganese (Mn)	0.21	0.088	0.141	0.088	0.23	0.04	
Molybdenum (Mo)			<0.005				
Sodium (Na)			0.67				
Nickel (Ni)			0.004				
Phosphorus (P)							
Lead (Pb)	0.4	0.005	<0.01	0.015	0.03	0.01	
Antimony (Sb)			<0.02				
Selenium (Se)			<0.02				
Silicon (Si)			1.27				
Tin (Sn)			<0.01				
Stronium (Sr)			0.09				
Titanium (Ti)			0.003				
Vanadium (V)			<0.002				
Zinc (Zn)	0.16	0.17	0.282	0.088	0.098	0.05	
Dissolved Metals							
Silver (Ag)			<0.01				< 0.001
Aluminum (Al)							0.02
Arsenic (As)			<0.05				< 0.02
Barium (Ba)			0.089				0.0542
Calcium (Ca)			63.2				42.9
Cadmium (Cd)			0.0007				< 0.001
Copper (Cu)			0.001				0.005
Magnesium (Mg)			19.3				12.5
Iron (Fe)			0.081				0.057
Molybdenum (Mo)			<0.01				< 0.005
Sodium (Na)			3				1.6
Lead (Pb)			0.05				0.01
Antimony (Sb)			<0.05				< 0.02
Selenium (Se)			<0.05				< 0.02
Zinc (Zn)			0.041				0.022

Station				
Collected By:	LES			LES
Sample Date	95/7/14	95/8/11	95/9/3	95/9/7
Physical Parameters				
pH	8.2	8.24	8.27	7.9
pH (in Field)	8.32			7.51
Conductivity, mircro-mho/cm		170	190	280
Conductivity (in Field), mircro-mho/cm	270			273
Total Suspended Solids, mg/L	5	0	8	5
Turbidity, NTU				
Dissolved Susspended Solids, mg/L	212			233.00
Flow, L/s	3329.6			4434.5
Temp., degrees Celcius	16.2	14	12	8.4
Hardness, $CaCO_3$, mg/L	96			89
Tota Hardness, mg/L				
Dissolved Oxygen				
LC50				
Anions				
Alkalinity, CaCO3, mg/L	96			89
Sulphate (SO4), mg/L	54.5			59.6
Nutrients				
Nitrite Nitrogen (NO2), mg/L				
Nitrate Nitrogen (NO3), mg/l				
N-NH3, mg/L				
Total Phosphorus, mg/L				
Total Metals (mg/L)				
Silver (Ag)	< 0.001			
Aluminum (Al)	0.07			
Arsenic (As)	< 0.02			
Boron (B)	0.0554			
Barium (Ba)	< 0.0002			
Beryllium (Be)	< 0.02			
Bismuth (Bi)				
Calcium (Ca)	40.6			
Cadmium (Cd)	< 0.0005			
Cobalt (Co)	< 0.001			
Chromium (Cr)	< 0.001			
Copper (Cu)	0.012			
Iron (Fe)	0.118			
Mercury (Hg)				
Potassium (K)	< 0.2			
Lithium (Li)	0.004			
Magnesium (Mg)	12.3			
Manganese (Mn)	0.043			
Molybdenum (Mo)	< 0.005			
Sodium (Na)	1.41			
Nickel (Ni)	0.005			
Lead (Pb)	0.01			
Sulphur (S)	18.1			
Antimony (Sb)	< 0.02			
Selenium (Se)	< 0.02			
Silicon (Si)	1.72			

Station				
Collected By:	LES			LES
Sample Date	95/7/14	95/8/11	95/9/3	95/9/7
Tin (Sn)	< 0.01			
Stronium (Sr)	0.16			
Tellurium (Te)				
Titanium (Ti)	< 0.001			
Thallium (Tl)				
Vanadium (V)	< 0.002			
Zinc (Zn)	0.024			
Zirconium (Zr)	< 0.001			
Extractable Metals				
Silver (Ag)				
Arsenic (As)				
Boron (B)				
Barium (Ba)				
Beryllium (Be)				
Calcium (Ca)				
Cadmium (Cd)		0.001	0.001	
Cobalt (Co)				
Chromium (Cr)				
Copper (Cu)		0.002	0.002	
Iron (Fe)		0.2	0.2	
Magnesium (Mg)				
Manganese (Mn)		0.044	0.036	
Molybdenum (Mo)				
Sodium (Na)				
Nickel (Ni)				
Phosphorus (P)				
Lead (Pb)		0.005	0.005	
Antimony (Sb)				
Selenium (Se)				
Silicon (Si)				
Tin (Sn)				
Stronium (Sr)				
Titanium (Ti)				
Vanadium (V)				
Zinc (Zn)		0.042	0.032	
Dissolved Metals				
Silver (Ag)	< 0.001			< 0.001
Aluminum (Al)	0.05			0.05
Arsenic (As)	< 0.02			< 0.02
Barium (Ba)	0.0529			0.0523
Calcium (Ca)	40.3			39.8
Cadmium (Cd)	< 0.001			< 0.001
Copper (Cu)	0.01			0.01
Magnesium (Mg)	12.2			12
Iron (Fe)	0.04			0.036
Molybdenum (Mo)	< 0.005			< 0.005
Sodium (Na)	1.41			1.38
Lead (Pb)	0.01			0.01
Antimony (Sb)	< 0.02			< 0.02
Selenium (Se)	< 0.02			< 0.02
Zinc (Zn)	0.019			0.019

Station	Christal Cr @ Keno Highway (LES 6, UKHM S-18)	
Collected By:	EPS	EPS
Sample Date	7/17/1996	5/21/1997
Physical Parameters	7/17/1996	5/22/1997
pH (in Field)	7.81	7.32
Conductivity (in Field), mircro-mho/cm	714	242
Total Suspended Solids, mg/L	<5	19
Tota Hardness, mg/L	375	119
Anions		
Alkalinity, CaCO3, mg/L	107	32.3
Sulphate (SO4), mg/L	281	80
Nutrients		
Nitrite Nitrogen (NO2), mg/L	<0.005	<0.005
Nitrate Nitrogen (NO3), mg/l	0.029	0.021
N-NH3, mg/L	0.016	0.02
Total Phosphorus, mg/L	0.013	<.001
Total Metals (mg/L)		
Cadmium (Cd)	<.006	<.006
Copper (Cu)	0.01	<.006
Iron (Fe)	0.36	1.0
Manganese (Mn)	0.332	0.498
Lead (Pb)	<.06	<.06
Dissolved Metals		
Silver (Ag)	<.01	<.01
Aluminum (Al)		
Arsenic (As)	<.05	<.05
Barium (Ba)	0.034	0.024
Calcium (Ca)	122.0	37.3
Cadmium (Cd)	<.005	<.005
Copper (Cu)	<.005	<.005
Iron (Fe)	0.105	0.233
Molybdenum (Mo)	<.01	<.01
Sodium (Na)	1.1	0.5
Lead (Pb)	<.005	0.007
Antimony (Sb)	<.05	<.05
Selenium (Se)	<.05	<.05
Zinc (Zn)	0.266	0.234

Station	Christal Cr @ Hanson Road (Les 7, UKHM S-19)						
Collected By:	EPS	EPS	EPS	EPS	EPS	DIAND	EPS
Sample Date	710605	710906	740715	750606	750709	750716	810708
Physical Parameters							
pH					8.1	8.1	
pH (in Field)			7.4	8.5	8.1		
Conductivity, mircro-mho/cm						399	
Conductivity (in Field), mircro-mho/cm			210	135	284		
Total Suspended Solids, mg/L			<5		5	24	
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius			10.5	6.0	11.3		
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L			190		210	232	
Dissolved Oxygen			10.4	11.8	8.2		
LC50							
Anions							
Alkalinity, CaCO3, mg/L					10.4	107	
Sulphate (SO4), mg/L						117	
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station	Christal Cr @ Hanson Road (Les 7, UKHM S-19)						
Collected By:	EPS	EPS	EPS	EPS	EPS	DIAND	EPS
Sample Date	710605	710906	740715	750606	750709	750716	810708
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.120		0.160				
Extractable Metals							
Silver (Ag)					<0.03	<0.005	
Arsenic (As)						0.0023	
Boron (B)							
Barium (Ba)						0.25	
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)			54.0		62.0		
Cadmium (Cd)			0.01		0.01	0.0014	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)			0.01		0.01	0.001	
Iron (Fe)					0.13	0.07	
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)			13.16		15.00		
Manganese (Mn)			0.04			0.12	
Molybdenum (Mo)			<0.1		<0.3	0.0006	
Sodium (Na)							
Nickel (Ni)					<0.1	<0.001	
Lead (Pb)			0.02		0.02	0.009	
Sulphur (S)							
Antimony (Sb)					<0.3		
Selenium (Se)						0.0011	
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)					0.16	0.17	
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	810820	860425	860723	860919	870409	870425	870617
Physical Parameters							
pH							
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s			79.6	239.8			
Temp., degrees Celcius		1.9	11.0	2.2	1.3		9.2
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L		274	354	273	444		229
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L		141	240	159	305		
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)			2.560	0.375	0.356	2.190	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	810820	860425	860723	860919	870409	870425	870617
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)			1.360	0.366	0.549	1.470	1.000
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)		1.170	0.266	0.445	1.420	1.170	0.226

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	870809	871029	871210	880413	880519	880521	880524
Physical Parameters							
pH							
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s		91.3		111.1	167.6		
Temp., degrees Celcius		3.5		0.0	1.5		
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L		340		441	177		
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L		182		310			
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.129		0.125		3.300	0.698	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	870809	871029	871210	880413	880519	880521	880524
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.286	0.450	0.492		1.430	0.477	
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)	0.353	0.420		1.390	0.402		

Station							
Collected By:	EPS	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	880804	900208	900407	930322	930424	930526	930628
Physical Parameters							
pH		7.52	7.23	7.82	8.24	7.69	7.78
pH (in Field)							
Conductivity, mircro-mho/cm		160	150	600	310	200	450
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L		16	8	0	12	0	0
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	308.3						
Temp., degrees Celcius	13.4	10.0	5.0	0.1	1.0	5.0	13.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L	281						
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L	122						
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	EPS	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	880804	900208	900407	930322	930424	930526	930628
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)		0.000	0.000	0.020	0.020	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)		0.000	0.000	0.030	0.030	0.010	0.020
Iron (Fe)		0.040	0.040	0.010	0.210	0.090	0.070
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)		0.040	0.220	0.020	0.020	0.040	0.100
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)		0.00	0.00	0.01	0.01	0.15	0.01
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)		0.000	0.000	0.090	0.370	0.340	0.060
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)	0.283						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930721	930825	930929	931125	931216	940127	940224
Physical Parameters							
pH	8.40	7.54	8.10	7.70	8.20	7.90	7.90
pH (in Field)							
Conductivity, mircro-mho/cm	450	480	460	480	410	420	470
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	4	4	12	4	4	4	8
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	9.2	6.7	1.8	0.1	0.1	0.1	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930721	930825	930929	931125	931216	940127	940224
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.020	0.010	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.070	0.010	0.120	0.080	0.010	0.060	0.090
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.220	0.030	0.360	0.250	0.070	0.380	0.080
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)	0.040	0.150	0.180	0.440	0.370	0.270	0.250
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	DIAND	UKHM	LES	LES	LES
Sample Date	940328	940423	940510	940510	940726	940907	941027
Physical Parameters							
pH	7.90	7.70	7.6	7.40	8.1	8.0	8.0
pH (in Field)			7.3		8.29	8.09	8.09
Conductivity, mircro-mho/cm	620	270	245	180	590		
Conductivity (in Field), mircro-mho/cm			252		554	559	638
Total Suspended Solids, mg/L	4	4	6	8	< 5.	<5	< 5.
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s					104.48	116.3	
Temp., degrees Celcius	2.0	4.0	2.5	2.4	8.1	1.4	0.2
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L			92.9				
Dissolved Oxygen					11.3	14.9	10.5
LC50							
Anions							
Alkalinity, CaCO3, mg/L					135	145	143
Sulphate (SO4), mg/L			68.9		197		
Nutrients							
Nitrite Nitrogen (NO2), mg/L					< 2.		
Nitrate Nitrogen (NO3), mg/l					< 1.		
N-NH3, mg/L					0.05		
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)						0.0002	<0.001
Arsenic (As)						< 0.02	<0.02
Boron (B)							
Barium (Ba)						0.0437	0.0389
Beryllium (Be)						< 0.0002	<0.0002
Bismuth (Bi)							
Calcium (Ca)						108	104
Cadmium (Cd)						< 0.0005	0.0006
Cobalt (Co)						< 0.001	<0.001
Chromium (Cr)						< 0.001	<0.001
Copper (Cu)						< 0.002	<0.002
Iron (Fe)						0.073	0.11
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)						20	19.5
Manganese (Mn)			0.229			0.071	
Molybdenum (Mo)						< 0.005	<0.005
Sodium (Na)						1.43	2.16
Nickel (Ni)						0.002	0.002
Lead (Pb)						0.006	<0.01
Sulphur (S)							
Antimony (Sb)						< 0.02	<0.02
Selenium (Se)						< 0.001	<0.02
Silicon (Si)						2.88	2.95

Station							
Collected By:	UKHM	UKHM	DIAND	UKHM	LES	LES	LES
Sample Date	940328	940423	940510	940510	940726	940907	941027
Tin (Sn)						< 0.01	<0.01
Stronium (Sr)						0.22	0.19
Tellurium (Te)							
Titanium (Ti)						0.002	<0.001
Thallium (Tl)							
Vanadium (V)						0.006	<0.002
Zinc (Zn)			0.334		0.507	0.153	0.196
Extractable Metals							
Silver (Ag)			<0.001				
Arsenic (As)			<0.02				
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.0031	0.010			
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.006	0.010			
Iron (Fe)	0.060	0.190	0.166	0.090			
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.950	0.750		0.200			
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.02	0.01	0.01			
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)	0.780	0.410	0.393	0.460			
Dissolved Metals							
Silver (Ag)					0.0002	<0.001	
Arsenic (As)					< 0.02	<0.02	
Calcium (Ca)					104	103	
Cadmium (Cd)					< 0.0005	<0.0005	
Copper (Cu)					< 0.002	<0.002	
Iron (Fe)					0.026	0.038	
Molybdenum (Mo)					< 0.005	<0.005	
Sodium (Na)					1.47	1.48	
Lead (Pb)					0.006	<0.01	
Antimony (Sb)					< 0.02	<0.02	
Selenium (Se)					< 0.001	<0.02	
Zinc (Zn)					0.156	0.182	

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	EPS	LES
Sample Date	941031	941129	950105	950206	950329	950412	950426
Physical Parameters							
pH	7.40	7.42	8	7.7	7.2	7.9	7.6
pH (in Field)							
Conductivity, mircro-mho/cm	410	560	670	800	1300	885	
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	0	0	0	0	0	<10	53
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.5	0.5	0.5	0.5	1		
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L						502	
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L						162	57
Sulphate (SO4), mg/L						333	
Nutrients							
Nitrite Nitrogen (NO2), mg/L						<0.005	
Nitrate Nitrogen (NO3), mg/l						0.168	
N-NH3, mg/L						0.019	
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)						< 0.001	
Arsenic (As)						< 0.02	
Boron (B)							
Barium (Ba)						0.0459	
Beryllium (Be)						0.0003	
Bismuth (Bi)							
Calcium (Ca)						112	
Cadmium (Cd)						0.001	0.0013
Cobalt (Co)						< 0.001	
Chromium (Cr)						< 0.001	
Copper (Cu)						0.006	0.0019
Iron (Fe)						0.075	0.019
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)						21.8	
Manganese (Mn)						0.072	0.524
Molybdenum (Mo)						< 0.005	
Sodium (Na)						1.68	
Nickel (Ni)						0.003	
Lead (Pb)						< 0.01	<0.06
Sulphur (S)							
Antimony (Sb)						< 0.02	
Selenium (Se)						< 0.02	
Silicon (Si)						3.45	

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	EPS	LES
Sample Date	941031	941129	950105	950206	950329	950412	950426
Tin (Sn)						< 0.01	
Strontium (Sr)						0.21	
Tellurium (Te)							
Titanium (Ti)						0.002	
Thallium (Tl)							
Vanadium (V)						0.006	
Zinc (Zn)						0.294	0.359
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)	0.001	0.001	0.001	0.002	0.002		
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.002	0.002	0.002	0.002	0.002		
Iron (Fe)	0.400	0.2	0.2	0.4	0.2		
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.220	0.19	0.28	0.21	0.54		
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.005	0.005	0.015	0.005		
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Zinc (Zn)	0.430	0.38	0.67	0.53	0.56		
Dissolved Metals							
Silver (Ag)						<0.01	< 0.001
Arsenic (As)						<0.05	< 0.02
Calcium (Ca)						155	48.4
Cadmium (Cd)						0.0015	0.0031
Copper (Cu)						0.0023	0.009
Iron						0.01	0.057
Molybdenum (Mo)						<0.01	< 0.005
Sodium (Na)						1.4	0.82
Lead (Pb)						<0.05	< 0.01
Antimony (Sb)						<0.05	< 0.02
Selenium (Se)						<0.05	< 0.02
Zinc						0.343	0.284

Station							
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM	LES
Sample Date	950427	950503	950606	950711	950811	950903	950905
Physical Parameters							
pH	7.54	8.19	7.4	8.1	7.73	7.83	7.9
pH (in Field)				8.05			7.68
Conductivity, mircro-mho/cm	310	190	390		400	340	560
Conductivity (in Field), mircro-mho/cm				669			544
Total Suspended Solids, mg/L	12	16	12	< 5.	12	0	< 5.
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, cfs				90.8			236.2
Temp., degrees Celcius	2	1.5	8	8.5	8	3	5.4
Hardness, $CaCO_3$, mg/L							
Total Hardness, mg/L							
Dissolved Oxygen				9.5			
LC50							
Anions							
Alkalinity, CaCO3, mg/L				137			127
Sulphate (SO4), mg/L				292			216.0
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)				< 0.001			< 0.001
Arsenic (As)				< 0.02			< 0.02
Boron (B)							
Barium (Ba)				0.0393			0.0449
Beryllium (Be)				< 0.0002			< 0.0002
Bismuth (Bi)							
Calcium (Ca)				49.1			125
Cadmium (Cd)				0.0035			< 0.0005
Cobalt (Co)				< 0.001			< 0.001
Chromium (Cr)				< 0.001			< 0.001
Copper (Cu)				0.016			0.016
Iron				0.932			0.069
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)				8.74			22.1
Manganese (Mn)				0.92			0.035
Molybdenum (Mo)				< 0.005			< 0.005
Sodium (Na)				0.86			1.72
Nickel (Ni)				0.008			< 0.001
Lead (Pb)				0.05			< 0.01
Sulfur (S)							
Antimony (Sb)				< 0.02			< 0.02
Selenium (Se)				< 0.02			< 0.02
Silicon (Si)				2.49			3.43

Station							
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM	LES
Sample Date	950427	950503	950606	950711	950811	950903	950905
Tin				< 0.01			< 0.01
Stro (Sr)				0.1			0.22
Tell (Te)							
Tita (Ti)				< 0.01			0.002
Tha (Tl)				0.005			< 0.002
Vana (V)							
Zinc				0.426			0.157
Extr ble Metals							
Silv							
Arse s)							
Bor							
Bari a)							
Ber (Be)							
Bism (Bi)							
Cal (Ca)							
Cad (Cd)	0.002	0.001	0.001		0.001	0.001	
Cob o)							
Chr (Cr)							
Cop u)	0.002	0.002	0.002		0.002	0.002	
Iron	0.4	0.2	0.4		0.2	0.2	
Mer g)							
Pot (K)							
Lith i)							
Mag m (Mg)							
Man e (Mn)	0.53	0.24	0.125		0.056	0.072	
Mol um (Mo)							
Soc a)							
Nick							
Lea	0.015	0.01	0.016		0.01	0.005	
Sul)							
Ant (Sb)							
Sel (Se)							
Silic							
Tin							
Zinc	0.36	0.23	0.29		0.2	0.24	
Dis d Metals							
Silv				< 0.001			< 0.001
Ars s)				< 0.02			< 0.02
Cal a)				111			99.5
Cad (Cd)				< 0.0005			0.0012
Cop u)				0.015			0.002
Iron				0.019			0.028
Mol m (Mo)				< 0.005			< 0.005
Soc a)				1.7			1.63
Lea				< 0.01			< 0.005
Ant (Sb)				< 0.02			< 0.02
Sel (Se)				< 0.02			< 0.02
Zinc				0.15			0.244

Station	
ollected By:	EPS
ample Date	70/07/14
Parameters	
pH	
pH (Field)	
Con ctivity, mircro-mho/cm	
Con ctivity (in Field), mircro-mho/cm	
Tota spended Solids, mg/L	
Turb NTU	
Diss Susspended Solids, mg/	
Flo	
Ten grees Celcius	
Har ess, $CaCO_3$, mg/L	
Tota ness, mg/L	
Diss Oxygen	
LC5	
An	
Alka CaCO3, mg/L	
Sul SO4), mg/L	
Nu	
Nitrite ogen (NO2), mg/L	
Nitrat ogen (NO3), mg/l	
N-NH g/L	
N-NO 3, mg/L	
Total phorus, mg/L	
Tot tals (mg/L)	
Silv)	Ag
Ars)	As
Bor	B
Bar)	Ba
Ber Be)	Be
Bism i)	
Calci a)	Ca
Cadm Cd)	Cd
Co)	Co
Ch (Cr)	Cr
Co)	Cu
Iro	Fe
Me g)	
Pot (K)	
Lith	
Ma (Mg)	Mg
Ma e (Mn)	Mn
Mo m (Mo)	Mo
So a)	Na
Nic	Ni
Le	Pb
Su)	
An (Sb)	Sb
Se Se)	Se
Sili	Si

	Station	
	ollected By:	EPS
	ample Date	70/07/14
Tin		Sn
Str	Sr)	Sr
Tel	Te)	
Tit	Ti)	Ti
Th	l)	
Van	(V)	V
Zinc		Zn
Ext	**e Metals**	
Sil		
Ars	)	
Bor		
Ba	)	
Be	Be)	
Bis	)	
Ca	a)	
Ca	Cd)	
Co	)	
Chr	(Cr)	
Co	)	
Iro		
Me	g)	
Po	(K)	
Lit	)	
Ma	(Mg)	
Ma	(Mn)	
Mo	m (Mo)	
So	)	
Nic		
Le		
Sul		
An	Sb)	
Se	Se)	
Sil		
Tin		
Zir		
Di	**Metals**	
Sil		
Ars	)	
Ca	a)	
Ca	Cd)	
Co	)	
Iro		
Mc	n (Mo)	
So	)	
Le		
An	Sb)	
Se	e)	
Zir		

Station	Christal Cr @ mouth (LES 7B)	
Collected By:	EPS	EPS
Sample Date	5/22/1997	6/11/1998
Physical Parameters		
pH		7.92
Conductivity (in Field), mircro<mho/cm	141	553
Total Suspended Solids, mg/L		<5
Tota Hardness, mg/L	67.6	291
Anions		
Alkalinity, CaCO3, mg/L	35.6	118
Sulphate (SO4), mg/L	31	180
Nutrients		
Nitrite Nitrogen (NO2), mg/L	<0.005	<.005
Nitrate Nitrogen (NO3), mg/l	0.007	0.064
N<NH3, mg/L		<.005
Total Phosphorus, mg/L		0.002
Total Metals (mg/L)		
Cadmium (Cd)	<.006	<.006
Copper (Cu)	0.006	<.006
Iron (Fe)	1.380	0.139
Manganese (Mn)	0.331	0.08
Lead (Pb)	<.06	<.06
Dissolved Metals		
Silver (Ag)	<.01	<.01
Arsenic (As)	<.05	<.05
Barium (Ba)	0.019	0.04
Calcium (Ca)	<.005	<.005
Cadmium (Cd)	<.005	<.005
Copper (Cu)	<.005	<.005
Iron (Fe)	0.146	0.062
Molybdenum (Mo)	<.01	<.01
Sodium (Na)	0.3	0.8
Lead (Pb)	<.05	<.05
Antimony (Sb)	<.05	<.05
Selenium (Se)	<.05	<.05

Station	Silver King Adit (LES-12, UKHM S-13)					
Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM
Sample Date	1/6/1984	7/18/1985	10/17/1985	11/28/1985	2/4/1986	3/21/1986
Physical Parameters						
pH	7.15	7.7	7.41	7.12	7.06	7.42
pH (in Field)		7.5				
Conductivity, mircro-mho/cm	680	800	0	600	658	620
Conductivity (in Field), micro-mho/cm		494				
Total Suspended Solids, mg/L	17	26	12	12	10	11
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.0	0	0.0	0.0	0.0	0.0
Temp., degrees Celcius	0.0	1	0.0	1.0	1.0	1.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L		433				
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L		0.363				
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)		0.12				
Boron (B)		0.027				
Barium (Ba)		0.016				
Beryllium (Be)						
Calcium (Ca)		120				
Cadmium (Cd)		0.003				
Cobalt (Co)		0.006				
Chromium (Cr)		<0.005				
Copper (Cu)		0.031				
Iron (Fe)		6.71				
Magnesium (Mg)		28.5				
Manganese (Mn)		0.98				
Molybdenum (Mo)		<0.005				
Sodium (Na)		1.6				
Nickel (Ni)		0.03				
Lead (Pb)		0.02				
Antimony (Sb)		0.07				
Selenium (Se)		<0.05				
Silicon (Si)		4.9				

Station	Silver King Adit (LES-12, UKHM S-13)					
Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM
Sample Date	1/6/1984	7/18/1985	10/17/1985	11/28/1985	2/4/1986	3/21/1986
Tin (Sn)		<0.01				
Stronium (Sr)		0.162				
Tellurium (Te)						
Titanium (Ti)		<0.002				
Vanadium (V)		<0.005				
Zinc (Zn)		0.61				
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	<0.01		<0.01	0.010	<0.01	<0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)					<0.01	<0.01
Iron (Fe)					4.670	4.830
Magnesium (Mg)						
Manganese (Mn)					0.000	0.000
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)					0.00	0.00
Lead (Pb)					<0.01	<0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)					0.580	0.660
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
Sample Date	4/30/1986	5/28/1986	7/31/1986	8/6/1986	9/3/1986	10/12/1986
Physical Parameters						
pH	6.94	6.95	6.25	7.2	7.01	8.00
pH (in Field)						
Conductivity, mircro-mho/cm	860	660	650	720	658	680
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	27	91	55	17	17	21
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.0	0.0	0.0		4.0	0.0
Temp., degrees Celcius	0.0	0.0	0.0		0.0	0.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L				411		
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L				112		
Sulphate (SO4), mg/L				250		
Nutrients						
Nitrite Nitrogen (NO2), mg/L				<0.005		
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L				0.074		
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)				0.14		
Boron (B)				0.096		
Barium (Ba)				0.026		
Beryllium (Be)				<0.001		
Calcium (Ca)				115		
Cadmium (Cd)				0.01		
Cobalt (Co)				0.059		
Chromium (Cr)				0.013		
Copper (Cu)				0.072		
Iron (Fe)				9.34		
Magnesium (Mg)				29.5		
Manganese (Mn)				1.23		
Molybdenum (Mo)				0.048		
Sodium (Na)				1.8		
Nickel (Ni)				0.06		
Lead (Pb)				0.03		
Antimony (Sb)				0.1		
Selenium (Se)				0.18		
Silicon (Si)				6.3		

Station						
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
Sample Date	4/30/1986	5/28/1986	7/31/1986	8/6/1986	9/3/1986	10/12/1986
Tin (Sn)				0.02		
Stronium (Sr)				0.202		
Tellurium (Te)						
Titanium (Ti)				0.067		
Vanadium (V)				0.013		
Zinc (Zn)				0.932		
Extractable Metals						
Silver (Ag)						
Arsenic (As)				0.13		
Boron (B)				<0.001		
Barium (Ba)				0.025		
Beryllium (Be)				<0.001		
Calcium (Ca)				110		
Cadmium (Cd)	0.010	0.010	0.020	0.009	0.010	0.010
Cobalt (Co)				0.058		
Chromium (Cr)				0.013		
Copper (Cu)	0.010	<0.01	<0.01	0.069	0.050	0.150
Iron (Fe)	0.280	5.200	7.180	8.97	16.200	24.000
Magnesium (Mg)				28.1		
Manganese (Mn)	0.000	0.000	0.000	1.17	0.000	0.000
Molybdenum (Mo)				0.048		
Sodium (Na)				1.7		
Nickel (Ni)	0.00	0.00	0.00	0.06	0.00	0.00
Lead (Pb)	0.01	<0.01	0.01	<0.02	0.01	0.19
Antimony (Sb)				0.09		
Selenium (Se)				0.18		
Silicon (Si)				5.9		
Tin (Sn)				0.01		
Stronium (Sr)				0.2		
Titanium (Ti)				<0.002		
Vanadium (V)				0.009		
Zinc (Zn)	0.080	0.560	0.730	0.927	0.810	1.400
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM
Sample Date	11/1/1986	11/19/1986	12/3/1986	1/14/1987	2/4/1987	3/16/1987
Physical Parameters						
pH	7.19		7.40	7.37	7.47	6.78
pH (in Field)		7.5				
Conductivity, mircro-mho/cm	670		698	680	690	700
Conductivity (in Field), micro-mho/cm		422				
Total Suspended Solids, mg/L	57		18	83	112	17
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	4.0		6.7	0.0	0.0	0.0
Temp., degrees Celcius	0.0	2	0.0	1.0	0.0	0.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM
Sample Date	11/1/1986	11/19/1986	12/3/1986	1/14/1987	2/4/1987	3/16/1987
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.010		0.020	<0.01	0.010	0.010
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.490		0.060	0.040	0.090	<0.01
Iron (Fe)	9.040		8.600	6.870	15.000	8.600
Magnesium (Mg)						
Manganese (Mn)	0.000		0.000	0.000	0.000	0.000
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00		0.00	0.00	0.00	0.00
Lead (Pb)	<0.01		<0.01	<0.5	<0.5	0.02
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	1.280		0.890	0.840	0.860	0.920
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	4/3/1987	5/5/1987	6/4/1987	7/16/1987	8/4/1987	9/24/1987
Physical Parameters						
pH	7.20	7.17	7.02	7.23	7.76	7.60
pH (in Field)						
Conductivity, mircro-mho/cm	720	710	738	805	610	395
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	22	33	62		93	89
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.0	0.0	0.0	0.0	0.0	0.0
Temp., degrees Celcius	0.0	2.0	2.0	5.0	6.0	3.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	4/3/1987	5/5/1987	6/4/1987	7/16/1987	8/4/1987	9/24/1987
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.010
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.060	0.020	0.020	0.040	0.020	0.060
Iron (Fe)	46.400	8.660	8.720	9.260	13.800	13.800
Magnesium (Mg)						
Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.000
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	<0.01	<0.01	0.01	<0.01	<0.01	0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.720	0.580	0.930	0.630	0.730	0.980
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	10/16/1987	11/26/1987	1/7/1988	5/4/1989	5/31/1989	7/3/1989
Physical Parameters						
pH	7.19	7.06	7.01	6.44	6.63	6.56
pH (in Field)						
Conductivity, mircro-mho/cm	1250	560	1110	550	580	760
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	999	12	287	0	48	64
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.0	0.0	0.0	5.0	3.3	4.3
Temp., degrees Celcius	5.0	0.0	2.0	2.0	3.0	2.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	10/16/1987	11/26/1987	1/7/1988	5/4/1989	5/31/1989	7/3/1989
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	<0.01	0.020	0.020	0.020	0.020	0.030
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.070	0.040	<0.01	<0.01	0.010	0.020
Iron (Fe)	24.600	12.800	8.320	1.440	7.040	5.350
Magnesium (Mg)						
Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.000
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.01	<0.01	<0.01	0.10	0.01	0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.760	0.720	0.760	0.050	0.680	0.430
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	7/30/1989	9/13/1989	10/16/1989	11/14/1989	12/27/1989	2/2/1990
Physical Parameters						
pH	6.81	6.86	7.48	0.00	0.00	7.03
pH (in Field)						
Conductivity, mircro-mho/cm	620	605	445	580	460	420
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	46	38	30	34	36	28
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	6.6	7.0	6.0	0.0	0.0	0.0
Temp., degrees Celcius	3.0	5.0	1.0	0.0	0.0	1.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	7/30/1989	9/13/1989	10/16/1989	11/14/1989	12/27/1989	2/2/1990
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.050	0.040	0.020	0.010	0.010	0.020
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.670	0.120	0.170	0.280	0.130	0.090
Iron (Fe)	14.990	11.500	13.840	11.730	10.260	11.690
Magnesium (Mg)						
Manganese (Mn)	1.570	1.800	2.140	1.940	1.840	1.800
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.00	0.00	0.27	0.00	0.11	0.00
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.830	1.990	2.180	1.890	1.720	1.410
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	4/1/1990	4/28/1990	5/19/1990	7/4/1990	8/2/1990	8/31/1990
Physical Parameters						
pH	7.12	6.81	6.70	6.77	6.46	8.64
pH (in Field)						
Conductivity, mircro-mho/cm	540	680	600	545	625	500
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	36	44	44	40	48	32
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.0	20.0	6.0	6.0	3.0	3.0
Temp., degrees Celcius	1.0	3.0	2.0	3.0	5.0	4.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	4/1/1990	4/28/1990	5/19/1990	7/4/1990	8/2/1990	8/31/1990
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.010	0.010	0.030	0.020	0.020	0.030
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.080	0.040	0.030	0.060	0.080	0.060
Iron (Fe)	8.070	8.770	8.860	2.850	10.460	10.400
Magnesium (Mg)						
Manganese (Mn)	1.580	1.540	1.750	2.010	0.000	3.400
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.05	0.00	0.01	0.00	0.00	0.06
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	1.580	1.110	1.100	1.380	0.220	3.300
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	9/28/1990	10/30/1990	11/30/1990	12/20/1990	1/31/1991	2/28/1991
Physical Parameters						
pH	6.69	6.53	6.60	6.74	6.59	6.64
pH (in Field)						
Conductivity, mircro-mho/cm	620	800	860	790	0	0
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	44	72	56	48	36	20
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	6.0	6.0	6.0	6.0	0.0	0.0
Temp., degrees Celcius	2.0	0.5	5.0	0.5	0.0	10.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	9/28/1990	10/30/1990	11/30/1990	12/20/1990	1/31/1991	2/28/1991
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.010	0.030	0.030	0.020	0.020	<0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.080	0.090	0.150	0.260	0.330	0.280
Iron (Fe)	12.800	0.300	14.000	20.000	20.800	24.000
Magnesium (Mg)						
Manganese (Mn)	3.100	0.300	3.100	2.200	3.600	3.100
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.10	0.02	0.04	0.51	0.50	0.20
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	2.600	2.200	1.900	1.300	1.600	1.400
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	DIAND sampled	UKHM	UKHM	UKHM
Sample Date	3/19/1991	4/29/1991	5/22/1991	5/22/1991	6/22/1991	7/31/1991
Physical Parameters						
pH	7.01	7.15	7.1	6.90	6.78	6.33
pH (in Field)			6.9			
Conductivity, mircro-mho/cm	460	440	958	580	580	480
Conductivity (in Field), micro-mho/cm			580			
Total Suspended Solids, mg/L	28	12	60	24	60	60
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	3.0	2.9	0	6.4	5.0	5.0
Temp., degrees Celcius	0.5	7.0	1.8	1.8	5.0	5.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	DIAND sampled	UKHM	UKHM	UKHM
Sample Date	3/19/1991	4/29/1991	5/22/1991	5/22/1991	6/22/1991	7/31/1991
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	<0.01	0.020	0.02	0.130	0.050	0.640
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.220	<0.01	0.07	<0.01	0.200	0.100
Iron (Fe)	19.000	0.000	23.6	0.080	1.230	32.600
Magnesium (Mg)						
Manganese (Mn)	2.600	2.450	3.95	1.070	0.880	3.440
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00		0.00	0.00	0.00
Lead (Pb)	0.09	0.00	<0.05	0.02	0.01	0.02
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	1.200	<0.01	2.45	1.230	1.240	1.140
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station					
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	8/20/1991	9/16/1991	10/23/1991	11/19/1991	12/16/1991
Physical Parameters					
pH	6.42	6.24	6.60	6.61	6.77
pH (in Field)					
Conductivity, mircro-mho/cm	460	420	480	440	540
Conductivity (in Field), micro-mho/cm					
Total Suspended Solids, mg/L	60	60	52	48	36
Turbidity, NTU					
Dissolved Susspended Solids, mg/L					
Flow, L/s	5.0	5.0	4.0	3.5	3.5
Temp., degrees Celcius	3.0	2.0	1.0	1.0	1.0
Hardness, $CaCO_3$, mg/L					
Tota Hardness, mg/L					
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L					
Sulphate (SO4), mg/L					
Nutrients					
Nitrite Nitrogen (NO2), mg/L					
Nitrate Nitrogen (NO3), mg/l					
N-NH3, mg/L					
Total Metals (mg/L)					
Silver (Ag)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Calcium (Ca)					
Cadmium (Cd)					
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)					
Iron (Fe)					
Magnesium (Mg)					
Manganese (Mn)					
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)					
Antimony (Sb)					
Selenium (Se)					
Silicon (Si)					

Station					
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	8/20/1991	9/16/1991	10/23/1991	11/19/1991	12/16/1991
Tin (Sn)					
Stronium (Sr)					
Tellurium (Te)					
Titanium (Ti)					
Vanadium (V)					
Zinc (Zn)					
Extractable Metals					
Silver (Ag)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Calcium (Ca)					
Cadmium (Cd)	0.020	0.030	0.040	0.020	0.020
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)	0.020	0.060	0.860	0.060	0.410
Iron (Fe)	13.000	24.830	18.920	16.250	14.980
Magnesium (Mg)					
Manganese (Mn)	0.040	3.400	5.930	3.210	4.320
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.01	<0.01	<0.01	<0.01	<0.01
Antimony (Sb)					
Selenium (Se)					
Silicon (Si)					
Tin (Sn)					
Stronium (Sr)					
Titanium (Ti)					
Vanadium (V)					
Zinc (Zn)	2.090	1.240	0.020	0.990	0.370
Dissolved Metals					
Silver (Ag)					
Arsenic (As)					
Barium (Ba)					
Calcium (Ca)					
Cadmium (Cd)					
Copper (Cu)					
Iron (Fe)					
Molybdenum (Mo)					
Sodium (Na)					
Lead (Pb)					
Antimony (Sb)					
Selenium (Se)					
Zinc (Zn)					

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	1/24/1992	2/27/1992	3/20/1992	4/23/1992	5/27/1992	6/25/1992
Physical Parameters						
pH	6.79	6.68	6.87	6.74	6.21	6.85
pH (in Field)						
Conductivity, mircro-mho/cm	460	424	440	570	660	660
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	32	48	20	32	40	40
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	3.0	3.0	3.4	3.0	5.0	6.5
Temp., degrees Celcius	0.5	1.0	0.5	1.0	1.0	1.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	1/24/1992	2/27/1992	3/20/1992	4/23/1992	5/27/1992	6/25/1992
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.010	<0.01	<0.01	0.010	0.020	0.020
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.340	0.140	0.060	0.010	0.020	0.030
Iron (Fe)	26.810	10.340	12.460	14.010	18.020	15.900
Magnesium (Mg)						
Manganese (Mn)	0.440	0.610	2.580	3.130	2.200	1.470
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.06	0.04	0.01	0.01	0.05	0.02
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	2.260	1.110	1.110	2.210	1.800	1.670
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND sampled	UKHM
Sample Date	7/29/1992	8/28/1992	10/5/1992	10/28/1992	10/28/1992	11/18/1992
Physical Parameters						
pH	6.09	6.07	6.01	6.60		6.38
pH (in Field)					6.6	
Conductivity, mircro-mho/cm	660	580	550	948		520
Conductivity (in Field), micro-mho/cm					948	
Total Suspended Solids, mg/L	44	64	48	28	80	28
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	5.5	5.4	5.4	9.0	0	9.0
Temp., degrees Celcius	34.0	2.0	3.0	0.1	0.7	0.7
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND sampled	UKHM
Sample Date	7/29/1992	8/28/1992	10/5/1992	10/28/1992	10/28/1992	11/18/1992
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.050	0.050	0.120	0.090	0.041	0.920
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.020	0.070	0.090	0.330	0.385	0.400
Iron (Fe)	12.630	22.040	26.120	20.460	34.6	24.120
Magnesium (Mg)						
Manganese (Mn)	2.740	11.230	4.350	7.190	4.49	5.810
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00		0.00
Lead (Pb)	0.01	0.01	0.01	0.02	<0.05	0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.150	2.230	2.720	4.760	2.68	3.970
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	12/14/1992	1/29/1993	2/24/1993	3/22/1993	4/24/1993	5/26/1993
Physical Parameters						
pH	6.67	6.54	6.72	6.59	6.40	6.19
pH (in Field)						
Conductivity, mircro-mho/cm	530	560	540	540	610	660
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	28	24	24	24	24	0
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	9.0	9.0	9.0	8.0	8.0	8.0
Temp., degrees Celcius	0.1	0.1	1.0	1.0	2.0	1.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	12/14/1992	1/29/1993	2/24/1993	3/22/1993	4/24/1993	5/26/1993
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	<0.01	0.010	0.020	0.020	0.030	0.030
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.540	0.210	0.170	0.150	0.060	0.040
Iron (Fe)	23.100	11.470	16.600	10.930	10.360	10.390
Magnesium (Mg)						
Manganese (Mn)	7.300	0.920	3.970	1.320	2.290	0.140
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.02	0.03	0.02	0.03	0.03	0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.500	0.090	0.320	0.080	0.290	0.190
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	DIAND sampled	UKHM	UKHM	UKHM
Sample Date	6/28/1993	7/21/1993	7/21/1993	8/25/1993	9/29/1993	10/26/1993
Physical Parameters						
pH	5.87	6.30	5.7	6.70	6.90	6.80
pH (in Field)			6.3			
Conductivity, mircro-mho/cm	690	1015	953	840	580	580
Conductivity (in Field), micro-mho/cm			1015			
Total Suspended Solids, mg/L	0	96	100	40	24	24
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	7.0	9.0	0	9.0	8.5	8.5
Temp., degrees Celcius	1.5	2.9	2.9	2.7	1.6	1.5
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L			636			
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L			9.4			
Sulphate (SO4), mg/L			493			
Nutrients						
Nitrite Nitrogen (NO2), mg/L			<0.002			
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L			0.093			
Total Metals (mg/L)						
Silver (Ag)			<0.0006			
Arsenic (As)			0.22			
Boron (B)			0.06			
Barium (Ba)			0.013			
Beryllium (Be)			0.009			
Calcium (Ca)			167			
Cadmium (Cd)			0.054			
Cobalt (Co)			0.029			
Chromium (Cr)			<0.006			
Copper (Cu)			0.486			
Iron (Fe)			43.4			
Magnesium (Mg)			34.1			
Manganese (Mn)			5.89			
Molybdenum (Mo)			<0.01			
Sodium (Na)			2.6			
Nickel (Ni)			0.17			
Lead (Pb)			0.06			
Antimony (Sb)			0.08			
Selenium (Se)			<0.06			
Silicon (Si)			6.76			

Station						
Collected By:	UKHM	UKHM	DIAND sampled	UKHM	UKHM	UKHM
Sample Date	6/28/1993	7/21/1993	7/21/1993	8/25/1993	9/29/1993	10/26/1993
Tin (Sn)			<0.06			
Stronium (Sr)			0.226			
Tellurium (Te)						
Titanium (Ti)			<0.002			
Vanadium (V)			0.02			
Zinc (Zn)			3.67			
Extractable Metals						
Silver (Ag)			0.02			
Arsenic (As)			0.22			
Boron (B)			0.07			
Barium (Ba)			0.013			
Beryllium (Be)			0.009			
Calcium (Ca)			167			
Cadmium (Cd)	0.030	0.050	0.054	0.030	0.030	0.030
Cobalt (Co)			0.03			
Chromium (Cr)			<0.005			
Copper (Cu)	0.030	0.020	0.485	0.180	0.530	0.420
Iron (Fe)	15.130	12.420	42.9	33.400	29.660	27.910
Magnesium (Mg)			28.5			
Manganese (Mn)	0.070	0.100	5.89	4.220	5.380	4.920
Molybdenum (Mo)			<0.01			
Sodium (Na)			2.5			
Nickel (Ni)	0.00	0.00	0.17	0.00	0.00	0.00
Lead (Pb)	<0.01	<0.01	<0.05	0.03	0.02	0.02
Antimony (Sb)			0.16			
Selenium (Se)			<0.05			
Silicon (Si)			6.77			
Tin (Sn)			<0.05			
Stronium (Sr)			0.226			
Titanium (Ti)			<0.002			
Vanadium (V)			0.06			
Zinc (Zn)	0.650	0.650	3.61	3.980	0.840	0.760
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	11/25/1993	12/16/1993	1/27/1994	2/24/1994	3/28/1994	4/23/1994
Physical Parameters						
pH	7.10	6.90	7.00	6.90	6.90	6.90
pH (in Field)						
Conductivity, mircro-mho/cm	560	560	480	580	580	580
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	24	12	16	20	16	16
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	8.0	8.0	7.0	7.0	7.0	7.0
Temp., degrees Celcius	1.5	2.0	2.0	0.5	1.0	1.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	11/25/1993	12/16/1993	1/27/1994	2/24/1994	3/28/1994	4/23/1994
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.020	0.020	0.020	0.020	0.010	0.010
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.160	0.130	0.120	0.090	0.060	0.040
Iron (Fe)	20.040	14.990	15.270	14.000	13.190	15.110
Magnesium (Mg)						
Manganese (Mn)	0.480	3.770	0.490	3.020	2.820	2.690
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)	0.00	0.00	0.00			
Lead (Pb)	0.02	0.01	0.01	0.01	0.02	0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	2.010	1.990	2.450	1.780	1.530	0.920
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM
Sample Date	5/10/1994	4/23/1994	5/10/1994	6/1/1994	6/8/1994	6/27/1994
Physical Parameters						
pH	6.80	6.90	6.80	6.80	6.5	6.40
pH (in Field)						
Conductivity, mircro-mho/cm	680	580	680	710	1000	760
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	36	16	36	40	32	4
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	12.0	7.0	12.0	12.0		13.0
Temp., degrees Celcius	2.1	1.0	2.1	2.4		3.4
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L					59	
Sulphate (SO4), mg/L					440	
Nutrients						
Nitrite Nitrogen (NO2), mg/L					<5	
Nitrate Nitrogen (NO3), mg/l					<0.5	
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)					<0.001	
Arsenic (As)					0.11	
Boron (B)						
Barium (Ba)					0.0147	
Beryllium (Be)					0.0013	
Calcium (Ca)					155	
Cadmium (Cd)					0.0183	
Cobalt (Co)					0.026	
Chromium (Cr)					0.006	
Copper (Cu)					0.066	
Iron (Fe)					25	
Magnesium (Mg)					40.8	
Manganese (Mn)					3.77	
Molybdenum (Mo)					<0.005	
Sodium (Na)					2.29	
Nickel (Ni)					0.088	
Lead (Pb)					0.01	
Antimony (Sb)					<0.02	
Selenium (Se)					<0.02	
Silicon (Si)					6.54	

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	DIAND	UKHM
Sample Date	5/10/1994	4/23/1994	5/10/1994	6/1/1994	6/8/1994	6/27/1994
Tin (Sn)					<0.01	
Stronium (Sr)					0.2	
Tellurium (Te)						
Titanium (Ti)					0.005	
Vanadium (V)					0.005	
Zinc (Zn)					2.47	
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	0.030	0.010	0.030	0.010		0.060
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.040	0.030	0.020	0.070		0.020
Iron (Fe)	15.160	13.160	12.150	19.320		12.150
Magnesium (Mg)						
Manganese (Mn)	3.190	3.150	3.110	3.590		3.110
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						0.00
Lead (Pb)	0.02	0.03	0.03	0.04		0.03
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	1.170	1.320	1.320	2.310		1.320
Dissolved Metals						
Silver (Ag)					<0.001	
Arsenic (As)					0.09	
Barium (Ba)					0.0147	
Calcium (Ca)					154	
Cadmium (Cd)					0.0178	
Copper (Cu)					0.054	
Iron (Fe)					23.1	
Molybdenum (Mo)					<0.005	
Sodium (Na)					2.29	
Lead (Pb)					0.01	
Antimony (Sb)					<0.02	
Selenium (Se)					<0.02	
Zinc (Zn)					2.41	

Station						
Collected By:	LES	UKHM	LES	UKHM	UKHM	UKHM
Sample Date	7/27/1994	7/29/1994	10/27/1994	10/31/1994	11/29/1994	1/5/1995
Physical Parameters						
pH	6.9	7.20	6.6	6.90	6.85	7.78
pH (in Field)	6.86					
Conductivity, mircro-mho/cm	870	910		600	690	900
Conductivity (in Field), micro-mho/cm	863		884			
Total Suspended Solids, mg/L	48	8	78	80	276	16
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0	4.0	0	6.0	6.0	10.0
Temp., degrees Celcius	1.6	2.6	4.4	1.0	1.0	2.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen	10.1					
Anions						
Alkalinity, CaCO3, mg/L	69		55			
Sulphate (SO4), mg/L	438					
Nutrients						
Nitrite Nitrogen (NO2), mg/L	< 2.					
Nitrate Nitrogen (NO3), mg/l	< 1.					
N-NH3, mg/L	0.13					
Total Metals (mg/L)						
Silver (Ag)	0.0002		< 0.001			
Arsenic (As)	0.1		0.2			
Boron (B)						
Barium (Ba)	0.0189		0.0173			
Beryllium (Be)	< 0.0002		0.0009			
Calcium (Ca)	149		152			
Cadmium (Cd)	0.0158		0.0253			
Cobalt (Co)	0.023		0.029			
Chromium (Cr)	< 0.001		0.003			
Copper (Cu)	0.029		0.562			
Iron (Fe)	24		38			
Magnesium (Mg)	35		35.3			
Manganese (Mn)	3.78		4.22			
Molybdenum (Mo)	< 0.005		< 0.005			
Sodium (Na)	2.36		2.81			
Nickel (Ni)	0.08		0.097			
Lead (Pb)	0.001		0.01			
Antimony (Sb)	< 0.02		0.03			
Selenium (Se)	< 0.001		< 0.02			
Silicon (Si)	6.17		6.06			

Station						
Collected By:	LES	UKHM	LES	UKHM	UKHM	UKHM
Sample Date	7/27/1994	7/29/1994	10/27/1994	10/31/1994	11/29/1994	1/5/1995
Tin (Sn)	< 0.01		< 0.01			
Stronium (Sr)	0.23		0.23			
Tellurium (Te)						
Titanium (Ti)	0.002		0.002			
Vanadium (V)	0.007		0.01			
Zinc (Zn)	2.15		1.99			
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)		<0.01		0.280	0.020	0.000
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)		0.070		0.040	0.080	0.060
Iron (Fe)		19.320		31.270	24.960	31.700
Magnesium (Mg)						
Manganese (Mn)		3.590		3.780	3.950	6.050
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)		0.00		0.00	0.00	0.00
Lead (Pb)		0.04		0.03	0.01	<0.01
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)		2.310		2.820	2.920	2.700
Dissolved Metals						
Silver (Ag)	0.0002		< 0.001			
Arsenic (As)	0.05		0.04			
Barium (Ba)	0.0168		0.0167			
Calcium (Ca)	131		120			
Cadmium (Cd)	0.0146		0.0209			
Copper (Cu)	0.002		0.085			
Iron (Fe)	16.3		18.5			
Molybdenum (Mo)	< 0.005		< 0.005			
Sodium (Na)	2.25		2.54			
Lead (Pb)	0.001		0.01			
Antimony (Sb)	< 0.02		0.02			
Selenium (Se)	< 0.001		< 0.02			
Zinc (Zn)	2.04		1.65			

Station						
Collected By:	DIAND	UKHM	UKHM	UKHM	UKHM	DIAND
Sample Date	1/18/1995	2/6/1995	3/29/1995	4/27/1995	5/3/1995	5/16/1995
Physical Parameters						
pH	7.80	8.00	7.10	7.85	8.07	
pH (in Field)	8					
Conductivity, mircro-mho/cm	1100	1110	1045	1020	820	
Conductivity (in Field), micro-mho/cm	1161					
Total Suspended Solids, mg/L	7	24	8	8	32	
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	5.0	30.0	12.0	3.9	3.9	
Temp., degrees Celcius	0.9	2.0	2.0	7.0	7.0	
Hardness, $CaCO_3$, mg/L	572					
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L	142					
Sulphate (SO4), mg/L	532					
Nutrients						
Nitrite Nitrogen (NO2), mg/L	<5					
Nitrate Nitrogen (NO3), mg/l	<0.5					
N-NH3, mg/L	0.18					
Total Metals (mg/L)						
Silver (Ag)	<0.001					<0.001
Arsenic (As)						<0.02
Boron (B)	<0.02					
Barium (Ba)						0.0068
Beryllium (Be)	0.01					<0.0002
Calcium (Ca)	202					193
Cadmium (Cd)	0.0017					0.0018
Cobalt (Co)	0.019					0.01
Chromium (Cr)	0.001					0.002
Copper (Cu)	0.002					0.039
Iron (Fe)	1.34					0.853
Magnesium (Mg)	42.4					46.7
Manganese (Mn)	1.57					1.01
Molybdenum (Mo)	<0.005					<0.005
Sodium (Na)	3.22					3.3
Nickel (Ni)	0.074					0.041
Lead (Pb)	0.01					0.01
Antimony (Sb)	<0.02					<0.02
Selenium (Se)	<0.02					<0.02
Silicon (Si)	3.66					2.1

Station						
Collected By:	DIAND	UKHM	UKHM	UKHM	UKHM	DIAND
Sample Date	1/18/1995	2/6/1995	3/29/1995	4/27/1995	5/3/1995	5/16/1995
Tin (Sn)	<0.01					<0.01
Stronium (Sr)	0.33					0.25
Tellurium (Te)						
Titanium (Ti)	<0.001					0.003
Vanadium (V)	0.022					<0.002
Zinc (Zn)	0.236					0.235
Extractable Metals						
Silver (Ag)	<0.001					
Arsenic (As)	<0.02					
Boron (B)						
Barium (Ba)	0.009					
Beryllium (Be)	<0.0002					
Calcium (Ca)	168					
Cadmium (Cd)	0.0014	0.000	0.040	0.010	<0.001	
Cobalt (Co)	0.017					
Chromium (Cr)	<0.001					
Copper (Cu)	<0.002	0.570	0.630	0.010	0.010	
Iron (Fe)	1.24	41.700	59.000	2.840	1.710	
Magnesium (Mg)	36					
Manganese (Mn)	1.39	5.230	4.070	1.030	0.890	
Molybdenum (Mo)	<0.005					
Sodium (Na)	2.79					
Nickel (Ni)	0.055					
Lead (Pb)	<0.01	0.15	0.02	0.07	0.00	
Antimony (Sb)	<0.02					
Selenium (Se)	<0.02					
Silicon (Si)	3.1					
Tin (Sn)	<0.01					
Stronium (Sr)	0.29					
Titanium (Ti)	<0.001					
Vanadium (V)	0.019					
Zinc (Zn)	0.192	2.89	2.21	0.09	0.14	
Dissolved Metals						
Silver (Ag)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						< 0.02
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	LES	DIAND	UKHM	UKHM	LES
Sample Date	6/6/1995	7/12/1995	8/3/1995	8/11/1995	9/3/1995	9/5/1995
Physical Parameters						
pH	7.40			8.08	7.87	7.3
pH (in Field)						
Conductivity, mircro-mho/cm	870			470	500	1100
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	48			12	8	27
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	3.9			4.8	5.5	
Temp., degrees Celcius	8.0			10.0	7.0	
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						45
Sulphate (SO4), mg/L						562.0
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)		< 0.001	<0.001			
Arsenic (As)		< 0.02	<0.02			
Boron (B)						
Barium (Ba)		0.0079	0.0048			
Beryllium (Be)		< 0.0002	<0.0002			
Calcium (Ca)		186	161			
Cadmium (Cd)		0.0016	0.0005			
Cobalt (Co)		0.012	0.006			
Chromium (Cr)		0.001	0.001			
Copper (Cu)		0.014	0.008			
Iron (Fe)		0.601	0.271			
Magnesium (Mg)		43.8	36.9			
Manganese (Mn)		1.3	0.796			
Molybdenum (Mo)		< 0.005	<0.005			
Sodium (Na)		3.21	2.35			
Nickel (Ni)		0.052	0.033			
Lead (Pb)		0.01	0.01			
Antimony (Sb)		< 0.02	<0.02			
Selenium (Se)		< 0.02	<0.02			
Silicon (Si)		3.18	2.42			

Station						
Collected By:	UKHM	LES	DIAND	UKHM	UKHM	LES
Sample Date	6/6/1995	7/12/1995	8/3/1995	8/11/1995	9/3/1995	9/5/1995
Tin (Sn)		< 0.01	<0.01			
Stronium (Sr)		0.33	0.22			
Tellurium (Te)						
Titanium (Ti)		0.002	<0.001			
Vanadium (V)		< 0.002	<0.002			
Zinc (Zn)		0.115	0.067			
Extractable Metals						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)	<0.001			0.003	0.010	
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.030			0.010	<0.002	
Iron (Fe)	2.550			2.520	0.800	
Magnesium (Mg)						
Manganese (Mn)	1.820			2.090	0.980	
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)					0.04	
Lead (Pb)	0.00			0.26	<0.005	
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)	0.81			0.48	0.21	
Dissolved Metals						
Silver (Ag)		< 0.001				< 0.001
Arsenic (As)		< 0.02				< 0.02
Barium (Ba)		< 0.0002				0.0064
Calcium (Ca)		0.01				160
Cadmium (Cd)		0.001				0.0179
Copper (Cu)		0.0005				0.004
Iron (Fe)		1.25				0.089
Molybdenum (Mo)						< 0.005
Sodium (Na)		< 0.02				3.38
Lead (Pb)		< 0.01				0.005
Antimony (Sb)		42.5				< 0.02
Selenium (Se)		< 0.001				< 0.02
Zinc (Zn)						0.938

Station	
Collected By:	LES
Sample Date	9/5/1995
Physical Parameters	
pH	
pH (in Field)	
Conductivity, mircro-mho/cm	
Conductivity (in Field), micro-mho/cm	
Total Suspended Solids, mg/L	
Turbidity, NTU	
Dissolved Susspended Solids, mg/L	
Flow, L/s	
Temp., degrees Celcius	
Hardness, $CaCO_3$, mg/L	
Tota Hardness, mg/L	
Dissolved Oxygen	
Anions	
Alkalinity, CaCO3, mg/L	
Sulphate (SO4), mg/L	
Nutrients	
Nitrite Nitrogen (NO2), mg/L	
Nitrate Nitrogen (NO3), mg/l	
N-NH3, mg/L	
Total Metals (mg/L)	
Silver (Ag)	
Arsenic (As)	
Boron (B)	
Barium (Ba)	
Beryllium (Be)	
Calcium (Ca)	
Cadmium (Cd)	
Cobalt (Co)	
Chromium (Cr)	
Copper (Cu)	
Iron (Fe)	
Magnesium (Mg)	
Manganese (Mn)	
Molybdenum (Mo)	
Sodium (Na)	
Nickel (Ni)	
Lead (Pb)	
Antimony (Sb)	
Selenium (Se)	
Silicon (Si)	

Station	
Collected By:	LES
Sample Date	9/5/1995
Tin (Sn)	
Stronium (Sr)	
Tellurium (Te)	
Titanium (Ti)	
Vanadium (V)	
Zinc (Zn)	
Extractable Metals	
Silver (Ag)	
Arsenic (As)	
Boron (B)	
Barium (Ba)	
Beryllium (Be)	
Calcium (Ca)	
Cadmium (Cd)	
Cobalt (Co)	
Chromium (Cr)	
Copper (Cu)	<0.002
Iron (Fe)	0.400
Magnesium (Mg)	
Manganese (Mn)	0.570
Molybdenum (Mo)	
Sodium (Na)	
Nickel (Ni)	0.02
Lead (Pb)	0.01
Antimony (Sb)	
Selenium (Se)	
Silicon (Si)	
Tin (Sn)	
Stronium (Sr)	
Titanium (Ti)	
Vanadium (V)	
Zinc (Zn)	0.09
Dissolved Metals	
Silver (Ag)	
Arsenic (As)	
Barium (Ba)	
Calcium (Ca)	
Cadmium (Cd)	
Copper (Cu)	
Iron (Fe)	
Molybdenum (Mo)	
Sodium (Na)	
Lead (Pb)	
Antimony (Sb)	
Selenium (Se)	
Zinc (Zn)	

Station	Husky South West adit (LES-14, UKHM S-17)						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/6/1	91/7/1	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1
Physical Parameters							
pH	6.6	6.3	6.5	6.1	6.9	6.3	6.3
pH (in Field)							
Conductivity, mircro-mho/cm	700	700	700	700	660	660	880
Total Suspended Solids, mg/L	8	16	12	40	32	40	24
Turbidity, NTU							
Flow, L/s	3.00	2.50	2.50	2.50	2.00	2.00	2.00
Temp., degrees Celcius	4.0	5.0	3.0	3.0	1.0	1.0	0.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.04	0.33	0.00	0.01	0.01	0.02	0.01
Copper (Cu)	0.01	0.00	0.01	0.02	0.02	0.01	0.01
Iron (Fe)	43.81	51.44	53.13	29.24	24.76	10.53	14.03
Manganese (Mn)	56.01	44.70	10.30	36.09	13.72	28.87	31.11

Station	Husky South West adit (LES-14, UKHM S-17)						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/6/1	91/7/1	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1
Lead (Pb)	0.04	0.04	0.00	0.00	0.03	0.01	0.01
Zinc (Zn)	0.67	0.01	0.09	0.25	1.67	1.14	1.49
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)	0.04						
Arsenic (As)	0.02						
Barium (Ba)	0.008						
Calcium (Ca)	210						
Cadmium (Cd)	0.0005						
Copper (Cu)	0.004						
Iron (Fe)	7.49						
Molybdenum (Mo)	0.005						
Sodium (Na)	2.79						
Lead (Pb)	0.005						
Antimony (Sb)	0.02						
Selenium (Se)	0.02						
Zinc (Zn)	0.397						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1
Physical Parameters							
pH	6.4	6.4	6.5	6.4	6.5	6.7	6.4
pH (in Field)							
Conductivity, mircro-mho/cm	800	710	720	880	880	920	940
Total Suspended Solids, mg/L	20	40	24	24	8	8	12
Turbidity, NTU							
Flow, L/s	2.00	2.00	2.50	2.80	2.50	2.50	2.50
Temp., degrees Celcius	0.0	1.0	1.0	1.0	2.0	2.0	3.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.01			0.01	0.02	0.02	0.01
Copper (Cu)	0.00	0.01	0.01	0.02	0.02	0.02	0.01
Iron (Fe)	20.16	29.60	32.80	38.39	22.49	27.57	37.82
Manganese (Mn)	31.79	23.66	20.92	21.82	33.81	19.18	35.58

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1
Lead (Pb)	0.01	0.04	0.03	0.02	0.02	0.02	0.02
Zinc (Zn)	2.64	1.68	1.82	0.23	1.52	0.14	1.43
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/8/1	92/9/1	92/10/1	92/11/1	92/12/1	93/1/1	93/2/1
Physical Parameters							
pH	6.1	6.5	6.9	6.4	6.6	6.3	6.4
pH (in Field)							
Conductivity, mircro-mho/cm	900	840	1502	840	940	820	820
Total Suspended Solids, mg/L	24	8	40	12	12	16	16
Turbidity, NTU							
Flow, L/s	2.50	2.50	6.00	6.00	6.00	6.00	6.00
Temp., degrees Celcius	2.0	3.0	0.5	0.5	0.1	0.1	1.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.01	0.03	0.02	0.02		0.01	0.01
Copper (Cu)	0.01	0.02	0.03	0.01	0.03	0.01	0.01
Iron (Fe)	41.21	12.58	11.86	18.36	11.82	10.99	10.85
Manganese (Mn)	23.95	23.98	28.23	16.53	17.47	14.33	15.92

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/8/1	92/9/1	92/10/1	92/11/1	92/12/1	93/1/1	93/2/1
Lead (Pb)	0.01	0.02	0.05	0.05	0.05	0.02	0.02
Zinc (Zn)	1.31	0.16	0.03	0.12	0.03	0.22	0.13
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/8/1	93/9/1
Physical Parameters							
pH	6.6	6.1	6.5	6.2	7.0	6.9	7.0
pH (in Field)							
Conductivity, mircro-mho/cm	840	920	960	960	1480	1040	820
Total Suspended Solids, mg/L	16	16			32	16	12
Turbidity, NTU							
Flow, L/s	6.00	6.00	6.00	2.50	3.50	3.50	3.50
Temp., degrees Celcius	1.5	1.0	1.0	2.0	3.6	3.1	1.6
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.01	0.03	0.02	0.00		0.01	0.01
Copper (Cu)	0.02	0.04	0.02	0.02	0.01		0.01
Iron (Fe)	37.01	18.10	33.16	29.65	21.52	25.59	19.87
Manganese (Mn)	25.34	20.91	29.24	23.32	28.24	24.82	15.60

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/8/1	93/9/1
Lead (Pb)	0.02	0.03	0.18	0.02	0.01	0.03	0.03
Zinc (Zn)	0.32	0.49	1.90	0.24	0.21	0.89	0.82
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1	94/4/24
Physical Parameters							
pH	6.9	7.2	6.9	6.9	6.9	7.0	6.8
pH (in Field)							
Conductivity, mircro-mho/cm	810	800	820	740	740	920	840
Total Suspended Solids, mg/L	4	8	8	24	24	20	24
Turbidity, NTU							
Flow, L/s	3.50	3.50	3.50	3.00	3.00	3.00	3.00
Temp., degrees Celcius	1.6	1.5	1.5	2.0	1.0	2.0	4.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.01	0.01	0.01	0.02	0.01	0.01	0.02
Copper (Cu)		0.01	0.01	0.02	0.02	0.01	0.03
Iron (Fe)	19.50	18.89	21.17	26.41	23.97	24.06	22.13
Manganese (Mn)	15.40	14.97	13.11	16.26	15.82	15.19	0.12

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1	94/4/24
Lead (Pb)	0.01	0.01	0.02	0.03	0.03	0.03	0.04
Zinc (Zn)	1.16	0.99	0.97	0.56	1.02	0.79	0.75
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station						
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	94/5/10	94/5/31	94/6/28	94/07/27	94/7/29	94/10/31
Physical Parameters						
pH	7.2	6.9	6.5	6.9	7.5	7.2
pH (in Field)				7.04		
Conductivity, mircro-mho/cm	980	1150	1020	1300	1279	1100
Total Suspended Solids, mg/L	36	12	12	55	12	44
Turbidity, NTU						
Flow, L/s	2.00	2.00	2.80	2	2.00	2.00
Temp., degrees Celcius	2.7	2.0	3.8	1.4	1.4	1.5
Dissolved Oxygen				10.8		
Anions						
Alkalinity, CaCO3, mg/L				126		
Sulphate (SO4), mg/L				693		
Nutrients						
Nitrite Nitrogen (NO2), mg/L				5		
Nitrate Nitrogen (NO3), mg/l				3		
N-NH3, mg/L				0.15		
Total Metals (mg/L)						
Silver (Ag)				0.0002		
Aluminum (Al)				0.08		
Arsenic (As)				0.15		
Barium (Ba)				0.009		
Beryllium (Be)				0.0002		
Bismuth (Bi)				0.02		
Calcium (Ca)				317		
Cadmium (Cd)				0.0007		
Cobalt (Co)				0.035		
Chromium (Cr)				0.001		
Copper (Cu)				0.002		
Iron (Fe)				45		
Potassium (K)				1.3		
Lithium (Li)				0.044		
Magnesium (Mg)				44.3		
Manganese (Mn)				27.2		
Molybdenum (Mo)				0.005		
Sodium (Na)				2.37		
Nickel (Ni)				0.1		
Lead (Pb)				0.006		
Sulphur (S)				269		
Antimony (Sb)				0.02		
Selenium (Se)				0.001		
Silicon (Si)				4.65		
Tin (Sn)				0.01		
Stronium (Sr)				0.24		
Titanium (Ti)				0.001		
Vanadium (V)				0.002		
Zinc (Zn)				0.89		
Zirconium (Zr)				0.001		
Extractable Metals						
Cadmium (Cd)	0.01	0.00	0.01		0.00	0.00
Copper (Cu)	0.02	0.01	0.02		0.01	0.00
Iron (Fe)	?	40.10	32.90		42.60	31.60
Manganese (Mn)	13.55	18.46	22.27		43.00	22.60

Station						
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	94/5/10	94/5/31	94/6/28	94/07/27	94/7/29	94/10/31
Lead (Pb)	0.00	0.19	0.04		0.10	0.29
Zinc (Zn)	0.91	0.52	0.68		1.11	1.06
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)				Aluminum Al		
Arsenic (As)				Arsenic As		
Barium (Ba)				Barium Ba		
Calcium (Ca)				Calcium Ca		
Cadmium (Cd)				Cadmium Cd		
Copper (Cu)				Copper Cu		
Iron (Fe)				Iron Fe		
Molybdenum (Mo)				Molybdenum Mo		
Sodium (Na)				Sodium Na		
Lead (Pb)				Lead Pb		
Antimony (Sb)				Antimony Sb		
Selenium (Se)				Selenium Se		
Zinc (Zn)				Zinc Zn		

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/11/29	95/1/5	95/2/6	95/2/6	95/3/29	95/4/27	95/5/3
Physical Parameters							
pH	6.8	5.3	7.0	7.0	7.1	7.5	6.9
pH (in Field)							
Conductivity, mircro-mho/cm	940	1000	1100	1100	990	740	950
Total Suspended Solids, mg/L	48	0	160	160	48	36	80
Turbidity, NTU							
Flow, L/s	2.00	2.00	2.00	2.00	2.00	1.50	1.30
Temp., degrees Celcius	1.5	2.0	0.5	0.5	1.0	1.0	2.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.02	0.04	<0.001	0.00	0.00	0.01	0.04
Copper (Cu)	0.00	0.00	0.00	0.00	0.04	0.05	0.07
Iron (Fe)	33.00	88.00	46.00	46.00	90.00	61.00	62.00
Manganese (Mn)	24.00	25.00	>10.00	10.00	23.00	9.17	24.00

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/11/29	95/1/5	95/2/6	95/2/6	95/3/29	95/4/27	95/5/3
Lead (Pb)	0.16	0.03	0.03	0.03	0.07	0.13	0.06
Zinc (Zn)	0.77	0.55	0.54	0.54	0.85	1.15	1.44
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station					
Collected By:	UKHM	LES	UKHM	UKHM	LES
Sample Date	95/6/6	95/07/12	95/8/11	95/9/3	95/09/05
Physical Parameters					
pH	7.1	7.3	6.88	6.98	6.8
pH (in Field)		6.94			
Conductivity, mircro-mho/cm	790		540	600	1250
Total Suspended Solids, mg/L	72	36	64	52	46
Turbidity, NTU					
Flow, L/s	1.80		2.50	25.30	
Temp., degrees Celcius	2.0		1.0	1.0	
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L		135			148
Sulphate (SO4), mg/L		611			685.0
Nutrients					
Nitrite Nitrogen (NO2), mg/L					
Nitrate Nitrogen (NO3), mg/l					
N-NH3, mg/L					
Total Metals (mg/L)					
Silver (Ag)		0.001			
Aluminum (Al)		0.03			
Arsenic (As)		0.08			
Barium (Ba)		0.0084			
Beryllium (Be)		0.0002			
Bismuth (Bi)		0.02			
Calcium (Ca)		240			
Cadmium (Cd)		0.0015			
Cobalt (Co)		0.025			
Chromium (Cr)		0.002			
Copper (Cu)		0.002			
Iron (Fe)		16.3			
Potassium (K)		0.9			
Lithium (Li)		0.04			
Magnesium (Mg)		34.3			
Manganese (Mn)		17.6			
Molybdenum (Mo)		0.005			
Sodium (Na)		2.26			
Nickel (Ni)		0.075			
Lead (Pb)		0.01			
Sulphur (S)		197			
Antimony (Sb)		0.02			
Selenium (Se)		0.02			
Silicon (Si)		4.6			
Tin (Sn)		0.01			
Stronium (Sr)		0.22			
Titanium (Ti)		0.002			
Vanadium (V)		0.002			
Zinc (Zn)		0.555			
Zirconium (Zr)		0.001			
Extractable Metals					
Cadmium (Cd)	0.04		0.01	0.02	
Copper (Cu)	0.00		0.03	0.02	
Iron (Fe)	51.00		33.00	110.00	
Manganese (Mn)	19.00		22.00	22.00	

Station					
Collected By:	UKHM	LES	UKHM	UKHM	LES
Sample Date	95/6/6	95/07/12	95/8/11	95/9/3	95/09/05
Lead (Pb)	0.00		0.05	0.02	
Zinc (Zn)	0.97		0.72	0.70	
Dissolved Metals					
Silver (Ag)					
Aluminum (Al)		0.07			0.02
Arsenic (As)		0.12			0.02
Barium (Ba)		0.0077			0.0084
Calcium (Ca)		238			231
Cadmium (Cd)		0.0005			0.0005
Copper (Cu)		0.002			0.002
Iron (Fe)		28			9.68
Molybdenum (Mo)		0.005			0.005
Sodium (Na)		2.36			2.39
Lead (Pb)		0.006			0.01
Antimony (Sb)		0.02			0.02
Selenium (Se)		0.001			0.02
Zinc (Zn)		0.846			0.45

Station	Bermingham adit (LES 18, UKHM S-3)						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	85/7/17	86/8/7	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29
Physical Parameters							
pH	7.5	7.6			6.5	7.1	7.9
pH (in Field)	8.0						
Conductivity, mircro-mho/cm	345	335			136	220	260
Conductivity (in Field), micro-mho/cm	202						
Total Suspended Solids, mg/L	5	5			12	16	16
Dissolved Susspended Solids, mg/L							
Flow, L/s	0.5	1.0			0.60	0.80	0.50
Temp., degrees Celcius	2.0				2.0	5.0	7.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L		101					
Sulphate (SO4), mg/L		62.0					
Nutrients							
Nitrite Nitrogen (NO2), mg/L		0.005					
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L	0.021	0.009					
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)	0.060	0.050					
Barium (Ba)	0.009	0.006					
Beryllium (Be)		0.001					
Calcium (Ca)	44.30	48.50					
Cadmium (Cd)	0.372	0.311					
Cobalt (Co)	0.005	0.005					
Chromium (Cr)	0.005	0.006					
Copper (Cu)	0.007	0.005					
Iron (Fe)	0.166	0.146					
Magnesium (Mg)	7.50	8.80					
Manganese (Mn)	3.76	3.27					
Molybdenum (Mo)	0.005	0.007					
Sodium (Na)	0.07	1.00					
Nickel (Ni)	0.020	0.020					
Lead (Pb)	0.020	0.020					
Sulphur (S)							
Antimony (Sb)	0.050	0.050					
Selenium (Se)	0.050	0.060					
Silicon (Si)	2.60	3.90					
Tin (Sn)	0.010	0.010					
Stronium (Sr)	0.072	0.093					
Titanium (Ti)	0.002	0.013					
Vanadium (V)	0.005	0.005					
Zinc (Zn)	9.12	7.85					
Extractable Metals							
Cadmium (Cd)					0.49	0.28	0.18
Copper (Cu)					0.05	0.01	0.01
Iron (Fe)					0.30	0.14	0.06
Mercury (Hg)							
Potassium (K)							

Station	Bermingham adit (LES 18, UKHM S-3)						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	85/7/17	86/8/7	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)					3.60	2.00	1.50
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)					0.06	0.12	0.06
Zinc (Zn)					11.80	6.30	5.10

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/8/27	90/9/27	90/10/29	90/11/30	90/12/20	91/1/29
Physical Parameters						
pH	7.2	6.8	6.9	7.0		
pH (in Field)						
Conductivity, mircro-mho/cm	220	280	180	160		
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	24	12	20	24		
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.67	0.67	1.00	0.50		
Temp., degrees Celcius	5.0	2.0	0.0	0.0		
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Cadmium (Cd)	0.16	0.11	0.35	0.24		
Copper (Cu)	0.02	0.08	0.01	0.01		
Iron (Fe)	0.06	0.08	0.13	0.12		
Mercury (Hg)						
Potassium (K)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/8/27	90/9/27	90/10/29	90/11/30	90/12/20	91/1/29
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	0.13	1.30	2.60	2.40		
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.02	0.51	0.48	0.09		
Zinc (Zn)	5.10	4.90	8.10	6.80		

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	91/2/26	91/3/28	91/4/26	91/5/20	91/5/22	91/6/1	91/7/1
Physical Parameters							
pH				6.3	6.6	7.2	6.8
pH (in Field)					6.5		
Conductivity, mircro-mho/cm				70	138	150	180
Conductivity (in Field), micro-mho/cm					70		
Total Suspended Solids, mg/L				4	10	4	12
Dissolved Susspended Solids, mg/L							
Flow, L/s				10.00	10.0	1.00	1.00
Temp., degrees Celcius				6.5	1.5	4.0	5.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)				0.52		0.25	1.40
Copper (Cu)				0.06			
Iron (Fe)				0.08		0.07	2.10
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	91/2/26	91/3/28	91/4/26	91/5/20	91/5/22	91/6/1	91/7/1
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)				0.01		2.66	3.99
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)				0.01		0.01	0.07
Zinc (Zn)				5.39		3.51	0.06

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1	92/1/1	92/2/1
Physical Parameters							
pH	6.9	6.5	6.5	7.9	7.2	7.3	7.1
pH (in Field)							
Conductivity, mircro-mho/cm	150	160	160	180	170	180	180
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	12	12	12	8	8	8	8
Dissolved Susspended Solids, mg/L							
Flow, L/s	1.00	1.00	1.00	1.00	1.50	1.50	1.50
Temp., degrees Celcius	2.0	2.0	1.0	0.0	0.0	0.0	0.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)	0.18	0.04	0.16	0.11	0.08	0.08	0.01
Copper (Cu)	0.04		0.02	0.01	0.01	0.01	0.01
Iron (Fe)	0.13	0.44	0.93	1.06	0.26	0.28	0.83
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1	92/1/1	92/2/1
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	3.40	1.37	0.31	0.19	1.14	1.31	1.23
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01	0.09	0.01	0.01		0.01
Zinc (Zn)	4.01	1.26	5.18	4.00	2.72	3.01	2.01

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1	92/8/1	92/9/1
Physical Parameters							
pH	7.6	7.5		6.7	6.7	6.8	6.7
pH (in Field)							
Conductivity, mircro-mho/cm	170	171		130	180	180	180
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	8	8		12	8	4	4
Dissolved Susspended Solids, mg/L							
Flow, L/s	1.50	1.50		2.50	2.50	3.00	2.00
Temp., degrees Celcius	0.0	0.0		1.0	2.0	2.0	2.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)				0.15	0.31	0.23	0.40
Copper (Cu)	0.01	0.01		0.03	0.02	0.02	0.04
Iron (Fe)	1.00	1.09		0.16	0.02	0.02	0.76
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1	92/8/1	92/9/1
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.02	0.03		2.06	3.18	2.32	2.75
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01		0.02	0.04	0.01	0.04
Zinc (Zn)	3.10	3.41		6.27	6.37	7.63	1.55

Station						
Collected By:	UKHM	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	92/10/1	92/10/28	92/11/1	92/12/1	93/1/1	93/2/1
Physical Parameters						
pH	7.2		7.0	7.1	6.8	7.3
pH (in Field)		7.2				
Conductivity, mircro-mho/cm	315		220	180	160	180
Conductivity (in Field), micro-mho/cm		315				
Total Suspended Solids, mg/L	8	10	8	8	12	12
Dissolved Susspended Solids, mg/L						
Flow, L/s	2.00	1.5	2.00	1.50	1.00	0.50
Temp., degrees Celcius	1.5	1.5	1.0	0.1	0.1	1.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Beryllium (Be)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Cadmium (Cd)	0.27		0.10	0.02	0.03	0.09
Copper (Cu)	0.02		0.01	0.03	0.02	0.03
Iron (Fe)	0.27		0.06	0.93	1.33	3.35
Mercury (Hg)						
Potassium (K)						

Station						
Collected By:	UKHM	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	92/10/1	92/10/28	92/11/1	92/12/1	93/1/1	93/2/1
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	0.10		0.96	0.39	0.13	0.05
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.06		0.09	0.03	0.03	0.03
Zinc (Zn)	0.22		0.44	0.17	1.20	0.69

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/7/21	93/8/1
Physical Parameters							
pH	7.1	7.2	6.4	6.2	7.1	6.9	7.0
pH (in Field)						7.1	
Conductivity, mircro-mho/cm	210	260	170	180	277	277	210
Conductivity (in Field), micro-mho/cm						277	
Total Suspended Solids, mg/L	12	12			4	10	8
Dissolved Susspended Solids, mg/L							
Flow, L/s	0.50	1.00	2.50	2.50	3.00	3.0	3.00
Temp., degrees Celcius	0.1	1.0	1.0	1.0	3.1	3.1	2.9
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L						81	
Sulphate (SO4), mg/L						59.0	
Nutrients							
Nitrite Nitrogen (NO2), mg/L						0.002	
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L						0.012	
Total Metals (mg/L)							
Silver (Ag)						0.001	
Aluminum (Al)							
Arsenic (As)						0.600	
Barium (Ba)						0.010	
Beryllium (Be)						0.010	
Calcium (Ca)						46.70	
Cadmium (Cd)						0.495	
Cobalt (Co)						0.060	
Chromium (Cr)						0.060	
Copper (Cu)						0.060	
Iron (Fe)						0.210	
Magnesium (Mg)						7.00	
Manganese (Mn)						3.20	
Molybdenum (Mo)						0.100	
Sodium (Na)						2.00	
Nickel (Ni)						0.200	
Lead (Pb)						0.600	
Sulphur (S)							
Antimony (Sb)						0.600	
Selenium (Se)						0.600	
Silicon (Si)						4.50	
Tin (Sn)						0.600	
Stronium (Sr)						0.088	
Titanium (Ti)						0.020	
Vanadium (V)						0.100	
Zinc (Zn)						8.75	
Extractable Metals							
Cadmium (Cd)	0.11	0.19	0.41	0.41	0.46		0.17
Copper (Cu)	0.02	0.01	0.02	0.02	0.02		0.01
Iron (Fe)	1.04	1.36	0.22	0.14	0.08		0.01
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/7/21	93/8/1
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.03	0.04	1.56	2.63	2.98		0.17
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.03	0.02	0.18	0.02	0.01		0.02
Zinc (Zn)	2.79	2.01	6.19	4.13	4.49		4.77

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1
Physical Parameters							
pH	7.6	7.3	7.7	7.7	7.7	7.6	7.6
pH (in Field)							
Conductivity, mircro-mho/cm	200	180	180	200	190	180	240
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	4		4	4	4	4	4
Dissolved Susspended Solids, mg/L							
Flow, L/s	3.00	2.50	2.00	2.00	2.00	2.00	0.50
Temp., degrees Celcius	3.0	1.5	1.0	1.0	1.0	1.0	1.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)	0.10	0.07	0.07	0.08	0.08	0.06	0.05
Copper (Cu)	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Iron (Fe)	0.38	0.21	0.17	0.09	0.28	0.26	0.38
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	1.32	0.32	1.02	0.93	0.95	0.93	1.11
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.02	0.03	0.03	0.03	0.01	0.02	0.03
Zinc (Zn)	4.15	4.29	4.43	4.21	3.32	3.37	3.27

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	94/4/24	94/5/10	94/5/31	94/6/28	94/7/27	94/7/29	94/10/31
Physical Parameters							
pH	7.6		6.5	7.5	7.7	7.2	7.3
pH (in Field)					7.2		
Conductivity, mircro-mho/cm	250		120	230	320	292	230
Conductivity (in Field), micro-mho/cm					292		
Total Suspended Solids, mg/L	8		4	4	5	4	0
Dissolved Susspended Solids, mg/L					216		
Flow, L/s	1.0		12.0	1.5	0.4	0.4	0.5
Temp., degrees Celcius	2.0		1.5	3.3	2.3	2.3	0.7
Dissolved Oxygen					11.1		
Anions							
Alkalinity, CaCO3, mg/L					108		
Sulphate (SO4), mg/L					53.0		
Nutrients							
Nitrite Nitrogen (NO2), mg/L					1.000		
Nitrate Nitrogen (NO3), mg/l					0.50		
N-NH3, mg/L					0.070		
Total Metals (mg/L)							
Silver (Ag)					0.000		
Aluminum (Al)					0.010		
Arsenic (As)					0.070		
Barium (Ba)					0.004		
Beryllium (Be)					0.000		
Calcium (Ca)					48.90		
Cadmium (Cd)					0.150		
Cobalt (Co)					0.001		
Chromium (Cr)					0.001		
Copper (Cu)					0.002		
Iron (Fe)					0.144		
Magnesium (Mg)					8.62		
Manganese (Mn)					1.70		
Molybdenum (Mo)					0.005		
Sodium (Na)					0.94		
Nickel (Ni)					0.005		
Lead (Pb)					0.002		
Sulphur (S)					19.30		
Antimony (Sb)					0.020		
Selenium (Se)					0.001		
Silicon (Si)					4.26		
Tin (Sn)					0.010		
Stronium (Sr)					0.090		
Titanium (Ti)					0.001		
Vanadium (V)					0.004		
Zinc (Zn)					4.88		
Extractable Metals							
Cadmium (Cd)	0.06		0.44	0.21		0.22	0.35
Copper (Cu)	0.01		0.03	0.01		0.01	0
Iron (Fe)	0.38		0.38	0.14		0.40	0.09
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	94/4/24	94/5/10	94/5/31	94/6/28	94/7/27	94/7/29	94/10/31
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	1.12		1.81	1.92		2.65	1.39
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.02		0.15	0.02		0.02	0.12
Zinc (Zn)	2.46		7.39	7.38		6.45	5.13

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/11/29	95/1/5	95/2/6	95/3/29	95/4/27	95/5/3	95/6/6
Physical Parameters							
pH	6.7	4.4	7.2	7.1	7.8	7.1	7.0
pH (in Field)							
Conductivity, mircro-mho/cm	260	310	330	280	290	255	230
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	0	0	0	4	8	8	24
Dissolved Susspended Solids, mg/L							
Flow, L/s	0.5	0.5	0.5	0.2	0.5	1.5	0.7
Temp., degrees Celcius	0.7	0.5	2.0	1.0	1.0	1.0	3.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Titanium (Ti)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)	0.16	0.04	0.08	0.19	0.02	0.99	0.41
Copper (Cu)	0.02	0.00	0.00	0.04	0.01	0.00	0.02
Iron (Fe)	0.42	0.58	0.35	4.03	0.76	0.78	0.21
Mercury (Hg)							
Potassium (K)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/11/29	95/1/5	95/2/6	95/3/29	95/4/27	95/5/3	95/6/6
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	1.19	1.30	0.86	2.11	0.79	3.17	2.62
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.1	0.10	0.00	0.00	0.00	0.00	0.00
Zinc (Zn)	4.26	3.58	3.06	3.63	2.74	11.69	7.13

Station				
Collected By:	UKHM	UKHM	LES	LES
Sample Date	95/8/11	95/9/3	95/09/05	95/09/05
Physical Parameters				
pH	6.9	7.1	7.0	6.9
pH (in Field)				
Conductivity, mircro-mho/cm	190	170	315	315
Conductivity (in Field), micro-mho/cm				
Total Suspended Solids, mg/L	44	0	5	5
Dissolved Susspended Solids, mg/L			275	303
Flow, L/s	2.0	0.2		
Temp., degrees Celcius	2.0	1.0		
Dissolved Oxygen				
Anions				
Alkalinity, CaCO3, mg/L			112	110
Sulphate (SO4), mg/L			64.6	62.7
Nutrients				
Nitrite Nitrogen (NO2), mg/L				
Nitrate Nitrogen (NO3), mg/l				
N-NH3, mg/L				
Total Metals (mg/L)				
Silver (Ag)				
Aluminum (Al)				
Arsenic (As)				
Barium (Ba)				
Beryllium (Be)				
Calcium (Ca)				
Cadmium (Cd)				
Cobalt (Co)				
Chromium (Cr)				
Copper (Cu)				
Iron (Fe)				
Magnesium (Mg)				
Manganese (Mn)				
Molybdenum (Mo)				
Sodium (Na)				
Nickel (Ni)				
Lead (Pb)				
Sulphur (S)				
Antimony (Sb)				
Selenium (Se)				
Silicon (Si)				
Tin (Sn)				
Stronium (Sr)				
Titanium (Ti)				
Vanadium (V)				
Zinc (Zn)				
Extractable Metals				
Cadmium (Cd)	0.22	0.22		
Copper (Cu)	0.02	0.00		
Iron (Fe)	0.18	0.22		
Mercury (Hg)				
Potassium (K)				

Station				
Collected By:	UKHM	UKHM	LES	LES
Sample Date	95/8/11	95/9/3	95/09/05	95/09/05
Lithium (Li)				
Magnesium (Mg)				
Manganese (Mn)	1.57	1.35		
Molybdenum (Mo)				
Sodium (Na)				
Nickel (Ni)				
Lead (Pb)	0.02	0.01		
Zinc (Zn)	5.35	4.99		

Station	Ruby adit (LES 19, UKHM S-15)					
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	7/7/1986	11/19/1986	3/26/1990	4/27/1990	5/29/1990	6/28/1990
Physical Parameters						
pH	8		7.6		7.5	7.7
pH (in Field)		8.1				
Conductivity, mircro<mho/cm	520		330	330	372	320
Conductivity (in Field), micro<mho/cm		282				
Total Suspended Solids, mg/L	9		32	32	24	32
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	1	0			0.01	1.00
Temp., degrees Celcius		1.5	0.0	3.0	5.0	3.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L	133					
Sulphate (SO4), mg/L	130					
Nutrients						
Nitrite Nitrogen (NO2), mg/L	0.005					
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L	0.015					
Total Metals (mg/L)						
Silver (Ag)	1.2					
Aluminum (Al)	0.06					
Arsenic (As)	0.017					
Boron (B)						
Barium (Ba)	0.001					
Beryllium (Be)						
Bismuth (Bi)	0.05					
Calcium (Ca)	0.011					
Cadmium (Cd)	86					
Cobalt (Co)	0.006					
Chromium (Cr)	0.016					
Copper (Cu)	1.03					
Iron (Fe)	0.02					
Mercury (Hg)						
Potassium (K)	0.06					
Lithium (Li)	11.7					
Magnesium (Mg)	7.2					
Manganese (Mn)	0.01					
Molybdenum (Mo)	0.07					
Sodium (Na)	0.104					
Nickel (Ni)	0.06					
Lead (Pb)						
Sulphur (S)	0.01					
Antimony (Sb)	0.05					
Selenium (Se)	3.9					
Silicon (Si)						

Station	Ruby adit (LES 19, UKHM S-15)					
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	7/7/1986	11/19/1986	3/26/1990	4/27/1990	5/29/1990	6/28/1990
Tin (Sn)	0.015					
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)	3.48					
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)			0.02	0.02	0.13	0.05
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)			0.01	0.01	0.01	0.01
Iron (Fe)			ND	ND	3.68	2.60
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)			7.45	7.45	5.10	7.80
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)			0.04		0.05	0.15
Zinc (Zn)			0.01	0.01	3.20	2.90
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station					
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	7/29/1990	8/27/1990	9/27/1990	10/29/1990	11/30/1990
Physical Parameters					
pH	7.7	7.8	7.6	7.7	7.8
pH (in Field)					
Conductivity, mircro<mho/cm	890	350	400	270	230
Conductivity (in Field), micro<mho/cm					
Total Suspended Solids, mg/L	20	44	36	20	16
Turbidity, NTU					
Dissolved Susspended Solids, mg/L					
Flow, L/s	1.33	1.33	3.33	2.00	0.67
Temp., degrees Celcius	6.0	5.0	1.0	0.0	0.0
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L					
Sulphate (SO4), mg/L					
Nutrients					
Nitrite Nitrogen (NO2), mg/L					
Nitrate Nitrogen (NO3), mg/l					
N<NH3, mg/L					
Total Metals (mg/L)					
Silver (Ag)					
Aluminum (Al)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)					
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)					
Iron (Fe)					
Mercury (Hg)					
Potassium (K)					
Lithium (Li)					
Magnesium (Mg)					
Manganese (Mn)					
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)					
Sulphur (S)					
Antimony (Sb)					
Selenium (Se)					
Silicon (Si)					

Station					
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	7/29/1990	8/27/1990	9/27/1990	10/29/1990	11/30/1990
Tin (Sn)					
Stronium (Sr)					
Tellurium (Te)					
Titanium (Ti)					
Thallium (Tl)					
Vanadium (V)					
Zinc (Zn)					
Zirconium (Zr)					
Extractable Metals					
Silver (Ag)					
Aluminum (Al)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)	0.03	0.03	0.03	0.02	0.01
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)	0.01	0.01	0.01	0.02	0.01
Iron (Fe)	1.70	2.50	8.20	2.30	2.01
Mercury (Hg)					
Potassium (K)					
Lithium (Li)					
Magnesium (Mg)					
Manganese (Mn)	7.90	7.60	6.60	8.10	6.80
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)	0.15	0.01	0.47	0.47	0.08
Zinc (Zn)	2.70	2.50	3.70	2.20	1.10
Zirconium (Zr)					
Dissolved Metals					
Aluminum (Al)					
Arsenic (As)					
Barium (Ba)					
Calcium (Ca)					
Cadmium (Cd)					
Copper (Cu)					
Iron (Fe)					
Molybdenum (Mo)					
Sodium (Na)					
Lead (Pb)					
Antimony (Sb)					
Selenium (Se)					
Zinc (Zn)					

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	12/20/1990	1/29/1991	2/26/1991	3/28/1991	4/26/1991	5/20/1991
Physical Parameters						
pH	7.6					7.2
pH (in Field)						
Conductivity, mircro<mho/cm	160					268
Conductivity (in Field), micro<mho/cm						
Total Suspended Solids, mg/L	16					4
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	0.67					1.00
Temp., degrees Celcius	0.0					2.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	12/20/1990	1/29/1991	2/26/1991	3/28/1991	4/26/1991	5/20/1991
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.02					0.16
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01					
Iron (Fe)	2.40					0.00
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	6.10					0.05
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.04					0.02
Zinc (Zn)	0.97					2.48
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	5/22/1991	6/1/1991	7/1/1991	8/1/1991	9/1/1991	10/1/1991
Physical Parameters						
pH	8	8.1	7.8	7.7	7.4	7.4
pH (in Field)	7.2					
Conductivity, mircro<mho/cm	486	280	260	300	260	240
Conductivity (in Field), micro<mho/cm	268					
Total Suspended Solids, mg/L	10	8	12	12	12	16
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	1	1.00	0.24	2.00	2.00	1.50
Temp., degrees Celcius	2	3.0	6.0	3.0	2.0	1.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	5/22/1991	6/1/1991	7/1/1991	8/1/1991	9/1/1991	10/1/1991
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)		0.07	0.41	0.08	0.03	0.03
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)				0.01		
Iron (Fe)		1.03	3.70	0.69	0.73	7.54
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)		6.42	9.10	2.72	5.09	1.52
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)				0.01		0.01
Zinc (Zn)		1.23	0.03	1.38	0.42	2.68
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	11/1/1991	12/1/1991	1/1/1992	2/1/1992	3/1/1992	4/1/1992
Physical Parameters						
pH					7.8	7.8
pH (in Field)						
Conductivity, mircro<mho/cm					260	230
Conductivity (in Field), micro<mho/cm						
Total Suspended Solids, mg/L		0			8	8
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s					0.30	0.50
Temp., degrees Celcius		0.0			0.0	1.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	11/1/1991	12/1/1991	1/1/1992	2/1/1992	3/1/1992	4/1/1992
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)					0.01	0.01
Iron (Fe)		0.00			1.24	0.98
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)		0.00			1.19	1.08
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)					0.01	0.01
Zinc (Zn)					0.04	0.03
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	5/1/1992	6/1/1992	7/1/1992	8/1/1992	9/1/1992	10/1/1992
Physical Parameters						
pH	7.2	7.7	7.7	7.4	7.9	8.1
pH (in Field)						
Conductivity, mircro<mho/cm	270	320	370	340	320	524
Conductivity (in Field), micro<mho/cm						
Total Suspended Solids, mg/L	8	12	8	12	16	16
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	1.50	2.50	2.50	2.50	2.00	2.00
Temp., degrees Celcius	1.0	1.0	3.0	2.0	2.0	0.1
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	5/1/1992	6/1/1992	7/1/1992	8/1/1992	9/1/1992	10/1/1992
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.12	0.14	0.07	0.05	0.13	0.07
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	0.01	0.01	0.03	0.03
Iron (Fe)	1.33	1.47	0.41	1.12	2.32	2.96
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	10.74	6.14	9.18	10.67	12.37	4.72
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.02	0.01			0.02	0.04
Zinc (Zn)	5.23	3.53	4.16	4.78	0.09	0.12
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	10/28/1992	11/1/1992	12/1/1992	1/1/1993	2/1/1993	3/1/1993
Physical Parameters						
pH		7.9	7.7			
pH (in Field)	8.1					
Conductivity, mircro<mho/cm		360	320			
Conductivity (in Field), micro<mho/cm	524					
Total Suspended Solids, mg/L	16	16	8			
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	2	2.00	1.50			
Temp., degrees Celcius	0.1	0.1	0.1			
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	10/28/1992	11/1/1992	12/1/1992	1/1/1993	2/1/1993	3/1/1993
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)		0.03				
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)			0.02			
Iron (Fe)		1.41	0.03			
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)		7.75	2.47			
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)		0.05	0.05			
Zinc (Zn)		0.38	0.07			
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	4/1/1993	5/1/1993	6/1/1993	7/1/1993	7/21/1993	8/1/1993
Physical Parameters						
pH		7.6	7.4	7.9	7.52	7.6
pH (in Field)					7.9	
Conductivity, mircro<mho/cm		300	340	524	525	480
Conductivity (in Field), micro<mho/cm					524	
Total Suspended Solids, mg/L				8	20	20
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s		2.00	2.50	2.00	2	2.00
Temp., degrees Celcius		1.5	1.5	2.7	2.7	2.4
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L					116	
Sulphate (SO4), mg/L					153	
Nutrients						
Nitrite Nitrogen (NO2), mg/L					0.002	
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L					0.004	
Total Metals (mg/L)						
Silver (Ag)					1.8	
Aluminum (Al)					0.06	
Arsenic (As)					0.008	
Boron (B)						
Barium (Ba)					0.003	
Beryllium (Be)						
Bismuth (Bi)					0.059	
Calcium (Ca)					0.006	
Cadmium (Cd)					97.3	
Cobalt (Co)					0.01	
Chromium (Cr)					0.006	
Copper (Cu)					2.33	
Iron (Fe)					0.06	
Mercury (Hg)						
Potassium (K)					0.06	
Lithium (Li)					11.6	
Magnesium (Mg)					6.68	
Manganese (Mn)					0.01	
Molybdenum (Mo)					0.08	
Sodium (Na)					0.089	
Nickel (Ni)					0.1	
Lead (Pb)						
Sulphur (S)					0.06	
Antimony (Sb)					0.06	
Selenium (Se)					3.72	
Silicon (Si)					0.0006	

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	4/1/1993	5/1/1993	6/1/1993	7/1/1993	7/21/1993	8/1/1993
Tin (Sn)					0.003	
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)					3.69	
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)		0.13	0.06	0.06		0.04
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)		0.01	0.03	0.01		0.02
Iron (Fe)		0.84	2.19	0.87		0.14
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)		3.75	5.39	5.93		1.13
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)		0.03				0.01
Zinc (Zn)		4.10	0.60	0.89		2.55
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	9/1/1993	10/1/1993	11/1/1993	12/1/1993	1/1/1994	2/1/1994
Physical Parameters						
pH	7.6	7.9	7.6	7.5	7.9	7.9
pH (in Field)						
Conductivity, mircro<mho/cm	400	310	310	290	280	290
Conductivity (in Field), micro<mho/cm						
Total Suspended Solids, mg/L	12	12	12	8	4	8
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	2.00	2.00	1.50	1.50	1.50	1.50
Temp., degrees Celcius	2.3	2.0	1.0	1.0	11.0	0.5
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	9/1/1993	10/1/1993	11/1/1993	12/1/1993	1/1/1994	2/1/1994
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.02	0.02	0.02	0.02	0.02	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01		0.01			
Iron (Fe)	0.17	2.10	1.50	1.46	0.01	0.02
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	5.91	1.09	4.18	5.26	4.98	4.82
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)		0.01	0.01	0.01	0.01	0.01
Zinc (Zn)	2.32	3.22	3.04	2.22	1.03	1.05
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	3/29/1994	4/24/1994	5/31/1994	6/28/1994	7/27/1994	7/29/1994
Physical Parameters						
pH	6.9	7.7	7.5	7.6	8.0	7.8
pH (in Field)					7.83	
Conductivity, mircro<mho/cm	450	300	310	250	480	448
Conductivity (in Field), micro<mho/cm					448	
Total Suspended Solids, mg/L	0	12	8	4	8	0
Turbidity, NTU						
Dissolved Susspended Solids, mg/L					347	
Flow, L/s	1.00	2.00	2.00	2.00	1	1.00
Temp., degrees Celcius	0.5	2.0	2.1	2.8	3.5	3.1
Dissolved Oxygen					12.0	
Anions						
Alkalinity, CaCO3, mg/L					110	
Sulphate (SO4), mg/L					138	
Nutrients						
Nitrite Nitrogen (NO2), mg/L					1	
Nitrate Nitrogen (NO3), mg/l					0.5	
N<NH3, mg/L					0.07	
Total Metals (mg/L)						
Silver (Ag)					1.13	
Aluminum (Al)					0.02	
Arsenic (As)					0.0097	
Boron (B)						
Barium (Ba)					0.0003	
Beryllium (Be)					0.02	
Bismuth (Bi)					0.0164	
Calcium (Ca)					0.001	
Cadmium (Cd)					82.4	
Cobalt (Co)					0.002	
Chromium (Cr)					0.006	
Copper (Cu)					2.8	
Iron (Fe)					0.007	
Mercury (Hg)						
Potassium (K)					0.001	
Lithium (Li)					11.5	
Magnesium (Mg)					3.86	
Manganese (Mn)					0.005	
Molybdenum (Mo)					0.035	
Sodium (Na)					0.09	
Nickel (Ni)					0.06	
Lead (Pb)					0.014	
Sulphur (S)					0.01	
Antimony (Sb)					0.04	
Selenium (Se)					3.74	
Silicon (Si)					0.0002	

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	3/29/1994	4/24/1994	5/31/1994	6/28/1994	7/27/1994	7/29/1994
Tin (Sn)					0.003	
Stronium (Sr)					45.4	
Tellurium (Te)						
Titanium (Ti)					0.01	
Thallium (Tl)						
Vanadium (V)					1.69	
Zinc (Zn)					0.001	
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.03	0.01	0.02			
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.03	0.01	0.01	0.02		0.01
Iron (Fe)	0.21	1.31	2.05	1.76		4.39
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	4.96	3.04	3.53	3.48		6.29
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.00	0.02	0.07	0.02		0.03
Zinc (Zn)	1.48	1.32	1.85	1.73		2.35
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)					0.03	
Arsenic (As)					0.02	
Barium (Ba)					0.0075	
Calcium (Ca)					81.8	
Cadmium (Cd)					0.0126	
Copper (Cu)					0.002	
Iron (Fe)					0.04	
Molybdenum (Mo)					0.005	
Sodium (Na)					1.11	
Lead (Pb)					0.007	
Antimony (Sb)					0.02	
Selenium (Se)					0.001	
Zinc (Zn)					1.36	

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	10/31/1994	11/29/1994	1/5/1995	2/6/1995	3/1/1995	4/27/1995
Physical Parameters						
pH	8.0	7.4	7.8	7.1	7.5	6.6
pH (in Field)						
Conductivity, mircro<mho/cm	290	370	400	410	300	460
Conductivity (in Field), micro<mho/cm						
Total Suspended Solids, mg/L	0	8	0	0	8	3
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	1.30	1.30	1.00	1.00	1.50	1.50
Temp., degrees Celcius	0.6	0.6	1.0	0.5	2.0	1.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	10/31/1994	11/29/1994	1/5/1995	2/6/1995	3/1/1995	4/27/1995
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.14	0.00	0.01	0.10	0.02	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.05	0.00	0.00	0.01		0.01
Iron (Fe)	3.81	1.28	0.18	0.24	0.09	2.26
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	5.20	4.81	0.10	3.35	4.96	4.62
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.15	0.12	0.16	0.05	0.01	0.12
Zinc (Zn)	2.78	2.05	0.26	2.26	1.86	1.59
Zirconium (Zr)						
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station					
Collected By:	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	5/3/1995	6/6/1995	8/11/1995	9/3/1995	9/5/1995
Physical Parameters					
pH	7.2	7.0	7.9	8.0	7.7
pH (in Field)					
Conductivity, mircro<mho/cm	300	325	270	260	450
Conductivity (in Field), micro<mho/cm					
Total Suspended Solids, mg/L	2	3	8	2	12
Turbidity, NTU					
Dissolved Susspended Solids, mg/L					249.00
Flow, L/s	1.50	2.00	2.00	1.00	
Temp., degrees Celcius	1.0	2.0	2.0	2.0	
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L					119
Sulphate (SO4), mg/L					135.0
Nutrients					
Nitrite Nitrogen (NO2), mg/L					
Nitrate Nitrogen (NO3), mg/l					
N<NH3, mg/L					
Total Metals (mg/L)					
Silver (Ag)					
Aluminum (Al)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)					
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)					
Iron (Fe)					
Mercury (Hg)					
Potassium (K)					
Lithium (Li)					
Magnesium (Mg)					
Manganese (Mn)					
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)					
Sulphur (S)					
Antimony (Sb)					
Selenium (Se)					
Silicon (Si)					

Station					
Collected By:	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	5/3/1995	6/6/1995	8/11/1995	9/3/1995	9/5/1995
Tin (Sn)					
Stronium (Sr)					
Tellurium (Te)					
Titanium (Ti)					
Thallium (Tl)					
Vanadium (V)					
Zinc (Zn)					
Zirconium (Zr)					
Extractable Metals					
Silver (Ag)					
Aluminum (Al)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)	0.03	0.00	0.02	0.04	
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)	0.02	0.01	0.04	0.02	
Iron (Fe)	2.00	2.58	2.06	2.00	
Mercury (Hg)					
Potassium (K)					
Lithium (Li)					
Magnesium (Mg)					
Manganese (Mn)	1.23	3.18	3.53	3.63	
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)	0.02	0.20	0.02	0.01	
Zinc (Zn)	1.95	1.62	1.49	1.50	
Zirconium (Zr)					
Dissolved Metals					
Aluminum (Al)					0.04
Arsenic (As)					0.02
Barium (Ba)					0.0079
Calcium (Ca)					76.9
Cadmium (Cd)					0.0099
Copper (Cu)					0.002
Iron (Fe)					0.008
Molybdenum (Mo)					0.005
Sodium (Na)					1.33
Lead (Pb)					0.005
Antimony (Sb)					0.02
Selenium (Se)					0.02
Zinc (Zn)					1.14

Station	No Cash 500 adit (LES 20, UKHM S-4)					
Collected By:	LES	LES	LES	UKHM	UKHM	UKHM
Sample Date	85/07/17	86/07/07	86/11/19	90/3/26	90/4/27	90/5/29
Physical Parameters						
pH	7.7	7.6		7.8	7.5	7.0
pH (in Field)	7.3		7.5			
Conductivity, mircro<mho/cm	980	1125		900	580	790
Conductivity (in Field), mircro<mho/cm	980		830			
Total Suspended Solids, mg/L	21	177		28	32	40
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	2.3	1.67	3.3	0.01		0.01
Temp., degrees Celcius	2		0.5	1.0	3.0	2.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L		112				
Sulphate (SO4), mg/L		510				
Nutrients						
Nitrite Nitrogen (NO2), mg/L		0.038				
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L	0.035	0.19				
N<N02<NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)	0.05	0.22				
Barium (Ba)	0.007	0.158				
Beryllium (Be)		0.001				
Bismuth (Bi)						
Calcium (Ca)	164	219				
Cadmium (Cd)	0.207	0.319				
Cobalt (Co)	0.011	0.15				
Chromium (Cr)	0.005	0.032				
Copper (Cu)	0.065	0.193				
Iron (Fe)	6.17	26				
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)	16.8	23.6				
Manganese (Mn)	13.9	20.9				
Molybdenum (Mo)	0.005	0.131				
Sodium (Na)	1	1.5				
Nickel (Ni)	0.07	0.13				
Lead (Pb)	0.04	1.36				
Sulphur (S)						
Antimony (Sb)	0.05	0.17				
Selenium (Se)	0.05	0.52				
Silicon (Si)	1.8	8.4				

Station	No Cash 500 adit (LES 20, UKHM S-4)					
Collected By:	LES	LES	LES	UKHM	UKHM	UKHM
Sample Date	85/07/17	86/07/07	86/11/19	90/3/26	90/4/27	90/5/29
Tin (Sn)	0.01	0.06				
Stronium (Sr)	0.144	0.237				
Tellurium (Te)						
Titanium (Ti)	0.002	0.15				
Thallium (Tl)						
Vanadium (V)	0.005	0.037				
Zinc (Zn)	17.5	22.6				
Zirconium (Zr)						
Extractable Metals						
Cadmium (Cd)				0.01	0.01	0.96
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)				0.03	0.04	0.19
Iron (Fe)					1.06	3.72
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)				0.35	ND	17.20
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)				0.08		0.20
Zinc (Zn)				0.01		31.60
Zirconium (Zr)						
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)	Aluminum Al			0.04		
Arsenic (As)	Arsenic As			0.02		
Barium (Ba)	Barium Ba			0.0043		
Calcium (Ca)	Calcium Ca					
Cadmium (Cd)	Cadmium Cd			0.15		
Copper (Cu)	Copper Cu			0.005		
Iron (Fe)	Iron Fe			0.006		
Molybdenum (Mo)	Molybdenum Mo			0.005		
Sodium (Na)	Sodium Na			1.36		
Lead (Pb)	Lead Pb			0.019		
Antimony (Sb)	Antimony Sb			0.02		
Selenium (Se)	Selenium Se			0.02		
Zinc (Zn)	Zinc Zn			13.1		

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/6/28	90/7/29	90/8/27	90/9/27	90/10/29	90/11/30
Physical Parameters						
pH	7.0	7.1	7.2	6.6	6.8	6.9
pH (in Field)						
Conductivity, mircro<mho/cm	850	950	800	760	775	740
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	12	24	56	48	32	16
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	1.67	2.67	2.67	6.67		0.50
Temp., degrees Celcius	2.0	6.0	3.0	1.0	0.0	0.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
N<N02<NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/6/28	90/7/29	90/8/27	90/9/27	90/10/29	90/11/30
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Cadmium (Cd)	0.39	0.20	0.23	0.56	0.68	0.80
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.17	0.10	0.07	0.36	0.20	0.16
Iron (Fe)	4.80	4.40	4.80	16.80	18.70	18.00
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	28.40	21.20	22.40	30.00	28.00	29.00
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.20	0.13	0.10	0.51	0.51	0.98
Zinc (Zn)	33.60	20.00	21.00	18.40	20.20	19.40
Zirconium (Zr)						
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	90/12/20	91/1/29	91/2/26	91/3/28	91/4/26	91/5/20	91/05/22
Physical Parameters							
pH	6.8	7.3	7.8	7.9	7.8	6.8	7.4
pH (in Field)							6.8
Conductivity, mircro<mho/cm	665	200	800	480	480	690	1220
Conductivity (in Field), mircro<mho/cm							690
Total Suspended Solids, mg/L	12	0	16	4	8	12	40
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	0.50			7.96	3.26	3.80	3.2
Temp., degrees Celcius	0.0	20.0	10.0	0.0	8.0	2.3	2.3
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							22.4
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	90/12/20	91/1/29	91/2/26	91/3/28	91/4/26	91/5/20	91/05/22
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.67	0.03	0.09	0.02	0.03	0.41	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.08	0.17	0.01	0.01	0.05	0.13	
Iron (Fe)	14.70		ND	0.75	0.92	2.22	
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	26.00	3.02	1.22	0.98	0.04	17.27	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	1.40		0.02	0.01	0.01	0.09	
Zinc (Zn)	18.10	0.01	0.42	0.08	0.08	45.69	
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/6/1	91/7/1	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1
Physical Parameters							
pH	7.5	7.4	7.1	6.8	7.3	7.8	7.8
pH (in Field)							
Conductivity, mircro<mho/cm	740	740	760	520	540	580	720
Conductivity (in Field), mircro<mho/cm							
Total Suspended Solids, mg/L	24	24	24	28	40	28	24
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	3.80	4.00	4.00	4.00	4.00	3.50	3.50
Temp., degrees Celcius	3.0	4.0	2.0	2.0	1.0	0.0	0.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/6/1	91/7/1	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.13	0.85	0.10	0.02	0.17	0.12	0.10
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.11	0.82	0.19	0.06	0.09	0.05	0.03
Iron (Fe)	13.83	9.20	1.30	3.90	20.69	9.24	6.13
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	19.82	18.57	3.20	11.34	8.06	17.00	13.64
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)			0.01	0.02	0.10	0.11	0.04
Zinc (Zn)	55.08	30.24	15.34	17.53	14.75	16.57	13.98
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1
Physical Parameters							
pH	7.8	7.5	8.0	7.8	6.3	7.0	7.0
pH (in Field)							
Conductivity, mircro<mho/cm	740	660	700	790	760	580	610
Conductivity (in Field), mircro<mho/cm							
Total Suspended Solids, mg/L	20	16	8	8	12	20	12
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	3.50	3.50	3.00	3.00	3.50	4.50	4.50
Temp., degrees Celcius	0.0	1.0	0.0	1.0	1.0	1.0	2.0
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.10				0.59	0.37	0.14
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.02	0.01	0.01	0.01	0.32	0.10	0.05
Iron (Fe)	6.45	1.56		1.53	9.04	4.18	0.41
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	13.68	8.24	5.47	5.32	21.59	17.69	26.54
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.04	0.05	0.02	0.01	0.04	0.12	0.03
Zinc (Zn)	14.82	8.28	6.86	6.75	7.12	9.30	10.22
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM	UKHM
Sample Date	92/8/1	92/9/1	92/10/1	92/10/28	92/11/1	92/12/1	93/1/1
Physical Parameters							
pH	6.9	7.5	8.0		7.8	7.9	8.0
pH (in Field)				8			
Conductivity, mircro<mho/cm	620	660	1211		900	810	765
Conductivity (in Field), mircro<mho/cm				1211			
Total Suspended Solids, mg/L	16	16	16	40	16	16	10
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	4.50	4.50	4.50	4.5	4.50	4.00	4.00
Temp., degrees Celcius	2.0	2.0	0.1	0.1	0.1	0.1	0.1
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM	UKHM
Sample Date	92/8/1	92/9/1	92/10/1	92/10/28	92/11/1	92/12/1	93/1/1
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.14	0.45	0.33		0.11	0.01	0.03
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.05	0.09	0.06		0.03	0.05	0.04
Iron (Fe)	1.71	5.24	6.45		4.45	6.14	5.78
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	23.07	22.75	20.75		13.41	8.20	9.44
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.06	0.15	0.08		0.10	0.05	0.03
Zinc (Zn)	12.60	10.01	14.60		17.44	13.25	3.99
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	93/2/1	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/07/21
Physical Parameters							
pH	8.1	8.0	7.5	6.6	7.1	7.0	7.28
pH (in Field)							7
Conductivity, mircro<mho/cm	840	840	840	620	580	987	771
Conductivity (in Field), mircro<mho/cm							986
Total Suspended Solids, mg/L	16	16	20			16	20
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	4.00	4.00	4.00	4.50	4.50	9.50	9
Temp., degrees Celcius	1.0	1.0	1.0	1.0	1.0	3.4	3.4
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							98
Sulphate (SO4), mg/L							370
Nutrients							
Nitrite Nitrogen (NO2), mg/L							0.002
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							0.045
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							0.006
Aluminum (Al)							
Arsenic (As)							0.6
Barium (Ba)							0.01
Beryllium (Be)							0.01
Bismuth (Bi)							
Calcium (Ca)							192
Cadmium (Cd)							0.23
Cobalt (Co)							0.06
Chromium (Cr)							0.06
Copper (Cu)							0.06
Iron (Fe)							4.61
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							18
Manganese (Mn)							
Molybdenum (Mo)							0.1
Sodium (Na)							2
Nickel (Ni)							0.3
Lead (Pb)							0.06
Sulphur (S)							
Antimony (Sb)							0.6
Selenium (Se)							0.6
Silicon (Si)							3.5

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	93/2/1	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/07/21
Tin (Sn)							0.6
Stronium (Sr)							0.182
Tellurium (Te)							
Titanium (Ti)							0.02
Thallium (Tl)							
Vanadium (V)							0.1
Zinc (Zn)							22.9
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.05	0.04	0.07	0.39	0.21	0.24	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.04	0.03	0.02	0.07	0.09	0.04	
Iron (Fe)	4.80	1.66	1.66	6.55	5.28	2.10	
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	7.16	0.78	0.78	20.25	17.50	17.98	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.03	0.04	0.03	0.10	0.09	0.04	
Zinc (Zn)	2.30	4.22	4.33	12.05	16.01	17.07	
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/8/1	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1
Physical Parameters							
pH	7.1	7.4	7.6	7.6	7.6	8.1	8.2
pH (in Field)							
Conductivity, mircro<mho/cm	840	760	760	750	730	760	940
Conductivity (in Field), mircro<mho/cm							
Total Suspended Solids, mg/L	20	8	8	12	12	12	12
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	9.00	9.00	8.00	6.00	6.00	5.00	5.00
Temp., degrees Celcius	3.2	2.3	2.0	2.0	2.0	2.0	0.5
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/8/1	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.16	0.12	0.10	0.09	0.10	0.03	0.03
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.04	0.02	0.02	0.03	0.02	0.02	0.01
Iron (Fe)	1.72	1.98	2.49	2.69	1.95	1.83	1.81
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	17.59	14.37	13.32	12.55	11.06	8.91	8.79
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.04	0.04	0.06	0.06	0.05	0.06	0.06
Zinc (Zn)	13.23	11.15	12.25	11.25	11.20	9.86	10.09
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	94/3/1	94/4/24	94/5/10	94/5/31	94/6/28	94/07/27	94/7/29
Physical Parameters							
pH	8.3	7.4		6.9	4.9	7.6	7.7
pH (in Field)						7.56	
Conductivity, mircro<mho/cm	860	860		870	690	1100	1054
Conductivity (in Field), mircro<mho/cm						1055	
Total Suspended Solids, mg/L	12	12		12	0	16	12
Turbidity, NTU							
Dissolved Susspended Solids, mg/L						978	
Flow, L/s	5.00	5.00		6.00	6.50	4.2	4.20
Temp., degrees Celcius	2.0	4.0		2.1	3.6	2.4	2.4
Dissolved Oxygen						12.3	
Anions							
Alkalinity, CaCO3, mg/L						130	
Sulphate (SO4), mg/L						598	
Nutrients							
Nitrite Nitrogen (NO2), mg/L						5	
Nitrate Nitrogen (NO3), mg/l						3	
N<NH3, mg/L						0.09	
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)						0.0012	
Aluminum (Al)						0.22	
Arsenic (As)						0.05	
Barium (Ba)						0.0024	
Beryllium (Be)						0.0002	
Bismuth (Bi)						0.02	
Calcium (Ca)						249	
Cadmium (Cd)						0.14	
Cobalt (Co)						0.014	
Chromium (Cr)						0.001	
Copper (Cu)						0.002	
Iron (Fe)						5.01	
Mercury (Hg)							
Potassium (K)						0.8	
Lithium (Li)						0.031	
Magnesium (Mg)						23.5	
Manganese (Mn)						19.5	
Molybdenum (Mo)						0.005	
Sodium (Na)						1.37	
Nickel (Ni)						0.098	
Lead (Pb)						0.038	
Sulphur (S)						198	
Antimony (Sb)						0.02	
Selenium (Se)						0.001	
Silicon (Si)						2.5	

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	94/3/1	94/4/24	94/5/10	94/5/31	94/6/28	94/07/27	94/7/29
Tin (Sn)						0.01	
Stronium (Sr)						0.22	
Tellurium (Te)							
Titanium (Ti)						0.002	
Thallium (Tl)							
Vanadium (V)						0.006	
Zinc (Zn)						18.5	
Zirconium (Zr)						0.004	
Extractable Metals							
Cadmium (Cd)	0.02	0.03		0.23	0.13		0.20
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.02		0.04	0.09		0.03
Iron (Fe)	1.79	1.87		3.47	3.08		5.69
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	7.62	7.54		17.03	15.64		35.00
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.06	0.03		0.10	0.06		0.08
Zinc (Zn)	7.31	5.32		22.76	11.54		18.06
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	94/10/27	94/10/27	94/10/31	94/11/29	95/1/5	95/2/6
Physical Parameters						
pH	8.0	7.9	7.4	6.7	7.5	7.3
pH (in Field)	7.70	7.70				
Conductivity, mircro<mho/cm			790	990	1120	1220
Conductivity (in Field), mircro<mho/cm	1167	1167				
Total Suspended Solids, mg/L	18	21	20	0	0	6.8
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	1100	1090				
Flow, L/s	3.9	3.9	4.00	4.00	3.00	3.00
Temp., degrees Celcius	3.4	3.4	0.8	0.8	1.0	1.0
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L	175	174				
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
N<N02<NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)	0.001	0.001				
Aluminum (Al)	0.19	0.19				
Arsenic (As)	0.03	0.03				
Barium (Ba)	0.0039	0.0038				
Beryllium (Be)	0.0003	0.0003				
Bismuth (Bi)	0.02	0.02				
Calcium (Ca)	263	261				
Cadmium (Cd)	0.0784	0.0764				
Cobalt (Co)	0.012	0.012				
Chromium (Cr)	0.003	0.001				
Copper (Cu)	0.019	0.019				
Iron (Fe)	4.69	4.77				
Mercury (Hg)						
Potassium (K)	0.4	0.4				
Lithium (Li)	0.034	0.032				
Magnesium (Mg)	25.6	25				
Manganese (Mn)	14.1	14				
Molybdenum (Mo)	0.005	0.005				
Sodium (Na)	1.44	1.45				
Nickel (Ni)	0.097	0.097				
Lead (Pb)	0.02	0.03				
Sulphur (S)	194	194				
Antimony (Sb)	0.02	0.02				
Selenium (Se)	0.02	0.02				
Silicon (Si)	2.52	2.45				

Station						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	94/10/27	94/10/27	94/10/31	94/11/29	95/1/5	95/2/6
Tin (Sn)	0.01	0.01				
Stronium (Sr)	0.23	0.22				
Tellurium (Te)						
Titanium (Ti)	0.002	0.002				
Thallium (Tl)						
Vanadium (V)	0.009	0.008				
Zinc (Zn)	10.9	10.8				
Zirconium (Zr)	0.001	0.001				
Extractable Metals						
Cadmium (Cd)			0.44	0.13	0.06	0.05
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)			0.05	0.04	0.02	0.03
Iron (Fe)			5.25	4.01	2.70	5.24
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)			16.00	12.00	10.35	8.66
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)			0.34	0.24	0.14	0.03
Zinc (Zn)			11.80	9.28	6.39	6.04
Zirconium (Zr)						
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)	0.05					
Arsenic (As)	0.02					
Barium (Ba)	0.0025					
Calcium (Ca)	209					
Cadmium (Cd)	0.124					
Copper (Cu)	0.002					
Iron (Fe)	0.093					
Molybdenum (Mo)	0.005					
Sodium (Na)	1.32					
Lead (Pb)	0.01					
Antimony (Sb)	0.02					
Selenium (Se)	0.001					
Zinc (Zn)	14.2					

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	95/3/29	95/4/27	95/5/3	95/6/6	95/8/11	95/9/3	95/09/05
Physical Parameters							
pH	7.3	7.6	6.3	7.0	7.3	7.4	7.5
pH (in Field)							7.16
Conductivity, mircro<mho/cm	1075	1020	780	800	660	395	950
Conductivity (in Field), mircro<mho/cm							913
Total Suspended Solids, mg/L	12	36	68	40	16	4	23
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							893.00
Flow, L/s	3.00	2.50	3.00	4.00	5.00	3.50	5
Temp., degrees Celcius	0.5	1.0	1.0	2.0	2.0	2.0	2.6
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							112
Sulphate (SO4), mg/L							504.0
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N<NH3, mg/L							
N<N02<NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	LES
Sample Date	95/3/29	95/4/27	95/5/3	95/6/6	95/8/11	95/9/3	95/09/05
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.02	0.00	0.89	0.39	0.29	0.28	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.02	0.02	0.38	0.06	0.11	0.08	
Iron (Fe)	2.35	2.98	61.00	3.80	19.00	17.00	
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	6.41	4.83	41.00	22.00	20.00	22.00	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.00	0.02	0.00	0.20	0.05	0.06	
Zinc (Zn)	4.39	4.10	61.00	26.00	14.00	15.40	
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station	Galkeno 900 Adit (Les 31 or 31e, UKHM S-5)				
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	750630	750716	750815	750916	751015
Physical Parameters					
pH	7.1	6.80	7.00	6.80	7.10
pH (in Field)					
Conductivity, mircro<mho/cm					
Conductivity (in Field), mircro<mho/cm					
Total Suspended Solids, mg/L	13.00	12.00	17.00	9.00	10.00
Turbidity, NTU					
Dissolved Susspended Solids, mg/L	13.0	12.0	17.0	9.0	10.0
Flow, L/min	0.03	0.03	0.03	0.03	0.03
Temp., degrees Celcius	4.0	4.0	4.0	5.0	4.0
Tota Hardness, mg/L					
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L					
Nutrients					
Nitrite Nitrogen (NO2), mg/L					
Nitrate Nitrogen (NO3), mg/l					
N<NH3, mg/L					
Cyanide					
Total Cyanide, mg/L					
Total Metals (mg/L)					
Silver (Ag)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)					
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)					
Iron (Fe)					
Magnesium (Mg)					
Manganese (Mn)					
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)					
Sulphur (S)					
Antimony (Sb)					
Selenium (Se)					
Silicon (Si)					
Tin (Sn)					
Stronium (Sr)					
Tellurium (Te)					
Titanium (Ti)					
Vanadium (V)					
Zinc (Zn)					
Extractable Metals					
Silver (Ag)					

Station	Galkeno 900 Adit (Les 31 or 31e, UKHM S-5)				
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	750630	750716	750815	750916	751015
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)	0.01	0.04	0.06	0.03	0.04
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)	0.01	0.01	0.01	<0.01	<0.01
Iron (Fe)	0.17	0.24	0.60	0.60	2.00
Mercury (Hg)					
Potassium (K)					
Manganese (Mn)					
Nickel (Ni)					
Lead (Pb)	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc (Zn)	1.20	4.00	8.90	11.15	15.14

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	760616	760715	760817	760916	761014	770517
Physical Parameters						
pH	6.80	6.90	6.80	6.80	6.70	6.70
pH (in Field)						
Conductivity, mircro<mho/cm						
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	12.00	11.00	9.00	9.00	7.00	20.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	12.0	11.0	9.0	9.0	7.0	20.0
Flow, L/min	0.03	0.30	0.36	0.26	0.05	0.40
Temp., degrees Celcius	5.0	4.0	4.0	2.0	1.0	4.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	760616	760715	760817	760916	761014	770517
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Iron (Fe)	0.60	0.80	0.40	0.40	<0.10	2.04
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)						
Nickel (Ni)						
Lead (Pb)	<0.1	<0.1	<0.1	<0.1	<0.1	0.04
Zinc (Zn)	13.59	16.93	16.95	23.90	21.10	24.50

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	770615	770718	770818	770915	771017	771116
Physical Parameters						
pH	6.80	6.80	7.20	7.10	6.80	7.10
pH (in Field)						
Conductivity, mircro<mho/cm						
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	5.00	13.00	46.00	20.00	24.00	7.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	5.0	13.0	46.0	20.0	24.0	7.0
Flow, L/min	0.65	0.31	0.50	0.55	0.50	0.33
Temp., degrees Celcius	4.0	9.0	9.0	4.0	3.5	3.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	770615	770718	770818	770915	771017	771116
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	<0.01	<0.01	0.01	0.01	0.01	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	<0.01	<0.01	0.01	0.01	0.01	0.01
Iron (Fe)	2.79	4.23	5.62	5.18	3.23	3.60
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)						
Nickel (Ni)						
Lead (Pb)	<0.01	0.14	0.15	0.01	0.01	0.01
Zinc (Zn)	14.26	18.40	21.50	20.00	23.10	24.40

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	771215	780116	780215	780313	780417	780516
Physical Parameters						
pH	7.10	7.00	7.00	6.80	7.20	7.30
pH (in Field)						
Conductivity, mircro<mho/cm						
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	24.00	3.00	12.00	13.00	5.00	18.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	24.0	3.0	12.0	13.0	5.0	18.0
Flow, L/min	0.26	0.60			2.40	0.33
Temp., degrees Celcius	2.0	4.0	3.0	3.0	4.0	4.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	771215	780116	780215	780313	780417	780516
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.01	0.13	0.01	0.03	0.01	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.07	0.01	0.01	0.01	0.01
Iron (Fe)	14.04	5.54	1.97	3.08	6.72	0.30
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)						
Nickel (Ni)						
Lead (Pb)	0.01	0.07	0.18	0.06	0.01	0.01
Zinc (Zn)	25.80	17.20	16.60	18.30	26.80	12.89

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	780615	780713	780816	780919	781016	790517
Physical Parameters						
pH	8.20	7.40	7.40	7.60	7.20	6.63
pH (in Field)						
Conductivity, mircro<mho/cm						
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	18.00	19.00	16.00	13.00	34.00	13.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	18.0	19.0	16.0	13.0	34.0	13.0
Flow, L/min	0.51	0.56	0.29	0.29	0.58	0.88
Temp., degrees Celcius	4.0	5.0	4.0	4.0	3.0	7.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	780615	780713	780816	780919	781016	790517
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.01	0.01	0.01	0.01	0.01	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	0.01	0.01	0.01	0.01
Iron (Fe)	2.44	0.23	3.76	5.30	7.83	4.87
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)						
Nickel (Ni)						
Lead (Pb)	0.01	0.11	0.08	0.01	0.01	0.01
Zinc (Zn)	12.98	1.88	18.36	28.70	19.80	5.51

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	790618	790717	790815	790919	791021	800516
Physical Parameters						
pH	6.79	6.67	6.74	6.84	6.93	6.93
pH (in Field)						
Conductivity, mircro<mho/cm						
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	10.00	12.00	10.00	36.00	12.00	13.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	10.0	12.0	10.0	36.0	12.0	13.0
Flow, L/min	0.24	0.24	0.20	0.20	0.15	0.18
Temp., degrees Celcius	3.0	5.0	3.0	3.0	4.0	5.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						0.01

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	790618	790717	790815	790919	791021	800516
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.01	0.01	0.01	0.01	0.01	0.02
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	0.01	0.01	0.01	0.01
Iron (Fe)	3.84	4.28	7.08	7.34	5.92	5.10
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)						
Nickel (Ni)						
Lead (Pb)	0.11	0.15	0.01	0.01	0.01	0.01
Zinc (Zn)	14.16	14.13	12.38	22.40	14.00	31.80

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	800618	800711	800829	800929	801030	801124
Physical Parameters						
pH	6.72	6.92	6.76	6.80	7.24	7.12
pH (in Field)						
Conductivity, mircro<mho/cm						
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	18.00	5.00	15.00	16.00	5.00	12.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	18.0	5.0	15.0	16.0	5.0	12.0
Flow, L/min	0.54	0.32		0.20	0.15	
Temp., degrees Celcius	4.0	6.0	12.0	10.0	2.0	2.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.02	<0.01	0.01	0.03	0.01	0.01

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	800618	800711	800829	800929	801030	801124
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)	0.02	0.02	0.01	0.04	0.01	0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.02	0.01	0.03	0.01	0.01
Iron (Fe)	4.90	5.06	5.90	7.50	6.84	7.30
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)						
Nickel (Ni)						
Lead (Pb)	0.01	0.08	0.01	0.29	0.24	0.01
Zinc (Zn)	23.00	16.90	19.30	8.87	25.10	33.70

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	801216	811019	811116	820525	820617	820719
Physical Parameters						
pH	7.40	6.65	0.00	6.60	7.02	8.40
pH (in Field)						
Conductivity, mircro<mho/cm		0.00	0.00	0.00	0.00	0.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	7.00	6.00	0.00	26.00	8.00	16.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	7.0	6.0	0.0	26.0	8.0	16.0
Flow, L/min		0.00	<0.1	5.40	0.00	0.00
Temp., degrees Celcius	4.0	2.0	0.0	0.0	10.0	11.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L		0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.01	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	801216	811019	811116	820525	820617	820719
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)		0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.01	0.04	0.00	0.03	0.01	0.03
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	0.00	0.03	0.01	0.01
Iron (Fe)	4.90	0.01	0.00	7.10	4.40	2.40
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)		0.00	0.00	0.00	0.00	0.00
Nickel (Ni)		0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.01	0.01	0.00	0.01	0.01	0.01
Zinc (Zn)	25.00	18.00	0.00	35.00	21.00	24.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	820811	820921	821020	821202	830328	830525
Physical Parameters						
pH	6.77	6.81	7.18	6.80	6.72	6.82
pH (in Field)						
Conductivity, mircro<mho/cm	0.00	0.00	0.00	0.00	0.00	0.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	7.00	18.00	2.00	160.00	90.00	14.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	7.0	18.0	2.0	160.0	90.0	14.0
Flow, L/min	0.00	0.00	0.00	0.00	0.00	0.00
Temp., degrees Celcius	0.0	4.0	3.0	4.0	0.0	0.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	820811	820921	821020	821202	830328	830525
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.05	0.03	0.04	0.02	0.02	0.32
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.03	0.01	0.02	0.03	0.02	0.17
Iron (Fe)	3.94	4.52	3.66	1.56	0.27	2.39
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.00	0.00	0.00	0.00	0.00	0.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.01	0.10	0.01	0.66	0.45	1.12
Zinc (Zn)	20.20	4.99	4.49	4.73	7.55	3.97

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	830622	830727	830825	830922	831027	840103
Physical Parameters						
pH	7.50	7.01	6.94	6.84	6.85	6.81
pH (in Field)						
Conductivity, mircro<mho/cm	0.00	0.00	0.00	0.00	0.00	1940.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	0.00	15.00	16.00	7.00	20.00	8.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	0.0	15.0	16.0	7.0	20.0	8.0
Flow, L/min	0.00	0.00	0.00	0.00	0.00	0.00
Temp., degrees Celcius	0.0	0.0	5.0	0.0	2.0	0.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	<0.01	<0.01	<0.01	<0.01	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	830622	830727	830825	830922	831027	840103
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.07	0.04	0.01	0.01	0.01	0.02
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.08	<0.01	<0.01	<0.01	<0.01
Iron (Fe)	0.05	5.78	3.97	4.25	3.73	5.32
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.00	0.00	0.00	0.00	0.00	0.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.45	0.02	0.01	<0.01	<0.01	<0.01
Zinc (Zn)	0.81	25.20	25.80	19.20	32.60	27.80

Station						
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
Sample Date	840604	840927	850529	850717	850731	850905
Physical Parameters						
pH	6.74	6.59	7.50	7.40	6.96	7.01
pH (in Field)				7.20		
Conductivity, mircro<mho/cm	0.00	0.00	0.00	2200.00	0.00	0.00
Conductivity (in Field), mircro<mho/cm				1500.00		
Total Suspended Solids, mg/L	4.00	13.00	7.00		5.00	14.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	4.0	13.0	7.0		5.0	14.0
Flow, L/min	0.00	0.00	0.00	0.01	0.00	0.00
Temp., degrees Celcius	0.0	0.0	0.0	6.0	0.0	4.0
Tota Hardness, mg/L				1390.00		
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L				0.11		
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)				0.29		
Boron (B)				0.01		
Barium (Ba)				0.02		
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)				456.00		
Cadmium (Cd)				0.01		
Cobalt (Co)				0.08		
Chromium (Cr)				0.01		
Copper (Cu)				0.01		
Iron (Fe)				7.12		
Magnesium (Mg)				42.10		
Manganese (Mn)				13.50		
Molybdenum (Mo)				<0.005		
Sodium (Na)				2.20		
Nickel (Ni)				0.38		
Lead (Pb)				0.02		
Sulphur (S)						
Antimony (Sb)				<0.05		
Selenium (Se)				<0.05		
Silicon (Si)				3.00		
Tin (Sn)				<0.01		
Stronium (Sr)				0.43		
Tellurium (Te)						
Titanium (Ti)				<0.002		
Vanadium (V)				<0.005		
Zinc (Zn)				25.80		
Extractable Metals						
Silver (Ag)	<0.01	<0.01	<0.01	<0.01	<0.01	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
Sample Date	840604	840927	850529	850717	850731	850905
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.03	0.01	0.01	0.04	0.02	<0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	<0.01	0.02	0.01	<0.01	0.02	<0.01
Iron (Fe)	5.27	5.06	4.57	3.76	5.37	5.84
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.00	0.00	0.00	0.00	0.00	0.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	<0.01	0.01	<0.1	0.01	<0.01	<0.01
Zinc (Zn)	24.60	26.70	28.80	30.20	26.10	33.80

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	DIAND
Sample Date	851017	851128	860204	860528	860701	860706
Physical Parameters						
pH	7.00	7.07	6.92	7.01	6.88	7.20
pH (in Field)						7.40
Conductivity, mircro<mho/cm	0.00	1880.00	1980.00	2050.00	1750.00	2100.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	10.00	1.00	1.00	4.00	2.00	
Turbidity, NTU						18.00
Dissolved Susspended Solids, mg/L	10.0	1.0	1.0	4.0	2.0	
Flow, L/min	0.00	0.00	0.00	0.00	0.00	113.5igpm
Temp., degrees Celcius	0.0	1.0	2.0	0.0	0.0	6.0
Tota Hardness, mg/L						1380.00
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						148.00
Nutrients						
Nitrite Nitrogen (NO2), mg/L						<0.005
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						0.11
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	DIAND
Sample Date	851017	851128	860204	860528	860701	860706
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.02	0.01	0.01	0.03	0.02	0.02
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.02	0.01	<0.01	<0.01	0.02	0.01
Iron (Fe)	5.16	4.23	5.75	4.04	5.14	4.08
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.00	0.00	0.00	0.00	0.00	0.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.01	0.01	<0.01	<0.01	<0.01	<0.01
Zinc (Zn)	29.70	27.40	25.50	30.40	29.80	30.50

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	860730	860903	861012	861101	870604	870716
Physical Parameters						
pH	6.92	6.94	7.24	6.90	6.87	6.90
pH (in Field)						
Conductivity, mircro<mho/cm	1900.00	2080.00	2030.00	2000.00	1710.00	1650.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	3.00	6.00	21.00	<1	1.00	8.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	3.0	6.0	21.0	<1	1.0	8.0
Flow, L/min	0.00	0.00	0.00	0.00	0.00	0.00
Temp., degrees Celcius	0.0	0.0	0.0	0.0	4.0	4.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)		0.40				
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	860730	860903	861012	861101	870604	870716
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.03	0.02	0.01	0.01	0.03	0.03
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.04	0.01	<0.01	<0.01	<0.01
Iron (Fe)	5.96	4.91	4.62	5.24	5.64	5.54
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.00	0.00	0.00	0.00	0.00	0.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	<0.5	<0.5	0.01	<0.01	<0.01	<0.01
Zinc (Zn)	30.10	31.60	25.60	31.80	32.50	28.20

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	870804	870924	871022	890504	890531	890603
Physical Parameters						
pH	6.89	6.85	6.62	6.75	6.71	6.67
pH (in Field)						
Conductivity, mircro<mho/cm	1940.00	1362.00	1925.00	1800.00	1640.00	3000.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	13.00	8.00	10.00	6.00	40.00	6.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	13.0	8.0	10.0	6.0	40.0	6.0
Flow, L/min	0.00	0.00	0.00	6.00	5.30	0.00
Temp., degrees Celcius	7.0	3.0	3.0	5.0	7.0	6.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	870804	870924	871022	890504	890531	890603
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.02	0.03	0.05	0.05	0.05	0.03
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.02	0.00	0.00	0.00	0.02
Iron (Fe)	4.08	3.18	4.40	3.79	3.79	4.03
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.00	53.26	23.17	69.40	89.40	63.90
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.17	0.10	0.06	0.27	0.27	0.22
Zinc (Zn)	27.60	1.27	41.36	39.20	39.20	39.50

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	890703	890730	890913	891016	891114	891227
Physical Parameters						
pH	0.00	6.73	6.65	7.39	0.00	0.00
pH (in Field)						
Conductivity, mircro<mho/cm	3000.00	1800.00	1850.00	1525.00	1360.00	1660.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	8.00	14.00	10.00	6.00	38.00	22.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	8.0	14.0	10.0	6.0	38.0	22.0
Flow, L/min	5.30	6.00	5.00	6.00	7.00	6.00
Temp., degrees Celcius	6.0	4.0	7.0	3.0	0.0	<1
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	890703	890730	890913	891016	891114	891227
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.03	0.03	0.02	0.06	0.04	0.03
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.02	0.01	0.01	0.02	0.01	0.02
Iron (Fe)	4.11	1.73	3.53	4.02	4.28	3.84
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	83.00	107.40	83.30	91.00	94.50	29.80
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.00	0.06	0.02	0.03	0.00	0.27
Zinc (Zn)	42.00	49.30	39.20	45.40	45.10	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	900202	900401	900428	900519	900704	900802
Physical Parameters						
pH	6.90	6.71	6.72	6.53	6.61	6.50
pH (in Field)						
Conductivity, mircro<mho/cm	1200.00	1280.00	1410.00	1510.00	1600.00	1450.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	16.00	24.00	32.00	8.00	12.00	24.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	16.0	24.0	32.0	8.0	12.0	24.0
Flow, L/min	6.00	5.00	1642.00	4.00	5.00	6.00
Temp., degrees Celcius	0.0	2.0	3.0	7.0	5.0	4.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	900202	900401	900428	900519	900704	900802
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.00	0.03	0.03	0.03	0.03	<0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.00	0.01	0.01	0.01	0.06	0.04
Iron (Fe)	3.80	4.00	3.60	3.40	3.50	4.10
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	0.07	78.00	82.00	82.00	83.00	73.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.00	0.10	0.26	0.14	0.07	4.30
Zinc (Zn)	6.85	40.00	36.00	36.00	36.00	28.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	900831	900928	901030	901130	901220	910319
Physical Parameters						
pH	6.50	6.64	6.49	6.80	6.41	7.10
pH (in Field)						
Conductivity, mircro<mho/cm	1500.00	1650.00	1800.00	1600.00	150.00	1320.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	28.00	28.00	52.00	16.00	12.00	12.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	28.0	28.0	52.0	16.0	12.0	12.0
Flow, L/min	7.50	7.00	8.00	0.40	0.40	2.00
Temp., degrees Celcius	5.0	2.0	0.5	0.5	0.5	2.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	900831	900928	901030	901130	901220	910319
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.02	<0.01	0.01	<0.01	0.07	0.18
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.02	0.01	0.01	0.41	0.03	<0.01
Iron (Fe)	2.60	2.00	2.10	8.31	22.10	2.26
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	82.00	48.00	36.00	4500.00	27.22	83.20
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.50	0.19	0.47	0.09	0.05	0.06
Zinc (Zn)	20.00	21.50	19.00	34.00	23.43	55.80

Station					
Collected By:	UKHM	UKHM/DIAND	UKHM	UKHM	UKHM
Sample Date	910429	910522	910622	910731	910820
Physical Parameters					
pH	6.95	6.60	7.15	6.68	6.41
pH (in Field)					
Conductivity, mircro<mho/cm	870.00	1038.00	1040.00	1040.00	1040.00
Conductivity (in Field), mircro<mho/cm					
Total Suspended Solids, mg/L	16.00	4.00	12.00	8.00	12.00
Turbidity, NTU					
Dissolved Susspended Solids, mg/L	16.0	4.0	12.0	8.0	12.0
Flow, L/min	4.60	5.00	4.50	4.50	5.00
Temp., degrees Celcius	9.0	6.8	7.0	7.0	4.0
Tota Hardness, mg/L					
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L					
Nutrients					
Nitrite Nitrogen (NO2), mg/L					
Nitrate Nitrogen (NO3), mg/l					
N<NH3, mg/L					
Cyanide					
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)					
Silver (Ag)					
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)					
Cadmium (Cd)					
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)					
Iron (Fe)					
Magnesium (Mg)					
Manganese (Mn)					
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)					
Sulphur (S)					
Antimony (Sb)					
Selenium (Se)					
Silicon (Si)					
Tin (Sn)					
Stronium (Sr)					
Tellurium (Te)					
Titanium (Ti)					
Vanadium (V)					
Zinc (Zn)					
Extractable Metals					
Silver (Ag)	0.00	0.00	0.00	0.00	0.00

Station					
Collected By:	UKHM	UKHM/DIAND	UKHM	UKHM	UKHM
Sample Date	910429	910522	910622	910731	910820
Arsenic (As)					
Boron (B)					
Barium (Ba)					
Beryllium (Be)					
Bismuth (Bi)					
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	<0.01	0.01	0.01	0.02	0.00
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)	<0.01	<0.01	0.03	0.01	0.00
Iron (Fe)	1.90	3.10	3.12	1.44	0.00
Mercury (Hg)					
Potassium (K)					
Manganese (Mn)	78.01	69.33	3.50	31.47	0.00
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	<0.01	<0.01	<0.01	<0.01	0.00
Zinc (Zn)	64.64	67.51	58.10	36.55	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	910916	911023	911119	911216	920124	920227
Physical Parameters						
pH	6.10	0.00	7.26	7.04	7.36	6.87
pH (in Field)						
Conductivity, mircro<mho/cm	1030.00	0.00	920.00	1100.00	1100.00	1100.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	16.00	0.00	32.00	28.00	32.00	20.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	16.0	0.0	32.0	28.0	32.0	20.0
Flow, L/min	5.00	<0.1	2.80	2.80	2.80	2.80
Temp., degrees Celcius	4.0	0.0	1.0	0.5	0.5	1.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	910916	911023	911119	911216	920124	920227
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.03	0.01	0.01	<0.01	<0.01	0.02
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	<0.01	0.01	0.01	0.02
Iron (Fe)	10.10	6.43	4.37	5.12	3.78	0.24
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	27.79	56.12	35.35	20.31	27.90	28.89
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	<0.01	0.02	0.02	0.06	0.02	0.02
Zinc (Zn)	32.00	39.86	45.03	43.02	39.88	36.37

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	920320	920423	920527	920625	920729	920828
Physical Parameters						
pH	7.17	6.32	8.10	8.52	9.64	8.31
pH (in Field)						
Conductivity, mircro<mho/cm	1100.00	1300.00	1510.00	1800.00	1240.00	1110.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	28.00	12.00	8.00	8.00	80.00	160.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	28.0	12.0	8.0	8.0	80.0	160.0
Flow, L/min	3.00	3.00	7.00	6.00	6.00	6.00
Temp., degrees Celcius	0.5	1.0	2.0	2.0	7.0	5.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	920320	920423	920527	920625	920729	920828
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.02	0.02	0.01	0.01	0.16	0.12
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.01	0.02	0.01	0.03	0.01
Iron (Fe)	1.25	0.05	0.05	0.04	2.41	0.42
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	37.62	18.21	10.56	14.22	24.09	24.32
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.03	0.02	0.03	0.03	0.02	0.10
Zinc (Zn)	9.80	0.21	3.23	7.61	7.37	10.72

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	921005	921030	921118	921214	930129	930224
Physical Parameters						
pH	9.01	9.09	9.07	10.87	8.69	9.36
pH (in Field)						
Conductivity, mircro<mho/cm	1640.00	1200.00	1320.00	1330.00	1300.00	1400.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	20.00	48.00	48.00	48.00	52.00	48.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	20.0	48.0	48.0	48.0	52.0	48.0
Flow, L/min	6.00	9.00	9.00	9.00	9.00	9.00
Temp., degrees Celcius	4.5	2.5	2.5	2.5	2.7	3.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	921005	921030	921118	921214	930129	930224
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.06	<0.01	0.02	0.03	0.02	0.02
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.02	0.03	0.02	0.02	0.03	0.03
Iron (Fe)	3.02	2.02	1.37	4.13	0.89	0.64
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	21.19	11.28	26.80	27.92	26.46	0.35
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.11	0.13	0.06	0.05	0.03	0.06
Zinc (Zn)	13.16	11.44	5.92	6.71	2.79	0.40

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930322	930424	930526	930628	930721	930828
Physical Parameters						
pH	9.39	9.57	9.24	8.73	8.10	8.90
pH (in Field)						
Conductivity, mircro<mho/cm	1320.00	1210.00	1360.00	1520.00	2150.00	1420.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	32.00	28.00	0.00	0.00	20.00	24.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	32.0	28.0	0.0	0.0	20.0	24.0
Flow, L/min	9.00	9.00	9.00	9.00	12.00	12.00
Temp., degrees Celcius	5.0	4.0	5.1	6.9	6.9	4.7
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L	0.00	0.00	0.00	0.00	0.00	0.00
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930322	930424	930526	930628	930721	930828
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)	0.00	0.00	0.00	0.00	0.00	0.00
Cadmium (Cd)	0.02	0.01	0.03	0.02	0.02	0.03
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01	0.02	0.01	0.02	0.01	0.01
Iron (Fe)	0.14	0.02	0.06	0.02	0.15	2.51
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)	35.28	42.13	0.19	25.04	0.12	24.82
Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
Lead (Pb)	0.21	<0.01	0.01	0.01	0.01	0.01
Zinc (Zn)	0.69	0.67	0.28	0.47	0.49	1.76

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930929	931026	931125	931216	940127	940224
Physical Parameters						
pH	8.90	8.60		6.50	6.70	6.70
pH (in Field)						
Conductivity, mircro<mho/cm	1420.00	1380.00		1450.00	1300.00	1280.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	32.00	48.00		12.00	16.00	16.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	32.0	48.0		12.0	16.0	16.0
Flow, L/min	12.00	11.00	<0.1	1.20	2.20	2.30
Temp., degrees Celcius	3.5	3.0		3.5	3.0	3.0
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N<NH3, mg/L						
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930929	931026	931125	931216	940127	940224
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)		0.07	0.03	0.03	0.02	0.02
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)		0.02	<0.01	0.01	0.01	0.02
Iron (Fe)		1.15	2.42	2.49	1.63	1.53
Mercury (Hg)						
Potassium (K)						
Manganese (Mn)		21.56	23.54	23.76	21.45	27.08
Nickel (Ni)						
Lead (Pb)		0.02	0.03	0.03	0.04	0.01
Zinc (Zn)		23.18	39.98	34.91	34.68	32.76

Station						
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	940328	940423	940510	940727	941031	941129
Physical Parameters						
pH	6.90	6.90	6.90	7.40	6.50	6.39
pH (in Field)						
Conductivity, mircro<mho/cm	1340.00	1300.00	1400.00	2200.00	1600.00	1650.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	12.00	12.00	12.00		4.00	0.00
Turbidity, NTU				36.00		
Dissolved Susspended Solids, mg/L	12.0	12.0	12.0		4.0	0.0
Flow, L/min	2.40	24.00	3.00		4.40	4.40
Temp., degrees Celcius	2.0	5.0	3.2	3.1	2.8	2.8
Tota Hardness, mg/L						
Dissolved Oxygen				10.30		
Anions						
Alkalinity, CaCO3, mg/L				176.00		
Nutrients						
Nitrite Nitrogen (NO2), mg/L				< 10		
Nitrate Nitrogen (NO3), mg/l				< 2.		
N<NH3, mg/L				< 0.05		
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)				< 0.001		
Arsenic (As)				0.06		
Boron (B)						
Barium (Ba)				0.02		
Beryllium (Be)				< 0.0002		
Bismuth (Bi)						
Calcium (Ca)				492.00		
Cadmium (Cd)				0.02		
Cobalt (Co)				0.09		
Chromium (Cr)				< 0.001		
Copper (Cu)				< 0.002		
Iron (Fe)				4.87		
Magnesium (Mg)				41.50		
Manganese (Mn)				63.50		
Molybdenum (Mo)				< 0.005		
Sodium (Na)				2.49		
Nickel (Ni)				0.46		
Lead (Pb)				< 0.01		
Sulphur (S)						
Antimony (Sb)				< 0.02		
Selenium (Se)				< 0.02		
Silicon (Si)				4.66		
Tin (Sn)				< 0.01		
Stronium (Sr)				0.48		
Tellurium (Te)						
Titanium (Ti)				0.02		
Vanadium (V)				0.00		
Zinc (Zn)				27.60		
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	940328	940423	940510	940727	941031	941129
Arsenic (As)						
Boron (B)				0.06		
Barium (Ba)				0.01		
Beryllium (Be)				491.00		
Bismuth (Bi)				0.02		
Calcium (Ca)						
Cadmium (Cd)	0.03	0.19	0.08	0.03	0.01	0.02
Cobalt (Co)				< 0.005		
Chromium (Cr)				2.43		
Copper (Cu)	0.03	0.01	0.00	0.00	0.05	0.04
Iron (Fe)	1.51	3.21	2.72	3.18	4.04	1.00
Mercury (Hg)				< 0.02		
Potassium (K)				27.40		
Manganese (Mn)	24.10	161.00	72.00	79.00	58.00	47.00
Nickel (Ni)						
Lead (Pb)	0.03	0.40	0.09	0.03	0.06	0.41
Zinc (Zn)	36.40	30.50	26.00	25.00	17.00	12.00

Station						
Collected By:	UKHM	UKHM	UKHM	EPS	UKHM	UKHM
Sample Date	950105	950206	950329	950411	950427	950503
Physical Parameters						
pH	6.86	7.70	7.00	6.94	7.22	8.66
pH (in Field)						
Conductivity, mircro<mho/cm	1850.00	2000.00	1670.00	2250.00	1510.00	1130.00
Conductivity (in Field), mircro<mho/cm						
Total Suspended Solids, mg/L	0.00	32.00	40.00		48.00	80.00
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	0.0	32.0	40.0		48.0	80.0
Flow, L/min	4.50	4.50	4.50		1.10	1.60
Temp., degrees Celcius	2.0	2.0	0.2		7.0	7.0
Tota Hardness, mg/L				1620.00		
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L				184.00		
Nutrients						
Nitrite Nitrogen (NO2), mg/L				<0.005		
Nitrate Nitrogen (NO3), mg/l				<0.002		
N<NH3, mg/L				0.08		
Cyanide						
Total Cyanide, mg/L						
Total Metals (mg/L)						
Silver (Ag)				<0.01		
Arsenic (As)				0.07		
Boron (B)				<0.01		
Barium (Ba)				0.01		
Beryllium (Be)				0.00		
Bismuth (Bi)						
Calcium (Ca)				556.00		
Cadmium (Cd)				0.02		
Cobalt (Co)				0.09		
Chromium (Cr)				0.03		
Copper (Cu)				0.00		
Iron (Fe)				2.59		
Magnesium (Mg)				43.10		
Manganese (Mn)				66.40		
Molybdenum (Mo)				<0.01		
Sodium (Na)				1.90		
Nickel (Ni)				0.84		
Lead (Pb)				0.08		
Sulphur (S)						
Antimony (Sb)				0.07		
Selenium (Se)				0.26		
Silicon (Si)				4.59		
Tin (Sn)				<0.06		
Stronium (Sr)				0.54		
Tellurium (Te)						
Titanium (Ti)				0.01		
Vanadium (V)				<0.01		
Zinc (Zn)				25.60		
Extractable Metals						
Silver (Ag)						

Station						
Collected By:	UKHM	UKHM	UKHM	EPS	UKHM	UKHM
Sample Date	950105	950206	950329	950411	950427	950503
Arsenic (As)						
Boron (B)				0.07		
Barium (Ba)				0.01		
Beryllium (Be)				529.00		
Bismuth (Bi)				0.02		
Calcium (Ca)						
Cadmium (Cd)	0.00	0.00	0.01	0.00		
Cobalt (Co)				<0.01		
Chromium (Cr)				1.60		
Copper (Cu)	0.01	0.00	0.00	0.00		
Iron (Fe)	0.68	0.20	0.30	0.20		
Mercury (Hg)				0.21		
Potassium (K)				23.80		
Manganese (Mn)	64.00	10.00	10.00	10.00		
Nickel (Ni)		0.15	0.27	0.26		
Lead (Pb)	0.04	0.03	0.02	0.01		
Zinc (Zn)	1.29	0.41	0.40	5.70		

Station				
Collected By:	UKHM	LES	UKHM	UKHM
Sample Date	950606	950711	950811	950903
Physical Parameters				
pH	7.80	7.40	8.21	8.55
pH (in Field)		6.85		
Conductivity, mircro<mho/cm	1220.00	1979.00	750.00	640.00
Conductivity (in Field), mircro<mho/cm				
Total Suspended Solids, mg/L	84.00		8.00	0.00
Turbidity, NTU				
Dissolved Susspended Solids, mg/L	84.0		8.0	0.0
Flow, L/min	2.00	0.007238 (cms)	4.75	5.00
Temp., degrees Celcius	8.0	9.5	9.0	6.0
Tota Hardness, mg/L				
Dissolved Oxygen		6.90		
Anions:				
Alkalinity, CaCO3, mg/L		151.00		
Nutrients				
Nitrite Nitrogen (NO2), mg/L				
Nitrate Nitrogen (NO3), mg/l				
N<NH3, mg/L				
Cyanide				
Total Cyanide, mg/L				
Total Metals (mg/L)				
Silver (Ag)				
Arsenic (As)				
Boron (B)				
Barium (Ba)				
Beryllium (Be)				
Bismuth (Bi)				
Calcium (Ca)				
Cadmium (Cd)				
Cobalt (Co)				
Chromium (Cr)				
Copper (Cu)				
Iron (Fe)				
Magnesium (Mg)				
Manganese (Mn)				
Molybdenum (Mo)				
Sodium (Na)				
Nickel (Ni)				
Lead (Pb)				
Sulphur (S)				
Antimony (Sb)				
Selenium (Se)				
Silicon (Si)				
Tin (Sn)				
Stronium (Sr)				
Tellurium (Te)				
Titanium (Ti)				
Vanadium (V)				
Zinc (Zn)				
Extractable Metals				
Silver (Ag)				

Station				
Collected By:	UKHM	LES	UKHM	UKHM
Sample Date	950606	950711	950811	950903
Arsenic (As)				
Boron (B)				
Barium (Ba)				
Beryllium (Be)				
Bismuth (Bi)				
Calcium (Ca)				
Cadmium (Cd)		0.00		
Cobalt (Co)				
Chromium (Cr)				
Copper (Cu)		0.00		
Iron (Fe)		0.40		
Mercury (Hg)				
Potassium (K)				
Manganese (Mn)		10.00		
Nickel (Ni)		0.24		
Lead (Pb)		0.01		
Zinc (Zn)		2.30		

Station	Galkeno 900 Decant Pond #2 (Les 31b)						
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	DIAND
Sample Date	700714	710605	710906	740715	750606	750709	750716
Physical Parameters							
pH						8.1	8.1
pH (in Field)				7.4	8.5	8.1	
Conductivity, mircro-mho/cm							399
Conductivity (in Field), mircro-mho/cm				210	135	284	
Total Suspended Solids, mg/L				<5		5	24
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius				10.5	6.0	11.3	
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L				190		210	232
Dissolved Oxygen				10.4	11.8	8.2	
Anions							
Alkalinity, CaCO3, mg/L						10.4	107
Sulphate (SO4), mg/L							117
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							

Station	Galkeno 900 Decant Pond #2 (Les 31b)						
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	DIAND
Sample Date	700714	710605	710906	740715	750606	750709	750716
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.120		0.160				
Extractable Metals							
Silver (Ag)						<0.03	<0.005
Arsenic (As)							0.0023
Boron (B)							
Barium (Ba)							0.25
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)				54.0		62.0	
Cadmium (Cd)				0.01		0.01	0.0014
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)				0.01		0.01	0.001
Iron (Fe)						0.13	0.07
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)				13.16		15.00	
Manganese (Mn)				0.04			0.12
Molybdenum (Mo)				<0.1		<0.3	0.0006
Sodium (Na)							
Nickel (Ni)						<0.1	<0.001
Lead (Pb)				0.02		0.02	0.009
Sulphur (S)							
Antimony (Sb)						<0.3	
Selenium (Se)							0.0011
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)						0.16	0.17
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	810708	810820	860425	860723	860919	870409	870425
Physical Parameters							
pH							
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s				79.6	239.8		
Temp., degrees Celcius			1.9	11.0	2.2	1.3	
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L			274	354	273	444	
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L			141	240	159	305	
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)			2.560	0.375	0.356	2.190	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	810708	810820	860425	860723	860919	870409	870425
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)			1.360	0.366	0.549	1.470	1.000
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)			1.170	0.266	0.445	1.420	1.170

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	870617	870809	871029	871210	880413	880519	880521
Physical Parameters							
pH							
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s			91.3		111.1	167.6	
Temp., degrees Celcius	9.2		3.5		0.0	1.5	
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L	229		340		441	177	
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L			182		310		
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)	0.129		0.125		3.300	0.698	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	EPS	EPS	EPS	EPS	EPS	EPS	EPS
Sample Date	870617	870809	871029	871210	880413	880519	880521
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.286	0.450	0.492		1.430	0.477	
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)	0.226	0.353	0.420		1.390	0.402	

Station							
Collected By:	EPS	EPS	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	880524	880804	900208	900407	930322	930424	930526
Physical Parameters							
pH			7.52	7.23	7.82	8.24	7.69
pH (in Field)							
Conductivity, mircro-mho/cm			160	150	600	310	200
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L			16	8	0	12	0
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s		308.3					
Temp., degrees Celcius		13.4	10.0	5.0	0.1	1.0	5.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L		281					
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L		122					
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)		0.229					
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	EPS	EPS	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	880524	880804	900208	900407	930322	930424	930526
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)		0.334					
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)			0.000	0.000	0.020	0.020	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)			0.000	0.000	0.030	0.030	0.010
Iron (Fe)			0.040	0.040	0.010	0.210	0.090
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)			0.040	0.220	0.020	0.020	0.040
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)			0.00	0.00	0.01	0.01	0.15
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)			0.000	0.000	0.090	0.370	0.340
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)		0.283					

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930628	930721	930825	930929	931125	931216	940127
Physical Parameters							
pH	7.78	8.40	7.54	8.10	7.70	8.20	7.90
pH (in Field)							
Conductivity, mircro-mho/cm	450	450	480	460	480	410	420
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	0	4	4	12	4	4	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	13.0	9.2	6.7	1.8	0.1	0.1	0.1
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	930628	930721	930825	930929	931125	931216	940127
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.010	0.010	0.020	0.010
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.020	0.010	0.010	0.010	0.010	0.010	0.010
Iron (Fe)	0.070	0.070	0.010	0.120	0.080	0.010	0.060
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.100	0.220	0.030	0.360	0.250	0.070	0.380
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.060	0.040	0.150	0.180	0.440	0.370	0.270
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	LES	LES
Sample Date	940224	940328	940423	940510	940510	940726	940907
Physical Parameters							
pH	7.90	7.90	7.70	7.6	7.40	8.1	8.0
pH (in Field)				7.3		8.29	8.09
Conductivity, mircro-mho/cm	470	620	270	245	180	590	
Conductivity (in Field), mircro-mho/cm				252		554	559
Total Suspended Solids, mg/L	8	4	4	6	8	< 5.	<5
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s						104.48	116.3
Temp., degrees Celcius	1.0	2.0	4.0	2.5	2.4	8.1	1.4
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L				92.9			
Dissolved Oxygen						11.3	14.9
Anions							
Alkalinity, CaCO3, mg/L						135	145
Sulphate (SO4), mg/L				68.9		197	
Nutrients							
Nitrite Nitrogen (NO2), mg/L						< 2.	
Nitrate Nitrogen (NO3), mg/l						< 1.	
N-NH3, mg/L						0.05	
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)						0.0002	<0.001
Arsenic (As)						< 0.02	<0.02
Boron (B)							
Barium (Ba)						0.0437	0.0389
Beryllium (Be)						< 0.0002	<0.0002
Bismuth (Bi)							
Calcium (Ca)						108	104
Cadmium (Cd)						< 0.0005	0.0006
Cobalt (Co)						< 0.001	<0.001
Chromium (Cr)						< 0.001	<0.001
Copper (Cu)						< 0.002	<0.002
Iron (Fe)						0.073	0.11
Magnesium (Mg)						20	19.5
Manganese (Mn)						0.071	
Molybdenum (Mo)						< 0.005	<0.005
Sodium (Na)						1.43	2.16
Nickel (Ni)						0.002	0.002
Lead (Pb)						0.006	<0.01
Sulphur (S)							
Antimony (Sb)						< 0.02	<0.02
Selenium (Se)						< 0.001	<0.02
Silicon (Si)						2.88	2.95
Tin (Sn)						< 0.01	<0.01
Stronium (Sr)						0.22	0.19
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	LES	LES
Sample Date	940224	940328	940423	940510	940510	940726	940907
Thallium (Tl)						0.002	<0.001
Vanadium (V)						0.006	<0.002
Zinc (Zn)				0.507		0.153	0.196
Extractable Metals							
Silver (Ag)				<0.001			
Arsenic (As)				<0.02			
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)	0.010	0.010	0.010	0.0031	0.010		
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.010	0.010	0.010	0.006	0.010		
Iron (Fe)	0.090	0.060	0.190	0.166	0.090		
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.080	0.950	0.750		0.200		
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01	0.02	0.01	0.01		
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.250	0.780	0.410	0.393	0.460		
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)						0.0002	<0.001
Arsenic (As)						< 0.02	<0.02
Barium (Ba)						0.0434	0.0378
Calcium (Ca)						104	103
Cadmium (Cd)						< 0.0005	<0.0005
Copper (Cu)						< 0.002	<0.002
Iron (Fe)						0.026	0.038
Molybdenum (Mo)						< 0.005	<0.005
Sodium (Na)						1.47	1.48
Lead (Pb)						0.006	<0.01
Antimony (Sb)						< 0.02	<0.02
Selenium (Se)						< 0.001	<0.02
Zinc (Zn)						0.156	0.182

Station							
Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM	EPS
Sample Date	941027	941031	941129	950105	950206	950329	950412
Physical Parameters							
pH	8.0	7.40	7.42	8	7.7	7.2	7.9
pH (in Field)	8.09						
Conductivity, mircro-mho/cm		410	560	670	800	1300	885
Conductivity (in Field), mircro-mho/cm	638						
Total Suspended Solids, mg/L	< 5.	0	0	0	0	0	<10
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius	0.2	0.5	0.5	0.5	0.5	1	
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							502
Dissolved Oxygen	10.5						
Anions							
Alkalinity, CaCO3, mg/L	143						162
Sulphate (SO4), mg/L							333
Nutrients							
Nitrite Nitrogen (NO2), mg/L							<0.005
Nitrate Nitrogen (NO3), mg/l							0.168
N-NH3, mg/L							0.019
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)	< 0.001						
Arsenic (As)	< 0.02						
Boron (B)							
Barium (Ba)	0.0459						
Beryllium (Be)	0.0003						
Bismuth (Bi)							
Calcium (Ca)	112						
Cadmium (Cd)	0.001						0.0013
Cobalt (Co)	< 0.001						
Chromium (Cr)	< 0.001						
Copper (Cu)	0.006						0.0019
Iron (Fe)	0.075						0.019
Magnesium (Mg)	21.8						
Manganese (Mn)	0.072						0.524
Molybdenum (Mo)	< 0.005						
Sodium (Na)	1.68						
Nickel (Ni)	0.003						
Lead (Pb)	< 0.01						<0.06
Sulphur (S)							
Antimony (Sb)	< 0.02						
Selenium (Se)	< 0.02						
Silicon (Si)	3.45						
Tin (Sn)	< 0.01						
Stronium (Sr)	0.21						
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM	EPS
Sample Date	941027	941031	941129	950105	950206	950329	950412
Thallium (Tl)	0.002						
Vanadium (V)	0.006						
Zinc (Zn)	0.294						0.359
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)		0.001	0.001	0.001	0.002	0.002	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)		0.002	0.002	0.002	0.002	0.002	
Iron (Fe)		0.400	0.2	0.2	0.4	0.2	
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)		0.220	0.19	0.28	0.21	0.54	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)		0.01	0.005	0.005	0.015	0.005	
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)		0.430	0.38	0.67	0.53	0.56	
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)							<0.01
Arsenic (As)							<0.05
Barium (Ba)							0.065
Calcium (Ca)							155
Cadmium (Cd)							0.0015
Copper (Cu)							0.0023
Iron (Fe)							0.01
Molybdenum (Mo)							<0.01
Sodium (Na)							1.4
Lead (Pb)							<0.05
Antimony (Sb)							<0.05
Selenium (Se)							<0.05
Zinc (Zn)							0.343

Station							
Collected By:	LES	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	950426	950427	950503	950606	950711	950811	950903
Physical Parameters							
pH	7.6	7.54	8.19	7.4	8.1	7.73	7.83
pH (in Field)					8.05		
Conductivity, mircro-mho/cm		310	190	390		400	340
Conductivity (in Field), mircro-mho/cm					669		
Total Suspended Solids, mg/L	53	12	16	12	< 5.	12	0
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s					90.8		
Temp., degrees Celcius		2	1.5	8	8.5	8	3
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen					9.5		
Anions							
Alkalinity, CaCO3, mg/L	57				137		
Sulphate (SO4), mg/L					292		
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)	< 0.001				< 0.001		
Arsenic (As)	< 0.02				< 0.02		
Boron (B)							
Barium (Ba)	0.0393				0.0449		
Beryllium (Be)	< 0.0002				< 0.0002		
Bismuth (Bi)							
Calcium (Ca)	49.1				125		
Cadmium (Cd)	0.0035				< 0.0005		
Cobalt (Co)	< 0.001				< 0.001		
Chromium (Cr)	< 0.001				< 0.001		
Copper (Cu)	0.016				0.016		
Iron (Fe)	0.932				0.069		
Magnesium (Mg)	8.74				22.1		
Manganese (Mn)	0.92				0.035		
Molybdenum (Mo)	< 0.005				< 0.005		
Sodium (Na)	0.86				1.72		
Nickel (Ni)	0.008				< 0.001		
Lead (Pb)	0.05				< 0.01		
Sulphur (S)							
Antimony (Sb)	< 0.02				< 0.02		
Selenium (Se)	< 0.02				< 0.02		
Silicon (Si)	2.49				3.43		
Tin (Sn)	< 0.01				< 0.01		
Stronium (Sr)	0.1				0.22		
Tellurium (Te)							
Titanium (Ti)							

Station							
Collected By:	LES	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	950426	950427	950503	950606	950711	950811	950903
Thallium (Tl)	< 0.01				0.002		
Vanadium (V)	0.005				< 0.002		
Zinc (Zn)	0.426				0.157		
Extractable Metals							
Silver (Ag)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)		0.002	0.001	0.001		0.001	0.001
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)		0.002	0.002	0.002		0.002	0.002
Iron (Fe)		0.4	0.2	0.4		0.2	0.2
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)		0.53	0.24	0.125		0.056	0.072
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)		0.015	0.01	0.016		0.01	0.005
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)		0.36	0.23	0.29		0.2	0.24
Zirconium (Zr)							
Dissolved Metals							
Silver (Ag)	< 0.001				< 0.001		
Arsenic (As)	< 0.02				< 0.02		
Barium (Ba)	0.0256				0.0427		
Calcium (Ca)	48.4				111		
Cadmium (Cd)	0.0031				< 0.0005		
Copper (Cu)	0.009				0.015		
Iron (Fe)	0.057				0.019		
Molybdenum (Mo)	< 0.005				< 0.005		
Sodium (Na)	0.82				1.7		
Lead (Pb)	< 0.01				< 0.01		
Antimony (Sb)	< 0.02				< 0.02		
Selenium (Se)	< 0.02				< 0.02		
Zinc (Zn)	0.284				0.15		

Station		
Collected By:	LES	EPS
Sample Date	950905	960717
Physical Parameters		
pH	7.9	
pH (in Field)	7.68	7.81
Conductivity, mircro-mho/cm	560	
Conductivity (in Field), mircro-mho/cm	544	1970
Total Suspended Solids, mg/L	< 5.	24
Turbidity, NTU		
Dissolved Susspended Solids, mg/L		
Flow, L/s	236.2	
Temp., degrees Celcius	5.4	
Hardness, $CaCO_3$, mg/L		
Tota Hardness, mg/L		1370
Dissolved Oxygen		
Anions		
Alkalinity, CaCO3, mg/L	127	31
Sulphate (SO4), mg/L	216.0	<0.5
Nutrients		
Nitrite Nitrogen (NO2), mg/L		<0.005
Nitrate Nitrogen (NO3), mg/l		0.007
N-NH3, mg/L		0.033
Total Phosphorus, mg/L		<0.002
Total Metals (mg/L)		
Silver (Ag)		
Arsenic (As)		<.6
Boron (B)		
Barium (Ba)		
Beryllium (Be)		
Bismuth (Bi)		
Calcium (Ca)		
Cadmium (Cd)		<.06
Cobalt (Co)		
Chromium (Cr)		
Copper (Cu)		<.06
Iron (Fe)		<.06
Magnesium (Mg)		
Manganese (Mn)		4.98
Molybdenum (Mo)		
Sodium (Na)		
Nickel (Ni)		
Lead (Pb)		
Sulphur (S)		
Antimony (Sb)		
Selenium (Se)		
Silicon (Si)		
Tin (Sn)		
Stronium (Sr)		
Tellurium (Te)		
Titanium (Ti)		

Station		
Collected By:	LES	EPS
Sample Date	950905	960717
Thallium (Tl)		
Vanadium (V)		
Zinc (Zn)		
Extractable Metals		
Silver (Ag)		
Arsenic (As)		
Boron (B)		
Barium (Ba)		
Beryllium (Be)		
Bismuth (Bi)		
Calcium (Ca)		
Cadmium (Cd)		
Cobalt (Co)		
Chromium (Cr)		
Copper (Cu)		
Iron (Fe)		
Mercury (Hg)		
Potassium (K)		
Lithium (Li)		
Magnesium (Mg)		
Manganese (Mn)		
Molybdenum (Mo)		
Sodium (Na)		
Nickel (Ni)		
Lead (Pb)		
Sulphur (S)		
Antimony (Sb)		
Selenium (Se)		
Silicon (Si)		
Tin (Sn)		
Stronium (Sr)		
Tellurium (Te)		
Titanium (Ti)		
Thallium (Tl)		
Vanadium (V)		
Zinc (Zn)		
Zirconium (Zr)		
Dissolved Metals		
Silver (Ag)	< 0.001	<.01
Arsenic (As)	< 0.02	<.05
Barium (Ba)	0.0407	0.007
Calcium (Ca)	99.5	510.0
Cadmium (Cd)	0.0012	<.005
Copper (Cu)	0.002	0.012
Iron (Fe)	0.028	<.005
Molybdenum (Mo)	< 0.005	<.01
Sodium (Na)	1.63	1.8
Lead (Pb)	< 0.005	<.05
Antimony (Sb)	< 0.02	<.05
Selenium (Se)	< 0.02	0.08
Zinc (Zn)	0.244	<.002

Station	Sadie Ladue adit (LES 35, UKHM S-7)				
Collected By:	LES	LES	LES	LES	LES
Sample Date	85/7/18	86/8/7	91/5/22	92/10/28	93/7/21
Physical Parameters					
pH	8.1	8.2	8.1		8.02
pH (in Field)	7.5		7.6	8.3	8
Conductivity, mircro-mho/cm	700	510	686		488
Conductivity (in Field), micro-mho/cm	459		390	494	505
Total Suspended Solids, mg/L					
Turbidity, NTU					
Dissolved Susspended Solids, mg/L					
Flow, L/s	1.8	4	2.9	14	16
Temp., degrees Celcius	2		2.9	1.2	4.8
Hardness, $CaCO_3$, mg/L					
Tota Hardness, mg/L					
Dissolved Oxygen					
Anions					
Alkalinity, CaCO3, mg/L		146			156
Sulphate (SO4), mg/L		110			103
Nutrients					
Nitrite Nitrogen (NO2), mg/L		0.005			0.002
Nitrate Nitrogen (NO3), mg/l					
N-NH3, mg/L	0.008	0.006			0.002
N-N02-NO3, mg/L					
Total Phosphorus, mg/L					
Total Metals (mg/L)					
Silver (Ag)					0.0006
Aluminum (Al)					
Arsenic (As)	0.05	0.05			0.06
Boron (B)					
Barium (Ba)	0.018	0.018			0.013
Beryllium (Be)		0.001			0.003
Bismuth (Bi)					
Calcium (Ca)	94.8	71.9			84.5
Cadmium (Cd)	0.005	0.005			0.006
Cobalt (Co)	0.005	0.005			0.006
Chromium (Cr)	0.005	0.007			0.006
Copper (Cu)	0.005	0.005			0.006
Iron (Fe)	0.031	0.151			0.344
Potassium (K)					
Lithium (Li)					
Magnesium (Mg)	32.7	23.8			21.8
Manganese (Mn)	0.043	0.046			0.017
Molybdenum (Mo)	0.012	0.013			0.01
Sodium (Na)	1.8	2			1.6
Nickel (Ni)	0.02	0.02			0.02
Lead (Pb)	0.02	0.02			0.06
Sulphur (S)					

Station	Sadie Ladue adit (LES 35, UKHM S-7)				
Collected By:	LES	LES	LES	LES	LES
Sample Date	85/7/18	86/8/7	91/5/22	92/10/28	93/7/21
Antimony (Sb)	0.05	0.05			0.06
Selenium (Se)	0.05	0.05			0.06
Silicon (Si)	1.8	3.1			3.4
Tin (Sn)	0.01	0.01			0.06
Stronium (Sr)	0.379	0.323			0.318
Tellurium (Te)					
Titanium (Ti)	0.002	0.016			0.002
Thallium (Tl)					
Vanadium (V)	0.005	0.006			0.01
Zinc (Zn)	0.74	0.418			0.541
Zirconium (Zr)					
Extractable Metals					
Cadmium (Cd)					
Cobalt (Co)					
Chromium (Cr)					
Copper (Cu)					
Iron (Fe)					
Mercury (Hg)					
Potassium (K)					
Lithium (Li)					
Magnesium (Mg)					
Manganese (Mn)					
Molybdenum (Mo)					
Sodium (Na)					
Nickel (Ni)					
Lead (Pb)					
Zinc (Zn)					
Dissolved Metals					
Silver (Ag)					
Aluminum (Al)					
Arsenic (As)					
Barium (Ba)					
Calcium (Ca)					
Cadmium (Cd)					
Copper (Cu)					
Iron (Fe)					
Molybdenum (Mo)					
Sodium (Na)					
Lead (Pb)					
Antimony (Sb)					
Selenium (Se)					
Zinc (Zn)					

Station						
Collected By:	LES	LES	LES	LES	UKHM	UKHM
Sample Date	94/7/28	95/7/12	95/7/12	95/9/5	90/3/26	90/4/27
Physical Parameters						
pH	8.1	8.2	8.2	8.0		
pH (in Field)	7.94	8.04	8.04			
Conductivity, mircro-mho/cm	440			470		
Conductivity (in Field), micro-mho/cm	410	458	458			
Total Suspended Solids, mg/L						
Turbidity, NTU						
Dissolved Susspended Solids, mg/L	301	325	320	341.00		
Flow, L/s	12.9					
Temp., degrees Celcius						
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen	10.8					
Anions						
Alkalinity, CaCO3, mg/L	157	139	147	138		
Sulphate (SO4), mg/L	5.62	118	119	112.0		
Nutrients						
Nitrite Nitrogen (NO2), mg/L	2					
Nitrate Nitrogen (NO3), mg/l	0.4					
N-NH3, mg/L	0.05					
N-N02-NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)	0.001	0.001	0.001			
Aluminum (Al)	0.02	0.01	0.01			
Arsenic (As)	0.02	0.02	0.02			
Boron (B)						
Barium (Ba)	0.0132	0.0138	0.0133			
Beryllium (Be)	0.0002	0.0002	0.0002			
Bismuth (Bi)	0.02	0.02	0.02			
Calcium (Ca)	66.4	87.6	91.1			
Cadmium (Cd)	0.0025	0.0026	0.0025			
Cobalt (Co)	0.001	0.001	0.001			
Chromium (Cr)	0.001	0.001	0.001			
Copper (Cu)	0.002	0.012	0.013			
Iron (Fe)	0.1	0.024	0.033			
Potassium (K)	0.6	0.4	0.5			
Lithium (Li)	0.002	0.002	0.002			
Magnesium (Mg)	21.7	23.1	23			
Manganese (Mn)	0.043	0.012	0.012			
Molybdenum (Mo)	0.005	0.005	0.005			
Sodium (Na)	2.1	2.22	2.21			
Nickel (Ni)	0.008	0.009	0.009			
Lead (Pb)	0.01	0.01	0.01			
Sulphur (S)	34	36.6	37.2			

Station						
Collected By:	LES	LES	LES	LES	UKHM	UKHM
Sample Date	94/7/28	95/7/12	95/7/12	95/9/5	90/3/26	90/4/27
Antimony (Sb)	0.02	0.02	0.02			
Selenium (Se)	0.02	0.02	0.02			
Silicon (Si)	3.24	3.42	3.44			
Tin (Sn)	0.01	0.01	0.01			
Stronium (Sr)	0.27	0.29	0.29			
Tellurium (Te)						
Titanium (Ti)	0.001	0.001	0.001			
Thallium (Tl)						
Vanadium (V)	0.004	0.002	0.002			
Zinc (Zn)	0.334	0.489	0.483			
Zirconium (Zr)	0.001	0.001	0.001			
Extractable Metals						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Zinc (Zn)						
Dissolved Metals						
Silver (Ag)		0.001	0.001	0.001	0.001	
Aluminum (Al)		0.02	0.01	0.01	0.03	
Arsenic (As)		0.02	0.02	0.02	0.02	
Barium (Ba)		0.0127	0.0132	0.0132	0.0138	
Calcium (Ca)		66	66.4	67.3	65.5	
Cadmium (Cd)		0.0024	0.0019	0.0019	0.0027	
Copper (Cu)		0.002	0.01	0.013	0.002	
Iron (Fe)		0.025	0.016	0.008	0.018	
Molybdenum (Mo)		0.005	0.005	0.005	0.005	
Sodium (Na)		2.06	2.18	2.18	2.18	
Lead (Pb)		0.01	0.01	0.01	0.005	
Antimony (Sb)		0.02	0.02	0.02	0.02	
Selenium (Se)		0.02	0.02	0.02		
Zinc (Zn)		0.33	0.489	0.48	0.349	

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/5/29	90/6/28	90/7/29	90/8/27	90/9/27	90/10/29
Physical Parameters						
pH	7.2	7.8				7.7
pH (in Field)						
Conductivity, mircro-mho/cm	310	540				1000
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	28	14				24
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s		0.67				
Temp., degrees Celcius	7.0	3.0				0.0
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
N-N02-NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/5/29	90/6/28	90/7/29	90/8/27	90/9/27	90/10/29
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Cadmium (Cd)	0.01	0.01				0.01
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.02	0.01				0.02
Iron (Fe)	0.17	0.05				0.13
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	0.10	0.02				0.24
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.01	0.08				0.50
Zinc (Zn)	2.20	0.60				0.01
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/11/30	90/12/20	91/1/29	91/2/26	91/3/28	91/4/26
Physical Parameters						
pH						
pH (in Field)						
Conductivity, mircro-mho/cm						
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L						
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s						
Temp., degrees Celcius						
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
N-N02-NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/11/30	90/12/20	91/1/29	91/2/26	91/3/28	91/4/26
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Zinc (Zn)						
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/5/20	91/6/1	91/7/1	91/8/1	91/9/1	91/10/1	91/11/1
Physical Parameters							
pH	7.6	8.0	8.6	7.6	7.4	7.8	8.3
pH (in Field)							
Conductivity, mircro-mho/cm	390	240	290	380	370	320	260
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	4	4	8	4	4	8	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	9.00	8.00	8.00	8.00	8.00	6.00	4.00
Temp., degrees Celcius	2.9	4.0	5.0	2.0	2.0	1.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/5/20	91/6/1	91/7/1	91/8/1	91/9/1	91/10/1	91/11/1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.09	0.04	0.06	0.01	0.01	0.01	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.01	0.01				0.01
Iron (Fe)	0.05	0.28	0.19	0.02	0.02	0.73	0.00
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)						0.01	
Zinc (Zn)	1.65	0.34	0.41	0.10	0.10	0.64	0.12
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/12/1	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1
Physical Parameters							
pH	8.1	8.2	8.0	7.9	7.9	7.0	7.5
pH (in Field)							
Conductivity, mircro-mho/cm	280	300	300	280	285	250	300
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	8	8	8	4	4	12	8
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	3.50	3.50	3.50	3.50	3.50	30.00	19.00
Temp., degrees Celcius	0.0	0.0	1.0	0.0	0.0	2.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/12/1	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)						0.01	0.01
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Iron (Fe)	0.00	0.01	0.04	0.03	0.03	0.11	0.01
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.00			0.01	0.01	1.17	0.04
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01	0.02	0.01	0.01	0.02	0.01
Zinc (Zn)	0.26	0.28	0.09	0.09	0.05	1.20	0.95
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/7/1	92/8/1	92/9/1	92/10/1	92/11/1	92/12/1	93/1/1
Physical Parameters							
pH	7.9	7.1	7.9	8.2	8.2	8.2	8.3
pH (in Field)							
Conductivity, mircro-mho/cm	360	270	300	492	340	440	360
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	12	12	8	12	8	8	8
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	10.00	10.00	10.00	14.00	14.00	12.00	12.00
Temp., degrees Celcius	2.0	2.0	2.0	1.2	1.0	0.1	0.1
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/7/1	92/8/1	92/9/1	92/10/1	92/11/1	92/12/1	93/1/1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)			0.02	0.01	0.01		0.01
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)		0.01	0.02	0.01	0.02		0.02
Iron (Fe)		0.02	0.13	0.13	0.17	0.02	0.02
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)		0.01	0.02	0.00			
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01	0.01	0.01	0.03	0.03	0.01	0.02
Zinc (Zn)	0.51	0.22	0.04	0.01	0.04	0.01	0.01
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/2/1	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/8/1
Physical Parameters							
pH	8.0	8.1	7.5	7.2	8.0	8.0	7.8
pH (in Field)							
Conductivity, mircro-mho/cm	380	360	420	360	420	505	280
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	8	8	8			16	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	10.00	11.00	11.00	14.00	16.00	16.00	16.00
Temp., degrees Celcius	0.1	0.1	1.0	1.0	2.0	4.8	3.2
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/2/1	93/3/1	93/4/1	93/5/1	93/6/1	93/7/1	93/8/1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.01	0.01	0.01	0.01	0.01		0.01
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.02	0.01	0.02	0.03	0.01	0.02
Iron (Fe)	0.01	0.01	0.01	0.08	0.02	0.01	
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)				0.04	0.02	0.00	
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.02	0.02	0.02		0.01	0.01	0.01
Zinc (Zn)	0.02	0.12	0.12	2.22	0.09	0.16	0.22
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1
Physical Parameters							
pH	7.4	8.2	8.2	7.8	8.3	8.3	8.3
pH (in Field)							
Conductivity, mircro-mho/cm	310	260	300	320	300	340	360
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	8	4	4	4	4	4	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	16.00	16.00	16.00	16.00	14.00	14.00	10.00
Temp., degrees Celcius	2.2	2.2	2.1	2.5	2.0	2.0	2.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.01	0.01	0.01	0.01	0.02	0.01	
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.09	0.03	0.02	0.01	0.01	0.01	0.01
Iron (Fe)	0.05	0.04	0.02	0.01	0.01	0.14	0.13
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.02	0.01	0.02	0.01	0.00	0.02	0.03
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01		0.01	0.01	0.02	0.02	0.02
Zinc (Zn)	0.24	0.47	0.46	0.37	0.27	0.39	0.41
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/4/24	94/5/10	94/5/31	94/6/28	94/7/29	94/10/31
Physical Parameters						
pH	8.2		7.7	8.5	7.9	8.2
pH (in Field)						
Conductivity, mircro-mho/cm	320		400	390	410	320
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	4		4	0	8	0
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	12.00		16.00	2.00		12.00
Temp., degrees Celcius	2.0		3.4	6.0	1.0	1.3
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
N-N02-NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)						
Sulphur (S)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/4/24	94/5/10	94/5/31	94/6/28	94/7/29	94/10/31
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Zirconium (Zr)						
Extractable Metals						
Cadmium (Cd)	0.01		0.01	0.02		0.16
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.01		0.03	0.02	0.01	0.00
Iron (Fe)	0.02		0.18	0.01	0.23	0.00
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	ND		0.04	0.02	0.05	0.12
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.02		0.04	0.02	0.10	0.29
Zinc (Zn)	0.36		1.09	0.60	0.49	0.60
Dissolved Metals						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/11/29	95/1/5	95/2/6	95/3/29	95/4/27	95/5/3	95/6/6
Physical Parameters							
pH	8.2	7.5	7.2	7.4	7.5	7.9	7.0
pH (in Field)							
Conductivity, mircro-mho/cm	410	470	500	470	465	330	345
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	0	0	0	0	8	0	24
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	12.00	10.00	10.00	10.00	3.00	12.00	11.00
Temp., degrees Celcius	1.3	1.0	0.5	1.0	1.5	1.0	2.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	94/11/29	95/1/5	95/2/6	95/3/29	95/4/27	95/5/3	95/6/6
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.00	0.03	0.02	0.04	0.04	0.06	0.04
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.00	0.00	0.00	0.01	0.00	0.02	0.03
Iron (Fe)	0.00	0.03	0.30	0.28	0.59	0.55	0.33
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.01	0.08	0.08	0.00	0.08	0.00	0.13
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.15	0.06	0.04	0.06	0.00	0.02	0.00
Zinc (Zn)	0.75	0.53	0.60	0.95	0.54	0.93	1.75
Dissolved Metals							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station		
Collected By:	UKHM	UKHM
Sample Date	95/8/11	95/9/3
Physical Parameters		
pH	7.9	7.7
pH (in Field)		
Conductivity, mircro-mho/cm	290	270
Conductivity (in Field), micro-mho/cm		
Total Suspended Solids, mg/L	16	4
Turbidity, NTU		
Dissolved Susspended Solids, mg/L		
Flow, L/s	13.00	13.00
Temp., degrees Celcius	2.0	1.0
Hardness, $CaCO_3$, mg/L		
Tota Hardness, mg/L		
Dissolved Oxygen		
Anions		
Alkalinity, CaCO3, mg/L		
Sulphate (SO4), mg/L		
Nutrients		
Nitrite Nitrogen (NO2), mg/L		
Nitrate Nitrogen (NO3), mg/l		
N-NH3, mg/L		
N-N02-NO3, mg/L		
Total Phosphorus, mg/L		
Total Metals (mg/L)		
Silver (Ag)		
Aluminum (Al)		
Arsenic (As)		
Boron (B)		
Barium (Ba)		
Beryllium (Be)		
Bismuth (Bi)		
Calcium (Ca)		
Cadmium (Cd)		
Cobalt (Co)		
Chromium (Cr)		
Copper (Cu)		
Iron (Fe)		
Potassium (K)		
Lithium (Li)		
Magnesium (Mg)		
Manganese (Mn)		
Molybdenum (Mo)		
Sodium (Na)		
Nickel (Ni)		
Lead (Pb)		
Sulphur (S)		

Station		
Collected By:	UKHM	UKHM
Sample Date	95/8/11	95/9/3
Antimony (Sb)		
Selenium (Se)		
Silicon (Si)		
Tin (Sn)		
Stronium (Sr)		
Tellurium (Te)		
Titanium (Ti)		
Thallium (Tl)		
Vanadium (V)		
Zinc (Zn)		
Zirconium (Zr)		
Extractable Metals		
Cadmium (Cd)	0.00	0.04
Cobalt (Co)		
Chromium (Cr)		
Copper (Cu)	0.04	0.03
Iron (Fe)	0.01	0.18
Mercury (Hg)		
Potassium (K)		
Lithium (Li)		
Magnesium (Mg)		
Manganese (Mn)	0.05	0.01
Molybdenum (Mo)		
Sodium (Na)		
Nickel (Ni)		
Lead (Pb)	0.18	0.00
Zinc (Zn)	0.45	0.41
Dissolved Metals		
Silver (Ag)		
Aluminum (Al)		
Arsenic (As)		
Barium (Ba)		
Calcium (Ca)		
Cadmium (Cd)		
Copper (Cu)		
Iron (Fe)		
Molybdenum (Mo)		
Sodium (Na)		
Lead (Pb)		
Antimony (Sb)		
Selenium (Se)		
Zinc (Zn)		

Station	Lightning Cr upstream Hope Gulch (LES 37)
Sample Date	98/06/09
Physical Parameters	
pH	7.46
Conductivity, mircro-mho/cm	105
Total Suspended Solids, mg/L	<5
Anions	
Alkalinity, CaCO3, mg/L	26.70
Sulphate (SO4), mg/L	24.00
Nutrients	
Nitrite Nitrogen (NO2), mg/L	<0.005
Nitrate Nitrogen (NO3), mg/l	0.03
N-NH3, mg/L	<0.005
Total Metals (mg/L)	
Silver (Ag)	<.01
Aluminum (Al)	<.06
Arsenic (As)	<.06
Barium (Ba)	0.044
Beryllium (Be)	<.001
Calcium (Ca)	14.1
Cadmium (Cd)	<.006
Cobalt (Co)	<.006
Chromium (Cr)	0.009
Copper (Cu)	<.006
Iron (Fe)	0.096
Potassium (K)	0.1
Magnesium (Mg)	2.7
Manganese (Mn)	0.015
Molybdenum (Mo)	<.01
Sodium (Na)	0.4
Nickel (Ni)	<.02
Lead (Pb)	<.06
Sulphur (S)	7.72
Antimony (Sb)	<.06
Selenium (Se)	<.06
Silicon (Si)	1.88
Tin (Sn)	<.06
Stronium (Sr)	0.048
Titanium (Ti)	<.002
Vanadium (V)	<.01
Zinc (Zn)	0.004
Dissolved Metals	
Silver (Ag)	<.01
Aluminum (Al)	<.05
Arsenic (As)	<.05
Barium (Ba)	0.04
Calcium (Ca)	13
Cadmium (Cd)	<.005
Copper (Cu)	0.006
Iron (Fe)	0.049
Molybdenum (Mo)	<.01
Sodium (Na)	0.5
Lead (Pb)	<.05
Antimony (Sb)	<.05
Selenium (Se)	<.05
Zinc (Zn)	0.009

Station	Keno 700 adit (LES 38, UKHM S-6)						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	86/8/7	86/11/19	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29
Physical Parameters							
pH		8.1			7.2	7.6	7.7
pH (in Field)		8.5					
Conductivity, mircro-mho/cm		510			430	450	450
Conductivity (in Field), micro-mho/cm		400					
Total Suspended Solids, mg/L		5			32	8	28
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	1.67	0.42			0.01	2.33	2.33
Temp., degrees Celcius		0.5			1.0	2.0	4.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L		133					
Sulphate (SO4), mg/L		120					
Nutrients							
Nitrite Nitrogen (NO2), mg/L		0.005					
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L		0.009					
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)		1.7					
Aluminum (Al)		0.05					
Arsenic (As)		0.015					
Boron (B)							
Barium (Ba)		0.001					
Beryllium (Be)							
Bismuth (Bi)		0.021					
Calcium (Ca)		0.007					
Cadmium (Cd)		90					
Cobalt (Co)		0.005					
Chromium (Cr)		0.005					
Copper (Cu)		0.065					
Iron (Fe)		0.02					
Mercury (Hg)							
Potassium (K)		0.05					
Lithium (Li)		11.2					
Magnesium (Mg)		0.902					
Manganese (Mn)		0.005					
Molybdenum (Mo)		1.7					
Sodium (Na)		0.211					
Nickel (Ni)		0.05					

Station	Keno 700 adit (LES 38, UKHM S-6)						
Collected By:	LES	LES	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	86/8/7	86/11/19	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29
Lead (Pb)							
Sulphur (S)		0.1					
Antimony (Sb)		0.07					
Selenium (Se)		2.9					
Silicon (Si)							
Tin (Sn)		0.014					
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)		1.91					
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)					0.01	0.01	0.01
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)					0.02	0.01	0.04
Iron (Fe)					1.50	0.55	0.80
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)					2.80	0.30	0.38
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)					0.24	0.14	0.88
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)					2.00	0.90	1.00
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/8/27	90/9/27	90/10/29	90/11/30	90/12/20	91/1/29
Physical Parameters						
pH	7.3	7.6				
pH (in Field)						
Conductivity, mircro-mho/cm	440	490				
Conductivity (in Field), micro-mho/cm						
Total Suspended Solids, mg/L	24	24				
Turbidity, NTU						
Dissolved Susspended Solids, mg/L						
Flow, L/s	2.33	6.33				
Temp., degrees Celcius	2.0	0.0				
Hardness, $CaCO_3$, mg/L						
Tota Hardness, mg/L						
Dissolved Oxygen						
LC50						
Anions						
Alkalinity, CaCO3, mg/L						
Sulphate (SO4), mg/L						
Nutrients						
Nitrite Nitrogen (NO2), mg/L						
Nitrate Nitrogen (NO3), mg/l						
N-NH3, mg/L						
N-N02-NO3, mg/L						
Total Phosphorus, mg/L						
Total Metals (mg/L)						
Silver (Ag)						
Aluminum (Al)						
Arsenic (As)						
Boron (B)						
Barium (Ba)						
Beryllium (Be)						
Bismuth (Bi)						
Calcium (Ca)						
Cadmium (Cd)						
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)						
Iron (Fe)						
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)						
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						

Station						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/8/27	90/9/27	90/10/29	90/11/30	90/12/20	91/1/29
Lead (Pb)						
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)						
Extractable Metals						
Cadmium (Cd)	0.05	0.01				
Cobalt (Co)						
Chromium (Cr)						
Copper (Cu)	0.02	0.04				
Iron (Fe)	0.05	0.02				
Mercury (Hg)						
Potassium (K)						
Lithium (Li)						
Magnesium (Mg)						
Manganese (Mn)	0.49	0.24				
Molybdenum (Mo)						
Sodium (Na)						
Nickel (Ni)						
Lead (Pb)	0.06	0.50				
Sulphur (S)						
Antimony (Sb)						
Selenium (Se)						
Silicon (Si)						
Tin (Sn)						
Stronium (Sr)						
Tellurium (Te)						
Titanium (Ti)						
Thallium (Tl)						
Vanadium (V)						
Zinc (Zn)	2.60	2.80				
Dissolved Metals						
Aluminum (Al)						
Arsenic (As)						
Barium (Ba)						
Calcium (Ca)						
Cadmium (Cd)						
Copper (Cu)						
Iron (Fe)						
Molybdenum (Mo)						
Sodium (Na)						
Lead (Pb)						
Antimony (Sb)						
Selenium (Se)						
Zinc (Zn)						

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	91/2/26	91/3/28	91/4/26	91/5/20	91/5/22	91/6/1	91/7/1
Physical Parameters							
pH				7.0	8	7.7	7.2
pH (in Field)					7		
Conductivity, mircro-mho/cm				183	319	220	280
Conductivity (in Field), micro-mho/cm					183		
Total Suspended Solids, mg/L				4	10	4	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s				5.60	5.6	4.50	4.00
Temp., degrees Celcius				2.8	2.8	3.0	3.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	LES	UKHM	UKHM
Sample Date	91/2/26	91/3/28	91/4/26	91/5/20	91/5/22	91/6/1	91/7/1
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)				0.03		0.03	0.20
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)						0.01	
Iron (Fe)				0.40		0.38	0.50
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)				0.00		0.00	0.00
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)				0.04		0.05	0.09
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)				0.46		0.24	0.01
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1	92/1/1	92/2/1
Physical Parameters							
pH	7.7	7.3	7.8	8.2			
pH (in Field)							
Conductivity, mircro-mho/cm	260	260	260	320			
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	4	4	12	20			
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	5.00	4.00	4.00	0.20			
Temp., degrees Celcius	2.0	2.0	1.0	0.0			
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	91/8/1	91/9/1	91/10/1	91/11/1	91/12/1	92/1/1	92/2/1
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)	0.01	0.02	0.01	0.01			
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)			0.02	0.01			
Iron (Fe)	0.01	0.09	0.08	1.17			
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.00	0.00	0.01	0.07			
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)			0.06				
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.06	0.21	0.09	0.79			
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1	92/8/1	92/9/1
Physical Parameters							
pH				7.8	7.7	7.5	7.9
pH (in Field)							
Conductivity, mircro-mho/cm				400	440	320	380
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L				8	12	24	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s				2.00	2.50	3.00	2.00
Temp., degrees Celcius				1.0	2.0	2.0	2.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1	92/8/1	92/9/1
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)				0.01	0.01	0.01	0.03
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)				0.01	0.01	0.01	0.03
Iron (Fe)				0.40	0.03	0.04	0.04
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)				0.41	1.50	0.11	0.27
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)				0.02	0.01	0.01	0.02
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)				0.43	1.52	0.36	0.14
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/10/1	92/11/1	92/12/1	93/1/1	93/2/1	93/3/1	93/4/1
Physical Parameters							
pH							
pH (in Field)							
Conductivity, mircro-mho/cm							
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L							
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s							
Temp., degrees Celcius							
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	92/10/1	92/11/1	92/12/1	93/1/1	93/2/1	93/3/1	93/4/1
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM	UKHM
Sample Date	93/5/1	93/6/1	93/7/1	93/7/21	93/8/1	93/9/1	93/10/1
Physical Parameters							
pH	7.1	7.9	7.7	7.9	7.9	8.1	8.0
pH (in Field)				7.7			
Conductivity, mircro-mho/cm	150	380	580	602	420	460	380
Conductivity (in Field), micro-mho/cm				580			
Total Suspended Solids, mg/L			8	10	4	4	4
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	1.50	4.00	2.00	2	2.00	2.00	2.00
Temp., degrees Celcius	1.0	3.8	2.8	2.8	2.1	1.6	1.4
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L				174			
Sulphate (SO4), mg/L				179			
Nutrients							
Nitrite Nitrogen (NO2), mg/L				0.002			
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L				0.006			
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)				1.7			
Aluminum (Al)				0.06			
Arsenic (As)				0.017			
Boron (B)							
Barium (Ba)				0.004			
Beryllium (Be)							
Bismuth (Bi)				0.027			
Calcium (Ca)				0.006			
Cadmium (Cd)				123			
Cobalt (Co)				0.01			
Chromium (Cr)				0.006			
Copper (Cu)				0.198			
Iron (Fe)				0.06			
Mercury (Hg)							
Potassium (K)				0.06			
Lithium (Li)				13.2			
Magnesium (Mg)				0.305			
Manganese (Mn)				0.01			
Molybdenum (Mo)				1.7			
Sodium (Na)				0.239			
Nickel (Ni)				0.1			

Station							
Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM	UKHM
Sample Date	93/5/1	93/6/1	93/7/1	93/7/21	93/8/1	93/9/1	93/10/1
Lead (Pb)							
Sulphur (S)				0.06			
Antimony (Sb)				0.06			
Selenium (Se)				3.65			
Silicon (Si)				0.006			
Tin (Sn)				0.002			
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)				1.72			
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)	0.01	0.02	0.01		0.01	0.01	0.02
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01	0.01	0.01			0.06	0.02
Iron (Fe)	0.23	0.04	0.07			0.05	0.12
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)		0.21	0.03		0.01	0.04	0.04
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.15	0.02			0.01		0.02
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.52	0.02	0.07		0.22	0.17	0.86
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1	94/4/24	94/5/10
Physical Parameters							
pH	8.1						
pH (in Field)							
Conductivity, mircro-mho/cm	400						
Conductivity (in Field), micro-mho/cm							
Total Suspended Solids, mg/L	4						
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s	0.30						
Temp., degrees Celcius	0.1						
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1	94/4/24	94/5/10
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Extractable Metals							
Cadmium (Cd)	0.02						
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.02						
Iron (Fe)	0.04						
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.09						
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	0.21						
Dissolved Metals							
Aluminum (Al)							
Arsenic (As)							
Barium (Ba)							
Calcium (Ca)							
Cadmium (Cd)							
Copper (Cu)							
Iron (Fe)							
Molybdenum (Mo)							
Sodium (Na)							
Lead (Pb)							
Antimony (Sb)							
Selenium (Se)							
Zinc (Zn)							

Station							
Collected By:	UKHM	UKHM	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	94/5/31	94/6/28	94/7/27	94/7/29	94/10/31	94/11/29	95/1/5
Physical Parameters							
pH	6.9	6.8	8.1	8.0	8.2		
pH (in Field)			7.73				
Conductivity, mircro-mho/cm	320	310	550	515	400		
Conductivity (in Field), micro-mho/cm			515				
Total Suspended Solids, mg/L	4	4	5	0	0		
Turbidity, NTU							
Dissolved Susspended Solids, mg/L			387				
Flow, L/s	4.00	4.00	2.2	2.20	2.00		
Temp., degrees Celcius	2.2	2.8	1.5	3.1	0.9		
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen			11.5				
LC50							
Anions							
Alkalinity, CaCO3, mg/L			161				
Sulphate (SO4), mg/L			150				
Nutrients							
Nitrite Nitrogen (NO2), mg/L			2				
Nitrate Nitrogen (NO3), mg/l			0.4				
N-NH3, mg/L			0.05				
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)			2.1				
Aluminum (Al)			0.02				
Arsenic (As)			0.0131				
Boron (B)							
Barium (Ba)			0.0002				
Beryllium (Be)			0.02				
Bismuth (Bi)			0.0076				
Calcium (Ca)			0.001				
Cadmium (Cd)			110				
Cobalt (Co)			0.013				
Chromium (Cr)			0.001				
Copper (Cu)			0.043				
Iron (Fe)			0.01				
Mercury (Hg)							
Potassium (K)			0.02				
Lithium (Li)			12.9				
Magnesium (Mg)			0.03				
Manganese (Mn)			0.005				
Molybdenum (Mo)			0.004				
Sodium (Na)			0.25				
Nickel (Ni)			0.06				

Station							
Collected By:	UKHM	UKHM	LES	UKHM	UKHM	UKHM	UKHM
Sample Date	94/5/31	94/6/28	94/7/27	94/7/29	94/10/31	94/11/29	95/1/5
Lead (Pb)			0.002				
Sulphur (S)			0.01				
Antimony (Sb)			0.05				
Selenium (Se)			3.54				
Silicon (Si)			0.001				
Tin (Sn)			0.001				
Stronium (Sr)			44.1				
Tellurium (Te)							
Titanium (Ti)			0.01				
Thallium (Tl)							
Vanadium (V)			0.89				
Zinc (Zn)			0.001				
Extractable Metals							
Cadmium (Cd)	0.04				0.03		
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.01			0.01	0.03		
Iron (Fe)	0.07	0.04		0.12	0.00		
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.15	0.04		0.21	0.04		
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.09	0.01		0.05	0.25		
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)	2.70	1.90		1.17	1.70		
Dissolved Metals							
Aluminum (Al)			0.01				
Arsenic (As)			0.05				
Barium (Ba)			0.0124				
Calcium (Ca)			106				
Cadmium (Cd)			0.0075				
Copper (Cu)			0.002				
Iron (Fe)			0.01				
Molybdenum (Mo)			0.005				
Sodium (Na)			2.09				
Lead (Pb)			0.01				
Antimony (Sb)			0.02				
Selenium (Se)			0.02				
Zinc (Zn)			0.833				

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	95/2/6	95/3/29	95/4/27	95/5/3	95/6/6	95/7/12	95/8/11
Physical Parameters							
pH					7.0	8.1	7.9
pH (in Field)						7.85	
Conductivity, mircro-mho/cm					345		350
Conductivity (in Field), micro-mho/cm						546	
Total Suspended Solids, mg/L					24	5	0
Turbidity, NTU							
Dissolved Susspended Solids, mg/L						397	
Flow, L/s					2.00		0.30
Temp., degrees Celcius					2.0		2.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L						173	
Sulphate (SO4), mg/L						147	
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Total Metals (mg/L)							
Silver (Ag)						2.27	
Aluminum (Al)						0.02	
Arsenic (As)						0.0127	
Boron (B)							
Barium (Ba)						0.0002	
Beryllium (Be)						0.02	
Bismuth (Bi)						0.0083	
Calcium (Ca)						0.001	
Cadmium (Cd)						108	
Cobalt (Co)						0.014	
Chromium (Cr)						0.001	
Copper (Cu)						0.019	
Iron (Fe)						0.01	
Mercury (Hg)							
Potassium (K)						0.02	
Lithium (Li)						14.9	
Magnesium (Mg)						0.021	
Manganese (Mn)						0.005	
Molybdenum (Mo)						0.006	
Sodium (Na)						0.27	
Nickel (Ni)						0.06	

Station							
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	LES	UKHM
Sample Date	95/2/6	95/3/29	95/4/27	95/5/3	95/6/6	95/7/12	95/8/11
Lead (Pb)						0.003	
Sulphur (S)						0.01	
Antimony (Sb)						0.06	
Selenium (Se)						4.3	
Silicon (Si)						0.001	
Tin (Sn)						0.001	
Stronium (Sr)						51.6	
Tellurium (Te)							
Titanium (Ti)						0.01	
Thallium (Tl)							
Vanadium (V)						0.868	
Zinc (Zn)						0.001	
Extractable Metals							
Cadmium (Cd)					0.01		0.05
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)					0.02		0.04
Iron (Fe)					0.24		0.02
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)					0.06		0.20
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)					0.00		0.21
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)					1.25		1.84
Dissolved Metals							
Aluminum (Al)						0.02	
Arsenic (As)						0.04	
Barium (Ba)						0.0126	
Calcium (Ca)						107	
Cadmium (Cd)						0.0078	
Copper (Cu)						0.014	
Iron (Fe)						0.005	
Molybdenum (Mo)						0.005	
Sodium (Na)						2.28	
Lead (Pb)						0.01	
Antimony (Sb)						0.02	
Selenium (Se)						0.02	
Zinc (Zn)						0.869	

Station		
Collected By:	LES	LES
Sample Date	95/9/5	98/06/11
Physical Parameters		
pH	8.1	7.96
pH (in Field)		
Conductivity, mircro-mho/cm	550	507
Conductivity (in Field), micro-mho/cm		
Total Suspended Solids, mg/L	5	<5
Turbidity, NTU		
Dissolved Susspended Solids, mg/L	428.00	
Flow, L/s		
Temp., degrees Celcius		
Hardness, $CaCO_3$, mg/L		
Tota Hardness, mg/L		
Dissolved Oxygen		
LC50		
Anions		
Alkalinity, CaCO3, mg/L	103	161
Sulphate (SO4), mg/L	197.0	121
Nutrients		
Nitrite Nitrogen (NO2), mg/L		<0.005
Nitrate Nitrogen (NO3), mg/l		0.200
N-NH3, mg/L		<.005
N-N02-NO3, mg/L		
Total Phosphorus, mg/L		
Total Metals (mg/L)		
Silver (Ag)		1.5
Aluminum (Al)		
Arsenic (As)		0.009
Boron (B)		
Barium (Ba)		0.002
Beryllium (Be)		
Bismuth (Bi)		0.006
Calcium (Ca)		0.013
Cadmium (Cd)		89.4
Cobalt (Co)		<.006
Chromium (Cr)		<.006
Copper (Cu)		0.018
Iron (Fe)		<.06
Mercury (Hg)		
Potassium (K)		<.06
Lithium (Li)		11
Magnesium (Mg)		0.016
Manganese (Mn)		<.01
Molybdenum (Mo)		<.02
Sodium (Na)		0.212
Nickel (Ni)		<.1

Station		
Collected By:	LES	LES
Sample Date	95/9/5	98/06/11
Lead (Pb)		
Sulphur (S)		<.06
Antimony (Sb)		<.06
Selenium (Se)		3.09
Silicon (Si)		<.01
Tin (Sn)		<.002
Stronium (Sr)		37.7
Tellurium (Te)		
Titanium (Ti)		
Thallium (Tl)		
Vanadium (V)		0.709
Zinc (Zn)		
Extractable Metals		
Cadmium (Cd)		
Cobalt (Co)		
Chromium (Cr)		
Copper (Cu)		
Iron (Fe)		
Mercury (Hg)		
Potassium (K)		
Lithium (Li)		
Magnesium (Mg)		
Manganese (Mn)		
Molybdenum (Mo)		
Sodium (Na)		
Nickel (Ni)		
Lead (Pb)		
Sulphur (S)		
Antimony (Sb)		
Selenium (Se)		
Silicon (Si)		
Tin (Sn)		
Stronium (Sr)		
Tellurium (Te)		
Titanium (Ti)		
Thallium (Tl)		
Vanadium (V)		
Zinc (Zn)		
Dissolved Metals		
Aluminum (Al)	0.02	<.05
Arsenic (As)	0.03	<.05
Barium (Ba)	0.0149	0.007
Calcium (Ca)	94.7	86.7
Cadmium (Cd)	0.054	<.005
Copper (Cu)	0.003	<.005
Iron (Fe)	0.6	0.009
Molybdenum (Mo)	0.005	<.01
Sodium (Na)	2.15	1
Lead (Pb)	0.006	<.05
Antimony (Sb)	0.02	<.05
Selenium (Se)	0.02	<.05
Zinc (Zn)	2.46	0.689

	A	B	C	D	E	F	G	H
1	Station	Bellekeno adit (LES 39, UKHM S-12)						
2	Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	84/1/3	85/7/16	85/10/17	85/11/28	86/2/4	86/3/21	86/4/30
4	**Physical Parameters**							
5	pH	7.85	8	7.88	7.67	7.84	7.82	7.79
6	pH (in Field)		6.9					
7	Conductivity, micro-mho/cm		880					
8	Conductivity (in Field), micro-mho/cm	700	510	0	680	770	1870	1400
9	Total Suspended Solids, mg/L		19					
10	Flow, L/s	0.0	1.4	0.0	0.0	0.0	0.0	0.0
11	Temp., degrees Celcius	0.0	3.8	0.0	1.0	4.0	2.0	0.0
12	Hardness, $CaCO_3$, mg/L							
13	Tota Hardness, mg/L		471					
14	**Anions**							
15	Alkalinity, CaCO3, mg/L							
16	Sulphate (SO4), mg/L							
17	**Nutrients**							
18	Nitrite Nitrogen (NO2), mg/L							
19	Nitrate Nitrogen (NO3), mg/l							
20	N-NH3, mg/L		0.155					
21	**Total Metals (mg/L)**							
22	Silver (Ag)							
23	Aluminum (Al)							
24	Arsenic (As)		<0.05					
25	Boron (B)		0.01					
26	Barium (Ba)		0.021					
27	Beryllium (Be)							
28	Calcium (Ca)		158					
29	Cadmium (Cd)		0.002					
30	Cobalt (Co)		<0.005					
31	Chromium (Cr)		<0.005					
32	Copper (Cu)		0.005					
33	Iron (Fe)		2.59					
34	Magnesium (Mg)		15.1					
35	Manganese (Mn)		0.514					
36	Molybdenum (Mo)		<0.005					
37	Sodium (Na)		1.5					
38	Nickel (Ni)		<0.02					
39	Lead (Pb)		0.02					
40	Sulphur (S)							
41	Antimony (Sb)		<0.05					
42	Selenium (Se)		<0.05					
43	Silicon (Si)		4.1					
44	Tin (Sn)		<0.01					
45	Stronium (Sr)		0.206					
46	Tellurium (Te)							
47	Titanium (Ti)		0.015					
48	Thallium (Tl)							
49	Vanadium (V)		<0.005					
50	Zinc (Zn)		0.211					
51								
52								
53								

	A	B	C	D	E	F	G	H
1	Station	Bellekeno adit (LES 39, UKHM S-12)						
2	Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	84/1/3	85/7/16	85/10/17	85/11/28	86/2/4	86/3/21	86/4/30
54	**Extractable Metals**							
55	Silver (Ag)	0.00		0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)							
57	Arsenic (As)							
58	Boron (B)							
59	Barium (Ba)							
60	Beryllium (Be)							
61	Bismuth (Bi)							
62	Calcium (Ca)	0.0		0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.010		<0.01	0.010	<0.01	0.860	0.020
64	Cobalt (Co)							
65	Chromium (Cr)							
66	Copper (Cu)	<0.01		<0.01	0.010	<0.01	1.830	0.050
67	Iron (Fe)	4.130		1.640	1.320	3.930	43.400	2.480
68	Mercury (Hg)							
69	Potassium (K)							
70	Lithium (Li)							
71	Magnesium (Mg)							
72	Manganese (Mn)	0.000		0.000	0.000	0.000	0.000	0.000
73	Molybdenum (Mo)							
74	Sodium (Na)							
75	Nickel (Ni)	0.00		0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	<0.01		<0.01	0.01	<0.01	14.80	1.23
77	Sulphur (S)							
78	Antimony (Sb)							
79	Selenium (Se)							
80	Silicon (Si)							
81	Tin (Sn)							
82	Stronium (Sr)							
83	Tellurium (Te)							
84	Titanium (Ti)							
85	Vanadium (V)							
86	Zinc (Zn)	0.850		0.180	0.220	0.360	23.400	1.460
87	**Dissolved Metals**							
88	Silver (Ag)							
89	Arsenic (As)							
90	Barium (Ba)							
91	Calcium (Ca)							
92	Cadmium (Cd)							
93	Copper (Cu)							
94	Iron (Fe)							
95	Molybdenum (Mo)							
96	Sodium (Na)							
97	Lead (Pb)							
98	Antimony (Sb)							
99	Selenium (Se)							
100	Zinc (Zn)							

	A	I	J	K	L	M	N
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
3	Sample Date	86/5/28	86/7/1	86/7/30	86/8/5	86/9/3	86/10/12
4	**Physical Parameters**						
5	pH	7.89	7.95	7.99		7.71	8.29
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	1370	960	1080		1162	1110
9	Total Suspended Solids, mg/L				341		
10	Flow, L/s	0.0	0.0	3.0		3.0	0.0
11	Temp., degrees Celcius	0.0	0.0	0.0		0.0	0.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L				814		
14	**Anions**						
15	Alkalinity, CaCO3, mg/L				197		
16	Sulphate (SO4), mg/L				500		
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L				0.047		
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L				0.54		
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)				1.48		
25	Boron (B)				0.096		
26	Barium (Ba)				0.072		
27	Beryllium (Be)				<0.001		
28	Calcium (Ca)				248		
29	Cadmium (Cd)				0.195		
30	Cobalt (Co)				0.139		
31	Chromium (Cr)				0.038		
32	Copper (Cu)				0.395		
33	Iron (Fe)				26.8		
34	Magnesium (Mg)				37.9		
35	Manganese (Mn)				4.15		
36	Molybdenum (Mo)				0.128		
37	Sodium (Na)				2.1		
38	Nickel (Ni)				0.08		
39	Lead (Pb)				5.68		
40	Sulphur (S)						
41	Antimony (Sb)				0.4		
42	Selenium (Se)				0.52		
43	Silicon (Si)				17.6		
44	Tin (Sn)				0.13		
45	Stronium (Sr)				0.448		
46	Tellurium (Te)						
47	Titanium (Ti)				0.325		
48	Thallium (Tl)						
49	Vanadium (V)				0.052		
50	Zinc (Zn)				7.71		
51							
52							
53							

	A	I	J	K	L	M	N
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	DIAND	UKHM	UKHM
3	Sample Date	86/5/28	86/7/1	86/7/30	86/8/5	86/9/3	86/10/12
54	**Extractable Metals**						
55	Silver (Ag)	0.00	0.00	0.00		0.00	0.00
56	Aluminum (Al)						
57	Arsenic (As)				0.75		
58	Boron (B)				<0.001		
59	Barium (Ba)				0.015		
60	Beryllium (Be)				<0.001		
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0	0.0	0.0	243	0.0	0.0
63	Cadmium (Cd)	0.070	0.140	0.020	0.167	0.030	0.020
64	Cobalt (Co)				0.091		
65	Chromium (Cr)				0.02		
66	Copper (Cu)	0.130	0.130	0.070	0.358	0.020	0.010
67	Iron (Fe)	11.500	20.200	5.210	16	2.930	0.580
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)				36.7		
72	Manganese (Mn)	0.000	0.000	0.000	4.01	0.000	0.000
73	Molybdenum (Mo)				0.073		
74	Sodium (Na)				1.9		
75	Nickel (Ni)	0.00	0.00	0.00	0.06	0.00	0.00
76	Lead (Pb)	2.68	3.86	0.73	5.01	0.76	<0.5
77	Sulphur (S)						
78	Antimony (Sb)				0.11		
79	Selenium (Se)				0.28		
80	Silicon (Si)				6.2		
81	Tin (Sn)				0.03		
82	Stronium (Sr)				0.412		
83	Tellurium (Te)						
84	Titanium (Ti)				0.002		
85	Vanadium (V)				0.023		
86	Zinc (Zn)	2.840	8.060	1.420	6.12	1.480	1.140
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	O	P	Q	R	S	T
1	Station						
2	Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM
3	Sample Date	86/11/1	86/11/19	86/12/3	87/1/14	87/2/4	87/3/11
4	**Physical Parameters**						
5	pH	8.09	8.1	8.05	8.14	8.27	8.08
6	pH (in Field)		7.9				
7	Conductivity, micro-mho/cm		1225				
8	Conductivity (in Field), micro-mho/cm	1100	700	1040	1200	1190	1580
9	Total Suspended Solids, mg/L						
10	Flow, L/s	2.8	53igpm	2.4	0.0	0.0	0.0
11	Temp., degrees Celcius	0.0	2.7	0.0	2.0	0.0	1.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L						
16	Sulphate (SO4), mg/L						
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)						
25	Boron (B)						
26	Barium (Ba)						
27	Beryllium (Be)						
28	Calcium (Ca)						
29	Cadmium (Cd)						
30	Cobalt (Co)						
31	Chromium (Cr)						
32	Copper (Cu)						
33	Iron (Fe)						
34	Magnesium (Mg)						
35	Manganese (Mn)						
36	Molybdenum (Mo)						
37	Sodium (Na)						
38	Nickel (Ni)						
39	Lead (Pb)						
40	Sulphur (S)						
41	Antimony (Sb)						
42	Selenium (Se)						
43	Silicon (Si)						
44	Tin (Sn)						
45	Stronium (Sr)						
46	Tellurium (Te)						
47	Titanium (Ti)						
48	Thallium (Tl)						
49	Vanadium (V)						
50	Zinc (Zn)						
51							
52							
53							

	A	O	P	Q	R	S	T
1	Station						
2	Collected By:	UKHM	DIAND	UKHM	UKHM	UKHM	UKHM
3	Sample Date	86/11/1	86/11/19	86/12/3	87/1/14	87/2/4	87/3/11
54	**Extractable Metals**						
55	Silver (Ag)	0.00		0.00	0.00	0.00	0.00
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0		0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.060		0.040	0.130	0.040	0.080
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.140		<0.01	0.170	0.020	0.120
67	Iron (Fe)	13.300		2.180	36.800	10.040	29.400
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	0.000		0.000	0.000	0.000	0.000
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)	0.00		0.00	0.00	0.00	0.00
76	Lead (Pb)	1.79		0.07	3.72	1.84	1.78
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	2.860		1.700	7.020	2.130	2.560
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	U	V	W	X	Y	Z
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	87/4/3	87/5/5	87/6/3	87/7/16	87/8/4	87/9/24
4	**Physical Parameters**						
5	pH	8.15	8.01	8.21	8.23	8.25	8.12
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	1040	980	900	790	960	382
9	Total Suspended Solids, mg/L						
10	Flow, L/s	0.0	0.0	0.0	0.0	0.0	0.0
11	Temp., degrees Celcius	0.0	3.0	6.0	2.0	7.0	3.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L						
16	Sulphate (SO4), mg/L						
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)						
25	Boron (B)						
26	Barium (Ba)						
27	Beryllium (Be)						
28	Calcium (Ca)						
29	Cadmium (Cd)						
30	Cobalt (Co)						
31	Chromium (Cr)						
32	Copper (Cu)						
33	Iron (Fe)						
34	Magnesium (Mg)						
35	Manganese (Mn)						
36	Molybdenum (Mo)						
37	Sodium (Na)						
38	Nickel (Ni)						
39	Lead (Pb)						
40	Sulphur (S)						
41	Antimony (Sb)						
42	Selenium (Se)						
43	Silicon (Si)						
44	Tin (Sn)						
45	Stronium (Sr)						
46	Tellurium (Te)						
47	Titanium (Ti)						
48	Thallium (Tl)						
49	Vanadium (V)						
50	Zinc (Zn)						
51							
52							
53							

	A	U	V	W	X	Y	Z
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	87/4/3	87/5/5	87/6/3	87/7/16	87/8/4	87/9/24
54	**Extractable Metals**						
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.030	0.030	0.050	0.040	0.020	0.010
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.030	0.020	0.130	0.020	0.020	<0.01
67	Iron (Fe)	7.530	5.940	24.200	8.040	2.930	1.040
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	0.000	0.000	0.000	0.000	0.000	0.000
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.51	0.33	1.23	1.14	0.36	0.04
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	1.620	1.340	3.320	4.060	0.460	0.180
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	AA	AB	AC	AD	AE	AF	AG
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	87/10/22	87/11/26	88/1/7	89/5/4	89/5/31	89/7/3	89/7/30
4	**Physical Parameters**							
5	pH	6.90	7.14	7.90	7.72	8.00	7.96	7.92
6	pH (in Field)							
7	Conductivity, micro-mho/cm							
8	Conductivity (in Field), micro-mho/cm	350	465	592	360	390	540	460
9	Total Suspended Solids, mg/L							
10	Flow, L/s	0.0	0.0	0.0	1.0	1.5	1.5	0.0
11	Temp., degrees Celcius	5.0	5.0	1.0	3.0	3.0	4.0	3.0
12	Hardness, $CaCO_3$, mg/L							
13	Tota Hardness, mg/L							
14	**Anions**							
15	Alkalinity, CaCO3, mg/L							
16	Sulphate (SO4), mg/L							
17	**Nutrients**							
18	Nitrite Nitrogen (NO2), mg/L							
19	Nitrate Nitrogen (NO3), mg/l							
20	N-NH3, mg/L							
21	**Total Metals (mg/L)**							
22	Silver (Ag)							
23	Aluminum (Al)							
24	Arsenic (As)							
25	Boron (B)							
26	Barium (Ba)							
27	Beryllium (Be)							
28	Calcium (Ca)							
29	Cadmium (Cd)							
30	Cobalt (Co)							
31	Chromium (Cr)							
32	Copper (Cu)							
33	Iron (Fe)							
34	Magnesium (Mg)							
35	Manganese (Mn)							
36	Molybdenum (Mo)							
37	Sodium (Na)							
38	Nickel (Ni)							
39	Lead (Pb)							
40	Sulphur (S)							
41	Antimony (Sb)							
42	Selenium (Se)							
43	Silicon (Si)							
44	Tin (Sn)							
45	Stronium (Sr)							
46	Tellurium (Te)							
47	Titanium (Ti)							
48	Thallium (Tl)							
49	Vanadium (V)							
50	Zinc (Zn)							
51								
52								
53								

	A	AA	AB	AC	AD	AE	AF	AG
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	87/10/22	87/11/26	88/1/7	89/5/4	89/5/31	89/7/3	89/7/30
54	**Extractable Metals**							
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)							
57	Arsenic (As)							
58	Boron (B)							
59	Barium (Ba)							
60	Beryllium (Be)							
61	Bismuth (Bi)							
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.400	0.030	0.010	0.010	0.010	0.040	0.040
64	Cobalt (Co)							
65	Chromium (Cr)							
66	Copper (Cu)	0.010	0.010	0.010	0.000	0.000	0.000	0.040
67	Iron (Fe)	0.140	1.600	0.530	0.050	0.330	0.000	0.260
68	Mercury (Hg)							
69	Potassium (K)							
70	Lithium (Li)							
71	Magnesium (Mg)							
72	Manganese (Mn)	0.000	0.000	0.000	0.110	0.120	0.300	0.220
73	Molybdenum (Mo)							
74	Sodium (Na)							
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.01	0.08	0.01	0.00	0.03	0.00	0.00
77	Sulphur (S)							
78	Antimony (Sb)							
79	Selenium (Se)							
80	Silicon (Si)							
81	Tin (Sn)							
82	Stronium (Sr)							
83	Tellurium (Te)							
84	Titanium (Ti)							
85	Vanadium (V)							
86	Zinc (Zn)	7.740	0.460	0.630	0.300	0.280	0.940	1.370
87	**Dissolved Metals**							
88	Silver (Ag)							
89	Arsenic (As)							
90	Barium (Ba)							
91	Calcium (Ca)							
92	Cadmium (Cd)							
93	Copper (Cu)							
94	Iron (Fe)							
95	Molybdenum (Mo)							
96	Sodium (Na)							
97	Lead (Pb)							
98	Antimony (Sb)							
99	Selenium (Se)							
100	Zinc (Zn)							

	A	AH	AI	AJ	AK	AL	AM	AN
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	89/9/13	89/10/16	90/4/28	90/5/19	90/7/4	90/8/2	90/8/31
4	**Physical Parameters**							
5	pH	7.99	8.14	7.87	7.65	7.97	7.80	7.85
6	pH (in Field)							
7	Conductivity, micro-mho/cm							
8	Conductivity (in Field), micro-mho/cm	470	480	950	720	680	740	600
9	Total Suspended Solids, mg/L							
10	Flow, L/s	6.0	1.0	8.0	1.0	3.0	2.7	2.7
11	Temp., degrees Celcius	2.0	0.0	5.0	8.0	4.0	5.0	4.0
12	Hardness, $CaCO_3$, mg/L							
13	Tota Hardness, mg/L							
14	**Anions**							
15	Alkalinity, CaCO3, mg/L							
16	Sulphate (SO4), mg/L							
17	**Nutrients**							
18	Nitrite Nitrogen (NO2), mg/L							
19	Nitrate Nitrogen (NO3), mg/l							
20	N-NH3, mg/L							
21	**Total Metals (mg/L)**							
22	Silver (Ag)							
23	Aluminum (Al)							
24	Arsenic (As)							
25	Boron (B)							
26	Barium (Ba)							
27	Beryllium (Be)							
28	Calcium (Ca)							
29	Cadmium (Cd)							
30	Cobalt (Co)							
31	Chromium (Cr)							
32	Copper (Cu)							
33	Iron (Fe)							
34	Magnesium (Mg)							
35	Manganese (Mn)							
36	Molybdenum (Mo)							
37	Sodium (Na)							
38	Nickel (Ni)							
39	Lead (Pb)							
40	Sulphur (S)							
41	Antimony (Sb)							
42	Selenium (Se)							
43	Silicon (Si)							
44	Tin (Sn)							
45	Stronium (Sr)							
46	Tellurium (Te)							
47	Titanium (Ti)							
48	Thallium (Tl)							
49	Vanadium (V)							
50	Zinc (Zn)							
51								
52								
53								

	A	AH	AI	AJ	AK	AL	AM	AN
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	89/9/13	89/10/16	90/4/28	90/5/19	90/7/4	90/8/2	90/8/31
54	**Extractable Metals**							
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)							
57	Arsenic (As)							
58	Boron (B)							
59	Barium (Ba)							
60	Beryllium (Be)							
61	Bismuth (Bi)							
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.030	0.020	0.020	0.000	0.030	0.040	0.030
64	Cobalt (Co)							
65	Chromium (Cr)							
66	Copper (Cu)	0.010	0.100	0.030	0.010	0.010	0.120	0.020
67	Iron (Fe)	0.000	0.030	0.200	0.170	0.040	8.000	0.030
68	Mercury (Hg)							
69	Potassium (K)							
70	Lithium (Li)							
71	Magnesium (Mg)							
72	Manganese (Mn)	0.160	0.220	0.000	0.800	0.840	0.080	0.060
73	Molybdenum (Mo)							
74	Sodium (Na)							
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.07	0.00	0.00	0.06	0.15	0.15	0.05
77	Sulphur (S)							
78	Antimony (Sb)							
79	Selenium (Se)							
80	Silicon (Si)							
81	Tin (Sn)							
82	Stronium (Sr)							
83	Tellurium (Te)							
84	Titanium (Ti)							
85	Vanadium (V)							
86	Zinc (Zn)	1.000	1.010	0.380	2.900	3.200	3.200	2.400
87	**Dissolved Metals**							
88	Silver (Ag)							
89	Arsenic (As)							
90	Barium (Ba)							
91	Calcium (Ca)							
92	Cadmium (Cd)							
93	Copper (Cu)							
94	Iron (Fe)							
95	Molybdenum (Mo)							
96	Sodium (Na)							
97	Lead (Pb)							
98	Antimony (Sb)							
99	Selenium (Se)							
100	Zinc (Zn)							

	A	AO	AP	AQ	AR	AS	AT
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	90/9/28	90/10/30	90/11/30	90/12/20	91/1/31	91/2/28
4	**Physical Parameters**						
5	pH	7.91	7.91	7.70	7.81	7.85	8.03
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	615	785	800	674	0	0
9	Total Suspended Solids, mg/L						
10	Flow, L/s	6.7	0.0	3.7	3.7	0.0	0.0
11	Temp., degrees Celcius	1.0	0.5	0.5	4.0	0.0	10.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L						
16	Sulphate (SO4), mg/L						
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)						
25	Boron (B)						
26	Barium (Ba)						
27	Beryllium (Be)						
28	Calcium (Ca)						
29	Cadmium (Cd)						
30	Cobalt (Co)						
31	Chromium (Cr)						
32	Copper (Cu)						
33	Iron (Fe)						
34	Magnesium (Mg)						
35	Manganese (Mn)						
36	Molybdenum (Mo)						
37	Sodium (Na)						
38	Nickel (Ni)						
39	Lead (Pb)						
40	Sulphur (S)						
41	Antimony (Sb)						
42	Selenium (Se)						
43	Silicon (Si)						
44	Tin (Sn)						
45	Stronium (Sr)						
46	Tellurium (Te)						
47	Titanium (Ti)						
48	Thallium (Tl)						
49	Vanadium (V)						
50	Zinc (Zn)						
51							
52							
53							

	A	AO	AP	AQ	AR	AS	AT
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	90/9/28	90/10/30	90/11/30	90/12/20	91/1/31	91/2/28
54	**Extractable Metals**						
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.020	0.030	0.020	0.010	<0.01	0.120
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.010	0.020	0.010	0.010	<0.01	0.030
67	Iron (Fe)	0.040	0.060	0.080	0.050	0.000	0.040
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	0.200	0.060	0.040	0.030	<0.01	<0.01
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.49	0.40	0.30	0.01	0.00	0.06
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	1.300	2.000	1.900	1.900	<0.01	0.170
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	AU	AV	AW	AX	AY
1	Station					
2	Collected By:	UKHM	UKHM	UKHM	DIAND sampled with ukhm	UKHM
3	Sample Date	91/3/19	91/4/29	91/5/22	91/5/22	91/6/22
4	**Physical Parameters**					
5	pH	8.06	8.06	7.30	8.3	8.12
6	pH (in Field)				7.3	
7	Conductivity, micro-mho/cm				489	
8	Conductivity (in Field), micro-mho/cm	290	310	279	279	300
9	Total Suspended Solids, mg/L				<5	
10	Flow, L/s	1.0	0.8	1.8	1.9	1.0
11	Temp., degrees Celcius	4.0	10.0	2.7	2.7	3.0
12	Hardness, $CaCO_3$, mg/L					
13	Tota Hardness, mg/L					
14	**Anions**					
15	Alkalinity, CaCO3, mg/L					
16	Sulphate (SO4), mg/L					
17	**Nutrients**					
18	Nitrite Nitrogen (NO2), mg/L					
19	Nitrate Nitrogen (NO3), mg/l					
20	N-NH3, mg/L					
21	**Total Metals (mg/L)**					
22	Silver (Ag)					
23	Aluminum (Al)					
24	Arsenic (As)					
25	Boron (B)					
26	Barium (Ba)					
27	Beryllium (Be)					
28	Calcium (Ca)					
29	Cadmium (Cd)					
30	Cobalt (Co)					
31	Chromium (Cr)					
32	Copper (Cu)					
33	Iron (Fe)					
34	Magnesium (Mg)					
35	Manganese (Mn)					
36	Molybdenum (Mo)					
37	Sodium (Na)					
38	Nickel (Ni)					
39	Lead (Pb)					
40	Sulphur (S)					
41	Antimony (Sb)					
42	Selenium (Se)					
43	Silicon (Si)					
44	Tin (Sn)					
45	Stronium (Sr)					
46	Tellurium (Te)					
47	Titanium (Ti)					
48	Thallium (Tl)					
49	Vanadium (V)					
50	Zinc (Zn)					
51						
52						
53						

	A	AU	AV	AW	AX	AY
1	Station					
2	Collected By:	UKHM	UKHM	UKHM	DIAND sampled with ukhm	UKHM
3	Sample Date	91/3/19	91/4/29	91/5/22	91/5/22	91/6/22
54	**Extractable Metals**					
55	Silver (Ag)	0.00	0.00	0.00		0.00
56	Aluminum (Al)					
57	Arsenic (As)					
58	Boron (B)					
59	Barium (Ba)					
60	Beryllium (Be)					
61	Bismuth (Bi)					
62	Calcium (Ca)	0.0	0.0	0.0		0.0
63	Cadmium (Cd)	0.080	<0.01	0.010	0.01	0.010
64	Cobalt (Co)					
65	Chromium (Cr)					
66	Copper (Cu)	0.720	0.070	0.010	<0.01	<0.01
67	Iron (Fe)	0.970	<0.01	0.010	0.09	0.040
68	Mercury (Hg)					
69	Potassium (K)					
70	Lithium (Li)					
71	Magnesium (Mg)					
72	Manganese (Mn)	0.020	0.010	<0.01	0.08	0.060
73	Molybdenum (Mo)					
74	Sodium (Na)					
75	Nickel (Ni)	0.00	0.00	0.00		0.00
76	Lead (Pb)	0.07	<0.01	0.03	<0.05	0.02
77	Sulphur (S)					
78	Antimony (Sb)					
79	Selenium (Se)					
80	Silicon (Si)					
81	Tin (Sn)					
82	Stronium (Sr)					
83	Tellurium (Te)					
84	Titanium (Ti)					
85	Vanadium (V)					
86	Zinc (Zn)	0.130	0.060	0.420	0.44	0.390
87	**Dissolved Metals**					
88	Silver (Ag)					
89	Arsenic (As)					
90	Barium (Ba)					
91	Calcium (Ca)					
92	Cadmium (Cd)					
93	Copper (Cu)					
94	Iron (Fe)					
95	Molybdenum (Mo)					
96	Sodium (Na)					
97	Lead (Pb)					
98	Antimony (Sb)					
99	Selenium (Se)					
100	Zinc (Zn)					

	A	AZ	BA	BB	BC	BD	BE
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	91/7/31	91/8/20	91/9/16	91/10/23	91/11/19	91/12/16
4	**Physical Parameters**						
5	pH	7.91	7.56	7.79	7.55	8.15	8.02
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	300	480	460	420	320	420
9	Total Suspended Solids, mg/L						
10	Flow, L/s	2.0	1.5	2.0	2.0	2.0	2.0
11	Temp., degrees Celcius	4.0	4.0	2.0	1.0	1.0	1.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L						
16	Sulphate (SO4), mg/L						
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)						
25	Boron (B)						
26	Barium (Ba)						
27	Beryllium (Be)						
28	Calcium (Ca)						
29	Cadmium (Cd)						
30	Cobalt (Co)						
31	Chromium (Cr)						
32	Copper (Cu)						
33	Iron (Fe)						
34	Magnesium (Mg)						
35	Manganese (Mn)						
36	Molybdenum (Mo)						
37	Sodium (Na)						
38	Nickel (Ni)						
39	Lead (Pb)						
40	Sulphur (S)						
41	Antimony (Sb)						
42	Selenium (Se)						
43	Silicon (Si)						
44	Tin (Sn)						
45	Stronium (Sr)						
46	Tellurium (Te)						
47	Titanium (Ti)						
48	Thallium (Tl)						
49	Vanadium (V)						
50	Zinc (Zn)						
51							
52							
53							

	A	AZ	BA	BB	BC	BD	BE
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	91/7/31	91/8/20	91/9/16	91/10/23	91/11/19	91/12/16
54	**Extractable Metals**						
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.080	0.010	<0.01	0.020	0.020	0.020
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.030	<0.01	0.030	0.020	0.010	0.010
67	Iron (Fe)	0.800	0.210	0.220	0.080	0.420	0.200
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	0.500	0.070	0.040	0.040	0.060	0.120
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.04	<0.01	0.01	0.02	0.05	0.02
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	0.010	0.210	0.190	1.980	0.440	0.510
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	BF	BG	BH	BI	BJ	BK	BL
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/1/24	92/2/27	92/3/20	92/4/23	92/5/27	92/6/25	92/7/29
4	**Physical Parameters**							
5	pH	8.16	7.38	8.18	7.96	7.30	8.02	7.82
6	pH (in Field)							
7	Conductivity, micro-mho/cm							
8	Conductivity (in Field), micro-mho/cm	420	420	400	490	480	560	710
9	Total Suspended Solids, mg/L							
10	Flow, L/s	2.0	2.0	2.0	2.0	2.4	2.4	2.4
11	Temp., degrees Celcius	2.0	2.0	2.0	2.0	2.0	2.0	4.0
12	Hardness, $CaCO_3$, mg/L							
13	Tota Hardness, mg/L							
14	**Anions**							
15	Alkalinity, CaCO3, mg/L							
16	Sulphate (SO4), mg/L							
17	**Nutrients**							
18	Nitrite Nitrogen (NO2), mg/L							
19	Nitrate Nitrogen (NO3), mg/l							
20	N-NH3, mg/L							
21	**Total Metals (mg/L)**							
22	Silver (Ag)							
23	Aluminum (Al)							
24	Arsenic (As)							
25	Boron (B)							
26	Barium (Ba)							
27	Beryllium (Be)							
28	Calcium (Ca)							
29	Cadmium (Cd)							
30	Cobalt (Co)							
31	Chromium (Cr)							
32	Copper (Cu)							
33	Iron (Fe)							
34	Magnesium (Mg)							
35	Manganese (Mn)							
36	Molybdenum (Mo)							
37	Sodium (Na)							
38	Nickel (Ni)							
39	Lead (Pb)							
40	Sulphur (S)							
41	Antimony (Sb)							
42	Selenium (Se)							
43	Silicon (Si)							
44	Tin (Sn)							
45	Stronium (Sr)							
46	Tellurium (Te)							
47	Titanium (Ti)							
48	Thallium (Tl)							
49	Vanadium (V)							
50	Zinc (Zn)							
51								
52								
53								

	A	BF	BG	BH	BI	BJ	BK	BL
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/1/24	92/2/27	92/3/20	92/4/23	92/5/27	92/6/25	92/7/29
54	**Extractable Metals**							
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)							
57	Arsenic (As)							
58	Boron (B)							
59	Barium (Ba)							
60	Beryllium (Be)							
61	Bismuth (Bi)							
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.020	<0.01	<0.01	0.010	0.010	0.010	0.030
64	Cobalt (Co)							
65	Chromium (Cr)							
66	Copper (Cu)	<0.01	0.010	0.010	0.010	0.020	0.010	0.020
67	Iron (Fe)	0.180	0.020	0.060	0.010	0.110	0.100	0.030
68	Mercury (Hg)							
69	Potassium (K)							
70	Lithium (Li)							
71	Magnesium (Mg)							
72	Manganese (Mn)	0.890	0.590	0.130	0.730	1.980	0.090	1.170
73	Molybdenum (Mo)							
74	Sodium (Na)							
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.02	0.04	0.02	<0.01	<0.01	0.01	0.01
77	Sulphur (S)							
78	Antimony (Sb)							
79	Selenium (Se)							
80	Silicon (Si)							
81	Tin (Sn)							
82	Stronium (Sr)							
83	Tellurium (Te)							
84	Titanium (Ti)							
85	Vanadium (V)							
86	Zinc (Zn)	1.620	3.750	3.770	0.330	0.560	0.560	1.920
87	**Dissolved Metals**							
88	Silver (Ag)							
89	Arsenic (As)							
90	Barium (Ba)							
91	Calcium (Ca)							
92	Cadmium (Cd)							
93	Copper (Cu)							
94	Iron (Fe)							
95	Molybdenum (Mo)							
96	Sodium (Na)							
97	Lead (Pb)							
98	Antimony (Sb)							
99	Selenium (Se)							
100	Zinc (Zn)							

	A	BM	BN	BO	BP
1	Station				
2	Collected By:	UKHM	UKHM	UKHM	DIAND sampled with ukhm
3	Sample Date	92/8/28	92/10/5	92/10/28	92/10/28
4	**Physical Parameters**				
5	pH	7.34	7.49	8.40	
6	pH (in Field)				8.4
7	Conductivity, micro-mho/cm				
8	Conductivity (in Field), micro-mho/cm	660	880	1316	1316
9	Total Suspended Solids, mg/L				<10
10	Flow, L/s	2.4	2.4	2.0	2
11	Temp., degrees Celcius	3.0	4.2	1.6	1.6
12	Hardness, $CaCO_3$, mg/L				
13	Tota Hardness, mg/L				
14	**Anions**				
15	Alkalinity, CaCO3, mg/L				
16	Sulphate (SO4), mg/L				
17	**Nutrients**				
18	Nitrite Nitrogen (NO2), mg/L				
19	Nitrate Nitrogen (NO3), mg/l				
20	N-NH3, mg/L				
21	**Total Metals (mg/L)**				
22	Silver (Ag)				
23	Aluminum (Al)				
24	Arsenic (As)				
25	Boron (B)				
26	Barium (Ba)				
27	Beryllium (Be)				
28	Calcium (Ca)				
29	Cadmium (Cd)				
30	Cobalt (Co)				
31	Chromium (Cr)				
32	Copper (Cu)				
33	Iron (Fe)				
34	Magnesium (Mg)				
35	Manganese (Mn)				
36	Molybdenum (Mo)				
37	Sodium (Na)				
38	Nickel (Ni)				
39	Lead (Pb)				
40	Sulphur (S)				
41	Antimony (Sb)				
42	Selenium (Se)				
43	Silicon (Si)				
44	Tin (Sn)				
45	Stronium (Sr)				
46	Tellurium (Te)				
47	Titanium (Ti)				
48	Thallium (Tl)				
49	Vanadium (V)				
50	Zinc (Zn)				
51					
52					
53					

	A	BM	BN	BO	BP
1	Station				
2	Collected By:	UKHM	UKHM	UKHM	DIAND sampled with ukhm
3	Sample Date	92/8/28	92/10/5	92/10/28	92/10/28
54	**Extractable Metals**				
55	Silver (Ag)	0.00	0.00	0.00	
56	Aluminum (Al)				
57	Arsenic (As)				
58	Boron (B)				
59	Barium (Ba)				
60	Beryllium (Be)				
61	Bismuth (Bi)				
62	Calcium (Ca)	0.0	0.0	0.0	
63	Cadmium (Cd)	0.040	0.160	0.120	0.054
64	Cobalt (Co)				
65	Chromium (Cr)				
66	Copper (Cu)	0.010	0.020	0.020	<0.005
67	Iron (Fe)	0.070	0.220	0.300	<0.03
68	Mercury (Hg)				
69	Potassium (K)				
70	Lithium (Li)				
71	Magnesium (Mg)				
72	Manganese (Mn)	1.840	2.220	0.100	1.55
73	Molybdenum (Mo)				
74	Sodium (Na)				
75	Nickel (Ni)	0.00	0.00	0.00	
76	Lead (Pb)	0.01	0.02	0.04	<0.05
77	Sulphur (S)				
78	Antimony (Sb)				
79	Selenium (Se)				
80	Silicon (Si)				
81	Tin (Sn)				
82	Stronium (Sr)				
83	Tellurium (Te)				
84	Titanium (Ti)				
85	Vanadium (V)				
86	Zinc (Zn)	2.380	1.470	0.240	5.04
87	**Dissolved Metals**				
88	Silver (Ag)				
89	Arsenic (As)				
90	Barium (Ba)				
91	Calcium (Ca)				
92	Cadmium (Cd)				
93	Copper (Cu)				
94	Iron (Fe)				
95	Molybdenum (Mo)				
96	Sodium (Na)				
97	Lead (Pb)				
98	Antimony (Sb)				
99	Selenium (Se)				
100	Zinc (Zn)				

	A	BQ	BR	BS	BT	BU	BV
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/11/18	92/12/14	93/1/29	93/2/24	93/3/22	93/4/24
4	**Physical Parameters**						
5	pH	7.98	7.78	7.76	8.07	8.01	7.47
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	860	720	720	760	720	740
9	Total Suspended Solids, mg/L						
10	Flow, L/s	2.0	2.0	2.0	2.0	2.0	2.0
11	Temp., degrees Celcius	1.5	2.0	3.0	2.0	2.0	4.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L						
16	Sulphate (SO4), mg/L						
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)						
25	Boron (B)						
26	Barium (Ba)						
27	Beryllium (Be)						
28	Calcium (Ca)						
29	Cadmium (Cd)						
30	Cobalt (Co)						
31	Chromium (Cr)						
32	Copper (Cu)						
33	Iron (Fe)						
34	Magnesium (Mg)						
35	Manganese (Mn)						
36	Molybdenum (Mo)						
37	Sodium (Na)						
38	Nickel (Ni)						
39	Lead (Pb)						
40	Sulphur (S)						
41	Antimony (Sb)						
42	Selenium (Se)						
43	Silicon (Si)						
44	Tin (Sn)						
45	Stronium (Sr)						
46	Tellurium (Te)						
47	Titanium (Ti)						
48	Thallium (Tl)						
49	Vanadium (V)						
50	Zinc (Zn)						
51							
52							
53							

	A	BQ	BR	BS	BT	BU	BV
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/11/18	92/12/14	93/1/29	93/2/24	93/3/22	93/4/24
54	**Extractable Metals**						
55	Silver (Ag)	0.00	0.00	0.00	0.00	0.00	0.00
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0	0.0	0.0	0.0	0.0	0.0
63	Cadmium (Cd)	0.040	0.020	0.030	0.030	0.030	0.050
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.020	0.020	0.030	0.020	0.020	0.010
67	Iron (Fe)	0.260	0.310	0.390	0.510	0.120	0.230
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	1.550	0.820	0.700	0.030	0.010	0.020
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)	0.00	0.00	0.00	0.00	0.00	0.00
76	Lead (Pb)	0.03	0.02	0.01	0.02	0.02	0.02
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	0.850	0.210	1.220	0.570	1.670	1.560
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	BW	BX	BY	BZ	CA
1	Station					
2	Collected By:	UKHM	UKHM	UKHM	DIAND sampled with ukhm	UKHM
3	Sample Date	93/5/26	93/6/28	93/7/21	93/7/21	93/8/25
4	**Physical Parameters**					
5	pH	7.91	7.79	8.10	8	7.80
6	pH (in Field)				8.1	
7	Conductivity, micro-mho/cm				1280	
8	Conductivity (in Field), micro-mho/cm	580	860	1300	1300	970
9	Total Suspended Solids, mg/L				<10	
10	Flow, L/s	2.0	2.0	2.2	2.2	2.2
11	Temp., degrees Celcius	4.0	3.5	3.7	3.7	2.8
12	Hardness, $CaCO_3$, mg/L					
13	Tota Hardness, mg/L				774	
14	**Anions**					
15	Alkalinity, CaCO3, mg/L				180	
16	Sulphate (SO4), mg/L				556	
17	**Nutrients**					
18	Nitrite Nitrogen (NO2), mg/L				<0.002	
19	Nitrate Nitrogen (NO3), mg/l					
20	N-NH3, mg/L				0.007	
21	**Total Metals (mg/L)**					
22	Silver (Ag)				<0.0006	
23	Aluminum (Al)					
24	Arsenic (As)				<3	
25	Boron (B)				1.9	
26	Barium (Ba)				<0.06	
27	Beryllium (Be)				<0.06	
28	Calcium (Ca)				242	
29	Cadmium (Cd)					
30	Cobalt (Co)				<0.3	
31	Chromium (Cr)				<0.3	
32	Copper (Cu)					
33	Iron (Fe)				0.5	
34	Magnesium (Mg)				40	
35	Manganese (Mn)				1.4	
36	Molybdenum (Mo)				<0.6	
37	Sodium (Na)				20	
38	Nickel (Ni)				<1	
39	Lead (Pb)					
40	Sulphur (S)					
41	Antimony (Sb)				<3	
42	Selenium (Se)				<3	
43	Silicon (Si)				8.1	
44	Tin (Sn)				<3	
45	Stronium (Sr)				0.3	
46	Tellurium (Te)					
47	Titanium (Ti)				<0.1	
48	Thallium (Tl)					
49	Vanadium (V)				<0.6	
50	Zinc (Zn)				6.39	
51						
52						
53						

	A	BW	BX	BY	BZ	CA
1	Station					
2	Collected By:	UKHM	UKHM	UKHM	DIAND sampled with ukhm	UKHM
3	Sample Date	93/5/26	93/6/28	93/7/21	93/7/21	93/8/25
54	**Extractable Metals**					
55	Silver (Ag)	0.00	0.00	0.00	<0.5	0.00
56	Aluminum (Al)					
57	Arsenic (As)				<3	
58	Boron (B)				2	
59	Barium (Ba)				<0.05	
60	Beryllium (Be)				<0.05	
61	Bismuth (Bi)					
62	Calcium (Ca)	0.0	0.0	0.0	240	0.0
63	Cadmium (Cd)	0.020	0.040	0.080	<0.3	0.060
64	Cobalt (Co)				<0.3	
65	Chromium (Cr)				<0.3	
66	Copper (Cu)	0.010	0.020	0.010	<0.3	0.020
67	Iron (Fe)	0.020	0.070	0.120	<0.3	0.010
68	Mercury (Hg)					
69	Potassium (K)					
70	Lithium (Li)					
71	Magnesium (Mg)				40	
72	Manganese (Mn)	0.460	1.080	1.160	1.4	0.100
73	Molybdenum (Mo)				<0.5	
74	Sodium (Na)				20	
75	Nickel (Ni)	0.00	0.00	0.00	<1	0.00
76	Lead (Pb)	0.03	0.03	0.01	<3	0.01
77	Sulphur (S)					
78	Antimony (Sb)				<3	
79	Selenium (Se)				<3	
80	Silicon (Si)				3	
81	Tin (Sn)				<3	
82	Stronium (Sr)				0.3	
83	Tellurium (Te)					
84	Titanium (Ti)				<0.1	
85	Vanadium (V)				<0.5	
86	Zinc (Zn)	2.730	2.350	5.380	6.38	4.560
87	**Dissolved Metals**					
88	Silver (Ag)					
89	Arsenic (As)					
90	Barium (Ba)					
91	Calcium (Ca)					
92	Cadmium (Cd)					
93	Copper (Cu)					
94	Iron (Fe)					
95	Molybdenum (Mo)					
96	Sodium (Na)					
97	Lead (Pb)					
98	Antimony (Sb)					
99	Selenium (Se)				0.005	
100	Zinc (Zn)				4.37	

	A	CB	CC	CD	CE	CF	CG
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	93/9/29	93/10/26	93/11/25	93/12/16	94/1/27	94/2/24
4	**Physical Parameters**						
5	pH	8.00	7.40	8.00	7.90	8.10	8.00
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	84	720	740	780	740	700
9	Total Suspended Solids, mg/L						
10	Flow, L/s	2.2	2.2	2.2	2.0	2.0	2.0
11	Temp., degrees Celcius	2.7	2.4	2.4	3.0	2.0	2.0
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L						
16	Sulphate (SO4), mg/L						
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)						
23	Aluminum (Al)						
24	Arsenic (As)						
25	Boron (B)						
26	Barium (Ba)						
27	Beryllium (Be)						
28	Calcium (Ca)						
29	Cadmium (Cd)						
30	Cobalt (Co)						
31	Chromium (Cr)						
32	Copper (Cu)						
33	Iron (Fe)						
34	Magnesium (Mg)						
35	Manganese (Mn)						
36	Molybdenum (Mo)						
37	Sodium (Na)						
38	Nickel (Ni)						
39	Lead (Pb)						
40	Sulphur (S)						
41	Antimony (Sb)						
42	Selenium (Se)						
43	Silicon (Si)						
44	Tin (Sn)						
45	Stronium (Sr)						
46	Tellurium (Te)						
47	Titanium (Ti)						
48	Thallium (Tl)						
49	Vanadium (V)						
50	Zinc (Zn)						
51							
52							
53							

	A	CB	CC	CD	CE	CF	CG
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	93/9/29	93/10/26	93/11/25	93/12/16	94/1/27	94/2/24
54	**Extractable Metals**						
55	Silver (Ag)	0.00	0.00				
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)	0.0	0.0				
63	Cadmium (Cd)	0.030	0.040	0.030	0.030	0.020	0.020
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.010	0.010	0.010	0.010	0.010	<0.01
67	Iron (Fe)	0.220	0.170	0.050	0.040	0.050	0.070
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	0.620	0.090	0.180	0.380	0.360	0.160
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)	0.00	0.00				
76	Lead (Pb)	0.02	0.02	0.02	0.02	0.04	0.04
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	3.510	4.360	4.470	4.050	2.050	2.360
87	**Dissolved Metals**						
88	Silver (Ag)						
89	Arsenic (As)						
90	Barium (Ba)						
91	Calcium (Ca)						
92	Cadmium (Cd)						
93	Copper (Cu)						
94	Iron (Fe)						
95	Molybdenum (Mo)						
96	Sodium (Na)						
97	Lead (Pb)						
98	Antimony (Sb)						
99	Selenium (Se)						
100	Zinc (Zn)						

	A	CH	CI	CJ	CK	CL	CM	CN
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/3/28	94/4/23	94/4/23	94/5/10	94/5/10	94/6/1	94/6/27
4	**Physical Parameters**							
5	pH	8.00	7.70	7.70	8.00	8.00	7.80	7.40
6	pH (in Field)							
7	Conductivity, micro-mho/cm							
8	Conductivity (in Field), micro-mho/cm	710	710	710	680	680	780	780
9	Total Suspended Solids, mg/L							
10	Flow, L/s	2.0	2.0	2.0	2.0	2.0	2.0	1.6
11	Temp., degrees Celcius	3.0	4.0	4.0	2.0	2.0	2.4	3.4
12	Hardness, $CaCO_3$, mg/L							
13	Tota Hardness, mg/L							
14	**Anions**							
15	Alkalinity, CaCO3, mg/L							
16	Sulphate (SO4), mg/L							
17	**Nutrients**							
18	Nitrite Nitrogen (NO2), mg/L							
19	Nitrate Nitrogen (NO3), mg/l							
20	N-NH3, mg/L							
21	**Total Metals (mg/L)**							
22	Silver (Ag)							
23	Aluminum (Al)							
24	Arsenic (As)							
25	Boron (B)							
26	Barium (Ba)							
27	Beryllium (Be)							
28	Calcium (Ca)							
29	Cadmium (Cd)							
30	Cobalt (Co)							
31	Chromium (Cr)							
32	Copper (Cu)							
33	Iron (Fe)							
34	Magnesium (Mg)							
35	Manganese (Mn)							
36	Molybdenum (Mo)							
37	Sodium (Na)							
38	Nickel (Ni)							
39	Lead (Pb)							
40	Sulphur (S)							
41	Antimony (Sb)							
42	Selenium (Se)							
43	Silicon (Si)							
44	Tin (Sn)							
45	Stronium (Sr)							
46	Tellurium (Te)							
47	Titanium (Ti)							
48	Thallium (Tl)							
49	Vanadium (V)							
50	Zinc (Zn)							
51								
52								
53								

	A	CH	CI	CJ	CK	CL	CM	CN
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/3/28	94/4/23	94/4/23	94/5/10	94/5/10	94/6/1	94/6/27
54	**Extractable Metals**							
55	Silver (Ag)			0.00		0.00	0.00	0.00
56	Aluminum (Al)							
57	Arsenic (As)							
58	Boron (B)							
59	Barium (Ba)							
60	Beryllium (Be)							
61	Bismuth (Bi)							
62	Calcium (Ca)			0.0		0.0	0.0	0.0
63	Cadmium (Cd)	0.020	0.020	0.020	0.020	0.020	0.010	0.020
64	Cobalt (Co)							
65	Chromium (Cr)							
66	Copper (Cu)	0.010	0.010	0.010	0.010	0.010	0.010	0.010
67	Iron (Fe)	0.080	0.070	0.070	0.070	0.070	0.080	0.090
68	Mercury (Hg)							
69	Potassium (K)							
70	Lithium (Li)							
71	Magnesium (Mg)							
72	Manganese (Mn)	0.330	0.320	0.320	0.270	0.270	0.220	0.310
73	Molybdenum (Mo)							
74	Sodium (Na)							
75	Nickel (Ni)			0.00		0.00	0.00	0.00
76	Lead (Pb)	0.04	0.01	0.01	0.02	0.02	0.15	0.06
77	Sulphur (S)							
78	Antimony (Sb)							
79	Selenium (Se)							
80	Silicon (Si)							
81	Tin (Sn)							
82	Stronium (Sr)							
83	Tellurium (Te)							
84	Titanium (Ti)							
85	Vanadium (V)							
86	Zinc (Zn)	3.220	3.020	3.020	2.640	2.640	2.750	3.590
87	**Dissolved Metals**							
88	Silver (Ag)							
89	Arsenic (As)							
90	Barium (Ba)							
91	Calcium (Ca)							
92	Cadmium (Cd)							
93	Copper (Cu)							
94	Iron (Fe)							
95	Molybdenum (Mo)							
96	Sodium (Na)							
97	Lead (Pb)							
98	Antimony (Sb)							
99	Selenium (Se)							
100	Zinc (Zn)							

	A	CO	CP	CQ	CR	CS	CT	CU
1	Station							
2	Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/7/27	94/7/29	94/10/31	94/11/29	95/1/5	95/2/6	95/3/29
4	**Physical Parameters**							
5	pH	8.1	8.00	7.6	7.4	7.8	10.0	7.4
6	pH (in Field)	8.08						
7	Conductivity, micro-mho/cm	1200						
8	Conductivity (in Field), micro-mho/cm	1130	1130	780	1020	1000	1550	910
9	Total Suspended Solids, mg/L	< 5.						
10	Flow, L/s	1.3	1.6	1.2	1.2	1	5.5	0.5
11	Temp., degrees Celcius	3.9	3.1	2	2	5	4	2
12	Hardness, $CaCO_3$, mg/L							
13	Tota Hardness, mg/L							
14	**Anions**							
15	Alkalinity, CaCO3, mg/L	171						
16	Sulphate (SO4), mg/L	540						
17	**Nutrients**							
18	Nitrite Nitrogen (NO2), mg/L	< 5.						
19	Nitrate Nitrogen (NO3), mg/l	< 1.						
20	N-NH3, mg/L	< 0.05						
21	**Total Metals (mg/L)**							
22	Silver (Ag)	< 0.001						
23	Aluminum (Al)							
24	Arsenic (As)	< 0.02						
25	Boron (B)							
26	Barium (Ba)	0.0037						
27	Beryllium (Be)	< 0.0002						
28	Calcium (Ca)	233						
29	Cadmium (Cd)	0.0275						
30	Cobalt (Co)	< 0.001						
31	Chromium (Cr)	< 0.001						
32	Copper (Cu)	0.002						
33	Iron (Fe)	0.068						
34	Magnesium (Mg)	49.2						
35	Manganese (Mn)	0.563						
36	Molybdenum (Mo)	< 0.005						
37	Sodium (Na)	1.98						
38	Nickel (Ni)	0.035						
39	Lead (Pb)	0.01						
40	Sulphur (S)							
41	Antimony (Sb)	< 0.02						
42	Selenium (Se)	< 0.02						
43	Silicon (Si)	3.6						
44	Tin (Sn)	< 0.01						
45	Stronium (Sr)	0.39						
46	Tellurium (Te)							
47	Titanium (Ti)	< 0.001						
48	Thallium (Tl)							
49	Vanadium (V)	0.005						
50	Zinc (Zn)	4.4						
51								
52								
53								

	A	CO	CP	CQ	CR	CS	CT	CU
1	Station							
2	Collected By:	LES	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/7/27	94/7/29	94/10/31	94/11/29	95/1/5	95/2/6	95/3/29
54	**Extractable Metals**							
55	Silver (Ag)		0.00					
56	Aluminum (Al)							
57	Arsenic (As)							
58	Boron (B)							
59	Barium (Ba)							
60	Beryllium (Be)							
61	Bismuth (Bi)							
62	Calcium (Ca)		0.0					
63	Cadmium (Cd)		0.030	0.270	0.090	0.040	0.020	0.030
64	Cobalt (Co)							
65	Chromium (Cr)							
66	Copper (Cu)		<0.01	0.010	0.020	0.010	0.030	0.020
67	Iron (Fe)		0.290	1.420	1.760	1.870	2.950	0.100
68	Mercury (Hg)							
69	Potassium (K)							
70	Lithium (Li)							
71	Magnesium (Mg)							
72	Manganese (Mn)		0.980	2.540	1.960	2.620	0.600	0.090
73	Molybdenum (Mo)							
74	Sodium (Na)							
75	Nickel (Ni)		0.00					
76	Lead (Pb)		<0.01	0.290	0.050	0.130	0.070	0.050
77	Sulphur (S)							
78	Antimony (Sb)							
79	Selenium (Se)							
80	Silicon (Si)							
81	Tin (Sn)							
82	Stronium (Sr)							
83	Tellurium (Te)							
84	Titanium (Ti)							
85	Vanadium (V)							
86	Zinc (Zn)		5.790	5.410	4.240	2.300	0.500	0.500
87	**Dissolved Metals**							
88	Silver (Ag)	< 0.001						
89	Arsenic (As)	< 0.02						
90	Barium (Ba)	0.0036						
91	Calcium (Ca)	225						
92	Cadmium (Cd)	0.0276						
93	Copper (Cu)	0.002						
94	Iron (Fe)	0.033						
95	Molybdenum (Mo)	< 0.005						
96	Sodium (Na)	1.95						
97	Lead (Pb)	0.01						
98	Antimony (Sb)	< 0.02						
99	Selenium (Se)	< 0.002						
100	Zinc (Zn)	0.073						

	A	CV	CW	CX	CY	CZ	DA
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM
3	Sample Date	95/4/27	95/5/3	95/6/6	95/7/12	95/8/11	95/9/3
4	**Physical Parameters**						
5	pH	7.2	7.7	7.1	7.9	7.6	7.3
6	pH (in Field)				7.92		
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm	920	740	800	1063	570	495
9	Total Suspended Solids, mg/L				< 5.		
10	Flow, L/s	0.5	0	2		1.5	1.6
11	Temp., degrees Celcius	4	10	8		10	7
12	Hardness, $CaCO_3$, mg/L						
13	Tota Hardness, mg/L						
14	**Anions**						
15	Alkalinity, CaCO3, mg/L				152		
16	Sulphate (SO4), mg/L				546		
17	**Nutrients**						
18	Nitrite Nitrogen (NO2), mg/L						
19	Nitrate Nitrogen (NO3), mg/l						
20	N-NH3, mg/L						
21	**Total Metals (mg/L)**						
22	Silver (Ag)				< 0.001		
23	Aluminum (Al)						
24	Arsenic (As)				0.03		
25	Boron (B)						
26	Barium (Ba)				0.0094		
27	Beryllium (Be)				< 0.0002		
28	Calcium (Ca)				251		
29	Cadmium (Cd)				0.0005		
30	Cobalt (Co)				0.001		
31	Chromium (Cr)				< 0.001		
32	Copper (Cu)				0.018		
33	Iron (Fe)				0.346		
34	Magnesium (Mg)				44.4		
35	Manganese (Mn)				0.531		
36	Molybdenum (Mo)				< 0.005		
37	Sodium (Na)				1.92		
38	Nickel (Ni)				0.016		
39	Lead (Pb)				0.01		
40	Sulphur (S)						
41	Antimony (Sb)				< 0.02		
42	Selenium (Se)				< 0.02		
43	Silicon (Si)				4.81		
44	Tin (Sn)				< 0.01		
45	Stronium (Sr)				0.41		
46	Tellurium (Te)						
47	Titanium (Ti)				0.002		
48	Thallium (Tl)						
49	Vanadium (V)				< 0.002		
50	Zinc (Zn)				0.162		
51							
52							
53							

	A	CV	CW	CX	CY	CZ	DA
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	LES	UKHM	UKHM
3	Sample Date	95/4/27	95/5/3	95/6/6	95/7/12	95/8/11	95/9/3
54	**Extractable Metals**						
55	Silver (Ag)						
56	Aluminum (Al)						
57	Arsenic (As)						
58	Boron (B)						
59	Barium (Ba)						
60	Beryllium (Be)						
61	Bismuth (Bi)						
62	Calcium (Ca)						
63	Cadmium (Cd)	0.040	0.001	0.001		0.001	0.001
64	Cobalt (Co)						
65	Chromium (Cr)						
66	Copper (Cu)	0.010	0.002	0.002		0.002	0.002
67	Iron (Fe)	1.130	0.400	0.400		0.200	0.200
68	Mercury (Hg)						
69	Potassium (K)						
70	Lithium (Li)						
71	Magnesium (Mg)						
72	Manganese (Mn)	0.550	0.500	0.185		0.090	0.088
73	Molybdenum (Mo)						
74	Sodium (Na)						
75	Nickel (Ni)		0.014	0.012		0.006	0.006
76	Lead (Pb)	0.000	0.015	0.015		0.015	0.010
77	Sulphur (S)						
78	Antimony (Sb)						
79	Selenium (Se)						
80	Silicon (Si)						
81	Tin (Sn)						
82	Stronium (Sr)						
83	Tellurium (Te)						
84	Titanium (Ti)						
85	Vanadium (V)						
86	Zinc (Zn)	0.160	0.140	0.180		0.140	0.130
87	**Dissolved Metals**						
88	Silver (Ag)				< 0.001		
89	Arsenic (As)				< 0.02		
90	Barium (Ba)				0.0091		
91	Calcium (Ca)				208		
92	Cadmium (Cd)				0.0005		
93	Copper (Cu)				0.018		
94	Iron (Fe)				0.019		
95	Molybdenum (Mo)				< 0.005		
96	Sodium (Na)				1.91		
97	Lead (Pb)				0.01		
98	Antimony (Sb)				0.02		
99	Selenium (Se)				37.3		V
100	Zinc (Zn)				0.454		Zn

Station	Onek adit (LES 40, UKHM S-8)						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29	90/8/27	90/9/27
Physical Parameters							
pH	7.4	7.2	7.3	7.1	7.2	7.2	7.1
pH (in Field)							
Conductivity, mircro-mho/cm	690	340	800	910	810	790	880
Conductivity (in Field), mircro-mho/cm							
Total Suspended Solids, mg/L	40	36	40	28	20	48	32
Turbidity, NTU							
Dissolved Susspended Solids, mg/L							
Flow, L/s			0.60	0.33	0.33	0.67	0.33
Temp., degrees Celcius	1.0	3.0	4.0	5.0	15.0	5.0	1.0
Hardness, $CaCO_3$, mg/L							
Tota Hardness, mg/L							
Dissolved Oxygen							
LC50							
Anions							
Alkalinity, CaCO3, mg/L							
Sulphate (SO4), mg/L							
Nutrients							
Nitrite Nitrogen (NO2), mg/L							
Nitrate Nitrogen (NO3), mg/l							
N-NH3, mg/L							
N-N02-NO3, mg/L							
Total Phosphorus, mg/L							
Cyanide							
Total Cyanide, mg/L							
Cyanide-WAD, mg/L							
Total Metals (mg/L)							
Silver (Ag)							
Aluminum (Al)							
Arsenic (As)							
Boron (B)							
Barium (Ba)							
Beryllium (Be)							
Bismuth (Bi)							
Calcium (Ca)							
Cadmium (Cd)							
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)							
Iron (Fe)							
Mercury (Hg)							

Station	Onek adit (LES 40, UKHM S-8)						
Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
Sample Date	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29	90/8/27	90/9/27
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)							
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)							
Sulphur (S)							
Antimony (Sb)							
Selenium (Se)							
Silicon (Si)							
Tin (Sn)							
Stronium (Sr)							
Tellurium (Te)							
Titanium (Ti)							
Thallium (Tl)							
Vanadium (V)							
Zinc (Zn)							
Zirconium (Zr)							
Extractable Metals							
Cadmium (Cd)	0.32	0.01	3.50	1.60	1.26	0.90	3.25
Cobalt (Co)							
Chromium (Cr)							
Copper (Cu)	0.02	0.02	0.03	0.02	0.03	0.01	0.02
Iron (Fe)	0.09	0.07	0.51	1.00	1.00	0.08	1.00
Mercury (Hg)							
Potassium (K)							
Lithium (Li)							
Magnesium (Mg)							
Manganese (Mn)	0.01	0.01	9.70	7.70	5.50	5.20	3.50
Molybdenum (Mo)							
Sodium (Na)							
Nickel (Ni)							
Lead (Pb)	0.01		0.02	0.19	0.21	0.06	5.20
Zinc (Zn)	0.01	0.03	142.00	70.00	55.00	49.00	29.00
	NOTES		taken 200 ft. from portal-flow units this month dont make				
Dissolved Metals							
il er							
luminum l							
rseni s							
arium a							
al ium a							
admium d							
opper u							
ron e							
ol denum o							
odium a							
ead							
ntimon							
elenium e							
in n							

tation						
olle ted						
ample ate	0 0 2	0 0	0 2 20	2	2 2	2
Physical Parameters						
p	.	.0	.0	.2	.2	.
p in ield						
ondu ti it mir ro-mho m	0 0	0	0	200	200	0
ondu ti it in ield mir ro-mho m						
otal uspended olids m	2	2	2	2	2	0
ur idit						
issol ed usspended olids m						
low s	0.					0.
emp. de rees el ius	0.0	0.0	0.0	20.0	0.0	0.0
ardness a m						
ota ardness m						
issol ed en						
0						
Anions						
lkalinit a m						
ulphate m						
Nutrients						
itrite itro en 2 m						
itrate itro en m l						
- m						
- 02- m						
otal hosphorus m						
Cyanide						
otal anide m						
anide- m						
Total Metals (mg/L)						
il er						
luminum l						
rseni s						
oron						
arium a						
er llium e						
ismuth i						
al ium a						
admium d						
o alt o						
hromium r						
opper u						
ron e						
er ur						

tation						
olle ted						
ample ate	0 02	0 0	0 220	2	22	2
otassium						
ithium i						
a nesium						
an anese n						
ol denum o						
odium a						
i kel i						
ead						
ulphur						
ntimon						
elenium e						
ili on i						
in n						
tronium r						
ellurium e						
itanium i						
hallium l						
anadium						
in n						
ir onium r						
Extractable Metals						
admium d	0. 0	0.	0.	0.0	0.0	0.
o alt o						
hromium r						
opper u	0.0	0.0	0.0	0.	0. 0	0.0
ron e	0.	0. 0	0. 2			
er ur						
otassium						
ithium i						
a nesium						
an anese n	0.	0.	0.2	. 2	. 2	. 0
ol denum o						
odium a						
i kel i						
ead	. 0	. 0	0.0			0.02
in n	.00	.00	2 . 0	0.0	0.0	.00
	sense see	Cd illegible cou	frozen over or no flow		all conductivities are q	
Dissolved Metals						
il er						
luminum l						
rseni s						
arium a						
al ium a						
admium d						
opper u						
ron e						
ol denum o						
odium a						
ead						
ntimon						
elenium e						
in n						

tation							
Collected							
ample ate	26	20	22	6		8	
Physical Parameters							
p	.	.0	.	.8	.8	.0	.2
p in ield			.00				
Conductivit mircro-mho cm	0	800	0	800	0	0	60
Conductivit in ield mircro-mho cm			800				
otal uspended olids mg		6	0	2	20	6	2
urbidit							
issolved usspended olids mg							
low s	0.	0.	0.	0. 0	0. 0	0.02	0.
emp. degrees Celcius	.0	.2	.	.0	.0	.0	.0
ardness CaC mg							
ota ardness mg							
issolved gen							
C 0							
Anions							
lkalinit CaC mg							
ulphate mg							
Nutrients							
itrite itrogen 2 mg							
itrate itrogen mg l							
- mg							
- 02- mg							
otal hosphorus mg							
Cyanide							
otal C anide mg							
C anide- mg							
Total Metals (mg/L)							
ilver g							
luminum l							
rsenic s							
oron							
arium a							
er llium e							
ismuth i							
Calcium Ca							
Cadmium Cd							
Cobalt Co							
Chromium Cr							
Copper Cu							
ron e							
ercur g							

tation							
Collected							
ample ate	26	20	22	6		8	
otassium							
ithium i							
agnesium g							
anganese n							
ol bdenum o							
odium a							
ickel i							
ead b							
ulphur							
ntimon b							
elenium e							
ilicon i							
in n							
tronium r							
ellurium e							
itanium i							
hallium l							
anadium							
inc n							
irconium r							
Extractable Metals							
Cadmium Cd	0. 6	.60		.0	.	.02	0.
Cobalt Co							
Chromium Cr							
Copper Cu	0.	0.0		0.0	0. 8	0.0	
ron e		0.		2.	2. 0	. 0	0.
ercur g							
otassium							
ithium i							
agnesium g							
anganese n	.00	. 2		.68	8. 2	0.02	2.
ol bdenum o							
odium a							
ickel i							
ead b	0.0	0.0			0.	0.02	
inc n	0. 2	2 .00		20 .80	.00	6.00	2 .80
	uestionabl	sample taken 100 ft. from portal					
Dissolved Metals							
ilver g							
luminum l							
rsenic s							
arium a							
Calcium Ca							
Cadmium Cd							
Copper Cu							
ron e							
ol bdenum o							
odium a							
ead b							
ntimon b							
elenium e							
inc n							

tation								
Collected								
ample ate	1 10 1	1 11 1	1 12 1	2 1 1	2 2 1	2 1	2 1	2 1
Physical Parameters								
p	.	.	.	.	.	.	.	6.0
p in ield								
Conductivit mircro-mho cm	60	0	600	220	620	80	6 0	10 0
Conductivit in ield mircro-mho cm								
otal uspended olids mg	12	16	2	16		8		16
urbidit								
issolved usspended olids mg								
low s	0.20	0.20	0.20	0.10	0.20	0. 0	0. 0	0.20
emp. degrees Celcius	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0
ardness CaC mg								
ota ardness mg								
issolved gen								
C 0								
Anions								
lkalinit CaC mg								
ulphate mg								
Nutrients								
itrite itrogen 2 mg								
itrate itrogen mg l								
- mg								
- 02- mg								
otal hosphorus mg								
Cyanide								
otal C anide mg								
C anide- mg								
Total Metals (mg/L)								
ilver g								
luminum l								
rsenic s								
oron								
arium a								
er llium e								
ismuth i								
Calcium Ca								
Cadmium Cd								
Cobalt Co								
Chromium Cr								
Copper Cu								
ron e								
ercur g								

tation								
Collected								
ample ate	1 10 1	1 11 1	1 12 1	2 1 1	2 2 1	2 1	2 1	2 1
otassium								
ithium i								
agnesium g								
anganese n								
ol bdenum o								
odium a								
ickel i								
ead b								
ulphur								
ntimon b								
elenium e								
ilicon i								
in n								
tronium r								
ellurium e								
itanium i								
hallium l								
anadium								
inc n								
irconium r								
Extractable Metals								
Cadmium Cd	0.8	0.66	0. 2	0.1	0.02	0.01	0.0	. 1
Cobalt Co								
Chromium Cr								
Copper Cu	0.01	0.02	0.01			0.01	0.01	0.08
ron e	6.	6.11	1.21	0. 2	0.08	0.01	0.01	0. 8
ercur g								
otassium								
ithium i								
agnesium g								
anganese n	1.1	1. 2	. 8	0. 2	.2	1.62	.	21.8
ol bdenum o								
odium a								
ickel i								
ead b	0.02		0.02	0.02	0.02	0.02	0.02	0.02
inc n	61.	6. 2	1.1	66. 1	6.0	1.2	12.81	1 0.00
Dissolved Metals								
ilver g								
luminum l								
rsenic s								
arium a								
Calcium Ca								
Cadmium Cd								
Copper Cu								
ron e								
ol bdenum o								
odium a								
ead b								
ntimon b								
elenium e								
inc n								

tation							
Collected							
ample ate	2 6 1	2 1	2 8 1	2 1	2 10 1	2 11 1	2 12 1
Physical Parameters							
p	.	.1	6.8	.1			
p in ield							
Conductivit mircro-mho cm	880	860	660	8 0			
Conductivit in ield mircro-mho cm							
otal uspended olids mg	6	8	20	2			
urbidit							
issolved usspended olids mg							
low s	0.20	0.20	0. 0	0. 0			
emp. degrees Celcius	2.0	8.0	.0	.0			
ardness CaC mg							
ota ardness mg							
issolved gen							
C 0							
Anions							
lkalinit CaC mg							
ulphate mg							
Nutrients							
itrite itrogen 2 mg							
itrate itrogen mg l							
- mg							
- 02- mg							
otal hosphorus mg							
Cyanide							
otal C anide mg							
C anide- mg							
Total Metals (mg/L)							
ilver g							
luminum l							
rsenic s							
oron							
arium a							
er llium e							
ismuth i							
Calcium Ca							
Cadmium Cd							
Cobalt Co							
Chromium Cr							
Copper Cu							
ron e							
ercur g							

tation							
Collected							
ample ate	2 6 1	2 1	2 8 1	2 1	2 10 1	2 11 1	2 12 1
otassium							
ithium i							
agnesium g							
anganese n							
ol bdenum o							
odium a							
ickel i							
ead b							
ulphur							
ntimon b							
elenium e							
ilicon i							
in n							
tronium r							
ellurium e							
itanium i							
hallium l							
anadium							
inc n							
irconium r							
Extractable Metals							
Cadmium Cd	.21	1. 6	1.2	1.01			
Cobalt Co							
Chromium Cr							
Copper Cu	0.0	0.02	0.01	0.0			
ron e	2.0	0.02	0.68	2.			
ercur g							
otassium							
ithium i							
agnesium g							
anganese n	11.0	11.08	8.08	8.22			
ol bdenum o							
odium a							
ickel i							
ead b	0.0		0.01	0.0			
inc n	2 .	2 .12	112. 6	8 .22			
						FROZEN	FROZEN
Dissolved Metals							
ilver g							
luminum l							
rsenic s							
arium a							
Calcium Ca							
Cadmium Cd							
Copper Cu							
ron e							
ol bdenum o							
odium a							
ead b							
ntimon b							
elenium e							
inc n							

tation							
Collected							
ample ate	1 1	2 1	1	1	1	6 1	1
Physical Parameters							
p					.0	6.	.8
p in Field							
Conductivit mircro-mho cm					1000	80	1280
Conductivit in Field mircro-mho cm							
otal uspended olids mg							
urbidit N							
issolved usspended olids mg							
Flow s					0.	0.	0. 0
emp. degrees Celcius					6.0	8.0	.8
ardness CaCO mg							
ota ardness mg							
issolved O gen							
C 0							
Anions							
lkalinit CaCO mg							
ulphate O mg							
Nutrients							
Nitrite Nitrogen NO2 mg							
Nitrate Nitrogen NO mg l							
N-N mg							
N-N02-NO mg							
otal hosphorus mg							
Cyanide							
otal C anide mg							
C anide- mg							
Total Metals (mg/L)							
ilver g							
luminum l							
rsenic s							
oron							
arium a							
er llium e							
ismuth i							
Calcium Ca							
Cadmium Cd							
Cobalt Co							
Chromium Cr							
Copper Cu							
ron Fe							
ercur g							

tation							
Collected							
ample ate	1 1	2 1	1	1	1	6 1	1
otassium							
ithium i							
agnesium g							
anganese n							
ol bdenum o							
odium Na							
Nickel Ni							
ead b							
ulphur							
ntimon b							
elenium e							
ilicon i							
in n							
tronium r							
ellurium e							
itanium i							
hallium l							
anadium							
Zinc Zn							
Zirconium Zr							
Extractable Metals							
Cadmium Cd					.28	1. 0	1.0
Cobalt Co							
Chromium Cr							
Copper Cu					0.02	0.02	0.02
ron Fe					0. 6	0.	0.6
ercur g							
otassium							
ithium i							
agnesium g							
anganese n					16.0	.2	6.6
ol bdenum o							
odium Na							
Nickel Ni							
ead b					0.18	0.0	0.01
Zinc Zn					2 .	0.0	61.
	FROZEN	FROZEN	FROZEN	FROZEN	FROZEN		
Dissolved Metals							
ilver g							
luminum l							
rsenic s							
arium a							
Calcium Ca							
Cadmium Cd							
Copper Cu							
ron Fe							
ol bdenum o							
odium Na							
ead b							
ntimon b							
elenium e							
Zinc Zn							

tation							
Collected	E						
ample ate	21	8 1	1	10 1	11 1	12 1	1 1
Physical Parameters							
p	.	.6					
p in Field	.80						
Conductivit mircro-mho cm	12	1080					
Conductivit in Field mircro-mho cm	1280						
otal uspended olids mg	0	60					
urbidit N							
issolved usspended olids mg							
Flow s	0.	0. 0					
emp. degrees Celcius	.8	.1					
ardness CaCO mg							
ota ardness mg							
issolved O gen							
C 0							
Anions							
lkalinit CaCO mg	212						
ulphate O mg	68						
Nutrients							
Nitrite Nitrogen NO2 mg	0.002						
Nitrate Nitrogen NO mg l							
N-N mg	0.01						
N-N02-NO mg							
otal hosphorus mg							
Cyanide							
otal C anide mg							
C anide- mg							
Total Metals (mg/L)							
ilver g							
luminum l							
rsenic s							
oron							
arium a							
er llium e							
ismuth i							
Calcium Ca							
Cadmium Cd							
Cobalt Co							
Chromium Cr							
Copper Cu							
ron Fe							
ercur g							

tation							
Collected	E						
ample ate	21	8 1	1	10 1	11 1	12 1	1 1
otassium							
ithium i							
agnesium g							
anganese n							
ol bdenum o							
odium Na							
Nickel Ni							
ead b							
ulphur							
ntimon b							
elenium e							
ilicon i							
in n							
tronium r							
ellurium e							
itanium i							
hallium l							
anadium							
Zinc Zn							
Zirconium Zr							
Extractable Metals							
Cadmium Cd		0. 1					
Cobalt Co							
Chromium Cr							
Copper Cu		0.0					
ron Fe		2.66					
ercur g							
otassium							
ithium i							
agnesium g							
anganese n		0. 8					
ol bdenum o							
odium Na							
Nickel Ni							
ead b		0.02					
Zinc Zn		.8					
				NO FLOW	FROZEN	FROZEN	FROZEN
Dissolved Metals							
ilver g	0.0006						
luminum l							
rsenic s							
arium a	0.06						
Calcium Ca	260						
Cadmium Cd	1.6						
Copper Cu	0.						
ron Fe	.6						
ol bdenum o	0.6						
odium Na	0						
ead b							
ntimon b							
elenium e							
Zinc Zn	8.						

tation						
Collected						
ample ate	2 1	1	2	10	1	6 28
Physical Parameters						
p	8.0	.	.6	.	.	.8
p in Field						
Conductivit mircro-mho cm	10 0	10	00	0	20	860
Conductivit in Field mircro-mho cm						
otal uspended olids mg L	8	20	8		12	0
urbidit N						
issolved usspended olids mg L						
Flow L s	0.10	0. 0	0. 0	0. 0	0. 0	0.
emp. degrees Celcius	1.0	2.0	.0	1.8	8.6	.6
ardness CaCO mg L						
ota ardness mg L						
issolved O gen						
LC 0						
Anions						
lkalinit CaCO mg L						
ulphate O mg L						
Nutrients						
Nitrite Nitrogen NO2 mg L						
Nitrate Nitrogen NO mg l						
N-N mg L						
N-N02-NO mg L						
otal hosphorus mg L						
Cyanide						
otal C anide mg L						
C anide-W mg L						
Total Metals (mg/L)						
ilver g						
luminum l						
rsenic s						
oron						
arium a						
er llium e						
ismuth i						
Calcium Ca						
Cadmium Cd						
Cobalt Co						
Chromium Cr						
Copper Cu						
ron Fe						
ercur g						

tation						
Collected						
ample ate	2 1	1	2	10	1	6 28
otassium						
Lithium Li						
agnesium g						
anganese n						
ol bdenum o						
odium Na						
Nickel Ni						
Lead b						
ulphur						
ntimon b						
elenium e						
ilicon i						
in n						
tronium r						
ellurium e						
itanium i						
hallium l						
anadium						
Zinc Zn						
Zirconium Zr						
Extractable Metals						
Cadmium Cd	0.01	0. 2	0.	6.12	2. 6	1.2
Cobalt Co						
Chromium Cr						
Copper Cu	0.01	0.01	0.01	0.0	0.0	0.0
ron Fe	0.26	0.20	0.2	0.60	0.	0.
ercur g						
otassium						
Lithium Li						
agnesium g						
anganese n	.00	1.	1.88	8.10	.0	6.
ol bdenum o						
odium Na						
Nickel Ni						
Lead b	0.0	0.02	0.01	0.02	0.0	0.2
Zinc Zn	2 .8	2 . 8	28.2	8.6	6 .00	6 .00
	ONEK - FROZEN					
Dissolved Metals						
ilver g						
luminum l						
rsenic s						
arium a						
Calcium Ca						
Cadmium Cd						
Copper Cu						
ron Fe						
ol bdenum o						
odium Na						
Lead b						
ntimon b						
elenium e						
Zinc Zn						

tation							
Collected	LE	K	K	K	K	K	K
ample ate	2	2	10 1	11 2	1	2 6	2
Physical Parameters							
p	.	.8			.2	.	6.
p in Field	. 0						
Conductivit mircro-mho cm	1100	10			1800	0	8 0
Conductivit in Field mircro-mho cm	10						
otal uspended olids mg L	20	0			.	2	0
urbidit N							
issolved usspended olids mg L							
Flow L s	0.	0. 0	0.00	0.00		0.20	0.20
emp. degrees Celcius	.1	.0			0.	0.	1.0
ardness CaCO mg L							
ota ardness mg L							
issolved O gen	12.1						
LC 0							
Anions							
lkalinit CaCO mg L	1 1						
ulphate O mg L	0						
Nutrients							
Nitrite Nitrogen NO2 mg L							
Nitrate Nitrogen NO mg l	1						
N-N mg L	0.0						
N-N02-NO mg L							
otal hosphorus mg L							
Cyanide							
otal C anide mg L							
C anide-W mg L							
Total Metals (mg/L)							
ilver g	0.001						
luminum l	0.0						
rsenic s	0.02						
oron							
arium a	0.0062						
er llium e	0.0002						
ismuth i	0.02						
Calcium Ca	22						
Cadmium Cd	0.						
Cobalt Co	0.01						
Chromium Cr	0.001						
Copper Cu	0.002						
ron Fe	0.						
ercur g							

tation							
Collected	LE	K	K	K	K	K	K
ample ate	2	2	10 1	11 2	1	2 6	2
otassium K	0.8						
Lithium Li	0.02						
agnesium g	20.						
anganese n	6.						
ol bdenum o	0.00						
odium Na	1.6						
Nickel Ni	0.02						
Lead b	0.01						
ulphur	1 6						
ntimon b	0.02						
elenium e	0.02						
ilicon i	. 2						
in n	0.01						
tronium r	0.22						
ellurium e							
itanium i	0.001						
hallium l							
anadium	0.00						
Zinc Zn	.6						
Zirconium Zr	0.001						
Extractable Metals							
Cadmium Cd		1.1			1.2	0.6	0. 2
Cobalt Co							
Chromium Cr							
Copper Cu		0.02			0.02	0.01	0.0
ron Fe		1.6			2.0	0.	1.8
ercur g							
otassium K							
Lithium Li							
agnesium g							
anganese n		. 0			.	2.8	.88
ol bdenum o							
odium Na							
Nickel Ni							
Lead b					0.0	0.06	0.00
Zinc Zn		68.10			8.00	.00	.00
Dissolved Metals							
ilver g	0.001						
luminum l	0.0						
rsenic s	0.02						
arium a	0.0061						
Calcium Ca	21						
Cadmium Cd	0. 2						
Copper Cu	0.002						
ron Fe	0.02						
ol bdenum o	0.00						
odium Na	1.6						
Lead b	0.01						
ntimon b	0.02						
elenium e	0.02						
Zinc Zn	6.						

tation							
Collected	K	K	K	LE	K	K	LE
ample ate	2		6 6	12	8 11		
Physical Parameters							
p	6.6	6.	.0	.	.	.	.2
p in Field				.			
Conductivit mircro-mho cm	800	10	0		0	0	1100
Conductivit in Field mircro-mho cm				10 1			
otal uspended olids mg L	0	2.8		1	16	1.2	10
urbidit N							
issolved usspended olids mg L				8			1010.00
Flow L s	0. 0	0. 0	0. 0		0. 0	0. 0	
emp. degrees Celcius	1.0	1.	2.0		2.0	.0	
ardness CaCO mg L							
ota ardness mg L							
issolved O gen							
LC 0							
Anions							
lkalinit CaCO mg L				110			1 8
ulphate O mg L				6			.0
Nutrients							
Nitrite Nitrogen NO2 mg L							
Nitrate Nitrogen NO mg l							
N-N mg L							
N-N02-NO mg L							
otal hosphorus mg L							
Cyanide							
otal C anide mg L							
C anide-W mg L							
Total Metals (mg/L)							
ilver g				0.001			
luminum l				0.02			
rsenic s				0.12			
oron							
arium a				0.00 1			
er llium e				0.0002			
ismuth i				0.02			
Calcium Ca				2			
Cadmium Cd				1.66			
Cobalt Co				0.00			
Chromium Cr				0.001			
Copper Cu				0.01			
ron Fe				1.0			
ercur g							

tation							
Collected	K	K	K	LE	K	K	LE
ample ate	2		6 6	12	8 11		
otassium K				0.2			
Lithium Li				0.02			
agnesium g				20.			
anganese n				.12			
ol bdenum o				0.00			
odium Na				1. 2			
Nickel Ni				0.0			
Lead b				0.0			
ulphur				1 8			
ntimon b				0.02			
elenium e				0.0			
ilicon i				6.			
in n				0.01			
tronium r				0.2			
ellurium e							
itanium i				0.002			
hallium l							
anadium				0.002			
Zinc Zn				8 .1			
Zirconium Zr				0.001			
Extractable Metals							
Cadmium Cd	0.8	.6	2. 0		1.01	0.82	
Cobalt Co							
Chromium Cr							
Copper Cu	0.01	0.0	0.00		0.00	0.00	
ron Fe	0. 0	0.66	0. 0		0. 0	0. 0	
ercur g							
otassium K							
Lithium Li							
agnesium g							
anganese n	6. 0	20.00	8.10		.20	.10	
ol bdenum o							
odium Na							
Nickel Ni							
Lead b	0.00	0.00	0.01		0.02	0.01	
Zinc Zn	2.00	1 2.00	10.00		10.00	10.00	
Dissolved Metals							
ilver g				0.001			0.001
luminum l				0.02			0.0
rsenic s				0.0			0.02
arium a				0.0066			0.006
Calcium Ca				202			1 6
Cadmium Cd				1.2			0.80
Copper Cu				0.01			0.002
ron Fe				0.00			0.00
ol bdenum o				0.008			0.00
odium Na				1.68			1. 1
Lead b				0.0			0.0
ntimon b				0.02			0.02
elenium e				0.02			0.02
Zinc Zn				6 .			.2

Station	Lightning Cr @ Keno City Road Crossing (LES 41)
Collected By:	EPS
Sample Date	98/6/9
Physical Parameters	
pH	7.53
Conductivity, micro-mho/cm	125
Total Suspended Solids, mg/L	<5
Anions	
Alkalinity, CaCO3, mg/L	29.20
Sulphate (SO4), mg/L	32.00
Nutrients	
Nitrite Nitrogen (NO2), mg/L	<0.005
Nitrate Nitrogen (NO3), mg/l	0.05
N-NH3, mg/L	<0.005
Total Metals (mg/L)	
Silver (Ag)	<.01
Aluminum (Al)	0.08
Arsenic (As)	<.06
Barium (Ba)	0.047
Beryllium (Be)	<.001
Calcium (Ca)	17.1
Cadmium (Cd)	<.006
Cobalt (Co)	<.006
Chromium (Cr)	0.018
Copper (Cu)	<.006
Iron (Fe)	0.212
Potassium (K)	<.1
Magnesium (Mg)	3.1
Manganese (Mn)	0.015
Molybdenum (Mo)	<.01
Sodium (Na)	0.5
Nickel (Ni)	<.02
Lead (Pb)	<.06
Sulphur (S)	9.97
Antimony (Sb)	<.06
Selenium (Se)	<.06
Silicon (Si)	2.12
Tin (Sn)	<.06
Stronium (Sr)	0.057
Titanium (Ti)	<.002
Vanadium (V)	<.01
Zinc (Zn)	0.058
Dissolved Metals	
Silver (Ag)	<.01
Aluminum (Al)	<.05
Arsenic (As)	<.05
Barium (Ba)	0.041
Calcium (Ca)	16.9
Cadmium (Cd)	<.005
Copper (Cu)	<.005
Iron (Fe)	0.021
Molybdenum (Mo)	<.01
Sodium (Na)	0.6

Station	Lightning Cr @ Keno City Road Crossing (LES 41)
Collected By:	EPS
Sample Date	98/6/9
Lead (Pb)	<.05
Antimony (Sb)	<.05
Selenium (Se)	<.05
Zinc (Zn)	0.053

Station	Porcupine Diversion (Flat Creek) downstream of all inputs (LES 47)		
Collected By:	EPS	EPS	EPS
Sample Date	7/17/1996	9/9/1997	6/9/1998
Physical Parameters	37/4/4	40/10/21	42/12/25
pH (in Field)	7.57	7.99	7.74
Conductivity (in Field), micro-mho/cm	1040	1160	1090
Total Suspended Solids, mg/L	14	<5	<5
Tota Hardness, mg/L	579	708	599
Anions			
Alkalinity, CaCO3, mg/L	176	251	254
Sulphate (SO4), mg/L	416	485	390
Nutrients			
Nitrite Nitrogen (NO2), mg/L	<0.005	<0.005	<0.005
Nitrate Nitrogen (NO3), mg/l	0.056	0.276	<0.002
N-NH3, mg/L	0.35	0.463	0.172
N-N02-NO3, mg/L			
Total Phosphorus, mg/L	0.02	<0.001	<0.001
Total Metals (mg/L)			
Cadmium (Cd)	0.044	0.016	<.006
Copper (Cu)	2.650	1.7	0.757
Magnesium (Mg)	8.73	5.43	1.29
Manganese (Mn)			
Molybdenum (Mo)			
Sodium (Na)			
Nickel (Ni)	0.19	0.09	<.06
Dissolved Metals			
Silver (Ag)	<.01	<.01	<.01
Aluminum (Al)			
Arsenic (As)	<.05	0.0052	<.05
Barium (Ba)	0.033	0.035	0.026
Calcium (Ca)	0.04	0.01	<.005
Cadmium (Cd)			
Copper (Cu)	0.01	<.005	<.005
Iron (Fe)	1.58	0.898	0.834
Molybdenum (Mo)			
Sodium (Na)	4.5	5.9	5.3
Lead (Pb)	<.05	<.05	<.05
Antimony (Sb)			
Selenium (Se)	<.05	0.09	<.05
Zinc (Zn)	3.85	1.35	0.412

Station	Hope Gulch (LES 48)
Collected By:	EPS
Sample Date	09-Jun-98
Physical Parameters	
pH	7.74
pH (in Field)	
Conductivity, micro-mho/cm	236
Total Suspended Solids, mg/L	7
Anions	
Alkalinity, CaCO3, mg/L	45.3
Sulphate (SO4), mg/L	70
Nutrients	
Nitrite Nitrogen (NO2), mg/L	<0.005
Nitrate Nitrogen (NO3), mg/l	0.18
N-NH3, mg/L	<.005

Station	Combined Seepages in Porcupine Div. U/s Brefalt Cr (LES 51)		
Collected By:	EPS	EPS	EPS
Sample Date	5/21/1997	9/9/1997	6/9/1998
Physical Parameters	5/22/1997	9/12/1997	6/11/1998
pH (in Field)	7.05		7.66
Conductivity (in Field), micro-mho/cm	93		975
Total Suspended Solids, mg/L	749		<5
Hardness, $CaCO_3$, mg/L	39.1	1810	541
Anions			
Alkalinity, CaCO3, mg/L	23.1		183
Sulphate (SO4), mg/L	21		390
Nutrients			
Nitrite Nitrogen (NO2), mg/L	<0.005		<0.005
Nitrate Nitrogen (NO3), mg/l	<0.002		0.626
N-NH3, mg/L	0.018		0.009
N-N02-NO3, mg/L			
Total Phosphorus, mg/L	<.001		<.001
Total Metals (mg/L)			
Cadmium (Cd)	0.037	1	<.006
Iron (Fe)	0.140	0.47	<.006
Mercury (Hg)			
Potassium (K)			
Magnesium (Mg)			
Manganese (Mn)	16.5	364	1.39
Lead (Pb)	6.92	24.5	<.06
Dissolved Metals			
Silver (Ag)	< 0.001	<.01	<.1
Aluminum (Al)			
Arsenic (As)	< 0.02	<.05	<.5
Barium (Ba)	0.0407	0.013	<.01
Cadmium (Cd)	99.5	11.3	298
Copper (Cu)	< 0.001	<.005	<.05
Iron (Fe)	0.002	<.005	0.070
Molybdenum (Mo)	20.3	2.20	120.0
Sodium (Na)		0.244	263
Antimony (Sb)	1.63	0.3	13
Selenium (Se)	< 0.002	<.02	0.6
Zinc (Zn)	3.33	0.74	6

Station	Buried Tails Seepage (Elsa side) (LES 59)		
Collected By:	EPS	EPS	EPS
Sample Date	7/17/1996	9/9/1997	6/9/1998
Physical Parameters	7/18/1996	9/12/1997	6/11/1998
pH (in Field)	7.61		7.54
Conductivity (in Field), mircro-mho/cm	1210		1140
Total Suspended Solids, mg/L	<5		<5
Tota Hardness, mg/L	711	679	677
Anions			
Alkalinity, CaCO3, mg/L	216		281
Sulphate (SO4), mg/L	498		400
Nutrients			
Nitrite Nitrogen (NO2), mg/L	<0.005		<0.005
Nitrate Nitrogen (NO3), mg/l	0.079		<0.002
N-NH3, mg/L	0.08		0.091
N-N02-NO3, mg/L			
Total Phosphorus, mg/L	0.008		<0.001
Total Metals (mg/L)			
Cadmium (Cd)	0.038		<.006
Copper (Cu)	0.008		0.007
Iron (Fe)	0.094		1.41
Magnesium (Mg)	18.3		0.818
Lead (Pb)	<.06		<.06
Dissolved Metals			
Silver (Ag)	<.01	<.01	<.01
Arsenic (As)	<.05	<.05	<.05
Barium (Ba)	0.007	0.006	0.047
Calcium (Ca)	189	190	202
Cadmium (Cd)	0.035	0.011	<.005
Copper (Cu)	0.007	<.005	0.007
Iron (Fe)	0.061	0.045	1.24
Molybdenum (Mo)	<.01	<.01	<.01
Sodium (Na)	5.8	5.7	5.5
Lead (Pb)	<.05	<.05	<.05
Antimony (Sb)	<.05	<.05	<.05
Selenium (Se)	0.07	<.05	<.05
Zinc (Zn)	3.64	1.20	0.320

	A	B	C	D
1	Station	Exposed Tails Seepage (Pond side) (LES 60)		
2	Collected By:	EPS	EPS	
3	Sample Date	9/9/1997	6/9/1998	
4	**Physical Parameters**			
5	pH (in Field)	7.38	7.57	
6	Conductivity, mircro-mho/cm			
7	Conductivity (in Field), mircro-mho/cm	2490	1130	
8	Total Suspended Solids, mg/L	1940	<5	
9	Tota Hardness, mg/L		642	
10	**Anions**			
11				
12	Alkalinity, CaCO3, mg/L	99	289	
13	Sulphate (SO4), mg/L	1600		
14				
15	**Nutrients**			
16				
17	Nitrite Nitrogen (NO2), mg/L	<0.005	<0.005	
18	Nitrate Nitrogen (NO3), mg/l	0.028	0.074	
19	N-NH3, mg/L	1.52	0.412	
20	N-N02-NO3, mg/L			
21	Total Phosphorus, mg/L	<.001	<.001	
22	**Total Metals (mg/L)**			
23	Cadmium (Cd)		<.006	
24	Copper (Cu)		<.006	
25	Iron (Fe)			
26	Manganese (Mn)		1.44	
27	Lead (Pb)		<.06	
28	**Dissolved Metals**			
29	Silver (Ag)		<.01	
30	Arsenic (As)		<.05	
31	Barium (Ba)		0.055	
32	Calcium (Ca)		187	
33	Cadmium (Cd)		<.005	
34	Copper (Cu)		<.005	
35	Iron (Fe)		1.650	
36	Molybdenum (Mo)		<.01	
37	Sodium (Na)		5.7	
38	Lead (Pb)		<.05	
39	Antimony (Sb)		0.05	
40	Zinc (Zn)		0.337	

	A	B	C	D	E
1	Station	X-ing (LES 67)			
2	Collected By:	EPS	EPS	EPS	EPS
3	Sample Date	7/17/1996	5/21/1997	9/9/1997	6/9/1998
4	**Physical Parameters**				
5	pH (in Field)	7.89	7.09	8.21	8.05
6	Conductivity, mircro-mho/cm				
7	Conductivity (in Field), mircro-mho/cm	502	54	680	497
8	Total Suspended Solids, mg/L	<5	363	<5	<5
9	Tota Hardness, mg/L	246	25.2	360	237
10	**Anions**				
11					
12	Alkalinity, CaCO3, mg/L	125	17.8	178	161
13	Sulphate (SO4), mg/L	138	9	179	110
14					
15	**Nutrients**				
16					
17	Nitrite Nitrogen (NO2), mg/L	<0.005	<0.005	<0.005	<0.005
18	Nitrate Nitrogen (NO3), mg/l	0.144	<0.002	0.475	0.158
19	N-NH3, mg/L	0.013	0.011	<.005	<.005
20	N-N02-NO3, mg/L				
21	Total Phosphorus, mg/L	0.009	0.013	<0.001	<.001
22	**Total Metals (mg/L)**				
23	Calcium (Ca)	<.006	0.009	<.006	<.006
24	Cadmium (Cd)				
25	Cobalt (Co)	0.01	0.045	<.006	<.006
26	Chromium (Cr)				
27	Copper (Cu)				
28	Iron (Fe)	0.484	15.1	0.07	0.194
29	Mercury (Hg)				
30	Manganese (Mn)	0.251	2.16	0.025	0.045
31	Lead (Pb)	0.15	1.48	0.06	<.06
32	**Dissolved Metals**				
33	Silver (Ag)				
34	Aluminum (Al)	<.01	<.01		
35	Arsenic (As)				
36	Barium (Ba)	<.05	<.05		
37	Calcium (Ca)	0.025	0.023		
38	Cadmium (Cd)	110	71.1		
39	Copper (Cu)	<.005	<.005		
40	Iron (Fe)	<.005	0.006		
41	Molybdenum (Mo)	0.013	0.008		
42	Sodium (Na)	<.01	<.01		
43	Lead (Pb)	3.9	3.1		
44	Antimony (Sb)	<.05	<.05		
45	Selenium (Se)	<.05	<.05		
46	Zinc (Zn)	0.07	<.05		
47		0.257	0.157		

	A	B	C	D	E
1	Station	Flat Creek midway between tailings and Husky S.W. (LE			
2	Collected By:	EPS			
3	Sample Date	97/05/21			
4	**Physical Parameters**				
5	pH (in Field)	7.23			
6	Conductivity (in Field), micro-mho/cm	142			
7	Total Suspended Solids, mg/L	377			
8	Tota Hardness, mg/L	63.7			
9	**Anions**				
10	Alkalinity, CaCO3, mg/L	33.7			
11	Sulphate (SO4), mg/L	36			
12					
13	**Nutrients**				
14					
15	Nitrite Nitrogen (NO2), mg/L	<0.005			
16	Nitrate Nitrogen (NO3), mg/l	0.005			
17	N-NH3, mg/L	0.013			
18	Total Phosphorus, mg/L	0.01			
19	**Total Metals (mg/L)**				
20	Zinc (Zn)	0.789			
21	**Dissolved Metals**				
22	Silver (Ag)	<.01			
23	Arsenic (As)	<.05			
24	Barium (Ba)	0.018			
25	Calcium (Ca)	19			
26	Cadmium (Cd)	<.005			
27	Copper (Cu)	<.005			
28	Iron (Fe)	0.227			
29	Molybdenum (Mo)	<.01			
30	Sodium (Na)	0.3			
31	Lead (Pb)	<.05			
32	Antimony (Sb)	<.05			
33	Selenium (Se)	<.05			
34	Zinc (Zn)	0.088			

	A	F
1	Station	69)
2	Collected By:	
3	Sample Date	
4	**Physical Parameters**	
5	pH (in Field)	
6	Conductivity (in Field), micro-mho/cm	
7	Total Suspended Solids, mg/L	
8	Tota Hardness, mg/L	
9	**Anions**	
10	Alkalinity, CaCO3, mg/L	
11	Sulphate (SO4), mg/L	
12		
13	**Nutrients**	
14		
15	Nitrite Nitrogen (NO2), mg/L	
16	Nitrate Nitrogen (NO3), mg/l	
17	N-NH3, mg/L	
18	Total Phosphorus, mg/L	
19	**Total Metals (mg/L)**	
20	Zinc (Zn)	
21	**Dissolved Metals**	
22	Silver (Ag)	
23	Arsenic (As)	
24	Barium (Ba)	
25	Calcium (Ca)	
26	Cadmium (Cd)	
27	Copper (Cu)	
28	Iron (Fe)	
29	Molybdenum (Mo)	
30	Sodium (Na)	
31	Lead (Pb)	
32	Antimony (Sb)	
33	Selenium (Se)	
34	Zinc (Zn)	

	A	B	C	D	E
1	Station	Seep along road to Galkeno 900, 80 m from adit clear			
2	Collected By:	EPS			
3	Sample Date	98/06/09			
4	**Physical Parameters**				
5	pH (in Field)	7.65			
6	Conductivity, mircro-mho/cm				
7	Conductivity (in Field), mircro-mho/cm	1720			
8	Total Suspended Solids, mg/L	317			
9	Tota Hardness, mg/L	1140			
10	**Anions**				
11					
12	Alkalinity, CaCO3, mg/L	100			
13	Sulphate (SO4), mg/L	1000			
14					
15	**Nutrients**				
16					
17	Nitrite Nitrogen (NO2), mg/L	<0.005			
18	Nitrate Nitrogen (NO3), mg/l	0.580			
19	N-NH3, mg/L	0.01			
20	N-N02-NO3, mg/L				
21	Total Phosphorus, mg/L	<.001			
22	**Dissolved Metals**				
23	Silver (Ag)	<.01			
24	Aluminum (Al)				
25	Arsenic (As)	<.05			
26	Barium (Ba)	0.015			
27	Calcium (Ca)	351			
28	Cadmium (Cd)	<.005			
29	Copper (Cu)	<.005			
30	Iron (Fe)	0.037			
31	Molybdenum (Mo)	<.01			
32	Sodium (Na)	2.4			
33	Lead (Pb)	<.05			
34	Antimony (Sb)	<.05			
35	Selenium (Se)	<.05			
36	Zinc (Zn)	0.369			

	A	F	G
1	Station	g (LES 78)]	
2	Collected By:		
3	Sample Date		
4	**Physical Parameters**		
5	pH (in Field)		
6	Conductivity, mircro-mho/cm		
7	Conductivity (in Field), mircro-mho/cm		
8	Total Suspended Solids, mg/L		
9	Tota Hardness, mg/L		
10	**Anions**		
11			
12	Alkalinity, CaCO3, mg/L		
13	Sulphate (SO4), mg/L		
14			
15	**Nutrients**		
16			
17	Nitrite Nitrogen (NO2), mg/L		
18	Nitrate Nitrogen (NO3), mg/l		
19	N-NH3, mg/L		
20	N-N02-NO3, mg/L		
21	Total Phosphorus, mg/L		
22	**Dissolved Metals**		
23	Silver (Ag)		
24	Aluminum (Al)		
25	Arsenic (As)		
26	Barium (Ba)		
27	Calcium (Ca)		
28	Cadmium (Cd)		
29	Copper (Cu)		
30	Iron (Fe)		
31	Molybdenum (Mo)		
32	Sodium (Na)		
33	Lead (Pb)		
34	Antimony (Sb)		
35	Selenium (Se)		
36	Zinc (Zn)		

	A	B	C	D	E	F	G	H	I
1	Station	UKHM S-16 Elsa Adit							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	90/5/29	90/6/28	90/7/29	90/8/27	90/9/27	90/10/29	90/11/30	90/12/20
4	**Physical Parameters**								
5									
6	pH	7.8	7.8	7.8	7.8	7.7	7.7	7.6	7.8
7	Conductivity, micro-mho/cm	680	850	745	400	438	290	300	280
8	Total Suspended Solids, mg/L	32	20	12	28	32	24	20	12
9	Turbidity, NTU								
10	Flow, L/s	0.00			6.67			0.00	0.00
11	Temp., degrees Celcius	2.0	3.0	5.0		0.0	0.0	4.0	5.0
12	**Extractable Metals**								
13	Cadmium (Cd)	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01
14	Copper (Cu)	0.06	0.02	0.17	0.05	0.01	0.01	0.01	0.01
15	Iron (Fe)	1.50	0.84	0.82	1.10	2.40	1.80	2.01	1.90
16	Manganese (Mn)	0.30	0.20	0.22	1.10	2.80	2.80	2.40	2.10
17	Lead (Pb)	0.12	0.13	0.09	0.03	0.45	0.43	0.10	0.08
18	Zinc (Zn)	0.20	0.10	0.01	0.11	1.60	1.20	0.98	0.89

	A	J	K	L	M	N	O	P	Q	R
1	Station									
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	91/1/29	91/2/26	91/3/28	91/4/26	91/5/20	91/6/1	91/7/1	91/8/1	91/9/1
4	**Physical Parameters**									
5										
6	pH	7.9	7.9	8.0	8.0	7.5	8.3	7.2	7.7	7.7
7	Conductivity, micro-mho/cm	200	200	480	520	440	445	380	420	450
8	Total Suspended Solids, mg/L	4	4	4	20	12	12	12	12	12
9	Turbidity, NTU									
10	Flow, L/s			0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Temp., degrees Celcius	20.0	10.0	5.0	8.0	8.0	4.0	4.0	4.0	4.0
12	**Extractable Metals**									
13	Cadmium (Cd)	0.03	0.01	0.01	0.02	0.21	0.04	0.45	0.06	0.04
14	Copper (Cu)	0.01	0.01	0.03	0.01	0.39	0.14	0.72	0.03	0.03
15	Iron (Fe)		0.16	1.18	0.13	10.51	5.21	2.20	0.57	0.59
16	Manganese (Mn)	ND	0.11	0.08	0.02	16.23	2.64	2.22	3.40	3.20
17	Lead (Pb)		0.02	0.02	0.01	0.01		0.01		
18	Zinc (Zn)	0.01	0.01		0.05	2.37	0.21		0.06	0.05

	A	S	T	U	V	W	X	Y	Z	AA	AB
1	Station										
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	91/10/1	91/11/1	91/12/1	92/1/1	92/2/1	92/3/1	92/4/1	92/5/1	92/6/1	92/7/1
4	**Physical Parameters**										
5											
6	pH	7.7	8.2	8.2	8.3	8.0	8.3	8.4	7.3	7.8	7.8
7	Conductivity, micro-mho/cm	280	500	520	560	600	600	580	330	550	540
8	Total Suspended Solids, mg/L	24	16	12	12	8	12	12	16	8	24
9	Turbidity, NTU										
10	Flow, L/s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Temp., degrees Celcius	0.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	4.0	3.0
12	**Extractable Metals**										
13	Cadmium (Cd)	0.01	0.01	0.01							0.01
14	Copper (Cu)		0.01	0.01		0.01	0.02	0.01	0.02		0.01
15	Iron (Fe)	2.12	0.01	0.01	1.24	0.97	0.81	1.26	0.41	0.03	0.14
16	Manganese (Mn)	2.01	5.80	0.48	0.47	0.01	0.01	0.21	0.74	0.49	0.22
17	Lead (Pb)		0.01		0.01	0.03	0.02	0.01	0.02	0.01	0.02
18	Zinc (Zn)	0.03	0.03	0.07	0.36	0.16	0.08	0.04	0.09	0.21	0.22

	A	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
1	Station										
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/8/1	92/9/1	92/10/1	92/11/1	92/12/1	93/1/1	93/2/1	93/3/1	93/4/1	93/5/1
4	**Physical Parameters**										
5											
6	pH	7.3	7.9	8.2	8.2	8.4	8.2	8.2	8.2	7.7	7.9
7	Conductivity, micro-mho/cm	580	550	580	720	710	760	760	780	920	860
8	Total Suspended Solids, mg/L	16	8	8	8	8	8	8	8	12	
9	Turbidity, NTU										
10	Flow, L/s	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Temp., degrees Celcius	2.0	3.0	4.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0
12	**Extractable Metals**										
13	Cadmium (Cd)		0.02	0.02	0.01		0.01	0.01	0.01	0.02	0.01
14	Copper (Cu)	0.01	0.02	0.02	0.01	0.06	0.02	0.03	0.03	0.02	0.02
15	Iron (Fe)	0.68	0.96	1.97	0.78	1.39	1.59	0.85	0.59	0.64	0.31
16	Manganese (Mn)	0.35	0.37	0.00	0.41	0.03	0.02	0.01		0.00	0.01
17	Lead (Pb)	0.02	0.03	0.03	0.03	0.03	0.01	0.02	0.01	0.01	0.21
18	Zinc (Zn)	0.09	0.01	0.01		0.03	0.02		0.01	0.03	0.11

	A	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
1	Station										
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	93/6/1	93/7/1	93/8/1	93/9/1	93/10/1	93/11/1	93/12/1	94/1/1	94/2/1	94/3/1
4	**Physical Parameters**										
5											
6	pH	7.6	7.8	7.8	8.0	8.0	8.1	8.0	8.3	8.4	8.3
7	Conductivity, micro-mho/cm	800	680	720	730	640	720	730	750	740	780
8	Total Suspended Solids, mg/L		8	8	8	4	8	4	4	8	8
9	Turbidity, NTU										
10	Flow, L/s	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.0
11	Temp., degrees Celcius	4.0	5.0	3.0	3.0	3.0	2.5	3.0	3.0	2.0	3.0
12	**Extractable Metals**										
13	Cadmium (Cd)	0.01		0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01
14	Copper (Cu)	0.03	0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.02	0.01
15	Iron (Fe)	0.81	0.41	0.04	0.47	0.51	0.21	0.31	0.50	0.02	0.16
16	Manganese (Mn)	0.02	0.21	0.04	0.23	0.13	0.25	0.34	0.50	0.25	0.24
17	Lead (Pb)	0.03	0.01		0.02	0.02	0.01	0.01	0.01	0.01	0.02
18	Zinc (Zn)			0.12	0.12	0.19	0.13	0.11	0.04	0.04	0.11

	A	AW	AX	AY	AZ	BA	BB	BC	BD	BE
1	Station									
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/4/24	94/5/10	94/5/31	94/6/28	94/7/29	94/10/31	94/11/29	95/1/5	95/2/6
4	**Physical Parameters**									
5										
6	pH	8		7.6	7.8	8.0	7.5	7.4	8.6	7.9
7	Conductivity, micro-mho/cm	780		760	780	680	800	980	1080	1000
8	Total Suspended Solids, mg/L	8		8	8	0	0	0	88	0
9	Turbidity, NTU									
10	Flow, L/s	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	Temp., degrees Celcius	3.0		3.0	5.0	1.3	1.3	1.3	3.0	1.5
12	**Extractable Metals**									
13	Cadmium (Cd)	0.01					0.00	0.00	0.00	0.04
14	Copper (Cu)	0.01		0.03	0.02	0.03	0.02	0.03	0.00	0.02
15	Iron (Fe)	0.25		0.64	0.19	1.04	0.59	0.79	1.40	1.65
16	Manganese (Mn)	0.27		0.23	0.16	0.55	0.43	0.32	0.53	0.60
17	Lead (Pb)	0.02		0.14	0.05	0.09	0.12	0.10	0.00	0.02
18	Zinc (Zn)	0.10		0.04	0.02	0.09	0.00	0.09	0.05	0.10

	A	BF	BG	BH	BI	BJ	BK
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	95/3/29	95/4/27	95/5/3	95/6/6	95/8/11	95/9/3
4	**Physical Parameters**						
5							
6	pH	7.2	7.9	7.8	7.3	7.7	7.8
7	Conductivity, micro-mho/cm	1060	1090	940	720	460	560
8	Total Suspended Solids, mg/L	0	12	16	56	0	12
9	Turbidity, NTU						
10	Flow, L/s	0.0	0.0	0.0	0.0	0.0	
11	Temp., degrees Celcius	2.0	1.5	3.0	2.0	2.0	
12	**Extractable Metals**						
13	Cadmium (Cd)	0.02	0.00	0.03	0.02	0.05	0.01
14	Copper (Cu)	0.04	0.03	0.03	0.01	0.02	0.03
15	Iron (Fe)	1.01	1.78	1.33	0.78	0.68	0.43
16	Manganese (Mn)	0.67	0.58	0.36	0.40	0.25	0.28
17	Lead (Pb)	0.00	0.00	0.00	0.15	0.03	0.00
18	Zinc (Zn)	0.71	0.14	0.31	0.29	0.14	0.21

	A	B	C	D	E	F	G	H
1	Station	UKHM S-14						
2	Collected By:	Les	LES	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	85/7/17	86/7/7	90/3/26	90/4/27	90/5/29	90/6/28	90/7/29
4	**Physical Parameters**							
5	pH	6.9	7.7			7.1	7.3	
6	pH (in Field)	8.3						
7	Conductivity, micro-mho/cm	60	220			150	160	
8	Conductivity (in Field), micro-mho/cm	33						
9	Total Suspended Solids, mg/L	38	15			92	20	
10	Flow, L/s	3.1	8.57			0.01	0.08	
11	Temp., degrees Celcius	3				5.0	2.0	
12	**Anions**							
13	Alkalinity, CaCO3, mg/L		38.3					
14	Sulphate (SO4), mg/L		5					
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L		0.015					
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L	0.313	0.211					
20	**Total Metals (mg/L)**							
21	Arsenic (As)	0.05	0.05					
22	Boron (B)							
23	Barium (Ba)	0.031	0.021					
24	Beryllium (Be)		0.001					
25	Calcium (Ca)	5.1	26.8					
26	Cadmium (Cd)	0.002	0.005					
27	Cobalt (Co)	0.005	0.008					
28	Chromium (Cr)	0.005	0.005					
29	Copper (Cu)	0.005	0.005					
30	Iron (Fe)	2.09	1.52					
31	Magnesium (Mg)	1.1	8.3					
32	Manganese (Mn)	0.364	0.242					
33	Molybdenum (Mo)	0.005	0.006					
34	Sodium (Na)	1.5	1.5					
35	Nickel (Ni)	0.02	0.02					
36	Lead (Pb)	0.02	0.02					
37	Antimony (Sb)	0.05	0.05					
38	Selenium (Se)	0.05	0.09					
39	Silicon (Si)	2.4	3.4					
40	Tin (Sn)	0.01	0.01					
41	Stronium (Sr)	0.028	0.062					
42	Titanium (Ti)	0.003	0.031					
43	Vanadium (V)	0.005	0.005					
44	Zinc (Zn)	0.377	0.271					
45	**Extractable Metals**							
46	Cadmium (Cd)					0.01	0.01	
47	Copper (Cu)					0.01	0.01	
48	Iron (Fe)					0.28	0.14	
49	Manganese (Mn)					0.10	0.06	
50	Lead (Pb)					0.06	0.08	
51	Zinc (Zn)					0.20	0.20	

	A	I	J	K	L	M	N
1	Station						
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	90/8/27	90/9/27	90/10/29	90/11/30	90/12/20	91/1/29
4	**Physical Parameters**						
5	pH						
6	pH (in Field)						
7	Conductivity, micro-mho/cm						
8	Conductivity (in Field), micro-mho/cm						
9	Total Suspended Solids, mg/L						
10	Flow, L/s						
11	Temp., degrees Celcius						
12	**Anions**						
13	Alkalinity, CaCO3, mg/L						
14	Sulphate (SO4), mg/L						
15							
16	**Nutrients**						
17	Nitrite Nitrogen (NO2), mg/L						
18	Nitrate Nitrogen (NO3), mg/l						
19	N-NH3, mg/L						
20	**Total Metals (mg/L)**						
21	Arsenic (As)						
22	Boron (B)						
23	Barium (Ba)						
24	Beryllium (Be)						
25	Calcium (Ca)						
26	Cadmium (Cd)						
27	Cobalt (Co)						
28	Chromium (Cr)						
29	Copper (Cu)						
30	Iron (Fe)						
31	Magnesium (Mg)						
32	Manganese (Mn)						
33	Molybdenum (Mo)						
34	Sodium (Na)						
35	Nickel (Ni)						
36	Lead (Pb)						
37	Antimony (Sb)						
38	Selenium (Se)						
39	Silicon (Si)						
40	Tin (Sn)						
41	Stronium (Sr)						
42	Titanium (Ti)						
43	Vanadium (V)						
44	Zinc (Zn)						
45	**Extractable Metals**						
46	Cadmium (Cd)						
47	Copper (Cu)						
48	Iron (Fe)						
49	Manganese (Mn)						
50	Lead (Pb)						
51	Zinc (Zn)						

	A	O	P	Q	R	S	T	U
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	91/2/26	91/3/28	91/4/26	91/5/20	91/6/1	91/7/1	91/8/1
4	**Physical Parameters**							
5	pH					8.3	7.6	7.8
6	pH (in Field)							
7	Conductivity, micro-mho/cm					80	80	90
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L					4	4	8
10	Flow, L/s					0.50	0.50	
11	Temp., degrees Celcius					4.0	4.0	1.0
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)							0.03
47	Copper (Cu)							
48	Iron (Fe)					0.00	0.00	0.00
49	Manganese (Mn)					0.00	0.00	0.00
50	Lead (Pb)					0.02	0.01	
51	Zinc (Zn)					0.07		

	A	V	W	X	Y	Z	AA	AB
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	91/9/1	91/10/1	91/11/1	91/12/1	92/1/1	92/2/1	92/3/1
4	**Physical Parameters**							
5	pH							
6	pH (in Field)							
7	Conductivity, micro-mho/cm							
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L							
10	Flow, L/s							
11	Temp., degrees Celcius							
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)							
47	Copper (Cu)							
48	Iron (Fe)							
49	Manganese (Mn)							
50	Lead (Pb)							
51	Zinc (Zn)							

	A	AC	AD	AE	AF	AG	AH	AI
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/4/1	92/5/1	92/6/1	92/7/1	92/8/1	92/9/1	92/10/1
4	**Physical Parameters**							
5	pH		7.2	7.5	7.6			
6	pH (in Field)							
7	Conductivity, micro-mho/cm		100	60	90			
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L		16	4	8			
10	Flow, L/s		0.20	2.00	0.50			
11	Temp., degrees Celcius		1.0	1.0	3.0			
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)		0.01					
47	Copper (Cu)		0.01					
48	Iron (Fe)		0.21					
49	Manganese (Mn)		0.89					
50	Lead (Pb)		0.01	0.01				
51	Zinc (Zn)		0.19	0.02	0.06			

	A	AJ	AK	AL	AM	AN	AO	AP
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	92/11/1	92/12/1	93/1/1	93/2/1	93/3/1	93/4/1	93/5/1
4	**Physical Parameters**							
5	pH							7.2
6	pH (in Field)							
7	Conductivity, micro-mho/cm							60
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L							
10	Flow, L/s							1.50
11	Temp., degrees Celcius							2.0
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)							
47	Copper (Cu)							
48	Iron (Fe)							0.08
49	Manganese (Mn)							
50	Lead (Pb)							
51	Zinc (Zn)							0.17

	A	AQ	AR	AS	AT	AU	AV	AW
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	93/6/1	93/7/1	93/8/1	93/9/1	93/10/1	93/11/1	93/12/1
4	**Physical Parameters**							
5	pH	7.5						
6	pH (in Field)							
7	Conductivity, micro-mho/cm	90						
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L							
10	Flow, L/s	1.50						
11	Temp., degrees Celcius	2.8						
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)	0.01						
47	Copper (Cu)							
48	Iron (Fe)	0.11						
49	Manganese (Mn)							
50	Lead (Pb)							
51	Zinc (Zn)							

	A	AX	AY	AZ	BA	BB	BC	BD
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/1/1	94/2/1	94/3/1	94/4/24	94/5/10	94/5/31	94/6/28
4	**Physical Parameters**							
5	pH						7.9	8.2
6	pH (in Field)							
7	Conductivity, micro-mho/cm						160	160
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L						8	0
10	Flow, L/s						0.20	0.05
11	Temp., degrees Celcius						3.1	4.1
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)							0.01
47	Copper (Cu)						0.01	0.61
48	Iron (Fe)						0.27	0.09
49	Manganese (Mn)						0.10	0.06
50	Lead (Pb)						0.06	0.03
51	Zinc (Zn)						0.12	0.19

	A	BE	BF	BG	BH	BI	BJ	BK
1	Station							
2	Collected By:	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM	UKHM
3	Sample Date	94/7/29	94/10/31	94/11/29	95/1/5	95/2/6	95/3/29	95/4/27
4	**Physical Parameters**							
5	pH							
6	pH (in Field)							
7	Conductivity, micro-mho/cm							
8	Conductivity (in Field), micro-mho/cm							
9	Total Suspended Solids, mg/L							
10	Flow, L/s							
11	Temp., degrees Celcius							
12	**Anions**							
13	Alkalinity, CaCO3, mg/L							
14	Sulphate (SO4), mg/L							
15								
16	**Nutrients**							
17	Nitrite Nitrogen (NO2), mg/L							
18	Nitrate Nitrogen (NO3), mg/l							
19	N-NH3, mg/L							
20	**Total Metals (mg/L)**							
21	Arsenic (As)							
22	Boron (B)							
23	Barium (Ba)							
24	Beryllium (Be)							
25	Calcium (Ca)							
26	Cadmium (Cd)							
27	Cobalt (Co)							
28	Chromium (Cr)							
29	Copper (Cu)							
30	Iron (Fe)							
31	Magnesium (Mg)							
32	Manganese (Mn)							
33	Molybdenum (Mo)							
34	Sodium (Na)							
35	Nickel (Ni)							
36	Lead (Pb)							
37	Antimony (Sb)							
38	Selenium (Se)							
39	Silicon (Si)							
40	Tin (Sn)							
41	Stronium (Sr)							
42	Titanium (Ti)							
43	Vanadium (V)							
44	Zinc (Zn)							
45	**Extractable Metals**							
46	Cadmium (Cd)							
47	Copper (Cu)							
48	Iron (Fe)							
49	Manganese (Mn)							
50	Lead (Pb)							
51	Zinc (Zn)							

	A	BL	BM	BN
1	Station			
2	Collected By:	UKHM	UKHM	UKHM
3	Sample Date	95/5/3	95/6/6	95/8/11
4	**Physical Parameters**			
5	pH		6.5	
6	pH (in Field)			
7	Conductivity, micro-mho/cm		255	
8	Conductivity (in Field), micro-mho/cm			
9	Total Suspended Solids, mg/L		40	
10	Flow, L/s		0.50	
11	Temp., degrees Celcius		2.0	
12	**Anions**			
13	Alkalinity, CaCO3, mg/L			
14	Sulphate (SO4), mg/L			
15				
16	**Nutrients**			
17	Nitrite Nitrogen (NO2), mg/L			
18	Nitrate Nitrogen (NO3), mg/l			
19	N-NH3, mg/L			
20	**Total Metals (mg/L)**			
21	Arsenic (As)			
22	Boron (B)			
23	Barium (Ba)			
24	Beryllium (Be)			
25	Calcium (Ca)			
26	Cadmium (Cd)			
27	Cobalt (Co)			
28	Chromium (Cr)			
29	Copper (Cu)			
30	Iron (Fe)			
31	Magnesium (Mg)			
32	Manganese (Mn)			
33	Molybdenum (Mo)			
34	Sodium (Na)			
35	Nickel (Ni)			
36	Lead (Pb)			
37	Antimony (Sb)			
38	Selenium (Se)			
39	Silicon (Si)			
40	Tin (Sn)			
41	Stronium (Sr)			
42	Titanium (Ti)			
43	Vanadium (V)			
44	Zinc (Zn)			
45	**Extractable Metals**			
46	Cadmium (Cd)		0.01	
47	Copper (Cu)		0.02	
48	Iron (Fe)		0.26	
49	Manganese (Mn)		0.34	
50	Lead (Pb)		0.00	
51	Zinc (Zn)		0.48	

Appendix B

White Mountain Environmental Consulting. 1995.
"Fish and Fish Habitat Assessment Conducted Near Elsa, Yukon for United Keno Hill Mines August 1994 - September 1995".

(Report included as Appendix V to Access Mining Consultants Limited "United Keno Hill Mines Limited – Site Characterization", Report No. UKH/96/01 prepared for United Keno Hill Mines Limited, June 1966)

FISH AND FISH HABITAT ASSESSMENT CONDUCTED NEAR ELSA, YUKON FOR UNITED KENO HILL MINES AUGUST 1994 - SEPTEMBER 1995

Prepared by White Mountain Environmetntal Consulting P. Sparling and M. Connor
December 16,1995

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Appendix E. Summary of all fish sampled, UKHM 1994, '95.

1.0 INTRODUCTION

White Mountain Environmental Consulting (WMEC) began fisheries investigations into aquatic environments surrounding United Keno Hill Mines property near the community of Elsa. Yukon during August of 1994 and continued until August of 1995.

The goals of these preliminary investigations were to obtain and compile baseline fisheries data from waters influenced or affected by mining activities. And in doing so gain an understanding of the current situation with regards to habitat availability and the level of utilization of that habitat by fish.

Prior to this investigation, fisheries data for this area were scattered and did not provide a comprehensive understanding of the fish resources or the extent the area was being utilized.

Fish habitat and utilization assessments were conducted at three different periods during the open water season to provide a representation of spring, summer and fall utilization's [sic].

1. 1 STUDY AREA

The principal areas of study for this investigation were the drainages influenced by historic and current mining activities. These include Christal and Flat Creeks, both tributaries of the South McQuesten River which was also investigated. Lightning Creek in the Mayo River drainage was also investigated (Figure 1).

Christal Creek was investigated from Christal Lake to its mouth at the South McQuesten River. Flat Creek was investigated from the point immediately below UKHM's tailing ponds to its mouth at the South McQuesten River. The South McQuesten River was investigated from McQuesten Lake to Seattle Creek. Investigations into

Lightning Creek were restricted to a reach that extended from 350 m upstream of the outlet of Thunder Gulch down to Duncan Creek (Figure 2).

Part of the Yukon River drainage, the McQuesten River has had a total of 14 species of fish recorded in its waters. The list of species includes Arctic grayling, slimy sculpin, round whitefish, burbot, northern pike, longnose sucker, chinook salmon, chum salmom lake trout, lake chubb, least cisco, lake whitefish, Arctic lamprey and inconnu. (see appendix A for scientific names).

Most of the species recorded can be considered resident and a few as seasonal migrants. Two definite migrants are chinook and chum salmon, both of which spawn in the river and utilize the McQuesten as a rearing area. Chum salmon have been recorded only a short distance upstream of the mouth of the McQuesten near the Stewart River. Chinook have been documented throughout the drainage, however the extent of their utilization of the South McQuesten upstream of the mouth of Haggart Creek remain uncertain. Arctic lamprey have two documented forms, one a dwarf form residing in freshwater rivers and the other an anadromous, parasitic migrant (Scott and Crossman, 1973). Inconnu most likely migrate in and out of the system although little has been documented on this species life history in the Yukon River drainage, in other areas the inconnu life history involves river migrations to and from spawning, wintering and summer feeding areas (Scott and Crossman 1973). Lake trout, least cisco and lake chubb would likely be associated with lake habitats in the headwaters.

1.2 BACKGROUND

Concerns with mine effluent in the Elsa-Keno Hill area effecting [sic] fish date back to 1969 when UKHM's tailing pond at the head of Flat Creek washed out during spring freshet. The ensuing contaminated slug of water entered the South McQuesten River via Flat Creek and caused a large die-off of resident fish species (DFO unpublished correspondence 1961-64).

An assessment of the water quality and biological conditions in watersheds surrounding the UKHM property was conducted during the summers of 1974 and 1975 by the Environmental Protection Service (EPS), Yukon branch. The parameters studied in this report included: water chemistry, trace metals, benthic species diversity, fish concentrations, and toxicity testing. The report indicated that elevated metal concentrations were found in association with the tailings pond decant and runoff from the Husky mine. Zinc was the main metal contaminant with elevated levels found in Flat Creek as well as in the South McQuesten River immediately downstream of the mouth of Flat Creek. Elevated levels of cadmium and copper were found at the water decant but these did not persist downstream. Christal Creek did not show comparably high zinc levels. The study found relatively low benthic species diversity in Flat Creek and immediately downstream of Flat in the south McQuesten River. Test fishing was done in Flat and Christal Creeks as well as the South McQuesten River with an electro-fisher and barrier nets, samples of fish tissue and liver were obtained and tested for concentrations of copper, zinc, and lead. The report states that few fish were caught in Flat Creek and speculates this could be related to high zinc and copper levels in the water or due to low benthic food invertebrates that resulted from these metal levels. The study also noted low fish numbers at their sample stations in Christal Creek but attributed this to the fact it was a small creek with relatively steep gradient (these same locations on Christal Creek did not produce any fish during the 1994.'95 study).

During August 1980 the Environmental Protection Service conducted a monitoring study of the effluent discharge from UKHM to determine the state of compliance with the Federal Metal Liquid [sic] Effluent Guidelines. This report states that receiving waters of both Flat Creek and the South McQuesten River, downstream of the confluence with Flat Creek, exhibited zinc concentrations above levels recommended to maintain aquatic life. In Situ bioassays were conducted to demonstrate the effect of treated mine effluent on Arctic grayling, after exposing the fish to the effluent and receiving streams for 96 hours and finding no fatalities, the report concluded the streams and effluent exhibited no acute toxicity at the time of the study.

During the summer of 1985, a receiving environment monitoring study was undertaken by EPS in Flat Creek. Christal Creek, and the South McQuesten River as streams with potential influence from UKHM operations. The report mentions a tailings pond release from a dam break that occurred in 1978, and states that water hardness exceeded levels recommended for drinking water at all stations . The report contains historical comparisons of metal levels in the water at sample stations dating from 1974 to 1985. These comparisons showed, among other things, copper levels dropping in Flat and Christal Creeks. Zinc levels were found to be dropping in Flat Creek (0.73 mg/I in 1974 to 0.215 in 1985) but increasing in Christal Creek (<0.17 in 1974 to 0.825 in 1985). Alkalinity and hardness levels were shown to be rising in both Flat and Christal Creeks and the report suggests that sustained mining activity in the area may be associated with these increases. The study found that seepage, and to a lesser degree Galena Creek, contribute to elevated zinc levels in Flat Creek. Mine drainage from the Galkeeno 900 adit was identified as the main source of metal contaminants in Christal Creek. Benthic invertebrate populations showed good abundance and diversity of species, although the station on the South McQuesten River downstream of Flat Creek showed a major- dominance by one group (Simuliurn sp.).

Data from water, sediment, and benthic surveys from 1990 (EPS, 1992) showed that Christal Creek had a significant impact on the South McQuesten River in the form of an increase in metals in the water and sediments downstream of the confluence of Christal Creek . This study found that benthic abundance and diversity decrease in the South McQuestcn downstream of its confluence with Christal Creek but start to recover downstream of the mouth of Flat Creek. Elevated levels of metals in sediments in Flat Creek might be responsible for reducing overall benthic habitat quality as diversity and abundance were found to be very low.

2.0 METHODS

2.1 TIMING

Fisheries investigations began during August of 1994. Fall habitat and utilization investigations were conducted between September 13 and 16, 1994. The emphasis of the fall and preliminary study period was to determine the extent of fish distribution and conduct the ground work for mapping and assessing available fish habitat.

Spring Investigations included two separate periods of investigation. The first period ran from May 19 to 23, 1995 when emphasis was placed on determining spring movements of all species and locating any areas used by Arctic grayling for spawning. The second period of investigatiom June I to 4, 1995, was used to confirm the findings of the first period and to record the emergence of grayling and chinook salmon fry in the South McQuesten River and in the lower mainstem of the McQuesten River.

Summer investigations were conducted between July 14 and 21, 1995. Intensive utilization assessments were conducted at this time throughout the study area. A minnow trapping program to determine chinook salmon distribution and utilization was also conducted.

2.2 HABITAT ASSESSMENTS

Fish habitat in both Christal and Flat Creeks was assessed by walking and mapping the length of each creek. Distances were paced and confirmed with topographic maps. General characteristics, including an assessment of depth, flow, velocity, bottom substrates, terrestrial and aquatic vegetation, bank stability and structure, channel configuration, anomalies and any obstructions were recorded over the entire length of the creek. All information was mapped and recorded into a field book at the time of the field assessment.

Results recorded during assessments were reviewed and maps were created showing the major habitat areas and unique areas and features.

A canoe was used to assess fish habitat between sites on the South McQuesten River. The reach between SM1 and SM4 was floated twice, once on September 16,1994, and then again during summer investigations on July 16, 1995. Notes were made on the general and representative fish habitats.

The reach of the South McQuesten between site SM4 and the bridge at Haggart Creek was floated by canoe on August 5 and 6,1995. Detailed investigations were conducted around Shanghai Creek and the logjam 1 km upstream of Haggart Creek.

2.3 FISHERIES UTILIZATION ASSESSMENT

Sampling for utilization was conducted at selected locations on each drainage. The mouths of both Flat and Christal were intensively investigated as were 2 other sites on Flat Creek and 4 other sites on Christal Creek. Christal Lake was also investigated. A total of 14 sites on the South McQuesten were sampled intensively. These included assessments above the influence of Christal Creek, between Christal and Flat Creeks and at three sites below the mouth of Flat Creek.

Utilization assessment sampling was repeated 4 to 7 days after the original sampling whenever possible, during all three sample periods. This was done in order to address the fact that many of the species utilizing these waters are gregarious or school, a concern expressed by DFO.

A variety of techniques were used during the investigations to determine the presence and abundance of fishes, these were; [sic] seine nets, electro-shocker, gillnets, angling, surber sampling, visual observations, and two different types of minnow trap baiting.

Seining was accomplished with the use of 5 meter long 1/8" mesh rochel netting, nets had both floats and weight lines, both poled and non poled seines were used. Seining was restricted to depths of less than 1.5 meters.

Minnow traps (Gee type) were set along banks, typically near over hanging vegetation. Traps were baited with an even mix of gains burger dog food and canned salmon which was suspended in the trap inside a perforated 'Alligator' sandwich bag and attached to the trap with a twist tie. Traps were checked on a 24-48 hour basis and catches were recorded. This type of baiting technique was used during the fall and spring investigations. Minnow traps (Gee type) for assessing the distribution of chinook salmon fry were baited with fresh frozen salmon roe from Yukon River salmon. The roe was suspended inside the traps in perforated 'Alligator' sandwich bags. These traps were set in all types of habitat as per DFO specifications for capturing juvenile salmon fry in the Yukon River drainage (1994). This type of minnow trap set was used during summer investigations.

Angling was done with light gear, #0 or #1, Panther Martin and Meps spinners were used with primary lure colors being yellow, red and black.

Electro-fishing was conducted using a Smith-Route type 12 POW backpack, generator powered, electro-fisher. Fishing was typically done moving in an upstream direction, the operator of the electro- fisher was accompanied by a netter and an observer/recorder. Field crews wore peaked ball caps and polarizing sunglasses to aid visibility during electro-fishing.

Gillnetting was not a major method for fish capture due to high mortalities associated with this technique. Small mesh gill nets (1" and 2") were successfully used on Christal Lake and a single 2" mesh (stretch measure) by 10m gillnet was set in a back eddy on the South McQuesten River.

A surber sampler was used in attempts to locate grayling eggs to determine spawning locations. Samples were taken in gravel areas with flows between .2 to 1.5 m/second. Gravel under the 1 foot square sample frame was raked with a small hand rake for a period of one minute. Notes were made on the catches from these samples, including the presence of invertebrates.

Fry traps were installed in moderate flow areas after the grayling eggs were determined to have hatched. The fry trap used consisted of a 20 x 30 cm mouth and a fine meshed funnel sock. The trap was set for 15 minutes at a time and the contents were examined, then released after being recorded.

Temperatures were recorded at all sample stations during each sample period using a digital electronic thermometer (0.1o C). Temperatures were recorded into a field note book with all other pertinent information and observations from each sample site.

All fish captured were handled delicately so as to avoid mortality and allow for release after measuring or counting. Most fish captured were returned to the water of capture unharmed immediately after counting or sampling. All fish captured or observed were counted and recorded. A sub-sample of those captured were live sampled for length ((1mm) and weighed with spring loaded Chantillion scales or electronic balance, ± 1 g for fish less than 30 grams, ± 5 g for fish between 30 and 100 g, and ± 25 g for fish over 100 g. A smaller sub-sample were sacrificed for dead samples, these were weighed in grams, measured for fork length in mm, and assessed for sex and maturity. A scale sample was taken from all Arctic grayling dead samples, and stored for potential age determination.

2.4 HEAVY METAL ANALYSIS

Fish captured during fall assessments were sacrificed to be analyzed for the presence of heavy metals in the flesh and liver. Samples were taken from the South McQuesten River upstream of the mouth of Christal Creek, Flat Creek and Christal Creek.

Most samples taken from Flat Creek were composite samples of several individual fish. Five samples of slimy sculpin adults and a single sample of Arctic grayling were taken for analysis. The grayling sample consisted of 4 fry, one of the sculpin samples was a single large adult, another consisted of 7 individuals and the other 3 sculpin samples consisted of 4 individuals each. The samples from Flat Creek were taken in the area described as FI and F2.

Three different sets of samples were taken from the Christal Creek Drainage. The first of these was from Christal Lake and consisted of 4 individual, whole, slimy sculpins. The second sample was comprised of 5 individual adult Arctic grayling captured at site C4. The third sample set from Christal were collected both in the lower and upper reaches of the creek 2 sculpins samples came from site C5, a single grayling fry from site C3 and a single sculpin from site C2 provided a set of 4 individual samples. Specimens from the South McQuesten River were taken from site SM 1. These samples were all Arctic grayling, 2 were sub adults and 3 were adults.

Livers were extracted from the adult grayling. Two composite liver samples were made, the first from the five samples from C4, the other from the three adults taken at SM 1. Flesh samples were taken from each of these fish and sent as individual samples. Flesh samples from large grayling were consistently taken from the right side of the body below the dorsal fin but above the lateral line. Care was taken to ensure samples did not become contaminated, each sample was collected and stored in new and previously unopened whirl bag. All samples collected were frozen within one hour of capture.

All samples collected were held and shipped frozen to Quanta Trace Labs in Burnaby BC. At Quanta both liver and fish flesh samples were blended and dried at 55o C and the moisture content was determined. The dried tissue was then ground in a stainless steel mill. Approximately 0.5 grams of the liver or flesh was digested in a sealed Teflon vessel using microwave heating (EPA Method 3051). The level of 33 different metals were determined on the resulting solution by ICP-AES with ultrasonic nebulization. Mercury content was determined by cold-vapour atomic absorption. Metal content was expressed in parts per million.

2.5 DATA ANALYSIS

All data collected was collated and the raw data has been presented in the appropriate Appendix. Total numbers of fish captured at each location were tabulated to provide descriptions of species composition at each site. Catch data from seining, electro-fishing, gillnetting and minnow traps has been expressed as catch per unit of effort (CPUE) to account for differences in sample effort. Electro-fishing is expressed in fish per minute of shock time, seining in number of fish per square meter of seine area, gillnetting in number of fish per 100 meters of net per 24 hours, minnow trapping is expressed in number of fish per 24 hours. Seining and electro-fishing CPUE results were calculated for each site and season by combining all data for the relevant period and site.

3.0 RESULTS AND DISCUSSION

3.1 GENERAL FINDINGS

The South McQuesten River and its tributaries Christal and Flat Creeks contain a wide variety of fish habitats and fish species typical of those found in the Yukon River drainage. In total 5,316 fish were recorded during the course of this study representing 11 different fish species, these where; [sic] Arctic grayling, slimy sculpin, round whitefish, northern pike, Arctic lamprey, chinook salmon, burbot, longnose sucker, least cisco and lake chubb. A summary of all fish recorded, by method has been presented in appendix B.

Seining was the most effective method used to record fish (Table 1), followed by electro-fishing Table 2), minnow trapping (Appendixes C and D), visual observations (Table 3), angling (Table 4) and gillnetting (Table 5). Catch per unit of effort results (Tables 6 and 7) showed that Christal Creek was utilized more extensivelv than Flat Creek, and the South McQuesten River downstream of Haggart Creek was the most extensively utilized reach in the study area.

Slimy sculpins were the most widely dispersed species in the study area, and Arctic grayling were the most abundant. Length at weight regressions for grayling and sculpins are presented in figures 3 and 4 respectively. Both Grayling and longnose sucker fry were most typically encountered in groups or schools. Chinook salmon were found in the South McQuesten River, but not above the mouth of Haggart Creek. Most of the other species noted were found in small numbers, usually as individuals and in specific habitats.

Fish habitat in Lightning Creek has been dramatically altered by placer mining. Fish habitat that remains exists in small patches and is typically of poor quality, grayling were the only species found to be utilizing Lightning Creek.

A Summary of all fish sampled has been presented in appendix E.

3.2 HABITAT ASSESSNENT

3.2.1 Flat Creek

Flat Creek was divided into five distinct reaches for habitat assessment, four of these were investigated for fish and fish habitat during this study. The uppermost reach that drains the steep hillside above the tailings pond was not investigated (Figure 2).

The first reach investigated was the mouth (reach #1) which extends upstream from the confluence with the South McQuesten River for 40 meters and corresponds to sample site Fl. This reach has cobble gravel substrates in pool riffle sequences punctuated with partial log and stick jams that have built up in many of the riffle areas. Two small pools near the mouth have water up to 1 meter deep and steep cut banks on the outside corners. Both of these pools have submerged trees and provide excellent cover for small fish and some of the best habitat available on Flat Creek.

Reach #2 extends for 700 meters up stream of reach #1, sample site F2 is located in the lower end of this reach. This reach has fast flowing water in a narrow channel. Substrates consist primarily of gravel and sand, with lavers of organic silts and debris in low flow areas. Thick willow and alder growth along the creek banks forms a canopy over the creek in most places. Fish habitat in this reach occurs occasionaly in pockets of small deep pools, below stick jams. The upper most 200 meters of this reach has an intense number of tight stick jams that may impede fish passage. Below these stick jams areas of potential habitat occur in cobble/gravel bottomed pool glide sequences, this type of habitat occurs infrequently.

Reach #3 extends for 4,200 meters starting above reach #2, this reach flows through mature forest that varies from stands of strictly white spruce in the lower section of the reach to mixed poplar, aspen and white spruce in the upper section. Alders and willows intersperse the larger trees throughout the reach. Substrates consist primarily of coppery hued and organic silts. Several areas of riffle pool sequences have cobble, gravel and some boulders although this type of habitat is limited and discontinuous. Log jams occur frequently but do not block the creek to fish passage.

Beaver activity in the upper stretch of this reach has created several deep pools. These beaver pools and several gravel bottomed pool/riffle areas have the potential to support limited numbers of fish and does resemble stretches of Christal Creek where Arctic grayling were observed.

Reach #4, the uppermost reach studied, begins immediately below UKHM's settling ponds (Fig. 2) and flows through an open meadow of sedges and shrubs to Reach #3,and contains sample site F3. This reach flows as a deep, narrow channel (1 m depth, 0.5 m width) with a consistent substrate of coppery hued silt/mud that may be old tailings. Through this reach the stream channel has cut into the floor of a wide valley wetland, this reach extends for a distance of 5 kms. Vegetation along this reach consists primarily of sedges, willows become more common and closer to the creek in the lower stretches of the reach. The substrates and channel configuration in this reach do not provide good fish habitat. Laminar flows and an even bottom provide little to no available cover. Littoral zones occur infrequently and because of the narrow deep channel, the availability of surface water is minimized.

Water temperatures from Flat Creek during summer and fall remained a consistent 3 to 5oC colder than the South McQuesten at the mouth of Flat. The water from Flat Creek was 4.1oC at the creeks [sic] mouth by late May and 6.5oC in the receiving environment of the South McQuesten. By June 3 the South McQuesten had warmed to 11.4o and Flat had warmed to 6.2o (Table 8).

3.2.2 Christal Creek

Christal Creek has a variety of habitats throughout the 14 kms between the headwaters at Christal Lake and the confluence with the South McQuesten River (Figure 2). The creek was divided into six reaches for habitat descriptions.

From Christal Lake to the South McQuesten River a mat of fine black materials has been deposited on the creek bottom. This mat ranges in thickness from lcm to 6cm, and does not cover the entire creek bed. The mat has been broken up, presumably by ice action, along much of the creek and exists as a remnant throughout the creek. This material likely came from tailings dumped into Christal Lake between 1956 and 1958. In areas where the mat remains the substrates have consolidated and all interstitial spaces have filled. Fish habitat will improve in the creek as more of this material becomes broken up.

Reach #1 is the actual mouth of the creek and extends upstream for 30 meters from the confluence with the South McQuesten River. Two pools joined by a shallow riffle have formed at the outlet of the creek. These pools have fine gravel and sand substrates that have been overlaid in low flow areas with organic silts. Submerged root wads and willows within these pools provide excellent cover for young fish from the South McQuesten River. This reach is sample site C1.

Reach #2 flows through a wide flat area that is part of the South McQuesten Rivers [sic] flood plain to the mouth. The channel here although not constricted generally flows in well defined banks through a wide wetland area. Beaver dams both old and current occur regularly throughout this reach and play an important role in the formation of the channel. In many places the channel flows between deeply cut banks that rise sharply over a meter above the water level. Substrates vary through the reach and consist primarily of silt bottomed areas interspersed with fine pea gravel's [sic], coarse gravel's [sic], cobbles and sand. Organic debris and sticks form small jams against spruce sweepers but log jams are not common. This reach has many pools particularly behind active beaver dams that provide excellent habitat on a seasonal basis. The beaver dams creating the pools may create barriers to fish passage during the fall months when water levels typically become lower, effecting [sic] grayling that try to move out of the creek to over winter. Sample site C2 is located near a set of these beaver ponds near the middle of the reach.

Reach #3 extends from just below the Hanson Lake Road crossing of Christal Creek to the bottom of the canyon. Through this reach the creek meanders around small knolls. The forest cover is thick with mature spruce and black poplar. Evidence of beaver activities, either current or old appear in most areas where the flood plain widens. Substrates consist predominantly of gravel with the occasional run of cobbles or boulders. The channel ranges in width from 3 to 5 meters, with an average depth of 0.4 meters and has many small logjams and associated pools. Fish habitat through this reach is limited by cover, and is therefore likely enhanced by the presence of beaver dams.

Reach #4 flows through a steep sided canyon for approximately 700 meters. Through the canyon the creek flows straight in a north west direction as an almost continuous rapid over angular boulders and cobbles. The channel flows very straight with no meanders or pools, likely as a result of placer mining in the canyon. Extensive mining activities in the canyon included the construction of a road through the canyon with bridges crossing the creek at either end. Both of these bridges have partially collapsed or shifted and now pose barriers to fish passage. This reach does not provide much fish habitat in its present form, however a pool adjacent to the lowest bridge does provide habitat with available cover inside the old culvert, this is site C4.

Reach #5 of Christal Creek begins at the Keno road crossing and extends for approximately 5 kms down to the canyon. The creek grows substantially from an average width of 1 m near the road to well over 3m before entering the canyon. The creek flows through a confined valley with a narrow flood plain. Substrates through this reach consist primarily of gravel mixed with boulders, cobbles and sand occur regularly and organic silts occur in backwater areas. Sparse willows and occasional black spruce in the upper reaches give way to denser stands that include white spruce and black poplar. This reach has many pools and riffle areas that could provide excellent fish habitat for grayling and sculpins. The pool areas become more common in the lower part of the reach. Sample site C5 is located at the Keno Road crossing at the upper end of this reach.

Reach #6 starts at the outlet of Christal Lake and flows 400m through a series of beaver ponds and slow deep channel [sic] before flowing through culverts under the Keno City Road. Outflow from the Galkeeno 900 adit enters Christal Creek at the start of this reach. The vegetation is typical of high altitudes and consists of sedges, Labrador tea, willows and black spruce. The substrates are entirely organic silts. Water depths vary between 0.5 and 2 meters. This reach has the potential to provide habitat to grayling and sculpins, the limiting factor to fish in this situation is most likely levels of heavy metals in the water.

3.2.3 Christal Lake

Christal Lake, a small sub-alpine lake has an organic silt bottom overlaying a heavy tailings sludge. The tailings likely were deposited in the lake between 1956 and 1958 when a Grizzley mill operated on the east shore of Christal Lake. Christal Lake recharges primarily through seepage and runoff from the surrounding hills. A small spring fed creek enters at the southern most end of the lake. Vegetation adjacent to the lake consists primarily of willows and alders. Some stunted black spruce grow along the shores.

Christal Lake has well developed aquatic vegetation that occurs as thick mats over much of the lake with depths less than 1 meter. The lake has consistent shallow depths with the deepest water being less than 3 meters. Beaver dams at the outlet of the lake control water levels in the lake. The quality of fish habitat available in Christal Lake likely relates to the levels of heavy metals in solution.

3.2.4 South McQuesten River

The South McQuesten River, within the study area flows as a meandering mountain river with several different flow regimes. The most predominant regimes being gravel/cobble bottomed riffles interspersed with glide areas and occasional deep, often silted pools. Old meander scrolls have created sloughs along much of the river and provide slack water habitats.

The reach between Flat and Haggart Creek has a variety of habitat types. The river valley opens and large wetland areas become associated with the river. Silted areas and grassy silt banks become more common, gravel and cobble substrates become less common, and in several areas, especially immediately upstream of Haggart, the river widens and flows slowly through deep glide areas.

Although most of the tributary water comes from creeks a large amount of ground water seeps into the river below the north face of Mount Haldane. This seepage enters the river for a significant distance and introduces a large volume of cool water.

The South McQuesten River provides many important habitats for Arctic grayling, including spawning and rearing.

Suitable habitat for Chinook spawning does exist in the South McQuesten River. DFO (1995 internal document) states that the river has strong winter flows necessary for over-wintering. Suitable habitat for fry rearing occurs in many places above Haggart Creek.

3.2.5 Lightning Creek

The reach of Lightning Creek surveyed extends from a point just below the town site of Keno City, then upstream to a point approximately 200 meters above the influence of the placer mined Thunder Gulch. Placer mining activities have greatly influenced all of Lightning Creek investigated in this survey. The placer mining operation at Thunder Gulch operated during 1994 investigations but was idle during the spring of 1995.

The reach between Keno City and the confluence of Lightning Creek with Duncan Creek was investigated during summer investigations. This reach of creek has been extensively placer mined during recent history. For the most part the creek through this reach has been straightened and ditched. No habitat reclamation was evident and the present condition of the creek does not offer much suitable fish habitat. The lower most 200 meters of the creek has been allowed to flow around old gravel piles creating meanders and pools and a margin of fish habitat.

3.3 HABITAT UTILIZATION

3.3.1 Flat Creek

During fall and surnmer investigations young of the year grayling, sculpins, burbot and pike were found in the lowest reaches of the creek, the presence of these species declined quickly away from the mouth of the creek. As with Christal Creek a deep pool near the mouth was utilized by grayling fry, however this utilization did not extend upstream more than 20 meters and was not as extensive as at the mouth of Christal Creek. No fish were observed or encountered in the mid or upper reaches of this creek. Slimy sculpins comprised 63% of the fish

present in Reach #1, and grayling fry 36% (Figure 5). Sculpins comprised 97% of the fish found in Reach #2 (Figure 6), and 73% of the fish recorded in the entire of Flat Creek (Figure 7).

Habitat does exist in Reach # 3 that could potentially support summer resident Arctic grayling, this habitat lies between the beaver dams at the end of the open wetland areas and in small pools along the creeks course were it passes through mature spruce forests. This habitat did not appear to be utilized during our investigations.

Spring utilization of Flat Creek was not extensive, however grayling fry and sculpins had moved into the mouth area by early June. No fish were found in Flat Creek during late May, suggesting that winter use of this habitat does not occur or is limited.

3.3.2 Christal Creek

Juvenile Arctic grayling, burbot, slimy sculpins and a single adult grayling were recorded in Reach #1 of Christal Creek during summer and fall investigations and no fish were recorded in this reach during spring investigations. The pool areas in Reach #1 were the most heavily utilized areas of Christal Creek. Grayling fry comprised 96% of the fish recorded in this reach (Figure 8).

Adult Arctic grayling were found utilizing larger pool areas in Reach #2, and in the pool below the obstruction located at the bottom of the canyon area. Adult Arctic grayling were observed utilizing this pool in August of 1994 by Environmental Protection personnel (Davidge per com, 1995). The pool below the obstruction bridge likely provides good habitat because of the cover offered by the collapsed wooden culverts. Adult grayling comprised 53% of the fish recorded in Christal Creek excluding the mouth area (Figure 9).

Slimy sculpins were the only fish found above the obstruction in Reach #4. These were not found in abundance, sculpins comprised only 9% of all fish recorded in Christal Creek (Figure 10).

Christal Creek showed a major thermal difference to the adjacent South McQuesten River during the spring of 1995. Severe ice daming [sic] on the creek during the winter caused ice build-ups that persisted until early July, water temperatures at the mouth of Christal Creek remained near 1° while temperatures in the South McQuesten had risen to over 10° (Table 10). This may in part explain a lack of any grayling being found in the creek during spring investigations. Although Christal Creek has potential spawning habitat for Arctic grayling the cold water temperatures make it unlikely that grayling would have used that habitat during the 1995 season.

3.3.3 Christal Lake

Several large adult slimy sculpin (max. 17 gr) were captured from the lake during the fall investigations. A specimen that appeared to be considerably larger than any we captured was observed when a Belted King Fisher attempted to eat the specimen, the bird was unsuccessfid in its attempt to swallow the fish due to the fishes [sic] large size. No other species of fish were found utilizing the lake.

3.3.4 South McQuesten River

All fish species recorded in this study were encountered in the South McQuesten River.

The section of river adjacent to the mine site provides a full range of habitats necessary for most life stages of the species listed in this report other than the salmon.

Arctic grayling were the most common species recorded near the outlet of McQuesten Lake (Figure 11). Species composition between sites above Christal Creek and those below Christal to just below Flat Creek had very little difference (Figures 12 and 13). Sculpins comprised over 50% of fish recorded in both of these areas. Sculpins remained the dominant species below Flat Creek (Figure 14), until the confluence with Haggart Creek where

grayling fry became the dominant species (Figure 15). The species composition of Haggart Creek (Figure 16) closely resembled that of the South McQuesten below the mouth of Haggert Creek. The majority of the samples for this analysis came from within the area of influence of Haggart Creek.

Grayling of all life stages were found, however the various life stages did use different habitats. Grayling spawning was observed to occur during mid-May. Adult gayling became more dispersed and less common after spawning had occurred. Grayling fry utilize most habitats found in this reach of river but were found predominantly associated with shallow riffle areas and at the mouths of clear water tributaries. Sub-adults utilized habitats with heavy cover or near deep water and were not common during spring investigations except near the mouth of Haggart Creek after the grayling had spawned (See section 3.4.2 for more information on Arctic grayling).

Seining yielded large numbers of sculpin at most locations. AU life stages were present, a fact to be expected as slimy sculpins tend to be mostly stationary in their habits.

Arctic lamprey were encountered in the South McQuesten at several locations. The majority of the lamprey encountered were found in areas with silty or muddy bottoms. Three distinct length classes were observed, amocoetes between 40 and 60 mm, between 90 and 105 mm, and a third class between 150 and 200 mm. None of the specimens observed were of the eyed life stage.

Longnose sucker fry were present upstream of Christal Creek, at the mouth of Haggart Creek and at several slack water areas between. Longnose sucker likely use the South McQuesten River for spawning during early spring.

Juvenile burbot were the only burbot captured in the South McQuesten River. Adults of this species may utilize larger pools or may move downstream to larger waters.

Northern pike were found dispersed through the reach of river studied, juveniles were more commonly observed than adults, however this may be due to selectivity of gear rather than occurrence.

Round whitefish were encountered in the South McQuesten River as an occasional species, most of the individuals recorded were young of the year and came from clean gravel riffle areas. Adults and sub-adults were encountered near cut bank areas but were not common.

A single lake chub was captured in a side pool upstream of Christal Creek at site SM1. A single least cisco fry was captured in the river just below McQuesten Lake.

Chinook salmon fry were observed in the South McQueston River, however none were found at any point above the mouth of Haggart Creek. The mouth of Haggart Creek was extensively used by chinook fry as was were the areas of the South McQuestcn downstream of Haggart and site SM11.

The area immediately below Haggart Creek was determined to be an important rearing area for chinook salmon, Arctic grayling and longnose suckers.

3.3.5 Lightning Creek

During both fall and summer investigations the reach of Creek above the influence of Thunder Gulch was utilized exclusively by adult Arctic grayling during our sampling. Sub-adult grayling were found below the influence of Thunder Gulch in the fall when the water was more turbid, a situation also reported by Gormican (1992), and likely relates to the less aggressive sub-adults seeking cover in the turbidity. These sub adults were found in the areas were the creek channel was allowed to meander. Areas with straight channels left from placer operations had no resident fish. Sub-adult grayling were observed in the fall near old bridge works near the town

of Keno. No fish were not found in the reach below the town site of Keno until the last 200 meters before Lightning Creek joins Duncan Creek. This site had sub-adult and juvenile Arctic grayling.

Placer mining was discontinued after the 1994 season on Thunder Gulch. A small pond below a recently mined area was utilized by adult and sub-adult Arctic grayling during the summer of 1995 as witnessed by good angling results. Efforts to capture fish from this pond during fall investigations were unsuccessful.

Slimy sculpins were conspicuously absent from Lightning Creek during all nvestigations.

3.4 FISH SPECIES DISTRIBUTION AND SYSTEMATICS

3.4.1 Chinook Salmon

Although the McQuesten River has been called an important chinook salmon river by DFO, documentation of chinook utilization of the South McQuesten River remain scant and all reports of salmon upstream of Haggart Creek remain unsubstantiated. DFO does agree that potential spawning habitat exists upstream of Haggart Creek and suggests that what appears to be old spawning dunes exist at the outlet of McQuesten Lake, these dunes do not seem to have been used recently(DFO 1995 internal document).

Milligan et al (1984) describe the Yukon River chinook salmon as having a life cycle that includes a freshwater rearing period of one to two years. The McQuesten does not appear much utilized by juveniles beyond the first year of growth. Underyearling chinook over-winter in the McQuesten and subsequently (at age 1) emigrate from this large tributary downstream either to sea or to other freshwater rearing and over-wintering habitat (Gormican et al, 1992).

Chinook salmon generally enter the McQuesten River some time towards the end of July each season, with spawning usually occurring sometime during the middle of August. A helicopter supported survey (Gormican et al, 1992) of the McQuesten River from its mouth to Oliver Creek (approximately 60 kms) was conducted on August 7,1990. A total of 294 adult chinook, 26 carcasses and 62 redds were observed on this survey. Spawning was far advanced at the time of the survey and females had left some of the redds. The count of fish and redds has been described as being a conservative estimate of actual numbers. The redds occurred in 13 "clumps" evenly distributed between the river mouth and Bear Creek. This survey did not include the South McQuesten River.

Attempts at capturing juvenile chinook salmon in the South McQuesten River near Elsa in this study, and in 1991 and '92 by DFO staff proved unsuccessful. The absence of chinook juveniles in this area may be due to a log jam located 1 km upstream of the Haggart Creek and McQuesten River confluence. A debate exists as to whether the logjam has created an effective barrier to all life stages of chinook salmon.

This logjam may prevent the passage of adult spawning salmon to spawning areas upstream of this site. Alternatively adult salmon may be showing an avoidance behavior to metal concentrations in the South McQuesten River and not going past Haggart Creek. Suitable spawning and rearing habitat for chinook salmon was observed during 1995 investigations on the South McQuesten River upstream of the mouth of Haggart Creek, but at this point in time it does not appear to be utilized.

A single site on the mainstern of the McQuesten River was sampled during early June, 1995. The site sampled was approximately 500 meters upstream of the Klondike Highway crossing. This site has been recorded as a known chinook salmon spawning location. The purpose of investigating the lower McQuesten was to determine when chinook salmon fry had emerged. Seining and electro-shocking were conducted on June 1. Newly emerged chinook salmon fry were present and common, especially around submerged willow clumps. Yolk sacs had dropped and most fry captured were fully "zipped", indicating the emergence had occurred at least several days previous, dating the emergence near May 20.

Chinook salmon fry were determined to have emerged from the gravel in the lower McQuesten River during late May of 1995. Chinook have been documented emerging in the McQuesten River as early as May 10 in 1990 (Gormican et al, 1992).

Chinook salmon fry were found present in good number at the outlet of Haggart Creek and at sites downstream of the confluence with Haggart Creek. Salmon fry were not encountered upstream of Haggart Creek on the South McQuestcn River even though extensive effort was exerted to capture them in those waters.

3.4.2 Arctic Grayling

Large numbers of adult grayling were present in the South McQuesten River during early spring (mid May). Grayling spawning has been reported as occurring at a temperature of 7 to 10o C(Scott and Crossman 1973). The South McQuesten warmed early during the 1995 season and temperatures of >8o was reached during late May.

Large numbers of grayling were reported at the Haggart Creek mouth during early May. Employees of UKHM reported catching large numbers of fish at this site. Catch and release fishermen reported catches in excess of 150 adult grayling in a single days fishing. Similar large numbers of grayling were reported at the outlet of McQuesten Lake by area residents. Both of these areas had large numbers of fry during subsequent sampling and it is very likely that both of these sites are important spawning grounds for Arctic grayling. We suspect that grayling spawning, although concentrated at certain sites as described above, also occurred to a lesser degree at many sites throughout the river.

Several adult grayling were captured on May 21 and sacrificed, both females and males had spawned, spawning appeared to have occurred approximately 7-10 days previous. Stomach analysis from these grayling showed the adults to be actively eating their own eggs, a common occurrence. Several of these eggs had reached the eyed stage.

Grayling fry were found distributed throughout the study area during summer and fall investigations. The river provides large areas of suitable rearing habitat for young grayling. The most common areas to find large numbers of rearing fry was near clear water tributaries such as Flat and Christal Creeks and in association with riffle areas.

Adult grayling disperse throughout the system after spawning, with only a few remaining behind for the summer and fall seasons, some of these utilize Christal Creek. We assume that most of the adults move downstream to bigger waters. Sub adult grayling were dispersed throughout the river at all times during investigations, however were more common during summer and fall.

3.4.3 Rainbow trout

Attempts by the Calumet Fishing Society (defunct) were made to establish populations of rainbow trout in the Elsa area during the early 1960's, these attempts met with little to no success. The introductions were aimed at providing recreational opportunities for what was a large community of mine workers and their families (Walker et al 1973). Christal and Hanson Lakes (near the head waters of the South McQuesten River) were the lakes chosen for stocking.

The only record of the stocking program comes from DFO stream files. A review of correspondence from the late 1950's and early 1960's shows that stocking of Christal Lake with rainbow trout eggs was as follows; on June 1, 1961 with 35,000, on June 15,1961 with 13,000 and on July 7,1962 with 13,000 eggs. Test netting during 1962 and '63 caught no rainbow trout and the introduction was not considered a success.

Hanson Lakes, the second choice for stocking were treated with 'poizon' as it was determined to be "absolutely necessary that the two major species inhabiting the take, northern pike and lake whitefish, be eradicated if

rainbow trout were to be established". Lower Hanson Lakes was determined to be more suitable for the introduction of rainbow trout, however both lakes were poisoned with toxaphene at a concentration of 0.006 ppm in July of 1963. Rotenone was used to poison the outlet and two inlet streams prior to introducing rainbow trout.

Hanson Lakes were planted with rainbow trout eggs as follows: in 1965 (100,000 eggs), 1966 (100,000 eggs), and 1968 (150,000 eyed eggs). Survival at the time of planting was observed, however any continued survival has not been reported.

The most lasting result of the attempts to establish rainbow trout in Hanson Lakes was the extirpation of the rare species of whitefish known as the Squanga whitefish, a sub-species of the lake whitefish that did reside in 5 water bodies within the Yukon Territory, including Hanson Lakes. The Hanson Lakes population was extirpated during the poisoning of the lake prior to the rainbow trout introductions (Bodaly et al, 1987). The remaining four populations have been assigned "rare" status by international convention.

3.5 HEAVY METAL ANALYSIS

Analysis of fish tissue, fish livers and whole fish samples (Tables 9 and 10) showed that fish from Christal Creek and Lake had the highest levels of most metals sampled for. Flat creek had elevated levels but those levels were lower than fish from Christal Creek. The samples taken from the South McQuesten River above the mouth of Christal Creek had the lowest levels of the fish sampled during this study. All fish sampled in this study had high levels of zinc compared to samples taken firom other waters of the Yukon (Table 11).

Sculpins from Christal Creek and Christal Lake have extremely high levels of zinc present in their flesh. A single specimen captured near the Keno City road crossing of Christal Creek had dramatically high levels of most metals, zinc was present at a level of 853 ppm. This specimen was not a healthy looking individual and its weight was light in proportion to its length. Specimens from Christal Lake had zinc levels ranging from 314 to 365 ppm. The levels recorded fTom the head waters of Christal Creek represent the highest zinc levels found in this investigation. The threshold values established by the Canadian Government for edible meat for zinc is 100 ppm (CCREM 1987).

Sculpins from Flat Creek had zinc levels ranging from 187 to 287 ppm, approximately 30% lower than levels from Christal. However, levels of copper and lead were considerably higher in Flat than those in Christal.

Levels of copper are approximately 100% higher in the liver samples as opposed to flesh samples. According to the federal guidelines for freshwater aquatic life (CCREM 1987)zinc bioaccumulates, but no evidence of biomagnification has been found. This report also states zinc concentrations are greater in benthic insects than in fish, and greater in omnivorous fish than in piscivorous species.

Results from the analysis of fish flesh taken from several other Yukon lakes showed levels of zinc in the flesh to be much lower than levels found in the livers, with livers being up to 4 times as high in concentrations. Grayling taken from site C4, presumably resident in that environment for most of the summer, had flesh concentrations of zinc that were as much as 2 times higher than those from the livers. The stomachs of these grayling showed that 90% of the diet of these fish was terrestrial insects.

Arctic grayling have been found to be one of the most sensitive fish species when exposed to various concentrations of zinc (Spear 1981). Fish have been found to avoid areas of even very low concentrations of zinc above background levels. Studies on the effects of zinc on fish have shown avoidance reactions to zinc at levels of 0.01 mg/l in rainbow trout and to copper at 0.004 mg/l in Atlantic salmon (Sprague 1964, 1968). Although Christal Creek waters have significantly higher zinc levels than those which fish have been shown to exhibit avoidance behavior to, grayling were found to be utilizing much of the creek and did not appear to be exhibiting

avoidance behavior. Pre-exposure to zinc has been shown to result in large increases in zinc tolerance (3 to 5 fold) (Anadu et al, 1989).

Various studies have shown that some fish can acclimatize to increased zinc levels. Fish that developed from eggs that were exposed to zinc had a higher tolerance to zinc than eggs not exposed to zinc . Adult fish that had been exposed to high total hardness prior to zinc exposure , were more tolerant than those at low total hardness (Moore et al 1984). Chapman (1978) observed significant acclimation to zinc in the one month alevin stage. Even though fish may acclimatize to lethal levels of zinc, chronic or sublethal effects can occur such as reduced growth and reproduction (Sprague 1971) Chronic effects of zinc toxicity include stress, poorly developed organs, inhibition of normal growth and severe hormonal disorders.

Water hardness has been shown to exhibit a significant effect on the toxicity of zinc to freshwater fish (Holcombe et al 1978, Sinley et al 1974, Lloyd 1962 and Mount 1966). In particular zinc has been shown to be more toxic in soft water than in hard water. It is thought that calcium may act competitively with zinc thereby reducing zinc uptake (Spear 1981). Falfs et al (1973) found that increased calcium content due to increased hardness decreased the sensitivity of the fish to zinc. It should be noted that water in Christal creek is hard to very hard.

Toxicity of zinc increases in the presence of other metals often producing an additive or synergistic effect, especially with copper (Taylor and Demayo 1980, Nriagu 1980). Toxicity of zinc also increases with a reduction in dissolved oxygen or a decrease in hardness, pK alkalinity, salinity, or suspended solids (Alabaster et al 1980, Nriagu 1980).

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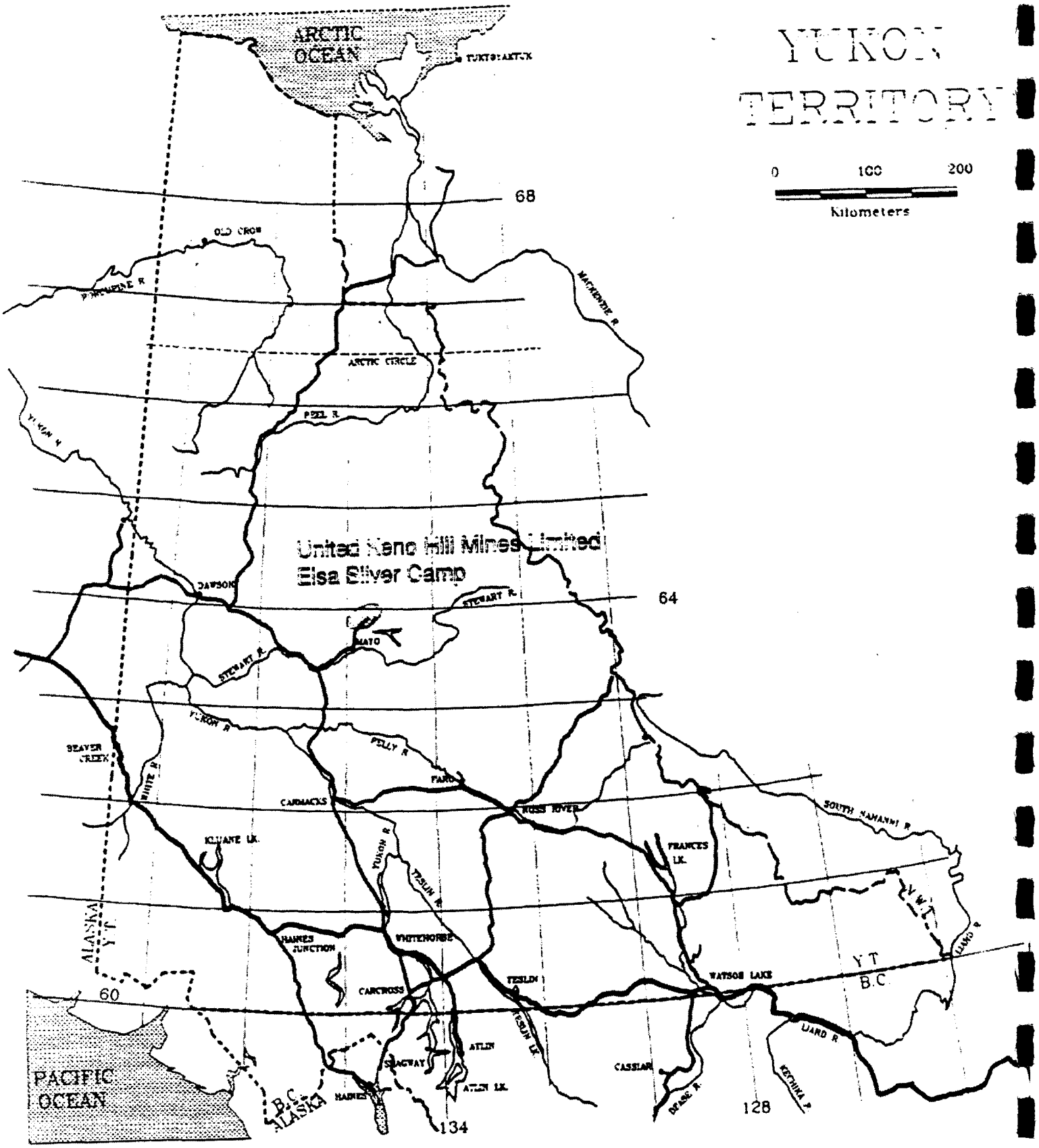
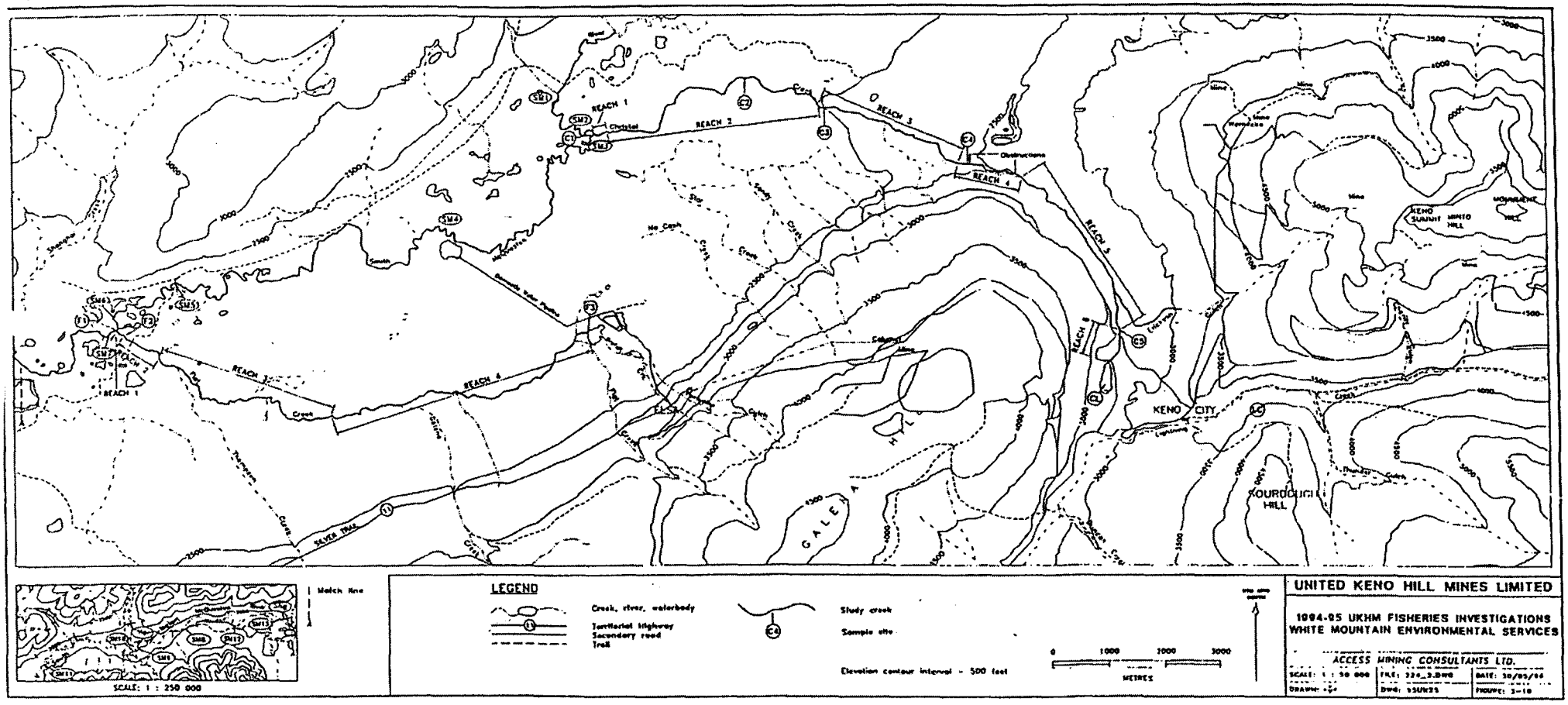


Figure 1 General location map, Elsa Silver Camp, Yukon.


REACH 1
REACH 2
REACH 3
REACH 4
REACH 5
REACH 6
REACH 7
REACH 8
KENO CITY
KENO SUMMIT
HINTO HILL
MONUMENT HILL
GALENA HILL
SILVER TRAIL
Obstructions
Chrystal Creek
Hornet Creek
Hornet Creek Diversion
Match line
SCALE: 1 : 250 000
LEGEND
Creek, river, waterbody
Territorial Highway
Secondary road
Trail
Study creek
Sample site
Elevation contour interval = 500 feet
0 1000 2000 3000
METRES
UNITED KENO HILL MINES LIMITED
1994-95 UKHM FISHERIES INVESTIGATIONS
WHITE MOUNTAIN ENVIRONMENTAL SERVICES
ACCESS MINING CONSULTANTS LTD.

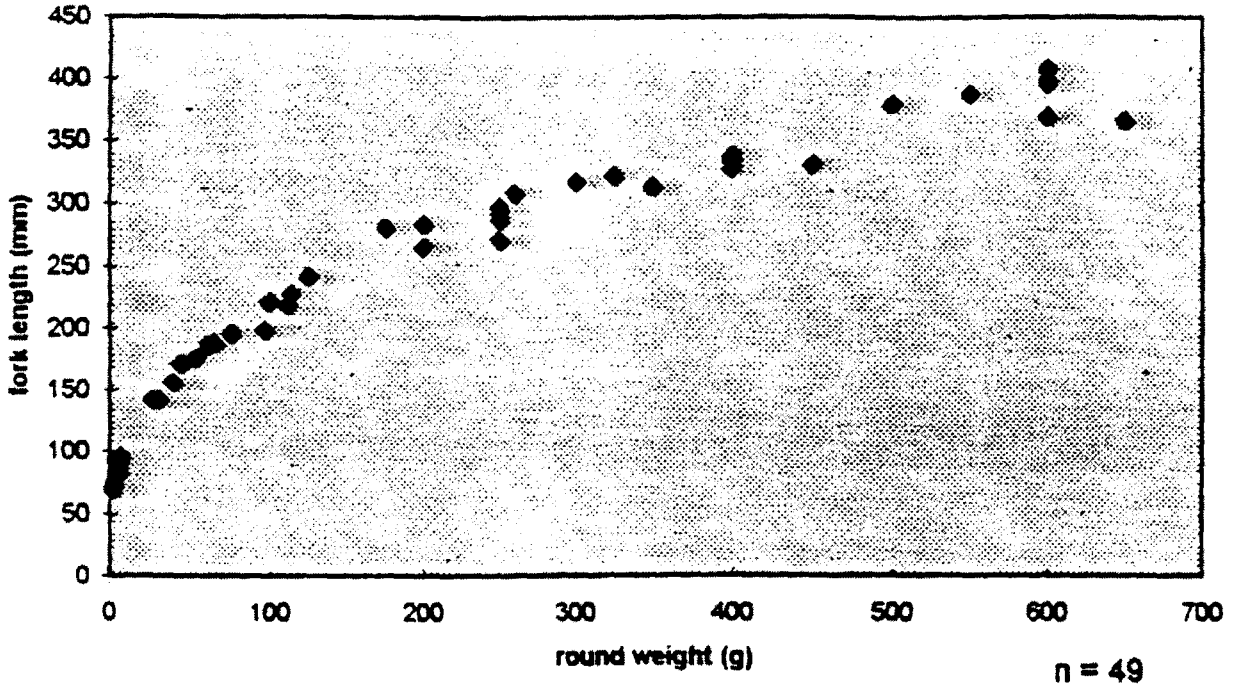


Figure 3 Length and weight correlation for Arctic grayling caught during 1994,'95, UKHM.

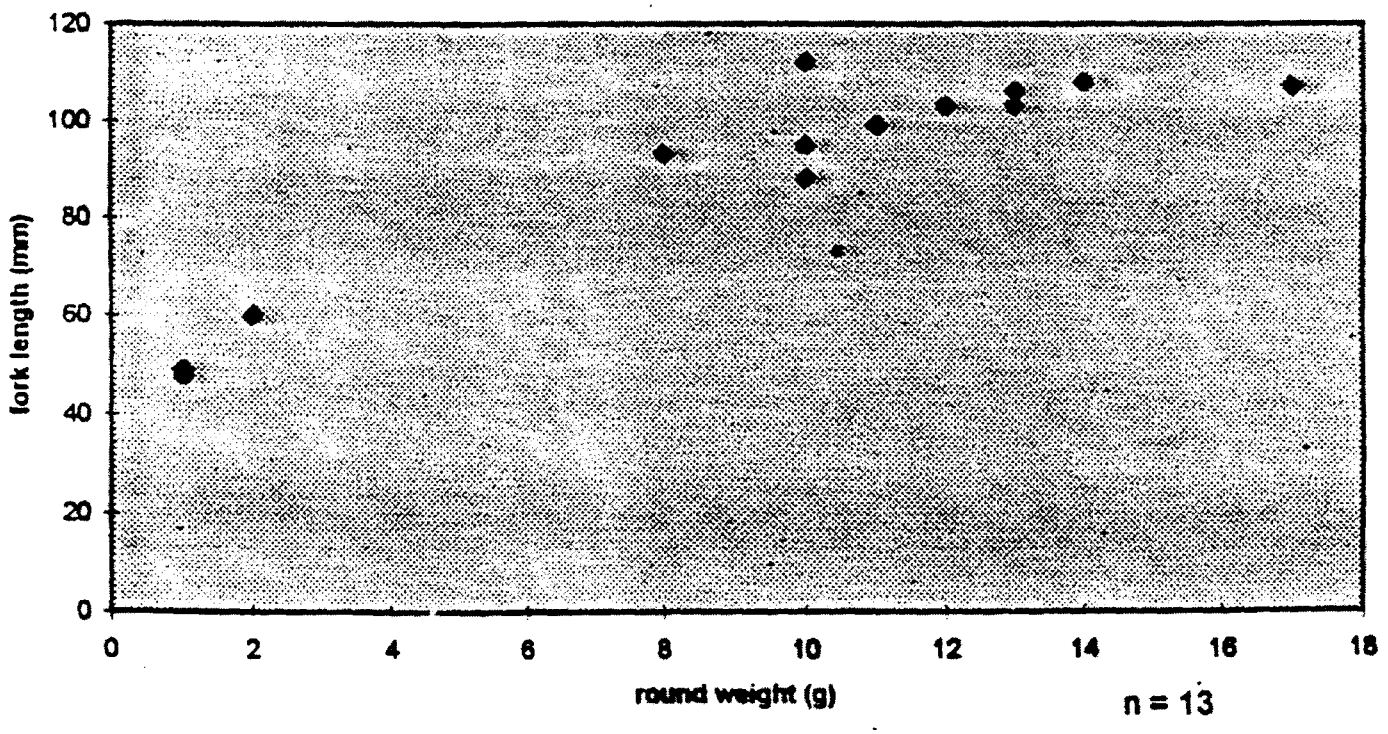


Figure 4 Length and weight correlation for slimy sculpin caught during 1994,'95, UKHM.

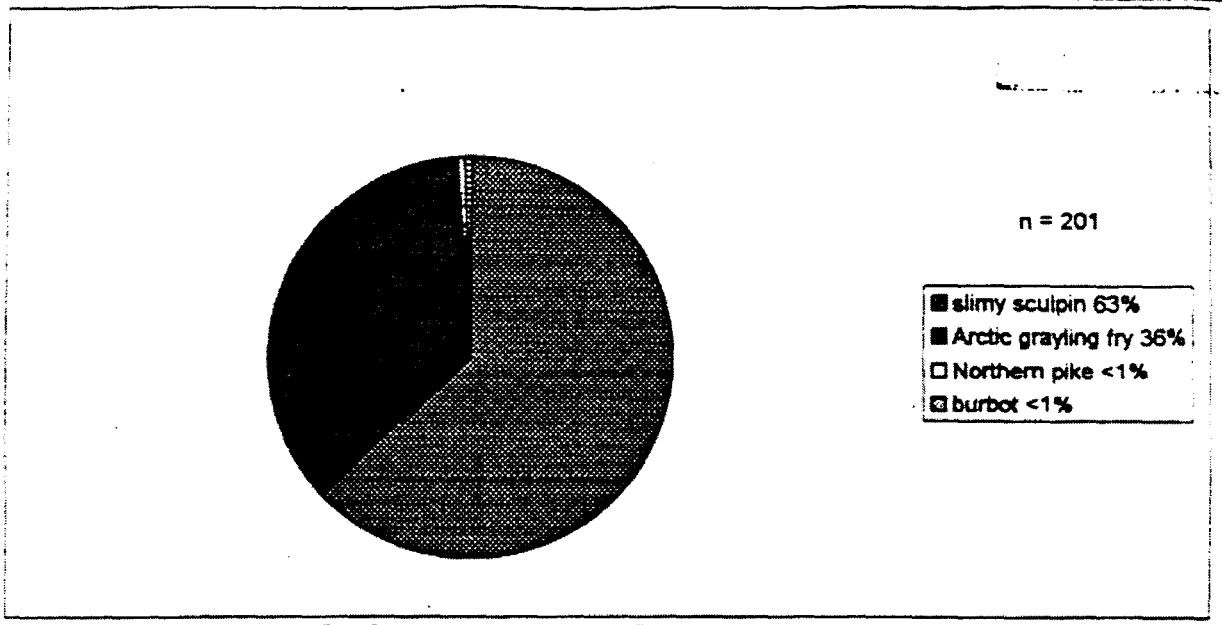


Figure 5 Species composition site F1

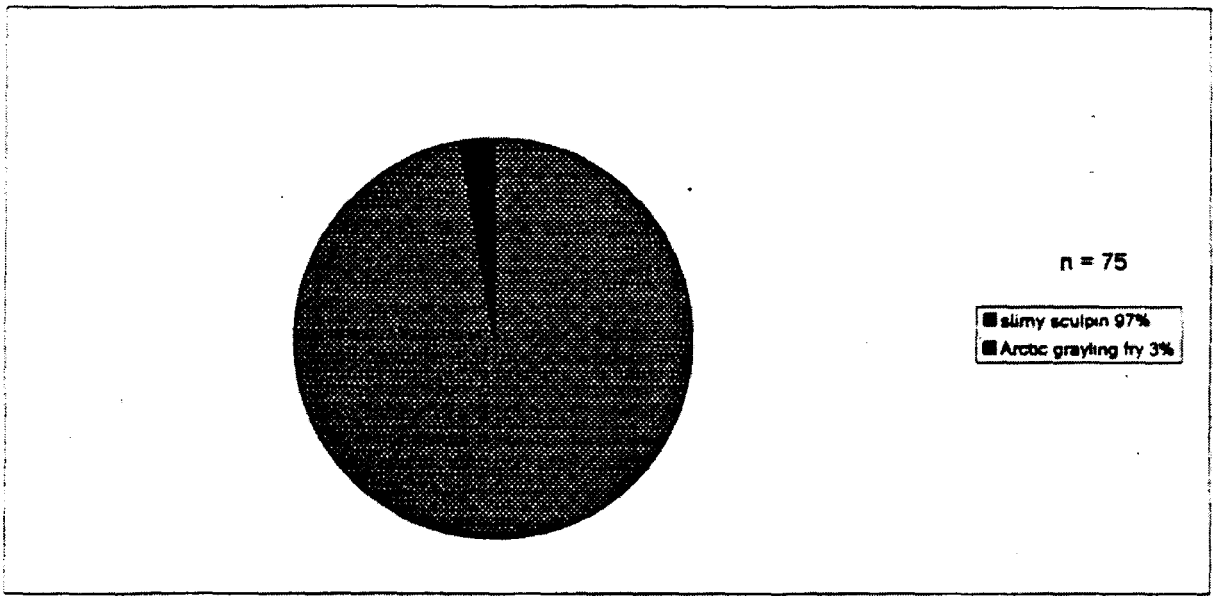


Figure 6 Species composition sites F2, F3 combined

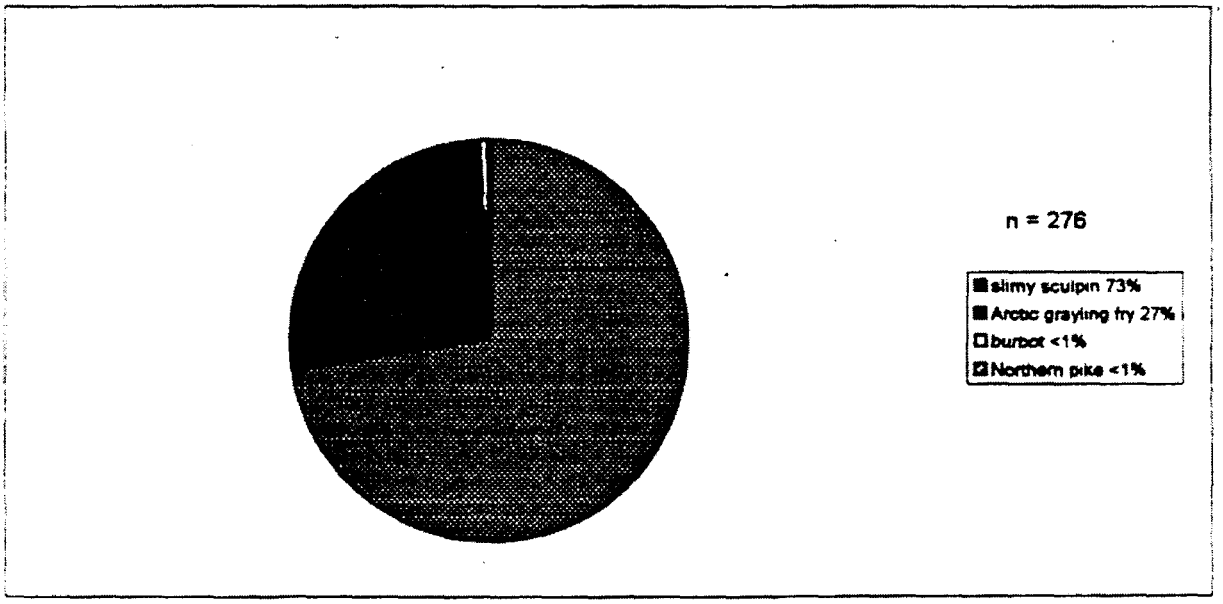


Figure 7 Species composition Flat Creek combined

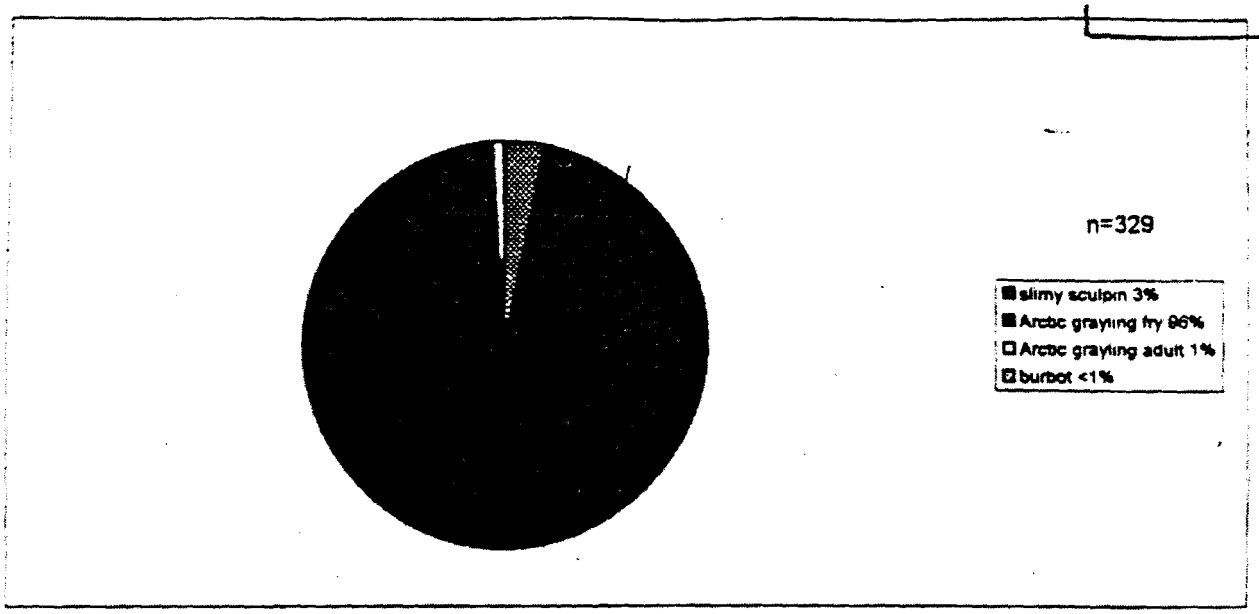


Figure 8 Species composition site C1

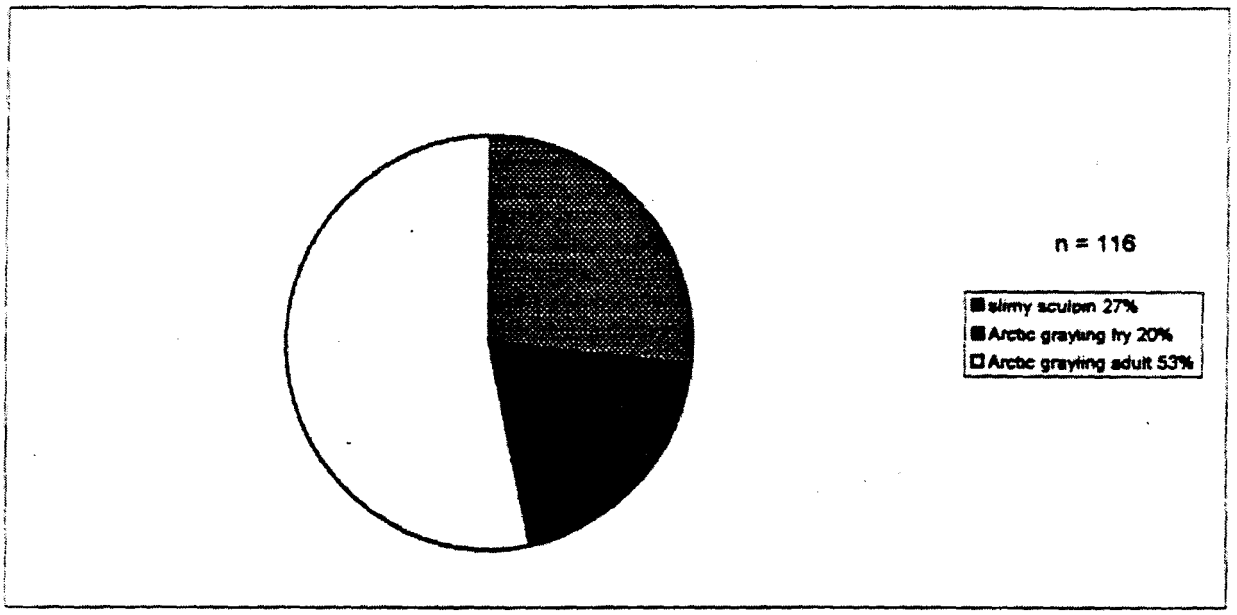


Figure 9 Species composition sites C2, C3, C4, C5 combined

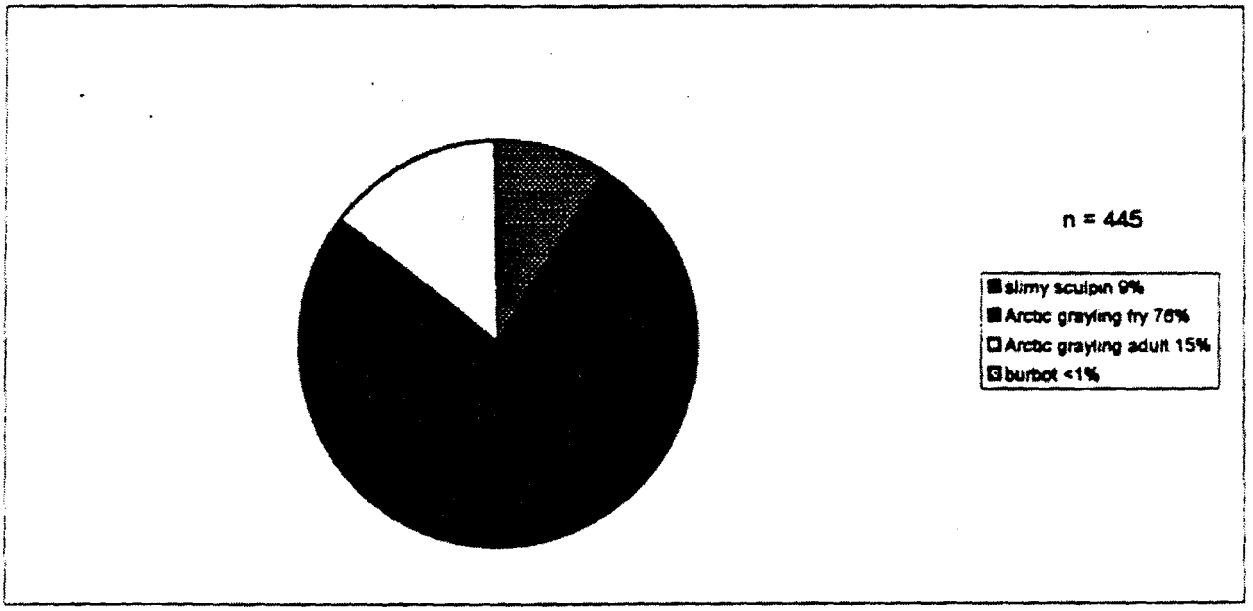


Figure 10 Species composition for Christal Creek combined

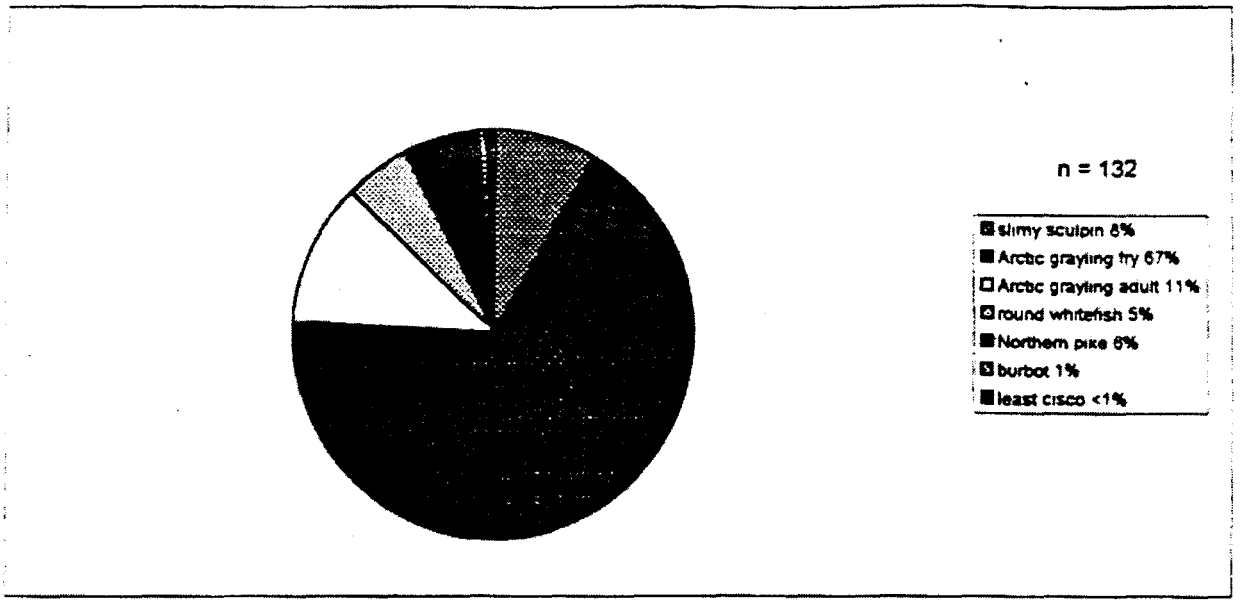


Figure 11 Species composition site SML

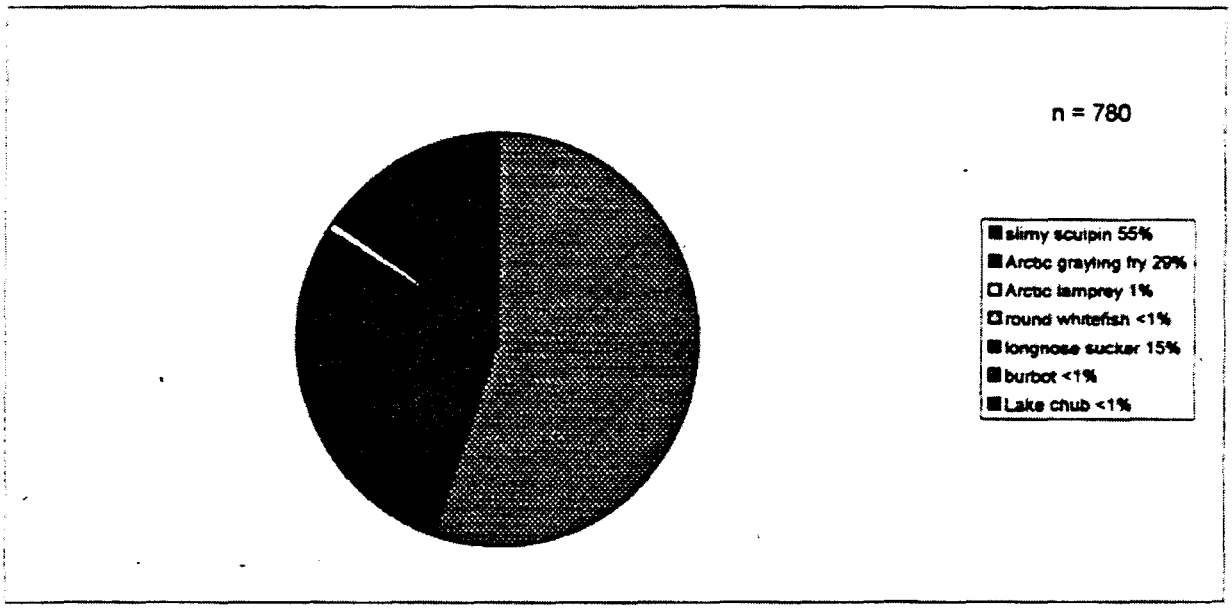


Figure 12 Species composition sites SM1, SM2

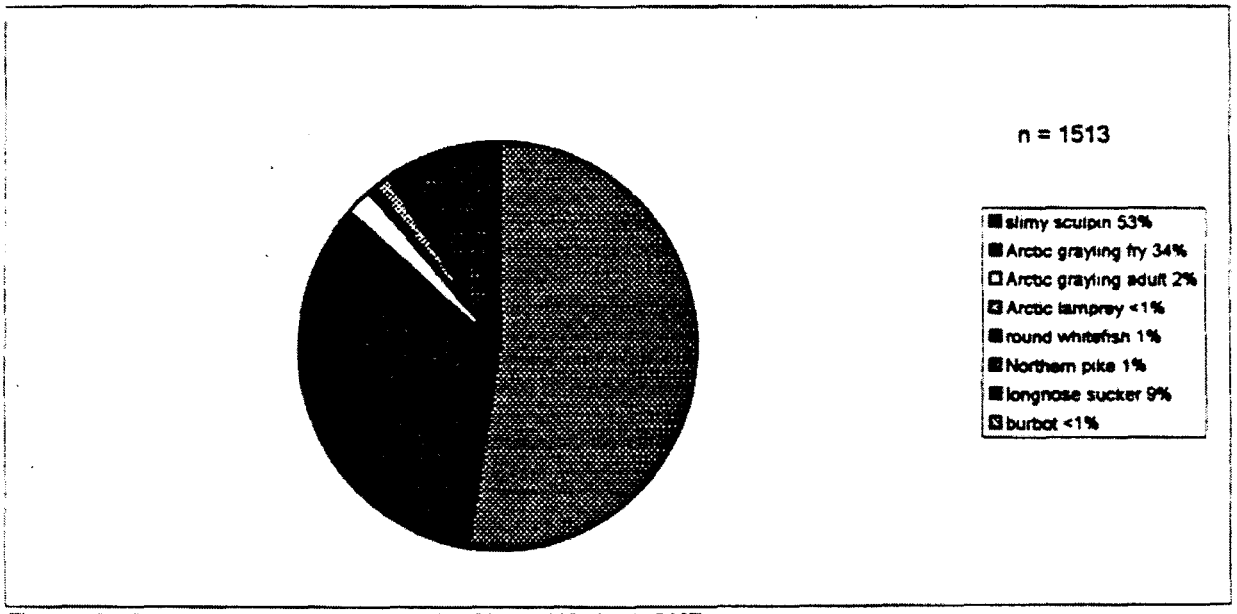


Figure 13 Species composition sites SM3, SM4, SM5, SM6, SM7.

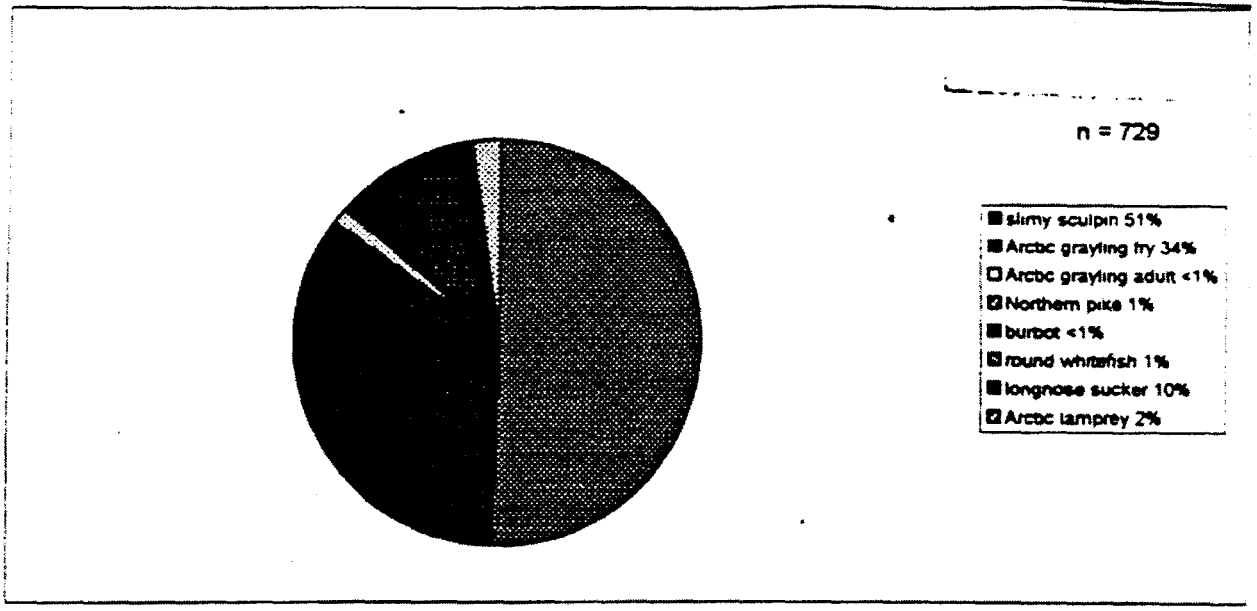


Figure 14: Species composition sites SM8, SM12, SM13

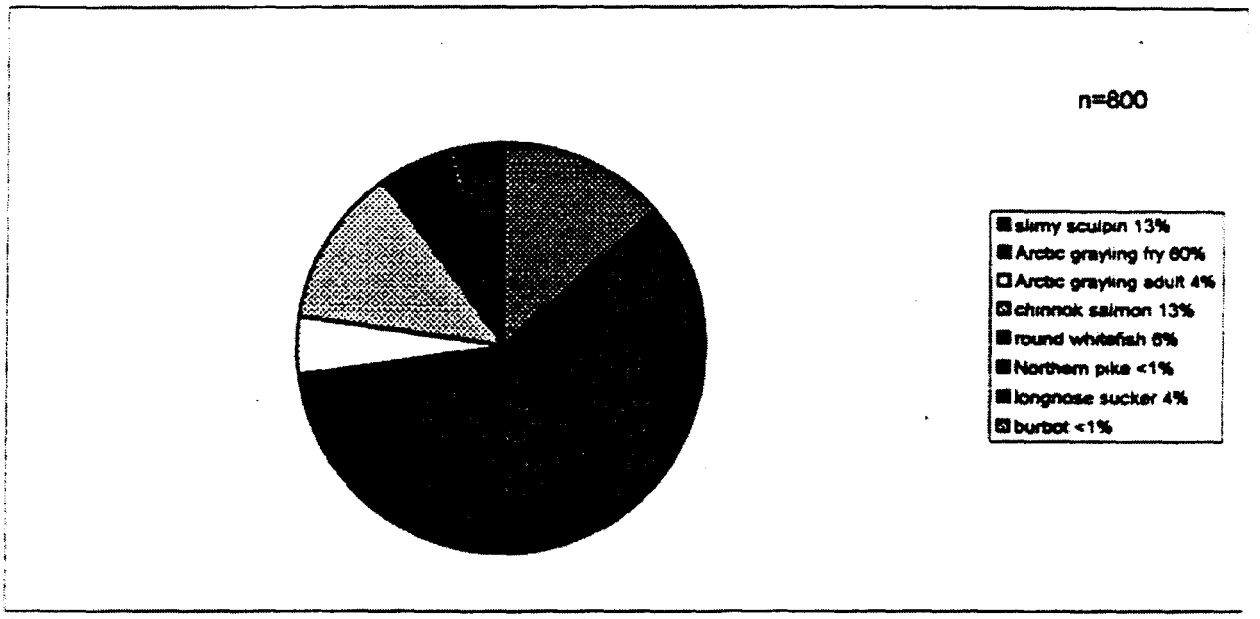


Figure 15: Species composition sites SM9, SM10, SM11

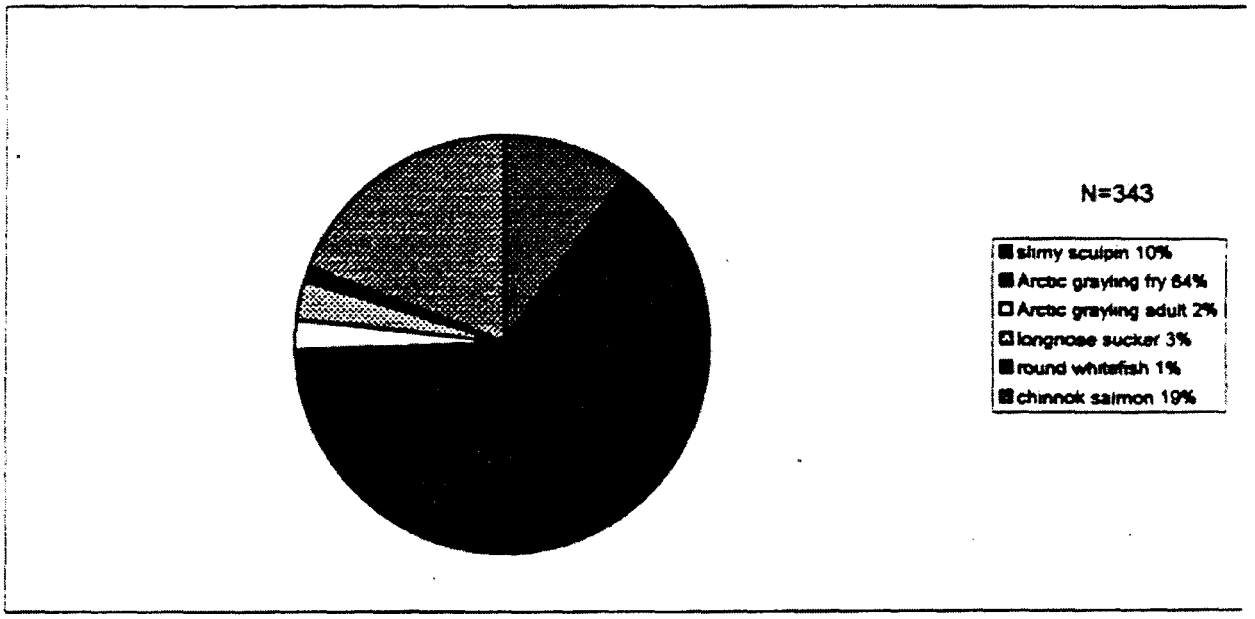


Figure 16: Species composition site Hg

Appendix A: Scientific names for fish species discussed in the habitat utilization and assessment studies conducted for UKHM.

COMMON NAME	SCIENTIFIC NAME
Chinook salmon	*Oncorhynchus tshawytscha* (Walbaum)
Slimy sculpin	*Cottus cognatus* (Richardson)
Arctic grayling	*Thymallus arcticus* (Pallas)
Burbot	*Lota lota* (Linnaeus)
Round whitefish	*Prosopium cylindraceum* (Pallus)
Arctic lamprey	*Lampetra japonica* (Martens)
Longnose sucker	*Catastomus catastomus* (Forster)
Northern pike	*Esox lucius* (Linnaeus)
Innconnu	*Stenodus leucichthys* (Guldenstadt)
Lake chub	*Couesius plumbeus* (Agassiz)
Least cisco	*Coregonus sardinella* (Valenciennes)
Chum salmon	*Oncorhynchus keta* (Walbaum)
Lake trout	*Salvelinus namayscush* (Walbaum)
Rainbow trout	*Oncoryhynchus mikiss* (formerly *Salmo gairdneri*)
Lake whitefish	*Coregonius clupeaformis* (Mitchill)

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Appendix B	Summary of fish recorded by method UKHM study 1994-95										
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
C1	seine	147									
	els	68		10	1						
	mnt										
	visual	100	1								
	angle		2								
	gillnet										
total		315	3	10	1	0	0	0	0	0	0
C2	seine										
	els			1							
	mnt										
	visual	22	32								
	angle		3								
	gillnet										
total		22	35	1	0	0	0	0	0	0	0
C3	seine										
	els	1									
	mnt										
	visual										
	angle										
	gillnet										
totals		1	0	0	0	0	0	0	0	0	0
C4	seine										
	els		9								
	mnt										
	visual		17								
	angle		1								
	gillnet										
total		0	27	0	0	0	0	0	0	0	0

Appendix B	Summary of fish recorded by method UKHM study 1994-95										
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
C5	seine			2							
	els			23							
	mnt			5							
	visual										
	angle										
	gillnet										
total		0	0	30	0	0	0	0	0	0	0
CL	seine										
	els										
	mnt			5							
	visual			1							
	angle										
	gillnet			4							
total		0	0	10	0	0	0	0	0	0	0
F1	seine	27		44		1					
	els	14		80	1						
	mnt	1		3							
	visual	30									
	angle										
	gillnet										
total		72	0	127	1	1	0	0	0	0	0
F2	seine										
	els	2		73							
	mnt										
	visual										
	angle										
	gillnet										
total		2	0	73	0	0	0	0	0	0	0

Appendix B		Summary of fish recorded by method UKHM study 1994-95									
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
Hg	seine	221	8	34			4	10	15		
	els										
	mnt								51		
	visual										
	angle										
	gillnet										
total		221	8	34	0	0	4	10	66	0	0
LC	seine		21								
	els										
	mnt										
	visual										
	angle		6								
	gillnet										
total		0	27	0	0	0	0	0	0	0	0
MQ	seine		1	9					17		
	els										
	mnt										
	visual										
	angle										
	gillnet										
total		0	1	9	0	0	0	0	17	0	0
SML	seine	89	10	11		2	7				1lco
	els										
	mnt					3					
	visual										
	angle		5			3					
	gillnet										
total		89	15	11	0	8	7	0	0	0	

Appendix B	Summary of fish recorded by method UKHM study 1994-95										
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
SM1	seine	143		55			1	50		5	1lch
	els	10		109	1					1	
	mnt			1							
	visual										
	angle										
	gillnet										
total		153	0	165	1	0	1	50	0	6	1
SM2	seine	63		139				30			
	els	8		127				21			
	mnt										
	visual							15			
	angle										
	gillnet										
total		71	0	266	0	0	0	66	0	0	0
SM3	seine	211	4	170			2	23		2	
	els	91		83	1	2		11		1	
	mnt										
	visual	100	5					100			
	angle										
	gillnet										
total		402	9	253	1	2	2	134	0	3	0
SM4	seine	34		148		2	1	1			
	els	2		59	1	6		1		2	
	mnt										
	visual		12								
	angle		7			1					
	gillnet										
total		36	19	207	1	9	1	2	0	2	0

Appendix B	Summary of fish recorded by method UKHM study 1994-95										
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
SM5	seine										
	els										
	mnt			1							
	visual										
	angle		4								
	gillnet										
total		0	4	1	0	0	0	0	0	0	0
SM6	seine	11		70		2		1			
	els	1		93	1	3					
	mnt										
	visual										
	angle		2								
	gillnet										
total		12	2	163	1	5	0	1	0	0	0
SM7	seine	148		74			1				
	els	3		97	1	3					
	mnt					1					
	visual					3					
	angle										
	gillnet										
total		151	0	171	1	7	1	0	0	0	0
SM8	seine	7		38		1		34			
	els			136	1						
	mnt					1					
	visual					6					
	angle		3								
	gillnet										
total		7	3	174	1	8	0	34	0	0	0

Appendix B	Summary of fish recorded by method UKHM study 1994-95										
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
SM9	seine	5	9	17				2			
	els			8							
	mnt				1				1		
	visual		3			1					
	angle					1					
	gillnet										
total		5	12	25	1	2	0	2	1	0	0
SM10	seine	419	15	95			39	21	26		
	els	3		15		1		7			
	mnt								49		
	visual		5			1					
	angle		2								
	gillnet										
total		422	22	110	0	2	39	28	75	0	0
SM11	seine	49		72			5		28		
	els										
	mnt										
	visual										
	angle										
	gillnet										
total		49	0	72	0	0	5	0	28	0	0
SM12	seine	91		66	1	1	3				
	els			58	1	1				17	
	mnt										
	visual										
	angle										
	gillnet										
total		91	0	124	2	2	3	0	0	17	0

Appendix B	Summary of fish recorded by method UKHM study 1994-95										
AG(f)= Arctic grayling fry, AG= Arctic grayling, SS= slimy sculpin, BB= burbot, NP= Northern pike											
RWF= round whitefish, LNS= longnose sucker, CH= chinnok salmon, AL= Arctic lamprey											
lco=least cisco, lch= lake chub.											
					# FISH CAUGHT						
SITE	METHOD	AG(f)	AG	SS	BB	NP	RWF	LNS	CH	AL	OTHER
SM13	seine	150		71			2	40			
	els										
	mnt										
	visual										
	angle										
	gillnet										
total		150	0	71	0	0	2	40	0	0	0
Shg	seine	3		4							
	els										
	mnt										
	visual	40									
	angle										
	gillnet										
total		43	0	4	0	0	0	0	0	0	0

APPENDIX C

Minnow trapping catch per unit effort for fall and spring, UKHM 1994-95

SS= slimy sculpin, AG= Arctic grayling, BB= burbot

					CPUE - #fish/24 hrs		
TRAP #	SITE	TIME SET	TIME LIFTED	HRS	SS	AG	BB
31	C1	9/07/94/1400hr	9/10/94/1500hr	72	0	0	0
32	C1	9/07/94/1400hr	9/10/94/1500hr	72	0	0	0
60	C3	5/19/95/1700hr	5/22/95/1600hr	71	0	0	0
61	C3	5/19/95/1700hr	5/22/95/1600hr	71	0	0	0
62	C3	5/19/95/1700hr	5/22/95/1600hr	71	0	0	0
63	C3	5/19/95/1700hr	5/22/95/1600hr	71	0	0	0
14	C3	9/05/94/1700hr	9/06/94/1120hr	18.5	0	0	0
15	C3	9/05/94/1711hr	9/06/94/1120hr	18.5	0	0	0
16	C3	9/05/94/1715hr	9/06/94/1600hr	23	0	0	0
17	C3	9/05/94/1720hr	9/06/94/1600hr	23	0	0	0
18	C3	9/05/94/1720hr	9/06/94/1600hr	23	0	0	0
36	C3	9/09/94/1600hr	9/11/94/1530hr	47.5	0	0	0
37	C3	9/09/94/1600hr	9/11/94/1530hr	47.5	0	0	0
38	C3	9/09/94/1600hr	9/11/94/1530hr	47.5	0	0	0
64	C4	5/19/95/1700hr	5/22/95/1600hr	71	0	0	0
65	C4	5/19/95/1700hr	5/22/95/1600hr	71	0	0	0
47	C4	9/11/94/1600hr	9/12/94/1500hr	23	0	0	0
48	C4	9/11/94/1600hr	9/12/94/1500hr	23	0	0	0
49	C4	9/11/94/1600hr	9/12/94/1500hr	23	0	0	0
66	C5	5/19/95/1800hr	5/21/95/1700hr	47	1.02	0	0
39	CL	9/10/94/1700hr	9/11/94/1500hr	22	0	0	0
40	CL	9/10/94/1700hr	9/11/94/1500hr	22	0	0	0
41	CL	9/10/94/1700hr	9/11/94/1500hr	22	0	0	0
42	CL	9/10/94/1700hr	9/09/94/1500hr	22	0	0	0
43	CL	9/11/94/1500hr	9/15/94/1600hr	97	0.49	0	0
44	CL	9/11/94/1500hr	9/15/94/1600hr	97	0	0	0
45	CL	9/11/94/1500hr	9/15/94/1600hr	97	0.25	0	0
46	CL	9/11/94/1500hr	9/15/94/1600hr	97	0.25	0	0
50	CL	9/12/94/1500hr	9/13/94/1000hr	19	0	0	0
51	CL	9/12/94/1500hr	9/13/94/1000hr	19	0	0	0
52	CL	9/12/94/1500hr	9/13/94/1000hr	19	0	0	0
53	CL	9/13/94/1000hr	9/15/94/1400hr	52	0	0	0
54	CL	9/13/94/1000hr	9/15/94/1400hr	52	0	0	0
55	CL	9/13/94/1000hr	9/15/94/1400hr	52	0	0	0
73	F1	5/20/95/0830hr	5/23/95/1400hr	77.5	0	0	0
74	F1	5/20/95/0830hr	5/23/95/1400hr	77.5	0	0	0
4	F1	9/05/94/0955hr	9/06/94/1535hr	29	0	0	0
5	F1	9/05/94/0955hrs	9/06/94/1535hr	29	0	0	0
22	F1	9/06/94/1530hr	9/08/94/0830hr	40	0	0	0
23	F1	9/06/94/1530hr	9/08/94/0830hr	40	0	0	0
79	F2	5/20/95/0900hr	5/23/95/1300hr	76	0	0	0
80	F2	5/20/95/0900hr	5/23/95/1300hr	76	0	0	0
1	F2	9/05/94/0920hr	9/06/94/1500hr	29	0	0	0
2	F2	9/05/94/0920hr	9/06/94/1800hr	32	0	0	0
3	F2	9/05/94/0920hr	9/06/94/1800hr	32	0	0	0
21	F2	9/06/94/1530hr	9/08/94/0830hr	40	0	0	0
27	F2	9/06/94/1800hr	9/08/94/1100hr	41	1.17	0.59	0

APPENDIX D

Catch per unit effort for minnow trapping summer 1995, UKHM

			CPUE (#fish /24hrs)		
SITE	TIME SET	HRS	SS	NP	CH
C1	0930/7/15/95	24	0	0	0
C1	0930/7/15/95	24	0	0	0
C1	0930/7/15/95	24	0	0	0
C1	1000/7/15/95	23.5	0	0	0
C1	1130/7/16/95	21.5	0	0	0
C1/SM3	1130/7/16/95	21.5	0	0	0
C2	1200/7/15/95	22.5	0	0	0
C2	1200/7/15/95	22.5	0	0	0
C2	1200/7/15/95	22.5	0	0	0
C2	1030/7/16/95	23	0	0	0
C2	1030/7/16/95	23	0	0	0
C3	1300/7/15/95	22	0	0	0
C3	1300/7/15/95	22	0	0	0
C3	1300/7/15/95	19.5	0	0	0
C3	1300/7/15/95	19.5	0	0	0
C3	1300/7/15/95	22	0	0	0
C3	1100/7/16/95	23	0	0	0
C3	1100/7/16/95	23	0	0	0
C3	1100/7/16/95	23	0	0	0
C4	1400/7/15/95	20.5	0	0	0
C4	1400/7/15/95	20.5	0	0	0
C4	1400/7/15/95	20.5	0	0	0
C4	1400/7/15/95	20.5	0	0	0
C4	1400/7/15/95	20.5	0	0	0
C4	1400/7/15/95	20.5	0	0	0
C4	1115/7/16/95	23	0	0	0
C4	1115/7/16/95	23	0	0	0
C4	1115/7/16/95	23	0	0	0
C4	1115/7/16/95	23	0	0	0
C5	1600/7/15/95	24	0	0	0
C5	1600/7/15/95	24	1.00	0	0
C5	1600/7/15/95	24	2.00	0	0
C5	1600/7/15/95	24	0	0	0
C5	1600/7/16/95	19	2.53	0	0
C5	1600/7/16/95	19	0	0	0
C6	1600/7/16/95	19	0	0	0
C6	1600/7/16/95	19	0	0	0
CL	1500/7/15/95	25.5	0	0	0
CL	1500/7/15/95	25.5	0.94	0	0
CL	1500/7/15/95	25.5	0	0	0
CL	1630/7/16/95	18.5	0	0	0
CL	1630/7/16/95	18.5	0	0	0
CL	1630/7/16/95	18.5	0	0	0
F1	1400/7/17/95	27	0	0	0
F1	1400/7/17/95	27	0	0	0
F1	1400/7/17/95	27	0	0	0
F1	1400/7/17/95	27	0	0	0

Catch per unit effort for minnow trapping summer 1995, UKHM					
				CPUE (#fish /24hrs)	
SITE	TIME SET	HRS	SS	NP	CH
F1	1700/7/18/95	15.5	0	0	0
F1	1700/7/18/95	15.5	0	0	0
F1	1700/7/18/95	15.5	0	0	0
F1	1700/7/18/95	15.5	1.55	0	0
F2	1330/7/17/95	27.5	0	0	0
F2	1330/7/17/95	27.5	0	0	0
F2	1700/7/18/95	15.5	0	0	0
F3	1330/7/17/95	27.5	0	0	0
F3	1700/7/18/95	15.5	0	0	0
Hg	1000/7/19/95	23	0	0	7.30
Hg	1000/7/19/95	23	0	0	22.96
Hg	0900/7/20/95	24	0	0	21.00
Hg	0900/7/20/95	24	0	0	1.00
SM1	0930/7/16/95	23	0	0	0
SM1	0930/7/16/95	23	0	0	0
SM1	0930/7/16/95	23	0	0	0
SM10	1000/7/19/95	23	0	0	26.09
SM10	1000/7/19/95	23	0	0	16.70
SM10	1000/7/19/95	23	0	0	0
SM10	1000/7/19/95	23	0	0	0
SM10	0900/7/20/95	24.5	0	0	6.86
SM10	0900/7/20/95	24.5	0	0	0.98
SM10	0900/7/20/95	24.5	0	0	0
SM10	0900/7/20/95	24.5	0	0	0
SM3	1130/7/16/95	21.5	0	0	0
SM4	1200/7/16/95	24	0	0	0
SM4	1200/7/16/95	24	0	0	0
SM4	1200/7/16/95	24	0	0	0
SM4	1200/7/17/95	20.5	0	0	0
SM4	1200/7/17/95	20.5	0	0	0
SM4	1200/7/17/95	20.5	0	0	0
SM4	1200/7/17/95	20.5	0	0	0
SM4	1200/7/17/95	20.5	0	0	0
SM4	1200/7/17/95	20.5	0	0	0
SM5	1330/7/17/95	27.5	0	0	0
SM5	1330/7/17/95	27.5	0	0	0
SM5	1330/7/17/95	27.5	0	0	0
SM5	1400/7/17/95	27	0	0	0
SM5	1400/7/17/95	27	0	0	0
SM5	1700/7/18/95	15.5	0	0	0
SM5	1700/7/18/95	15.5	0	0	0
SM5	1700/7/18/95	15.5	0	0	0
SM5	1700/7/18/95	15.5	0	0	0
SM5	1700/7/18/95	15.5	0	0	0
SM6	1400/7/17/95	27	0	0	0
SM6	1400/7/17/95	27	0	0	0
SM6	1700/7/18/95	15.5	0	0	0
SM6	1700/7/18/95	15.5	0	0	0

Catch per unit effort for minnow trapping summer 1995, UKHM					
				CPUE (#fish /24hrs)	
SITE	TIME SET	HRS	SS	NP	CH
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	1.02	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM7	1100/7/20/95	23.5	0	0	0
SM8	1600/7/18/95	19	0	0	0
SM8	1600/7/18/95	19	0	0	0
SM8	1600/7/18/95	19	0	0	0
SM8	1600/7/18/95	19	0	0	0
SM8	1600/7/18/95	19	0	0	0
SM8	1600/7/18/95	19	0	1.26	0
SM8	1100/7/19/95	22.5	0	0	0
SM8	1100/7/19/95	22.5	0	0	0
SM8	1100/7/19/95	22.5	0	0	0
SM8	1100/7/19/95	22.5	0	0	0
SM8	1100/7/19/95	22.5	0	0	0
SM8	1100/7/19/95	22.5	0	0	0
SM9	1000/7/19/95	23	0	0	0
SM9	1000/7/19/95	23	0	0	0
SM9	1000/7/19/95	23	0	0	0
SM9	1000/7/19/95	23	0	0	1.04
SM9	0900/7/20/95	24	0	0	0
SM9	0900/7/20/95	24	0	0	0
SM9	0900/7/20/95	24	0	0	0
SM9	0900/7/20/95	24	0	0	0
SML	1730/7/17/95	24.5	0	0	0
SML	1800/7/17/95	24	0	0	0
SML	1800/7/17/95	24	0	0	0
SML	1800/7/17/95	24	0	0	0
SML	1730/7/17/95	24.5	0	0.98	0
SML	1800/7/18/95	23	0	2.09	0
SML	1800/7/18/95	23	0	0	0
SML	1800/7/18/95	23	0	0	0
SML	1800/7/18/95	23	0	0	0
SML	1800/7/18/95	23	0	0	0
SML(CC)	1700/7/17/95	25	0	0	0
SML(CC)	1800/7/18/95	23	0	0	0

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
9/7/94	c1	ag	91		sn
9/7/94	c1	ag	104		sn
9/7/94	c1	ag	107		sn
9/7/94	c1	ag	51		sn
9/7/94	c1	ag	89		sn
9/7/94	c1	ag	89		sn
9/7/94	c1	ag	101		sn
9/7/94	c1	ag	91		sn
9/7/94	c1	ag	82		sn
9/7/94	c1	ag	101		sn
9/7/94	c1	ag	101		sn
9/7/94	c1	ag	83		sn
9/7/94	c1	ag	88		sn
9/7/94	c1	ag	64		sn
9/7/94	c1	ag	74		sn
9/7/94	c1	ag	102		sn
9/7/94	c1	ag	61		sn
9/7/94	c1	ag	105		sn
9/7/94	c1	ag	78		sn
9/7/94	c1	ag	66		sn
9/7/94	c1	ag	83		sn
9/7/94	c1	ag	76		sn
9/7/94	c1	ag	78		sn
9/7/94	c1	ag	71		sn
9/7/94	c1	ag	93		sn
9/7/94	c1	ag	78		sn
9/7/94	c1	ag	90		sn
9/7/94	c1	ag	99		sn
9/7/94	c1	ag	100		sn
9/7/94	c1	ag	92		sn
9/7/94	c1	ag	96		sn
9/7/94	c1	ag	89		sn
9/7/94	c1	ag	89		sn
9/7/94	c1	ag	91		sn
9/7/94	c1	ag	69		sn
9/7/94	c1	ag	87		sn
9/7/94	c1	ag	91		sn
9/7/94	c1	ag	104		sn
9/7/94	c1	ag	78		sn
9/7/94	c1	ag	59		sn
9/7/94	c1	ag	71		sn
9/7/94	c1	ag	83		sn
9/7/94	c1	ag	89		sn
9/7/94	c1	ag	88		sn
9/7/94	c1	ag	94		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
9/7/94	c1	ag	104		sn.
9/7/94	c1	ag	93		sn
9/10/94	c1	ag	78		els
9/10/94	c1	ag	65		els
9/10/94	c1	ag	81		els
9/10/94	c1	ag	83		els
9/10/94	c1	ag	56		els
9/10/94	c1	ag	84		els
9/10/94	c1	ag	69		els
9/10/94	c1	ag	64		els
9/10/94	c1	bb	294		els
9/10/94	c1	ss	43		els
9/10/94	c1	ss	39		els
7/19/95	c1	al	44		sn
9/9/94	c2	ss	107	17	els
9/9/94	c2	ss	112	10	els
9/9/94	c2	ss	106	13	els
9/10/94	c3	ag	95	7	els
9/9/94	c4	ag	95	7	els
9/9/94	c4	ag	265	200	els
9/9/94	c4	ag	321	325	els
9/9/94	c4	ag	280	175	els
9/9/94	c4	ag	316	300	els
9/9/94	c4	ag	283	200	els
9/9/94	c4	ag	171	44	els
9/9/94	c4	ag	175	53	els
9/9/94	c4	ag	142	30	els
9/9/94	c4	ag	188	65	els
9/9/94	c4	ag	186	61	els
9/9/94	c4	ag	218	112	els
9/9/94	c4	ag	241	125	els
7/19/95	c4	ag	285		els
7/19/95	c4	ag	175		els
7/19/95	c4	ag	248		els
5/19/95	c5	ss	95	10	mnt
5/19/95	c5	ss	88	10	mnt
5/19/95	c5	ss	99		mnt
5/19/95	c5	ss	71		mnt
9/6/94	CL	ss	103	13	gn
9/6/94	CL	ss	99	11	gn
9/6/94	CL	ss	103	12	gn
9/6/94	CL	ss	108	14	gn
9/10/94	CL	ss	107		gn
9/11/94	CL	ss	48	1	mnt
9/11/94	CL	ss	49	1	mnt

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
9/11/94	CL	ss	60	2	mnt
9/11/94	CL	ss	93	8	mnt
9/6/94	f1	ag	64		sn
9/6/94	f1	ag	59		sn
9/6/94	f1	ag	63		sn
9/6/94	f1	ag	63		sn
9/6/94	f1	ag	53		sn
9/6/94	f1	ag	65		sn
9/6/94	f1	ag	62		sn
9/6/94	f1	ag	58		sn
9/6/94	f1	np	204		sn
9/6/94	f1	ss	73		sn
9/6/94	f1	ss	70		sn
9/6/94	f1	ss	67		sn
9/6/94	f1	ss	42		sn
9/6/94	f1	ss	40		sn
9/6/94	f1	ss	36		sn
9/6/94	f1	ss	49		sn
9/6/94	f1	ss	39		sn
9/6/94	f1	ss	43		sn
9/8/94	f1	ag	69	2	els
9/8/94	f1	ag	66		els
9/8/94	f1	ag	71		els
9/8/94	f1	ss	57		els
9/8/94	f1	ss	66		els
9/8/94	f1	ss	71		els
9/8/94	f1	ss	52		els
9/8/94	f1	ss	67		els
9/8/94	f1	ss	54		els
9/8/94	f1	ss	69		els
9/8/94	f1	ss	67		els
9/8/94	f1	ss	68		els
9/8/94	f1	ss	70		els
9/8/94	f1	ss	69		els
9/8/94	f1	ss	92		els
9/8/94	f1	ss	63		els
9/8/94	f1	ss	62		els
9/8/94	f1	ss	60		els
9/16/94	f1	ag	73		sn
9/16/94	f1	ag	67		sn
9/16/94	f1	ag	63		sn
9/16/94	f1	ag	66		sn
9/16/94	f1	ag	64		sn
9/16/94	f1	ag	76		sn
9/16/94	f1	ag	58		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
9/16/94	f1	ag	58		sn
9/16/94	f1	ss	40		sn
9/16/94	f1	ss	61		sn
9/16/94	f1	ss	35		sn
9/16/94	f1	ss	36		sn
9/16/94	f1	ss	37		sn
9/16/94	f1	ss	47		sn
9/16/94	f1	ss	67		sn
9/16/94	f1	ss	47		sn
9/16/94	f1	ss	78		sn
9/16/94	f1	ss	49		sn
9/16/94	f1	ss	34		sn
9/16/94	f1	ss	52		sn
9/16/94	f1	ss	39		sn
9/16/94	f1	ss	39		sn
9/16/94	f1	ss	42		sn
9/16/94	f1	ss	38		sn
7/17/95	f1	ag	51		sn
7/17/95	f1	ag	56		sn
7/17/95	f1	ag	49		sn
7/17/95	f1	ag	54		sn
7/17/95	f1	ag	55		sn
7/17/95	f1	ag	50		sn
7/17/95	f1	ag	47		sn
7/17/95	f1	ag	58		sn
7/17/95	f1	ag	47		sn
7/17/95	f1	ag	54		sn
7/20/95	f1	ag	59		sn
7/20/95	f1	ag	54		sn
7/20/95	f1	ag	71		sn
7/20/95	f1	ag	42		sn
7/20/95	f1	ag	49		sn
7/20/95	f1	ag	59		sn
7/20/95	f1	ag	55		sn
7/20/95	f1	ag	43		sn
7/20/95	f1	ag	42		sn
7/20/95	f1	ag	51		sn
7/20/95	f1	rwf	56		sn
9/8/94	f2	ag	71		mnt
9/8/94	f2	ss	101		mnt
9/8/94	f2	ss	67		mnt
6/2/95	hg	ag	66		sn
6/2/95	hg	ag	74		sn
6/2/95	hg	ag	79		sn
6/2/95	hg	rwf	72		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
6/2/95	hg	rwf	98		sn
6/2/95	hg	rwf	73		sn
6/2/95	hg	rwf	76		sn
7/18/95	hg	ag	49		sn
7/18/95	hg	ag	61		sn
7/18/95	hg	ag	48		sn
7/18/95	hg	ag	56		sn
7/18/95	hg	ag	53		sn
7/18/95	hg	ag	52		sn
7/18/95	hg	ag	47		sn
7/18/95	hg	ag	39		sn
7/18/95	hg	ag	48		sn
7/18/95	hg	ag	49		sn
7/18/95	hg	ag	42		sn
7/18/95	hg	ag	39		sn
7/18/95	hg	ch	64		sn
7/18/95	hg	ch	62		sn
7/18/95	hg	ch	61		sn
7/18/95	hg	ch	63		sn
7/18/95	hg	ch	59		sn
7/18/95	hg	ch	56		sn
7/18/95	hg	ch	62		sn
7/18/95	hg	ch	64		sn
7/18/95	hg	ch	62		sn
7/18/95	hg	ch	59		sn
7/18/95	hg	ch	49		sn
7/18/95	hg	ch	63		sn
7/18/95	hg	ch	59		sn
7/18/95	hg	ch	62		sn
7/18/95	hg	ch	54		sn
7/18/95	hg	lns	32		sn
7/18/95	hg	lns	49		sn
7/18/95	hg	lns	28		sn
7/18/95	hg	lns	29		sn
7/18/95	hg	lns	33		sn
7/18/95	hg	lns	38		sn
7/18/95	hg	lns	32		sn
9/15/94	LC	ag	333	400	bsn
9/15/94	LC	ag	312	350	bsn
9/15/94	LC	ag	296	250	bsn
9/15/94	LC	ag	270	250	bsn
9/15/94	LC	ag	207		sn
9/15/94	LC	ag	217		sn
9/15/94	LC	ag	178		sn
9/15/94	LC	ag	164		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
5/20/95	LC	ag	243		sn
7/14/95	LC	ag	185		sn
7/14/95	LC	ag	225		sn
7/14/95	LC	ag	165		bsn
7/14/95	LC	ag	325		bsn
7/16/95	LC	ag	115		sn
7/16/95	LC	ag	122		sn
7/16/95	LC	ag	122		sn
7/16/95	LC	ag	130		sn
7/20/95	LC	ag	250		bsn
7/20/95	LC	ag	382		bsn
7/20/95	LC	ag	315		angle
7/20/95	LC	ag	292		angle
7/20/95	LC	ag	305		angle
7/20/95	LC	ag	349		angle
7/20/95	LC	ag	234		sn
6/1/95	mq	ag	100		sn
6/1/95	mq	ch	39		sn
6/1/95	mq	ch	41		sn
6/1/95	mq	ch	43		sn
6/1/95	mq	ch	39		sn
6/1/95	mq	ch	37		sn
6/1/95	mq	ch	44		sn
6/1/95	mq	ch	39		sn
6/1/95	mq	ch	41		sn
6/1/95	mq	ch	38		sn
6/1/95	mq	ch	39		sn
8/4/95	Shg	ag	55		sn
8/4/95	Shg	ag	52		sn
8/4/95	Shg	ag	57		sn
9/5/94	sm1	ag	83	4	sn
9/5/94	sm1	ag	72	3	sn
9/5/94	sm1	ag	81	5	sn
9/5/94	sm1	ag	74	3	sn
9/5/94	sm1	ag	91	7	sn
9/5/94	sm1	ag	78	4	sn
9/5/94	sm1	ag	94	7	sn
9/5/94	sm1	lns	33		sn
9/5/94	sm1	ss	21		sn
9/5/94	sm1	ss	39		sn
9/5/94	sm1	ss	56		sn
9/5/94	sm1	ss	26		sn
9/5/94	sm1	ss	45		sn
9/5/94	sm1	ss	39		sn
9/5/94	sm1	ss	41		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
9/5/94	sm1	ss	43		sn
9/5/94	sm1	ss	21		sn
9/5/94	sm1	ss	60		sn
9/5/94	sm1	ss	64		sn
9/5/94	sm1	ss	43		sn
9/5/94	sm1	ss	41		sn
9/5/94	sm1	ss	52		sn
9/5/94	sm1	ss	22		sn
9/5/94	sm1	ss	21		sn
9/5/94	sm1	ss	48		sn
9/5/94	sm1	ss	23		sn
9/5/94	sm1	ss	44		sn
9/5/94	sm1	ss	56		sn
9/5/94	sm1	ss	42		sn
9/10/94	sm1	ag	84		els
9/15/94	sm1	ag	81		sn
9/15/94	sm1	ag	83		sn
9/15/94	sm1	ag	102		sn
9/15/94	sm1	ag	99		sn
9/15/94	sm1	ag	81		sn
9/15/94	sm1	ss	41		sn
9/15/94	sm1	ss	46		sn
9/15/94	sm1	ss	46		sn
9/15/94	sm1	ss	41		sn
9/16/94	sm1	ag	227	114	angle
9/16/94	sm1	ag	142	27	angle
9/16/94	sm1	ag	156	39	angle
9/16/94	sm1	ag	198	97	angle
9/16/94	sm1	ag	195	76	angle
7/15/95	sm1	ag	62		sn
7/15/95	sm1	ag	57		sn
7/15/95	sm1	ag	37		sn
7/15/95	sm1	ag	44		sn
7/15/95	sm1	ag	42		sn
7/15/95	sm1	ag	44		sn
7/15/95	sm1	ag	63		sn
7/15/95	sm1	ag	57		sn
7/15/95	sm1	ag	52		sn
7/15/95	sm1	ag	39		sn
7/15/95	sm1	ag	52		sn
7/15/95	sm1	ag	41		sn
7/15/95	sm1	ag	74		sn
7/15/95	sm1	ag	62		sn
7/15/95	sm1	ag	61		sn
7/15/95	sm1	ag	53		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
7/15/95	sm1	ag	55		sn
7/15/95	sm1	ag	47		sn
7/15/95	sm1	ag	49		sn
7/15/95	sm1	ag	51		sn
7/15/95	sm1	ag	44		sn
7/15/95	sm1	ag	42		sn
7/15/95	sm1	ag	46		sn
7/15/95	sm1	ag	43		sn
7/15/95	sm1	ag	53		sn
7/15/95	sm1	ag	68		sn
7/15/95	sm1	ag	63		sn
7/15/95	sm1	al	49		sn
7/15/95	sm1	al	42		sn
7/15/95	sm1	al	42		sn
7/15/95	sm1	al	59		sn
7/15/95	sm1	al	150		els
7/19/95	sm1	ag	62		sn
7/19/95	sm1	ag	93		sn
7/19/95	sm1	ag	51		sn
7/19/95	sm1	ag	44		sn
7/19/95	sm1	ag	57		sn
6/2/95	sm10	ag	63		sn
6/2/95	sm10	ag	62		sn
6/2/95	sm10	rwf	205		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	42		sn
7/18/95	sm10	ag	65		sn
7/18/95	sm10	ag	57		sn
7/18/95	sm10	ag	54		sn
7/18/95	sm10	ag	58		sn
7/18/95	sm10	ag	58		sn
7/18/95	sm10	ag	56		sn
7/18/95	sm10	ag	52		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	41		sn
7/18/95	sm10	ag	125		sn
7/18/95	sm10	ag	51		sn
7/18/95	sm10	ag	47		sn
7/18/95	sm10	ag	42		sn
7/18/95	sm10	ag	52		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	49		sn
7/18/95	sm10	ag	53		sn
7/18/95	sm10	ag	49		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
7/18/95	sm10	ag	45		sn
7/18/95	sm10	ag	51		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	54		sn
7/18/95	sm10	ag	48		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	60		sn
7/18/95	sm10	ag	62		sn
7/18/95	sm10	ag	48		sn
7/18/95	sm10	ag	71		sn
7/18/95	sm10	ag	48		sn
7/18/95	sm10	ag	58		sn
7/18/95	sm10	ch	59		sn
7/18/95	sm10	ch	58		sn
7/18/95	sm10	ch	57		sn
7/18/95	sm10	ch	66		sn
7/18/95	sm10	ch	70		sn
7/18/95	sm10	ch	72		sn
7/18/95	sm10	ch	58		sn
7/18/95	sm10	ch	61		sn
7/18/95	sm10	ch	67		sn
7/18/95	sm10	ch	66		sn
7/18/95	sm10	ch	61		sn
7/18/95	sm10	ch	58		sn
7/18/95	sm10	ch	55		sn
7/18/95	sm10	ch	62		sn
7/18/95	sm10	ch	59		sn
7/18/95	sm10	ch	59		sn
7/18/95	sm10	lns	27		sn
7/18/95	sm10	lns	28		sn
7/18/95	sm10	lns	24		sn
7/18/95	sm10	lns	22		sn
7/18/95	sm10	rwf	78		sn
7/18/95	sm10	rwf	61		sn
7/18/95	sm10	rwf	62		sn
7/18/95	sm10	rwf	56		sn
7/18/95	sm10	rwf	57		sn
7/18/95	sm10	rwf	68		sn
7/18/95	sm10	rwf	64		sn
7/18/95	sm10	rwf	61		sn
7/18/95	sm10	rwf	59		sn
7/18/95	sm10	rwf	61		sn
7/18/95	sm10	rwf	61		sn
7/18/95	sm10	rwf	63		sn
7/18/95	sm10	rwf	59		sn

APPENDIX E					
Summary of all fish sampled UKHM study 1994-95					
ag= Arctic grayling, ss= slimy sculpin, al= Arctic lamprey, rwf= round whitefish					
lns= longnose sucker, bb= burbot, ch= chinnok salmon, np= northern pike					
sn= seine, els= electrofishing, mnt= minnow trapping					
Date	Location	species	fork length (mm)	round weight (g)	method
7/20/95	sm10	ch	68		mnt
7/20/95	sm10	ch	63		mnt
7/20/95	sm10	ch	68		mnt
7/20/95	sm10	ch	75		mnt
7/20/95	sm10	ch	68		mnt
7/20/95	sm10	ch	69		mnt
7/20/95	sm10	ch	64		mnt
7/20/95	sm10	ch	63		mnt
7/20/95	sm10	ch	70		mnt
7/20/95	sm10	ch	62		mnt
7/20/95	sm10	ch	72		mnt
7/20/95	sm10	ch	73		mnt
7/20/95	sm10	ch	75		mnt
7/20/95	sm10	ch	66		mnt
7/20/95	sm10	ch	65		mnt
7/20/95	sm10	ch	66		mnt
7/20/95	sm10	ch	63		mnt
7/20/95	sm10	ch	64		mnt
7/20/95	sm10	ch	73		mnt
7/20/95	sm10	ch	62		mnt
7/20/95	sm10	ch	66		mnt
7/20/95	sm10	ch	64		mnt
7/20/95	sm10	ch	76		mnt
7/20/95	sm10	ch	62		mnt
7/20/95	sm10	ch	75		mnt
7/20/95	sm10	ch	64		mnt
7/20/95	sm10	ch	63		mnt
7/20/95	sm10	ch	67		mnt
7/20/95	sm10	ch	65		mnt
7/18/95	sm11	ag	58		sn
7/18/95	sm11	ag	53		sn
7/18/95	sm11	ag	48		sn
7/18/95	sm11	ag	49		sn
7/18/95	sm11	ag	43		sn
7/18/95	sm11	ag	59		sn
7/18/95	sm11	ag	53		sn
7/18/95	sm11	ag	52		sn
7/18/95	sm11	ag	53		sn
7/18/95	sm11	ag	54		sn
7/18/95	sm11	ag	59		sn
7/18/95	sm11	ag	61		sn
7/18/95	sm11	ag	53		sn
7/18/95	sm11	ag	54		sn
7/18/95	sm11	ag	55		sn
7/18/95	sm11	ag	49		sn