Figure 2.1

# Issaquah Creek Valley Ground Water Management Area Boundary

*Issaquah Creek Valley Ground Water Management Area*

REDMOND
BELLEVUE
Lake Sammamish
CARNATION
SNOQUALMIE
ISSAQUAH
Sikes Lake
Ames Lake
Langlois Lake
Pine Lake
Beaver Lake
Laughing Jacobs Lake
Yellow Lake
Rutherford Slough
Lake Alice
Lake Borst
Our Lake
Echo Lake
Lake Kathleen
Lake McDonald
Lake Desire
Spring Lake
Lake Youngs
Walsh Lake
Issaquah Creek
Redmond Wy
Redmond - Fall City Rd NE
Cahalee Wy NE
Duvall Rd NE
Fall City - Carnation Rd SE
228th Ave SE
Issaquah - Hobart Rd
SE May Valley Rd
Renton - Maple Valley Rd
Petrovitsky Rd
Renton - Issaquah Rd
Preston - Fall City Rd SE
Fall City - Snoqualmie Rd
SE 128th St
520
202
90
900
169
18
203

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWbase21 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

KING COUNTY
Department of Natural Resources

Figure 2.2

# Vicinity Map

*Issaquah Creek Valley Ground Water Management Area*

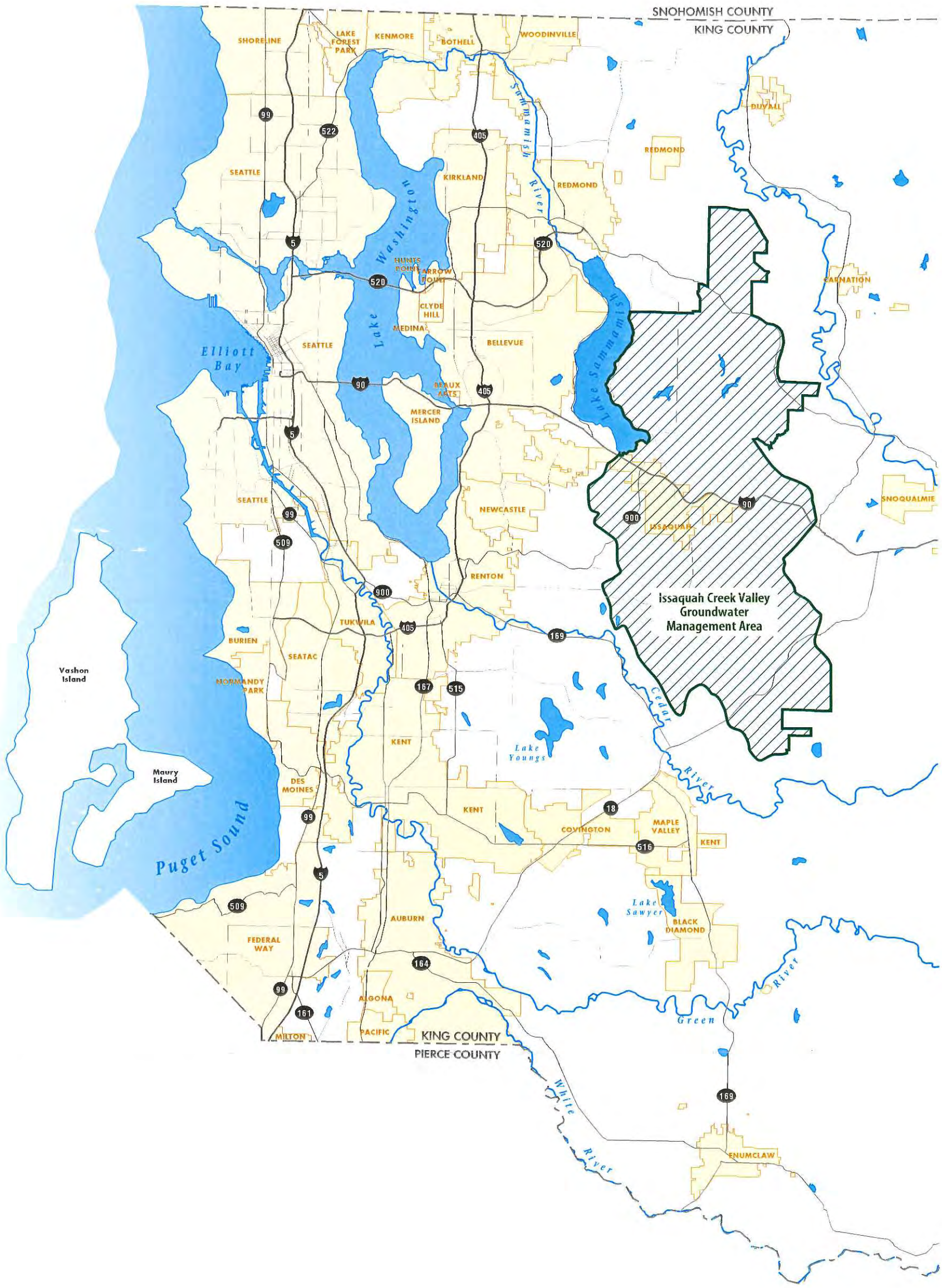
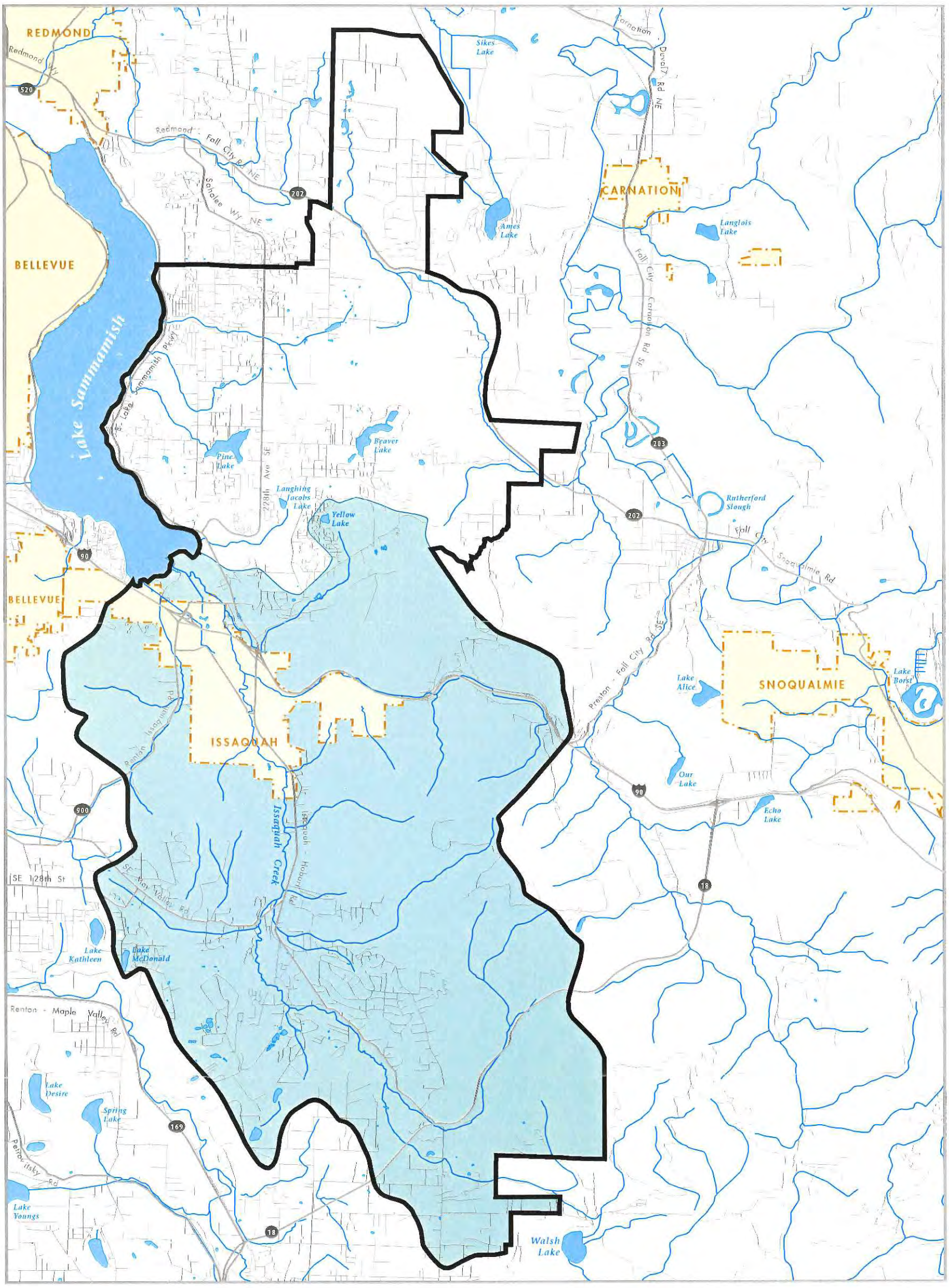


Figure 2.3

# Ground Water Management Planning Area Boundary Change

*Issaquah Creek Valley Ground Water Management Area*




Old Issaquah Creek Valley Groundwater Management Area (pre-1996)

New Issaquah Creek Valley Groundwater Management Area Boundary

Incorporated Area

Stream/Lake

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWbndryCOMP23 wg

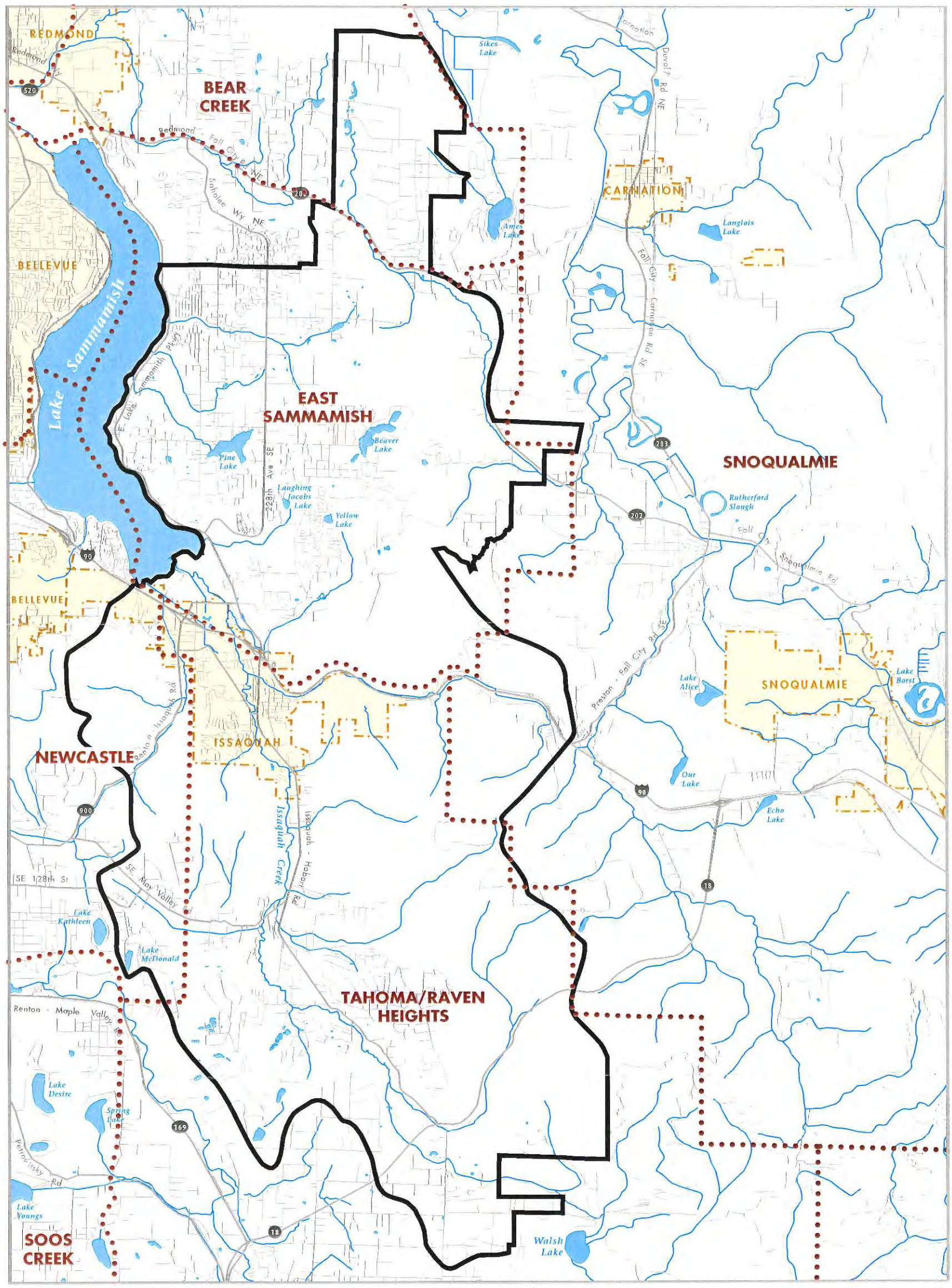
**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

King County
Department of Natural Resources

Figure 3.1

# Community Planning Areas

*Issaquah Creek Valley Ground Water Management Area*




Community Planning Area Boundary

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWcommPLAN31 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

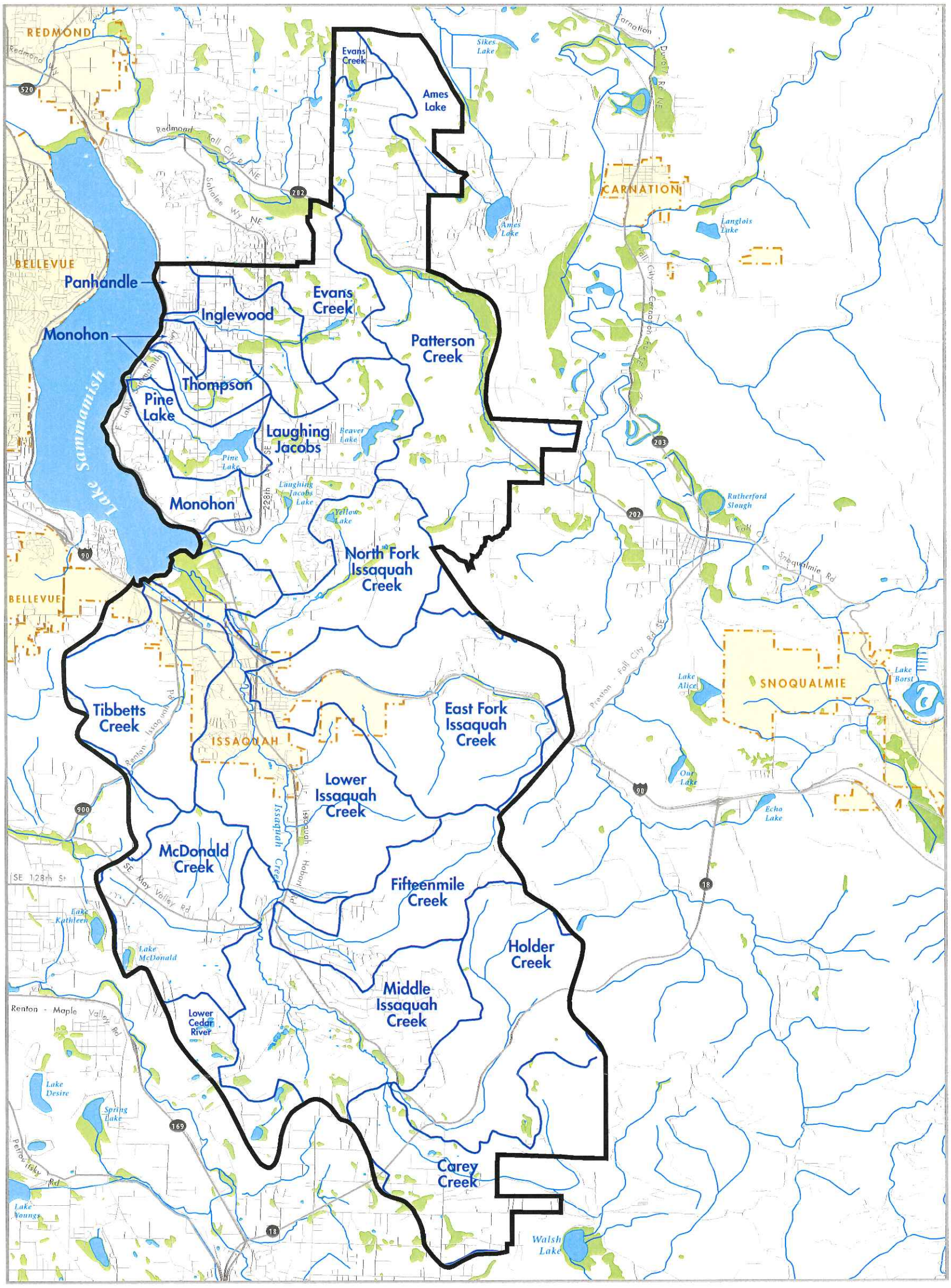
**Source:** King County Community Planning Area Index, DDES GIS

King County
Department of Natural Resources

Figure 4.1

# Surface Water Hydrology

*Issaquah Creek Valley Ground Water Management Area*




File name: 9903 IssGWsurfaceHYDR041 wg

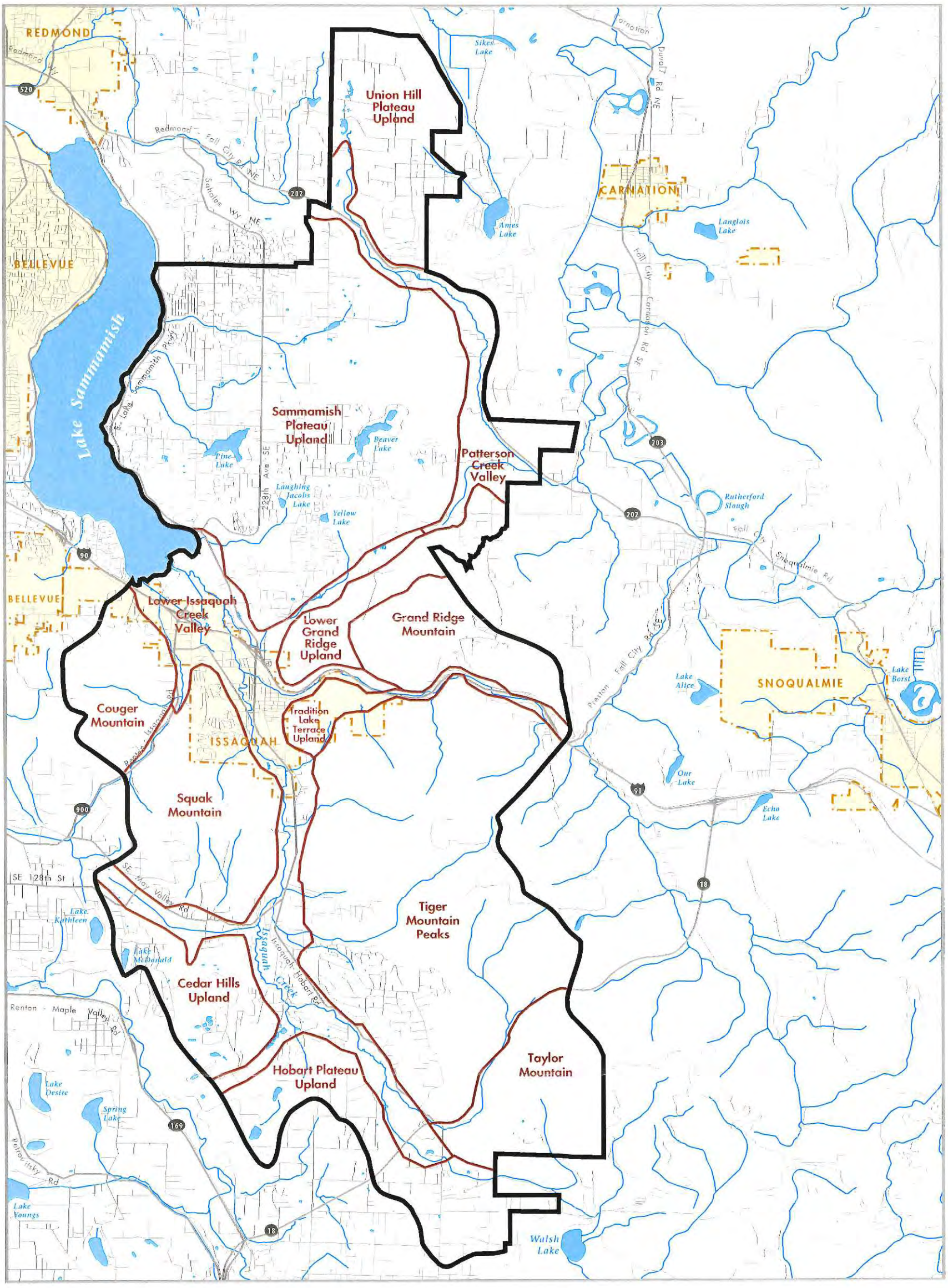
Produced by: Visual Communication & GIS Unit
King County Department of Natural Resources

King County
Department of Natural Resources

Figure 4.2

# Physiographic Map

*Issaquah Creek Valley Ground Water Management Area*




Physiographic Boundary

Stream/Lake

Groundwater Management Area

Incorporated Area

N

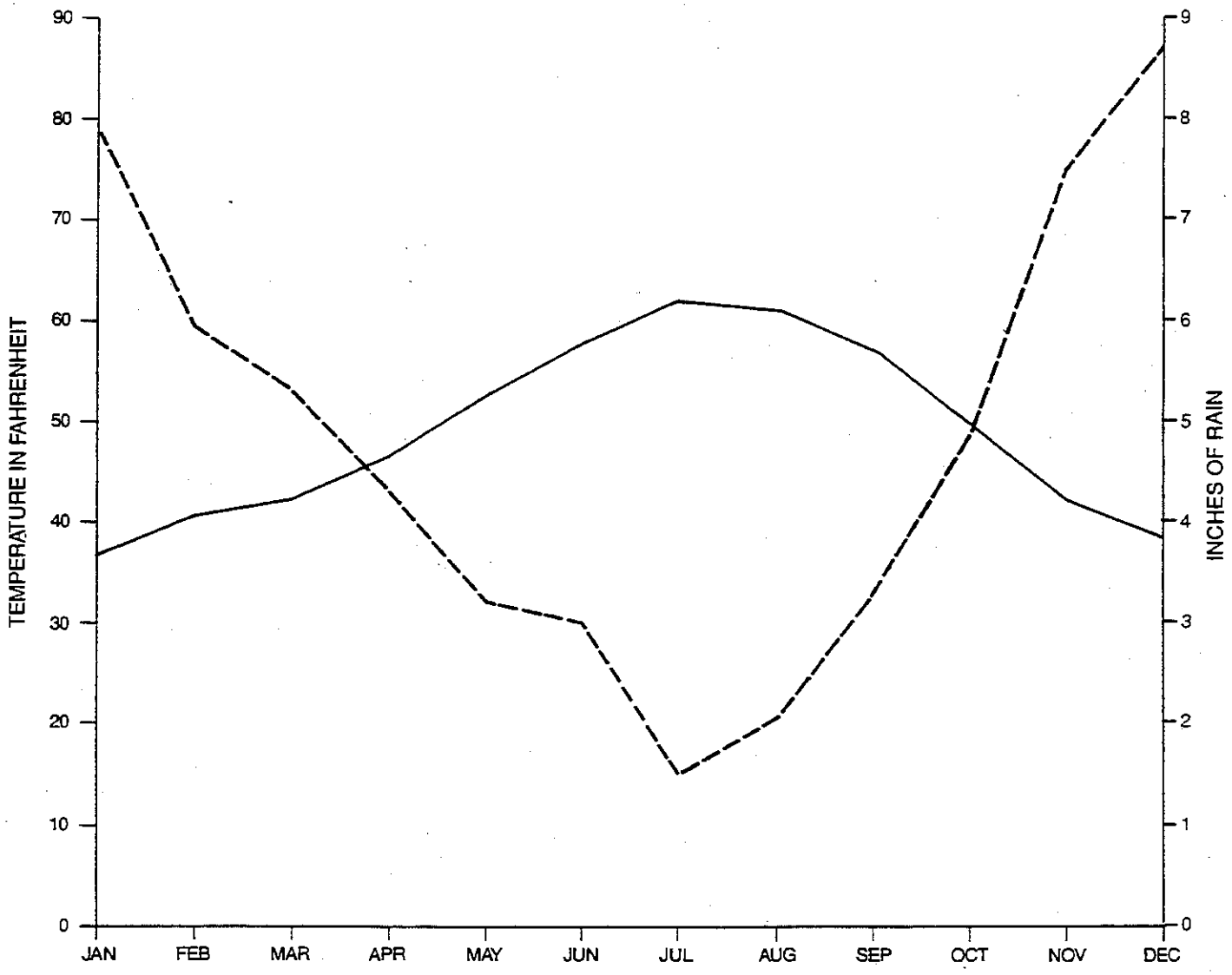
0 1 2 Miles

March 1999

**File name:** 9903 IssGWphysiographic42 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

King County
Department of Natural Resources




Note: Compiled from data collected from 1968-1988.

Source: NOAA 1988

Temperature

Precipitation

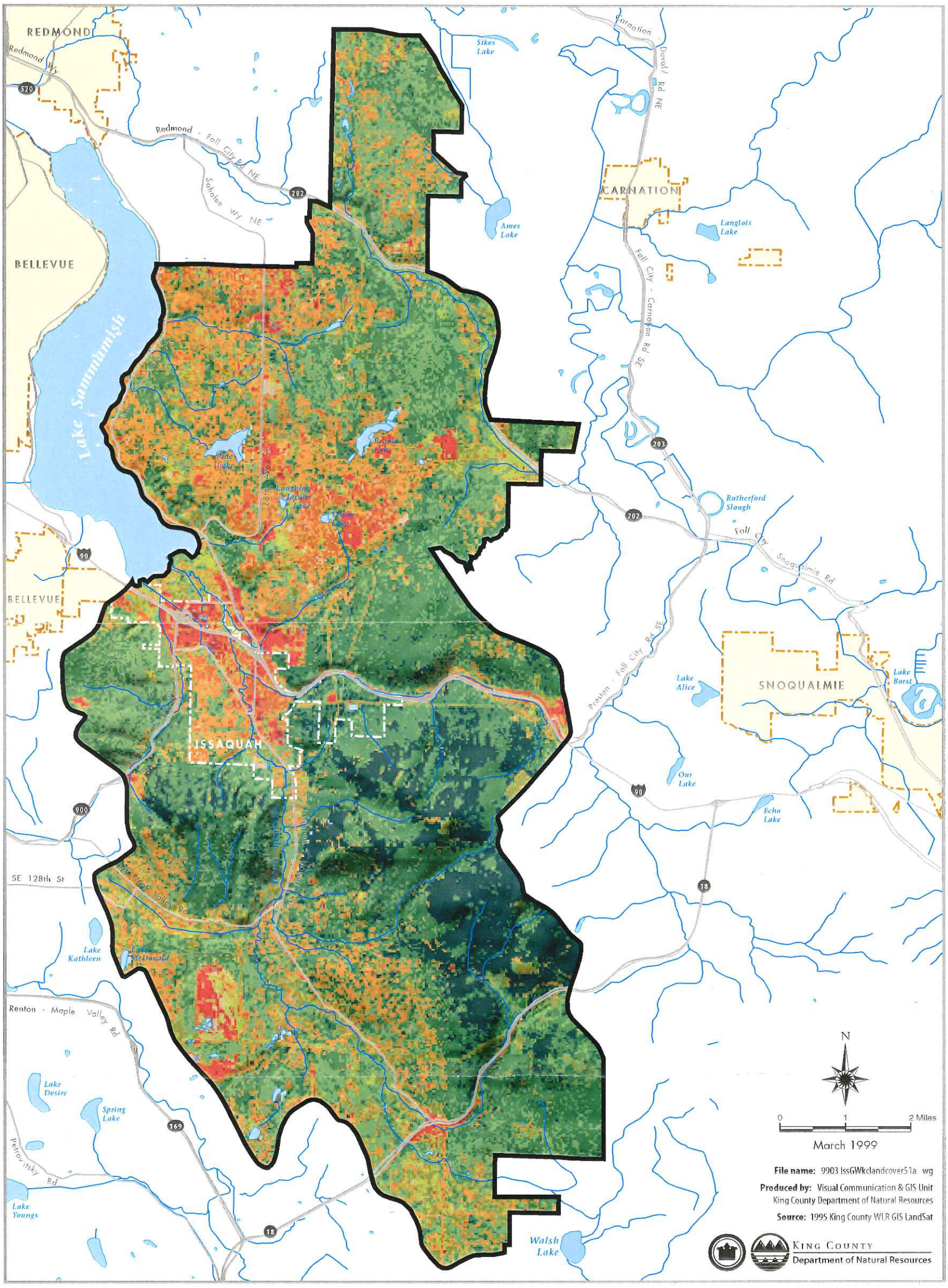
**Fig. 4.3 Climograph for Landsburg**

Figure 5.1A

# Existing Land Use

## Based on 1995 LandSat Landcover Imagery

*Issaquah Creek Valley Ground Water Management Area*




**Developed Areas**
- City Center & Industrial
- Industrial & Commercial
- High Density Urban
- Medium Density Urban & Suburban
- Recent Clearcut

**Vegetation**
- Grass
- Scrub & Shrub
- Deciduous Forest
- Mixed Forest
- Conifer Forest

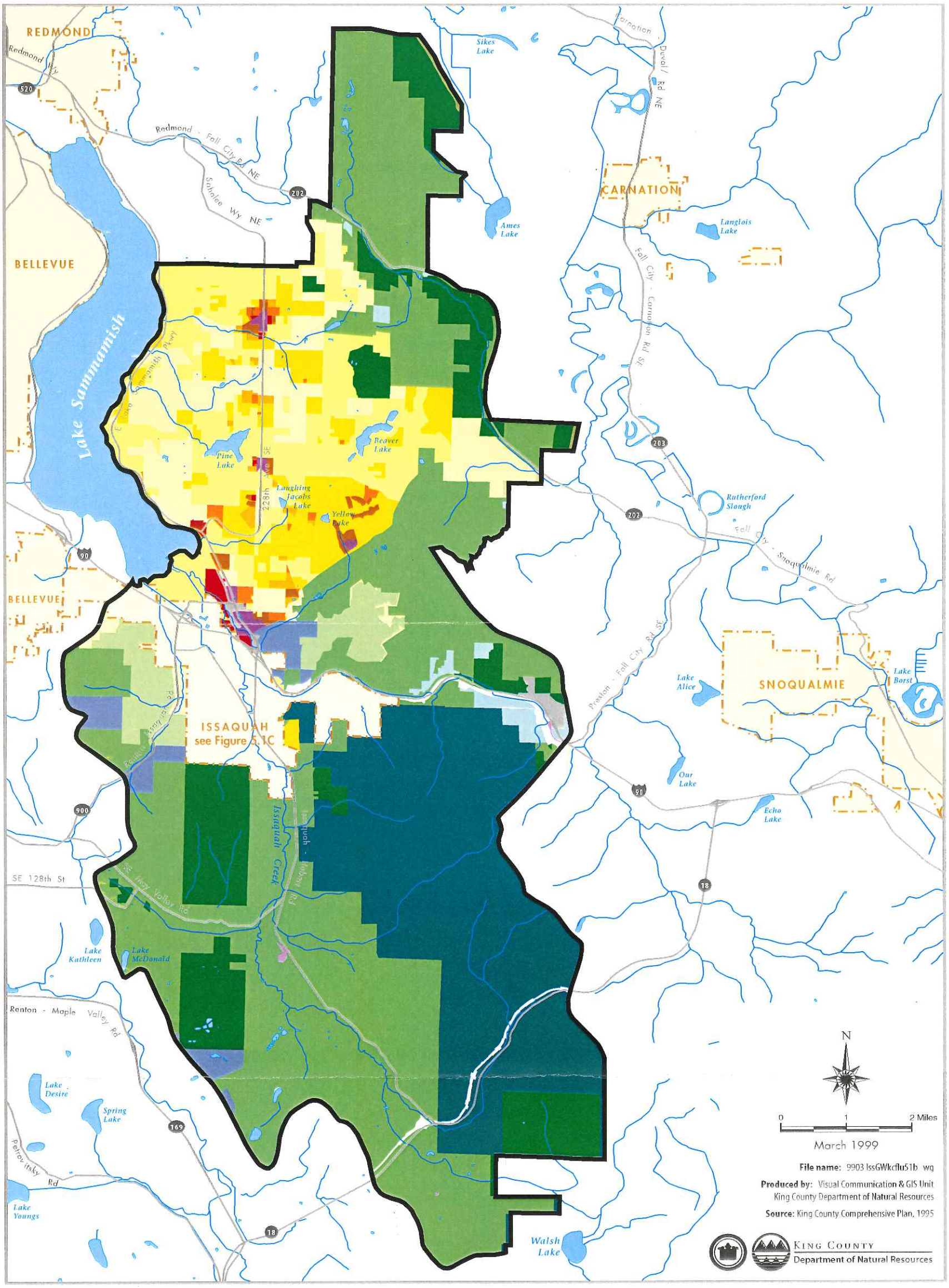
**Other**
- Bare Rock
- Shadow

- Stream/Lake
- Groundwater Management Area
- Incorporated Area

Figure 5.1B

# King County Proposed Future Land Use

*Issaquah Creek Valley Ground Water Management Area*

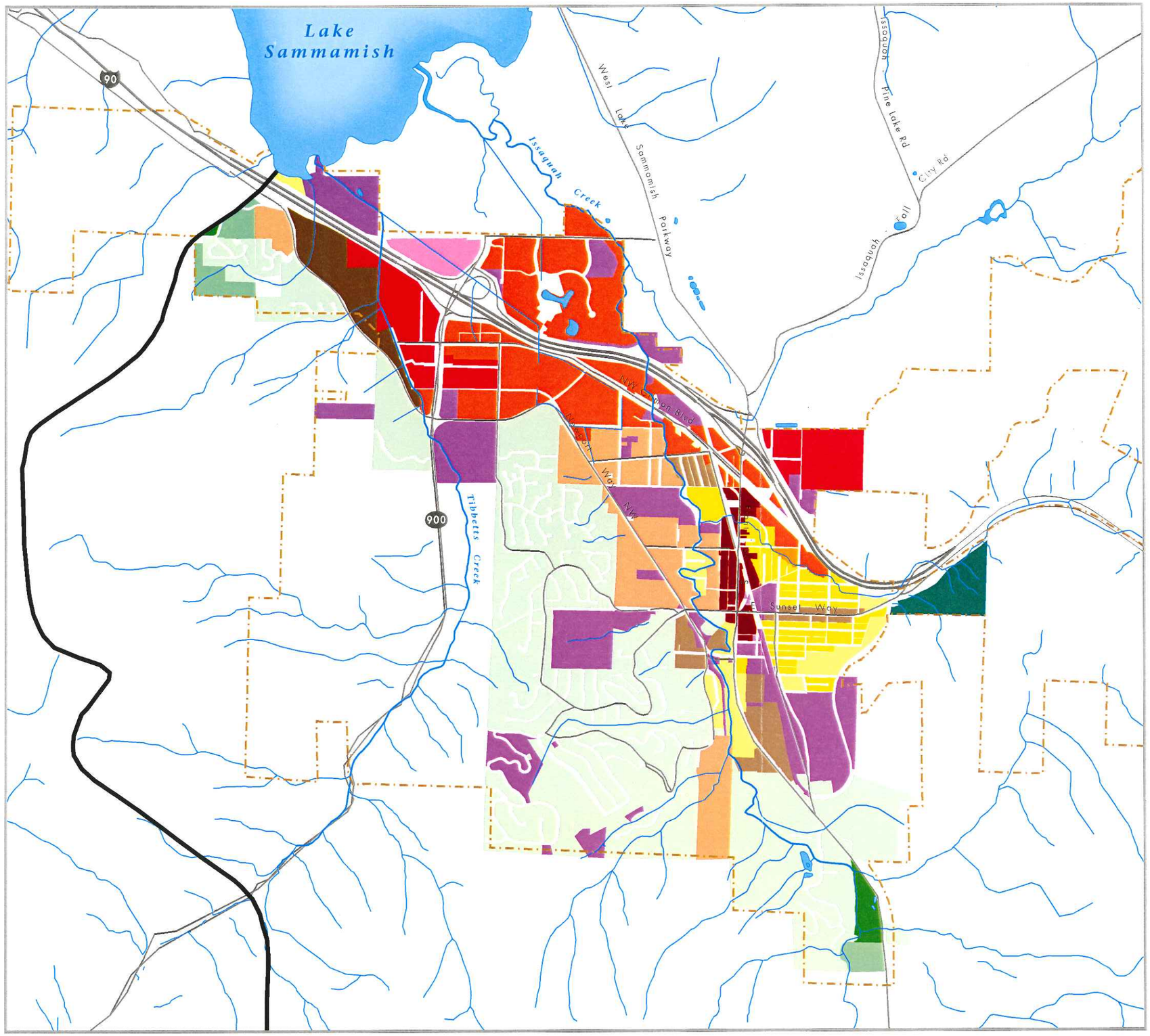



- Agricultural, 1 DU/10 Acres
- Agricultural, 1 DU/35 Acres
- Forest
- Mineral
- Rural Area, 1 DU/2.5 Acres
- Rural Area, 1 DU/5 Acres
- Rural Area, 1 DU/10 Acres
- Residential, 1 DU/Acre
- Residential, 4 DU/Acre
- Residential, 6 DU/Acre
- Residential, 8 DU/Acre
- Residential, 12 DU/Acre
- Residential, 18 DU/Acre
- Residential, 24 DU/Acre
- Residential,48 DU/Acre
- Neighborhood Business
- Community Business
- Regional Business
- Office
- Industrial
- Stream/Lake
- Groundwater Management Area
- Incorporated Area (See Figure 5.1C)

Figure 5.1C

# Proposed Future Land Use for the City of Issaquah

*Issaquah Creek Valley*
*Ground Water Management Area*




- Stream/Lake
- Groundwater Management Area
- Incorporated Area (as of 3/5/99)
- Cultural and Business District
- Intensive Commercial
- Retail
- Community Facilities
- Professional Office
- Multifamily High Mixed Use (28 du/acre)
- Multifamily High (28 du/acre)
- Multifamily Medium Mixed Use (14.62 du/acre)
- Multifamily Medium (14.62 du/acre)
- Mixed Residential Established SF Duplex (7.26 du/acre)
- Mixed Residential (7.26 du/acre)
- Single Family Suburban (4.5 du/acre)
- Single Family Estates (1.24 du/acre)
- Conservancy Residential 1 du/5 acres)
- Tradition Plateau (NR Conservation Area)

N

0 1/2 1 Mile

March 1999

**File name:** 9903 IssGWbase-IssLU 51C lp

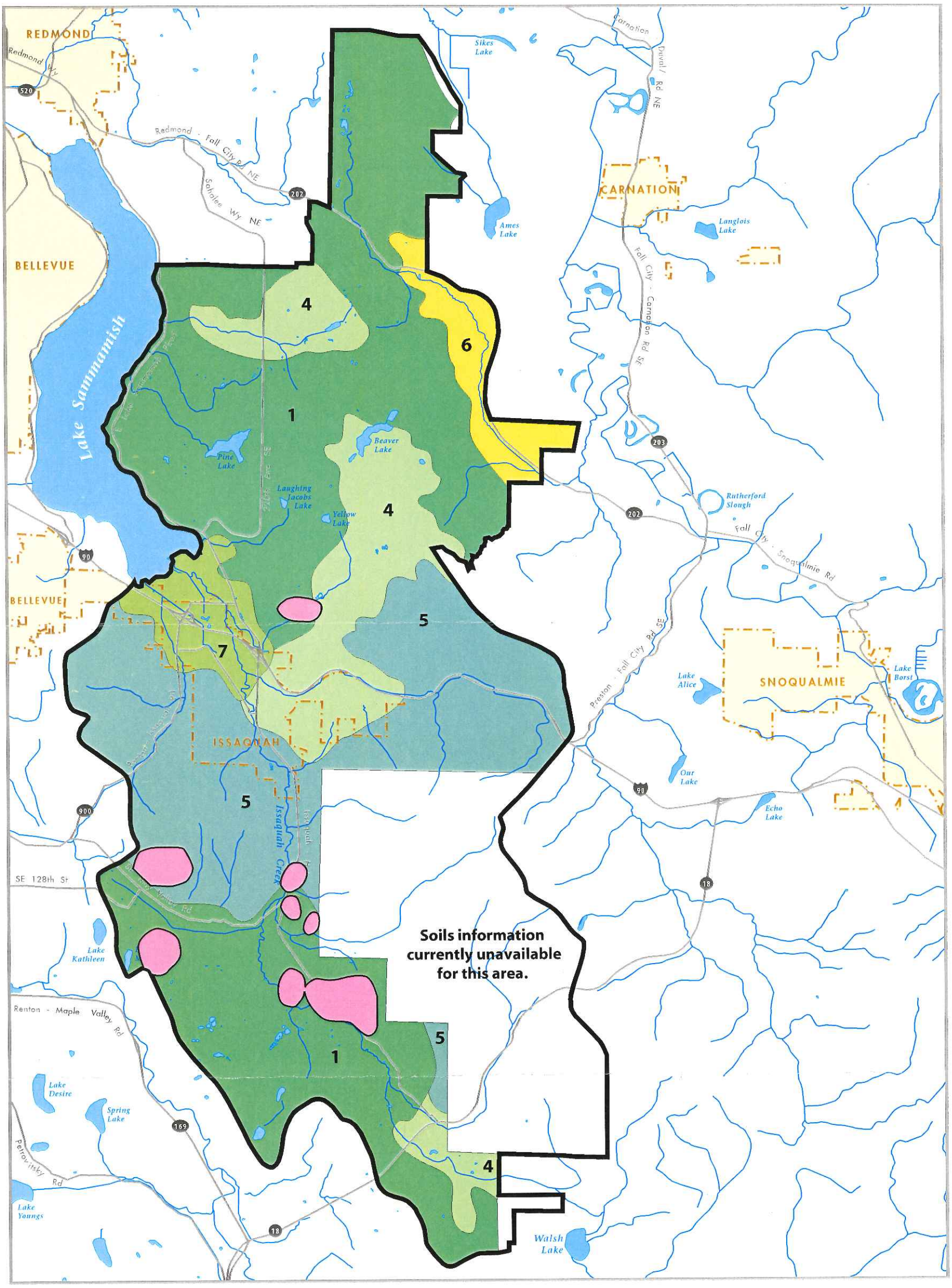
**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources
**Source:** City of Issaquah Comprehensive Plan, Land Use data

King County
Department of Natural Resources

Figure 5.2

# Areas of Septic System Failure

*Issaquah Creek Valley Ground Water Management Area*




Areas of Septic System Failure (only available within old Issaquah Creek Valley GWMP Area)

1 Alderwood association

4 Everett association

5 Beausite-Alderwood association

6 Alderwood-Kitsap-Indianola association

7 Puget-Earlmont-Snohomish association

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWspticFAILURE52 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

**Sources:** Anderberg, 1991
USDA General Soil Map, 1972

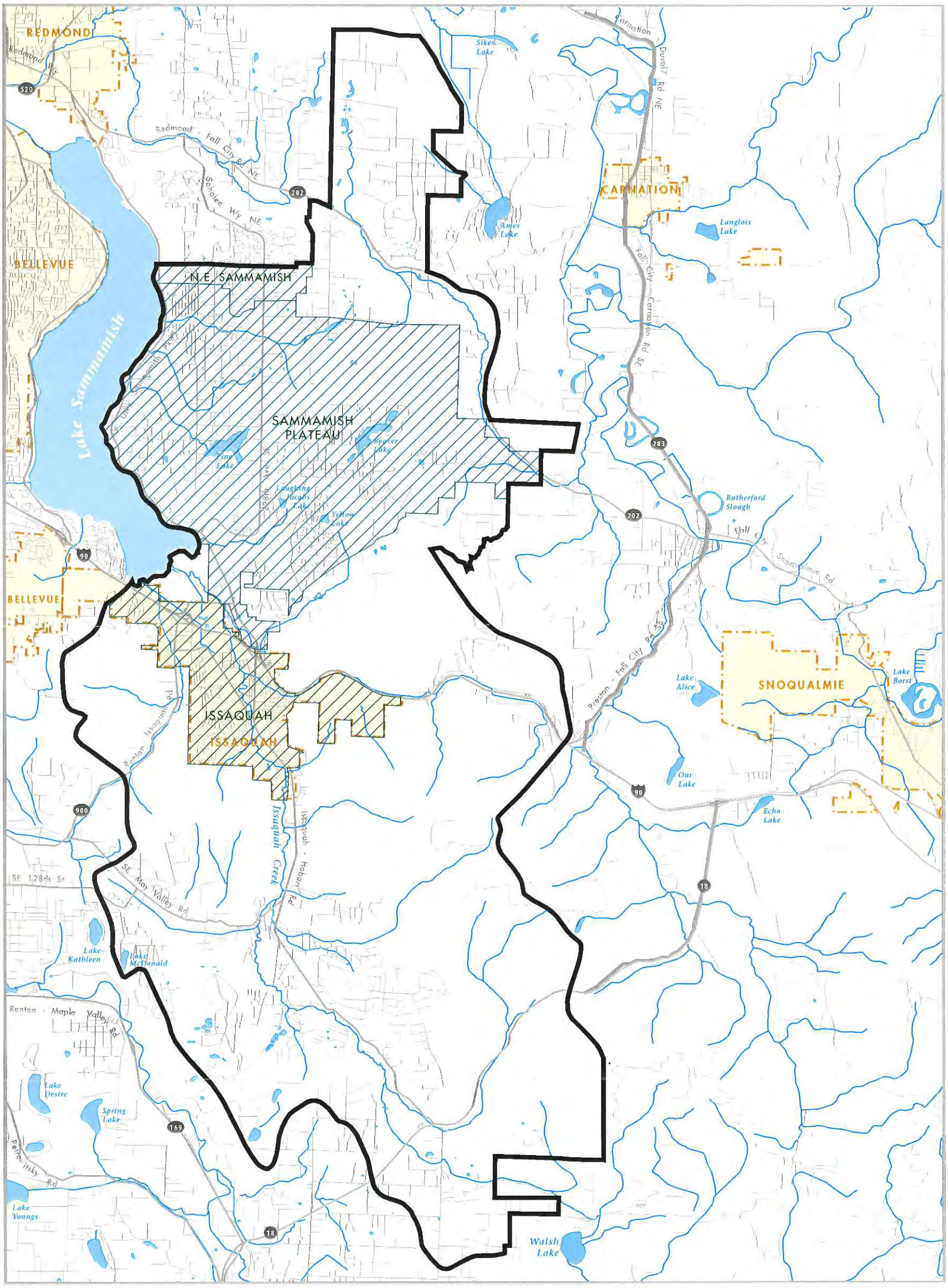
King County
Department of Natural Resources

Figure 5.3

# Sewer District Service Areas

*Issaquah Creek Valley Ground Water Management Area*

Location Map




Sewer District Service Areas

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWsewerDIST53 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

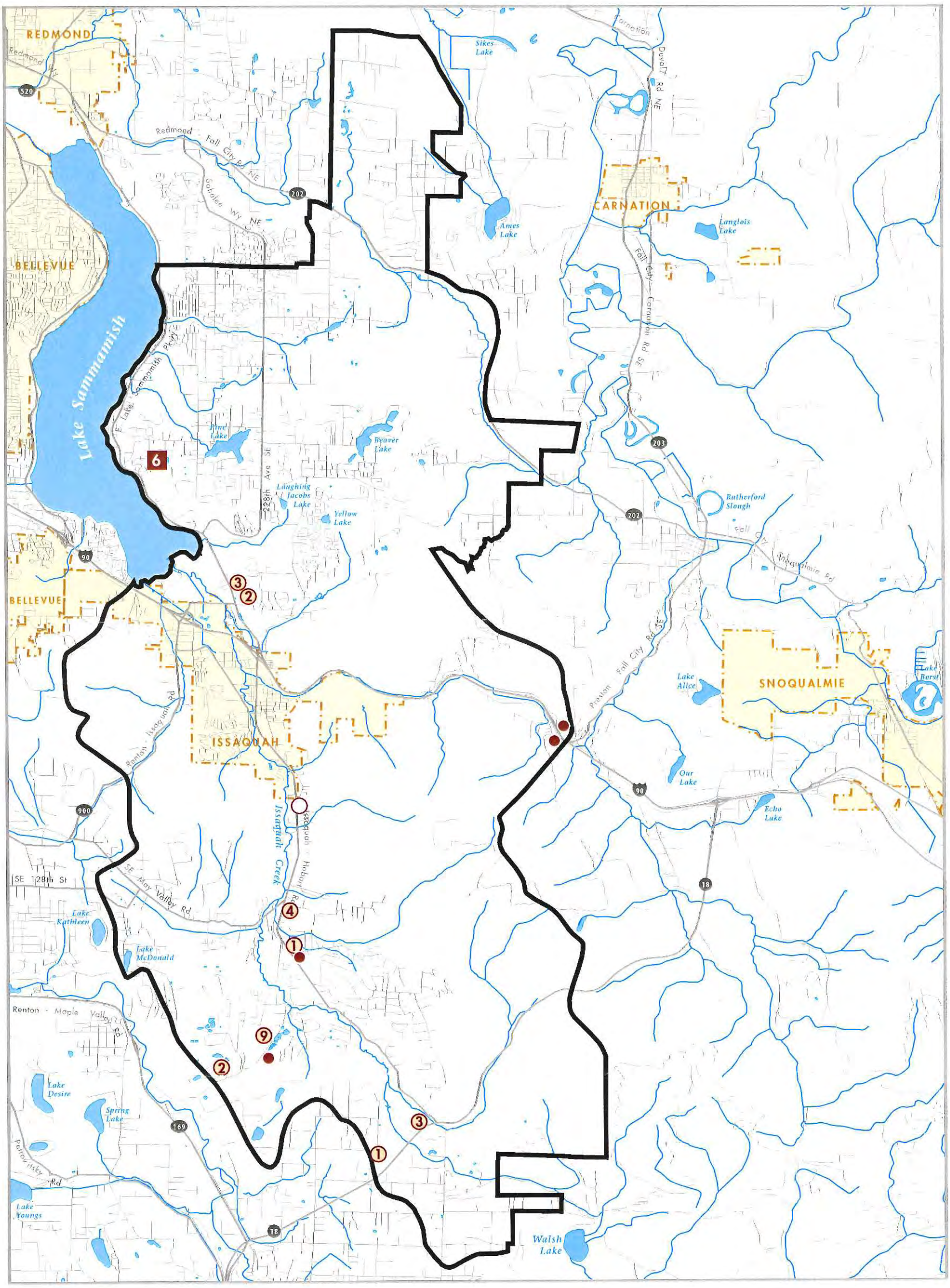
**Source:** 9711countySEWERutil.ai

King County
Department of Natural Resources

Figure 5.4

# Potential Point Contamination Sites

*Issaquah Creek Valley Ground Water Management Area*




7 Leaking Underground Storage Tank and Number Present On-Site

① Underground Storage Tank and Number Present On-Site

Gas Station, Oil and Fuel Supplier

Manufacturing Plant

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWpointCONTAM54 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

**Source:** WA State Department of Ecology, 1994

King County
Department of Natural Resources

Figure 5.5

# Aquifer Susceptibility to Contamination

*Issaquah Creek Valley Ground Water Management Area*

Location Map

REDMOND
BELLEVUE
Lake Sammamish
ISSAQUAH
CARNATION
SNOQUALMIE
Redmond Wy
Redmond - Fall City Rd NE
Sahalee Wy NE
Sikes Lake
Ames Lake
Langlois Lake
Carnation - Duvall Rd NE
Fall City - Carnation Rd SE
Rutherford Slough
Fall City - Snoqualmie Rd
Preston - Fall City Rd SE
Lake Alice
Lake Borst
Our Lake
Echo Lake
Pine Lake
Beaver Lake
Langlois Jacobs Lake
Yellow Lake
228th Ave SE
Issaquah Creek
Issaquah - Hobart Rd
Renton - Issaquah Rd
SE 128th St
SE May Valley Rd
Lake Kathleen
Lake McDonald
Renton - Maple Valley Rd
Lake Desire
Spring Lake
Petrovitsky Rd
Lake Youngs
Walsh Lake

Low Susceptibility to Aquifer Contamination

Medium Susceptibility to Aquifer Contamination

High Susceptibility to Aquifer Contamination

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWaquiferSUSC55 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

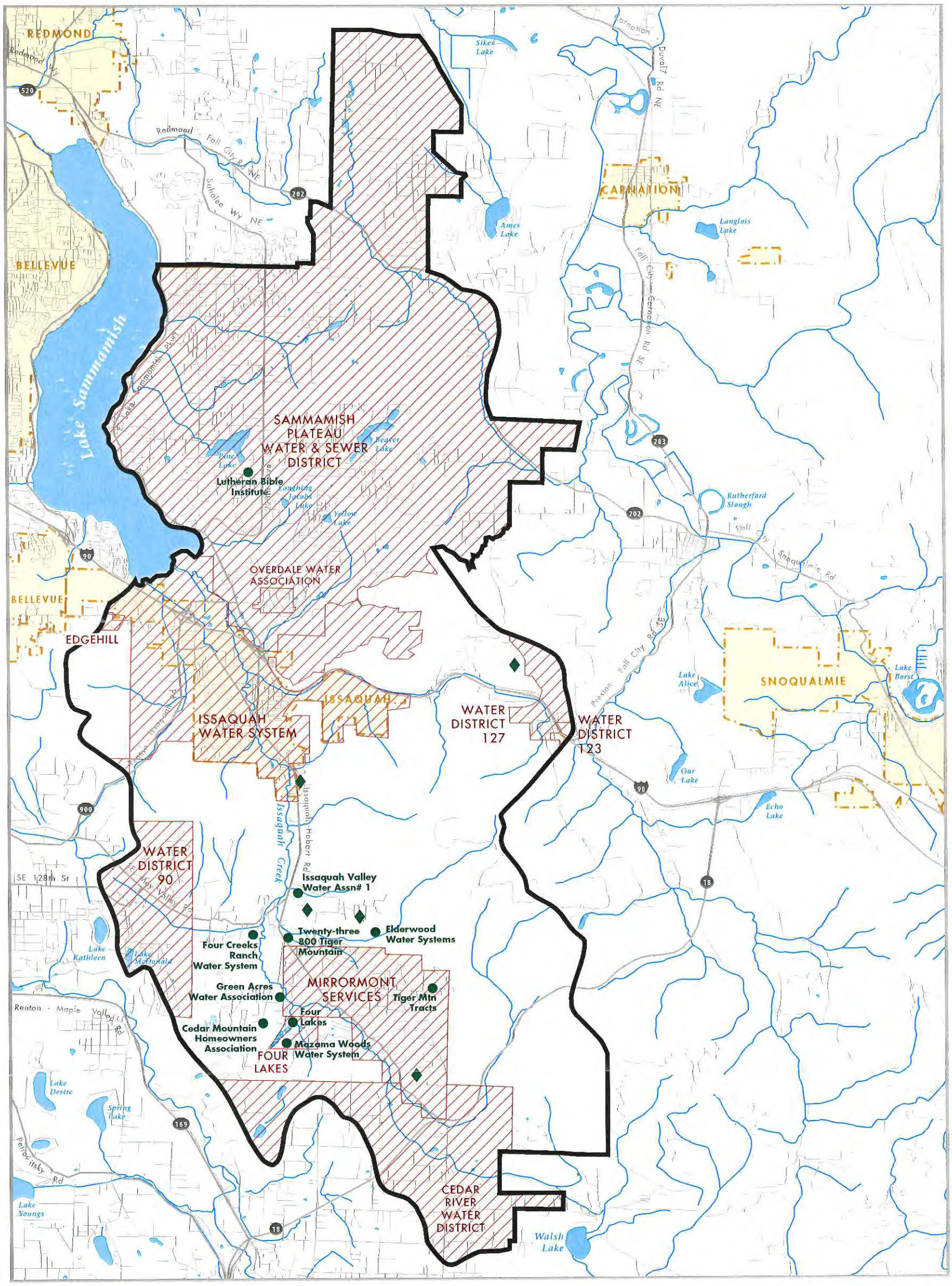
**Source:** WLRgis: IssRechg95.shp

KING COUNTY
Department of Natural Resources

Figure 6.1

# Water District Service Areas

*Issaquah Creek Valley Ground Water Management Area*




Water District Service Areas

Group A Community Public Water Systems

Concentration of Group B Public Water Systems

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWwaterDIST61 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

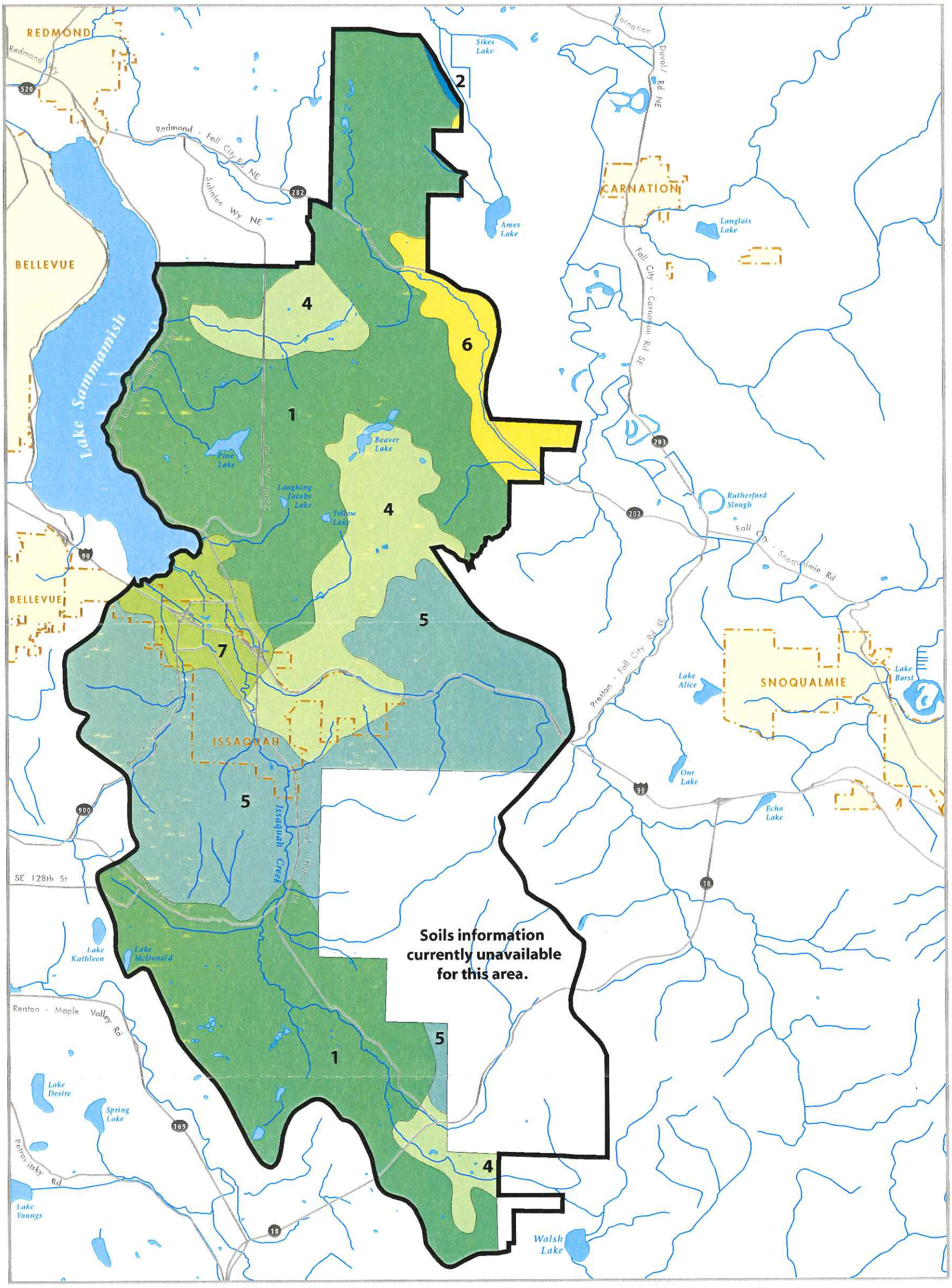
**Sources:** 9801countyWATERserviceAREAS.ai
1996 Issaquah Creek Valley GWMP

King County
Department of Natural Resources

Figure 7.1A

# Generalized Soil Associations

*Issaquah Creek Valley Ground Water Management Area*




1 Alderwood association
2 Oridia-Seattle-Woodinville association
4 Everett association
5 Beausite-Alderwood association
6 Alderwood-Kitsap-Indianola association
7 Puget-Earlmont-Snohomish association

Stream/Lake
Groundwater Management Area
Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWsoils71a wg
**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources
**Source:** USDA General Soil Map, 1972

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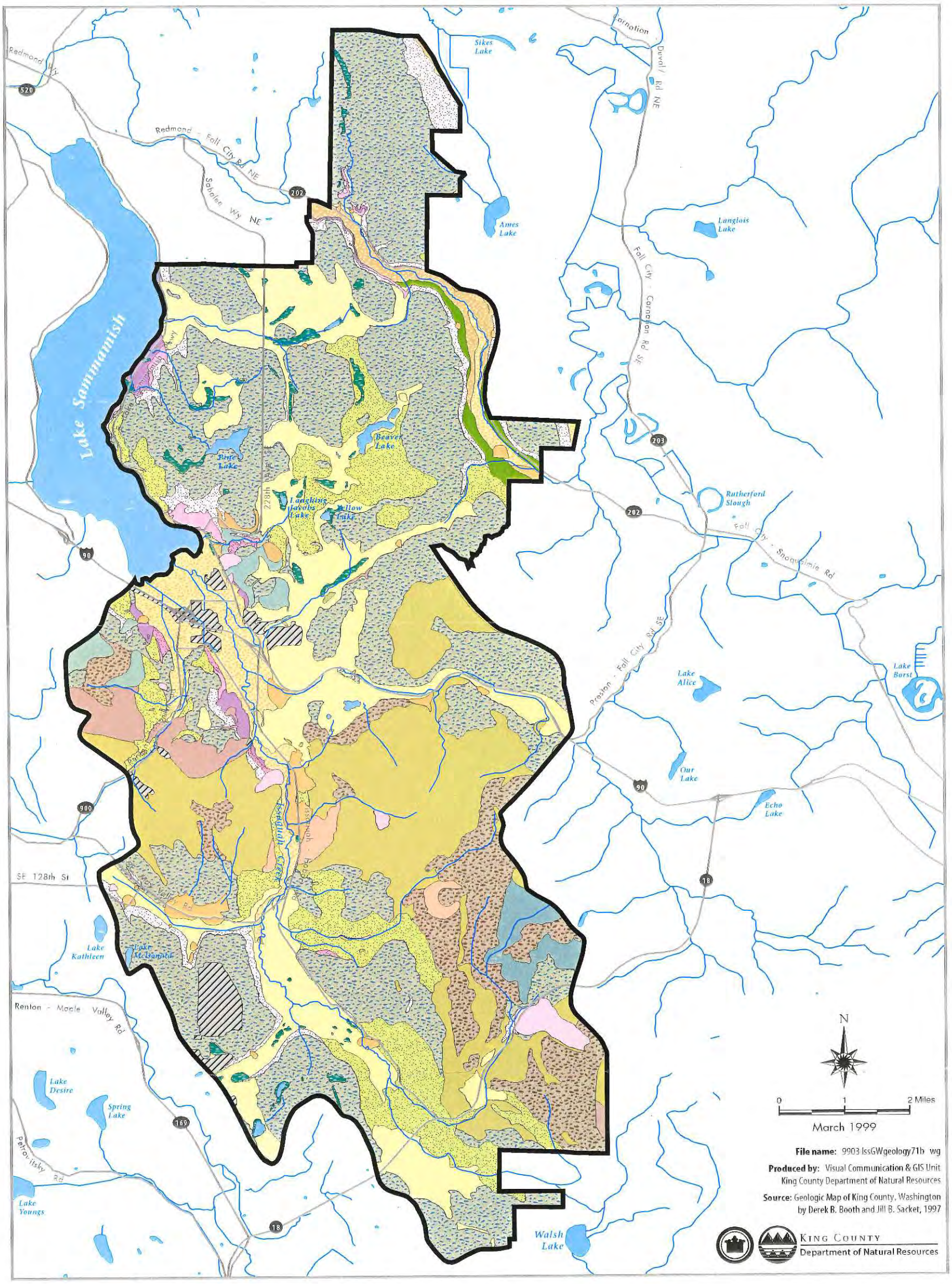
Department of Natural Resources

Figure 7.1B

# Surficial Geology

*Issaquah Creek Valley Ground Water Management Area*




**Postglacial Deposits**
- m modified
- Qw Wetland deposits
- Qb Beach deposits
- Qf Alluvial fan deposits
- Qyal Younger alluvium
- Qoal Older alluvium
- Qls Landslides
- Qmw Mass Wastage Deposits

**Glacial and Nonglacial Deposits**
- Qvt Till
- Qva Advanced outwash
- Qtb Transitional beds
- Qpf Sedimentary deposits from pre-Fraser glaciation
- Qob Olympia beds

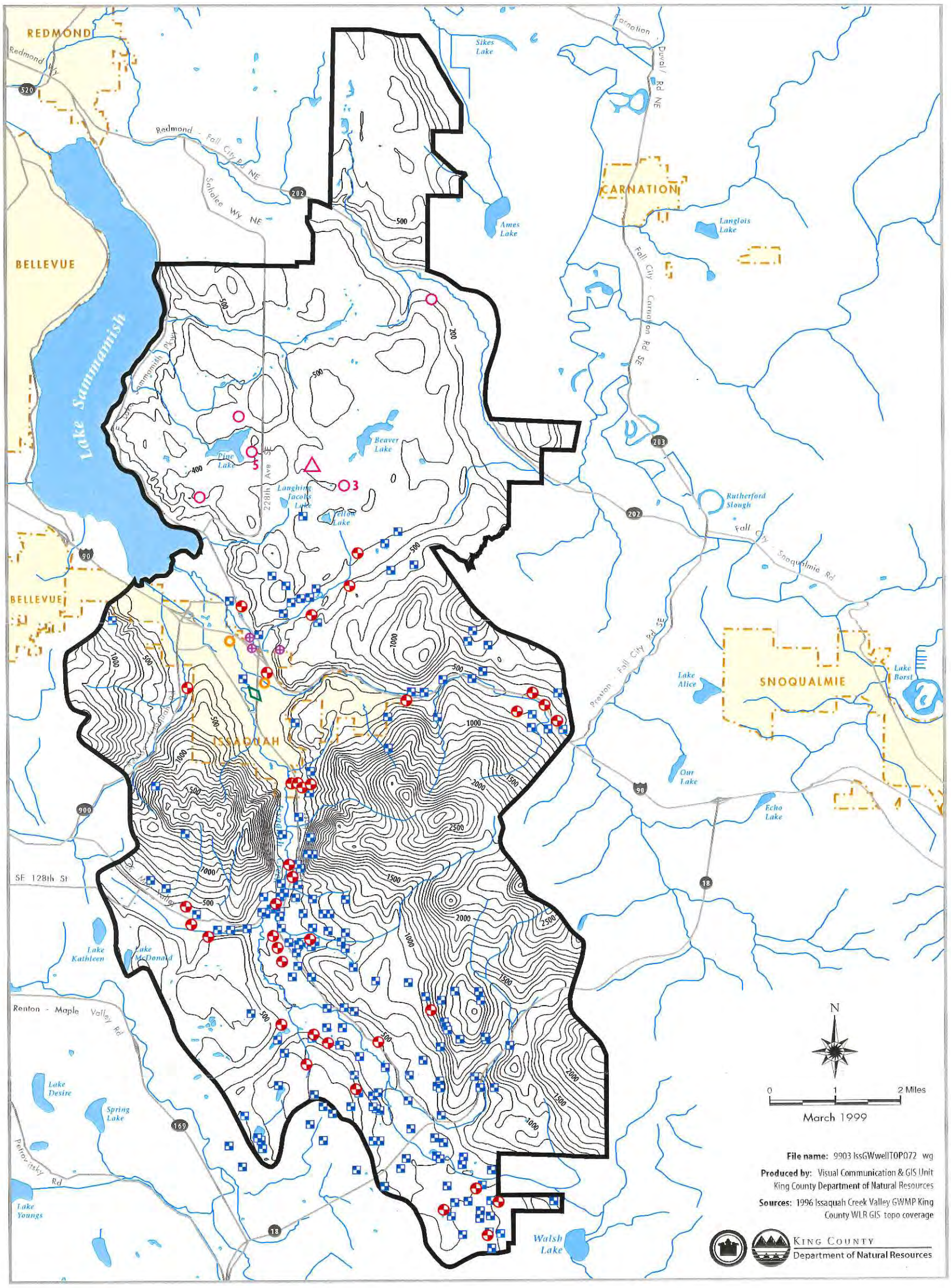
**Recessional and Outwash Deposits**
- Qvi Ice-contact deposits
- Qvr Recessional outwash
- Qvrg Gravel-dominated recessional outwash
- Qvrl -Lowland lacustrine-dominated recessional outwash

**Bedrock**
- Tsc Granite of Mount Hinman
- Tb Blakely Formation
- Ti Intrusive rocks
- Tv Volcanic rocks
- Tp Puget Group
- Tpr Renton Formation
- Tpt Tukwila Formation
- Trr Raging River Formation
- br+Qvt Bedrock with Till

Figure 7.2

# Well Location and Topographic Map

*Issaquah Creek Valley Ground Water Management Area*




**Monitoring Wells in Issaquah Creek Valley GWMP Original Area**

- Arco Service Station LUST Site
- City of Issaquah Water Wells
- Sammamish Plateau Water Wells
- Well Included in Monthly Monitoring
- Well Location Obtained from Well Logs

**Monitoring Wells in Sammamish Plateau Area**

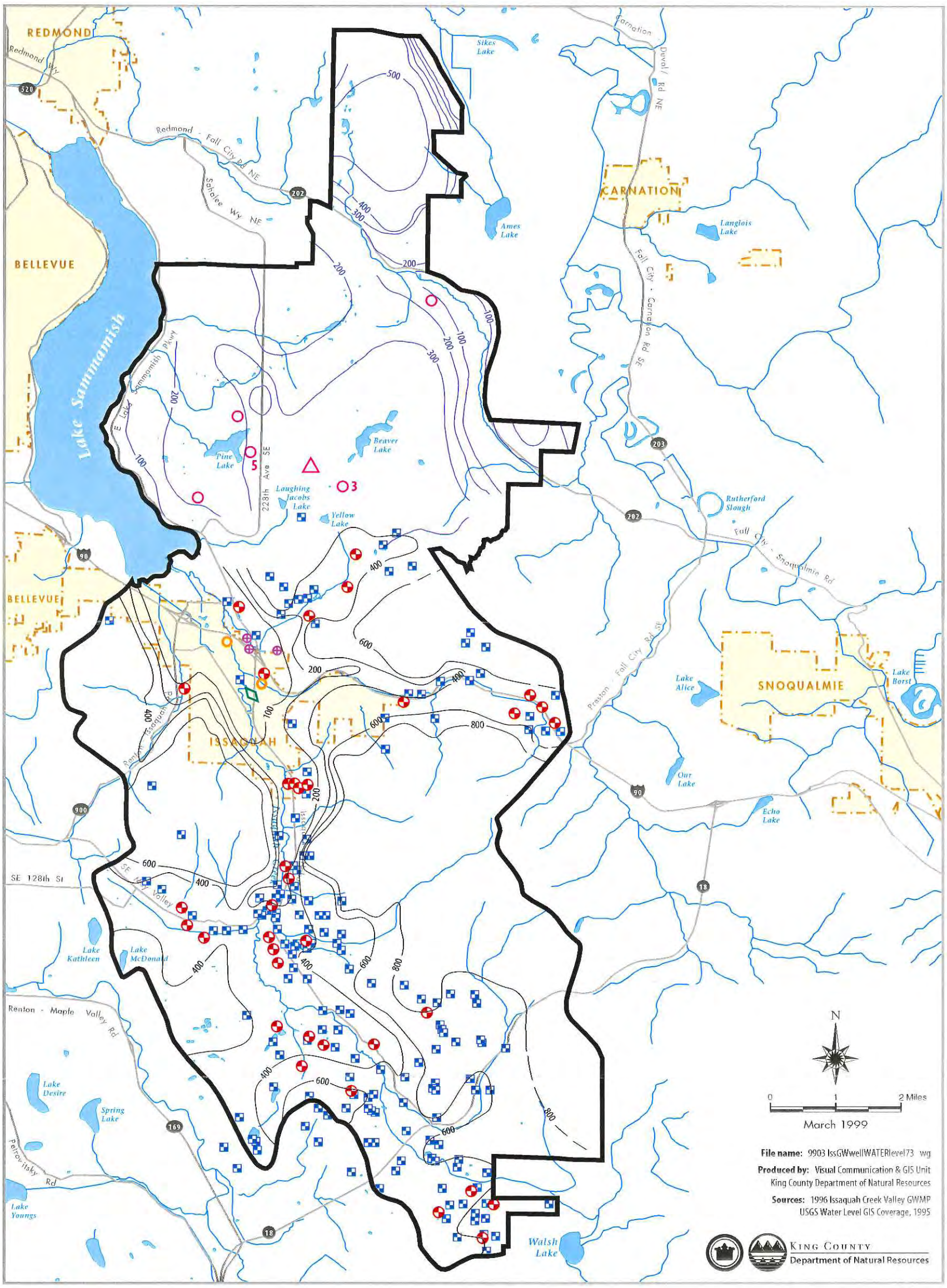
- Water Level Monitoring Site
- Water Quality Monitoring Site
- 3 Number of Wells Monitored in Area

- 100 Foot Contour
- Stream/Lake
- Groundwater Management Area
- Incorporated Area

Figure 7.3

# Well Location-Water Level Map

*Issaquah Creek Valley Ground Water Management Area*



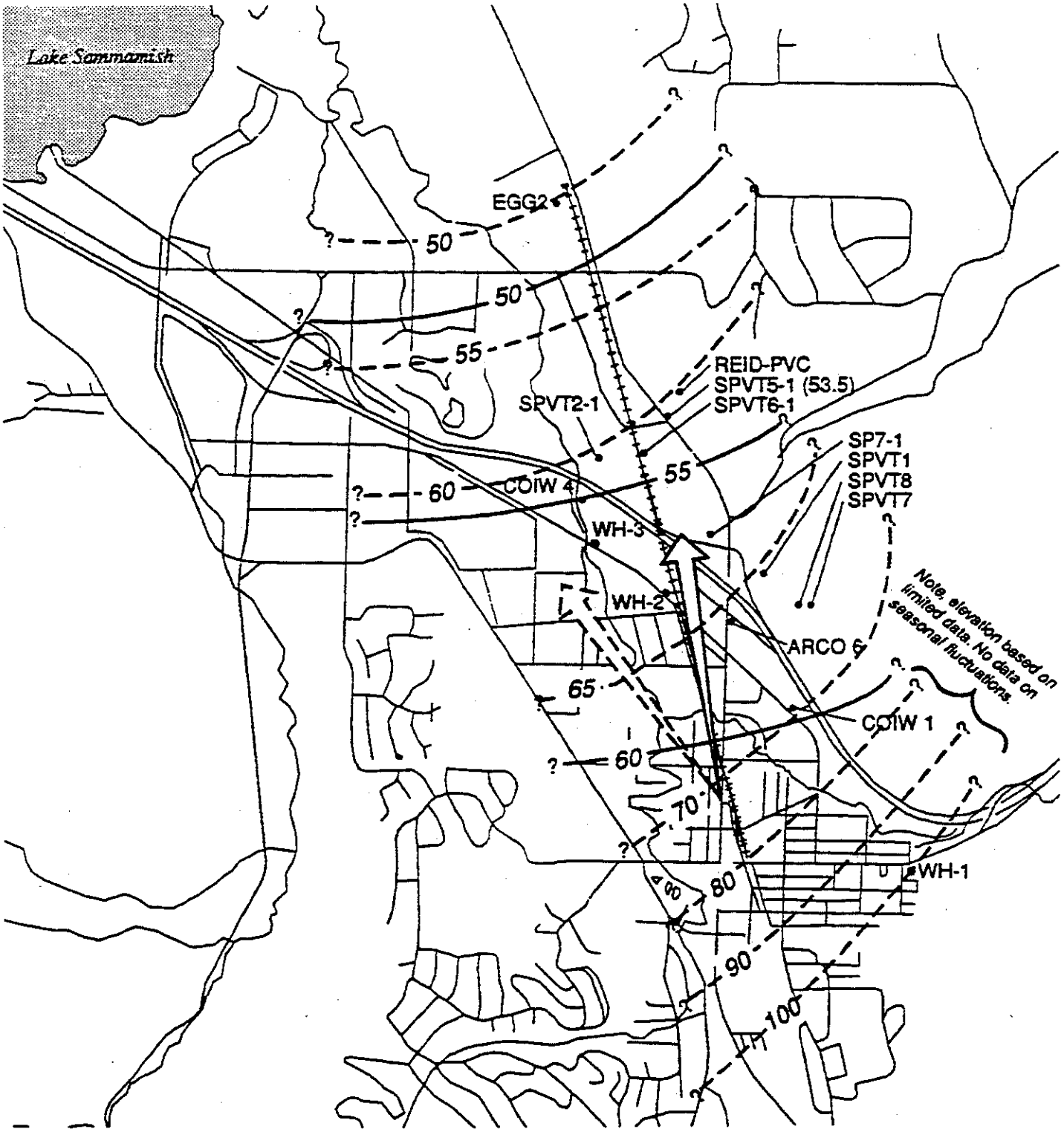

**Monitoring Wells in Issaquah Creek Valley GWMP Original Area**

- Arco Service Station LUST Site
- City of Issaquah Water Wells
- Sammamish Plateau Water Wells
- Well Included in Monthly Monitoring
- Well Location Obtained from Well Logs

**Monitoring Wells in Sammamish Plateau Area**

- Water Level Monitoring Site
- Water Quality Monitoring Site
- 3 Number of Wells Monitored in Area

- Water Level Contour (in feet) from 1996 Issaquah Creek Valley GWMP
- Water Level Contour (in feet) from 1995 USGS Water Level GIS Coverage
- Stream/Lake
- Groundwater Management Area
- Incorporated Area




Note: Groundwater levels are approximate based on hand-smoothed 1992 hydrographs. A complete year of data are not available for WH-1, WH-2 and WH-3.

Source: Wellhead Protection Study
Golder Associates 1993

Low flow (September)
Groundwater elevation contour (feet msl)

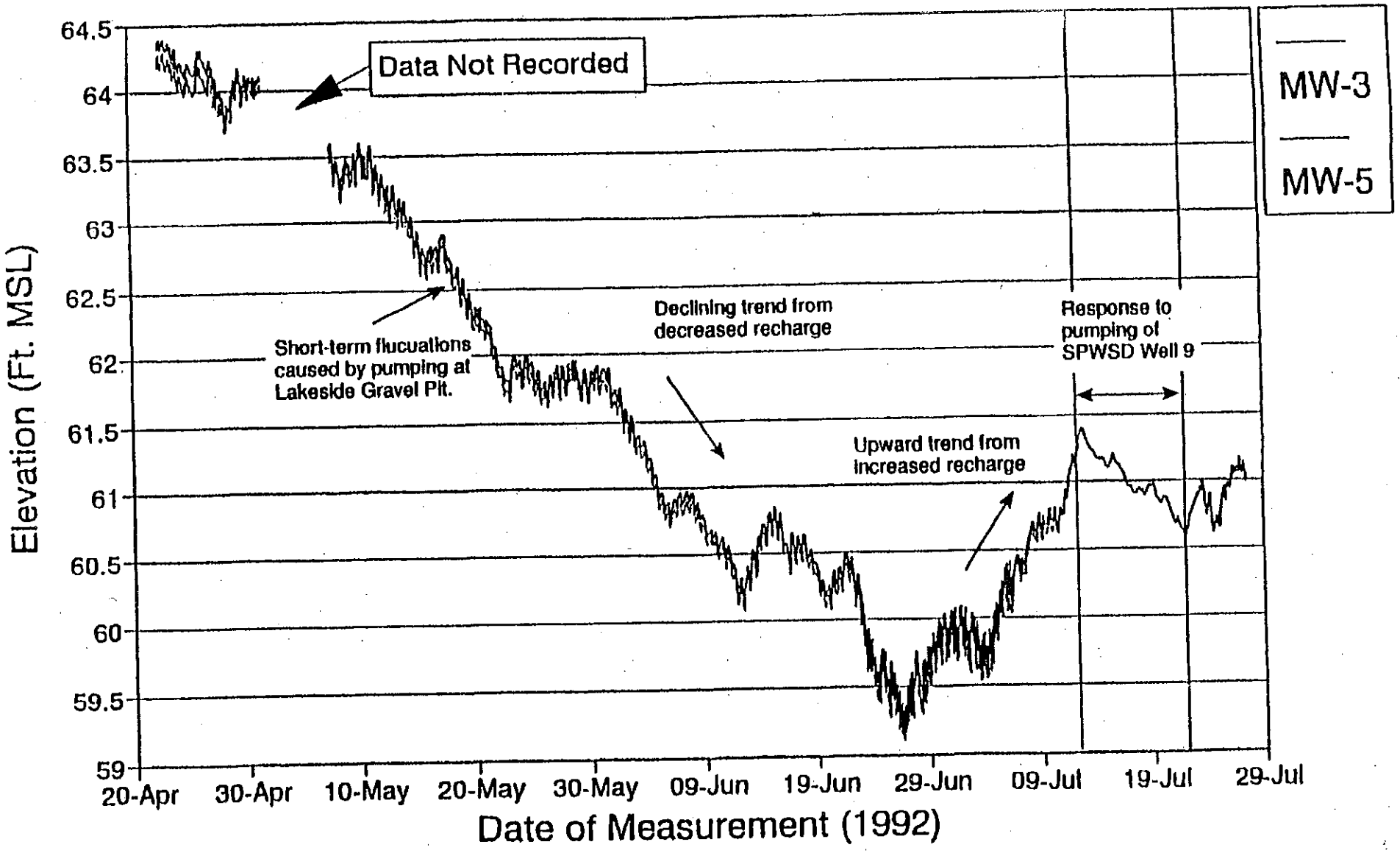
High flow (February)
Groundwater elevation contour (feet msl)

Direction of groundwater flow

SCALE IN FEET
0 1000 2000

N

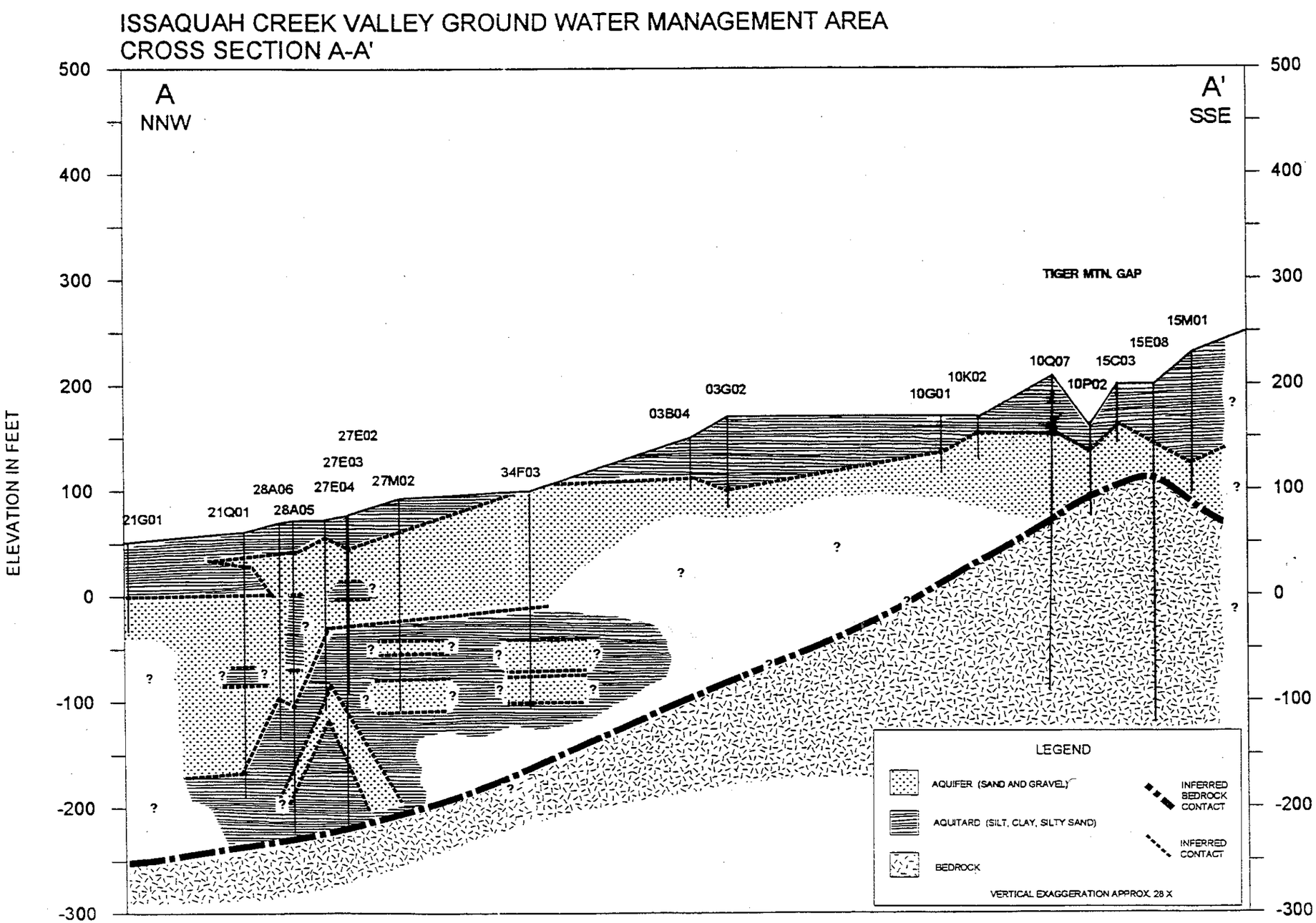
# Fig. 7.4
# Seasonal Ground Water Levels and Direction of Flow




Source: Wellhead Protection Study
Golder Associates 1993

Fig. 7.5 Example Water Level Hydrograph, Arco Site

Fig. 7.6 Cross Section A-A'




Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

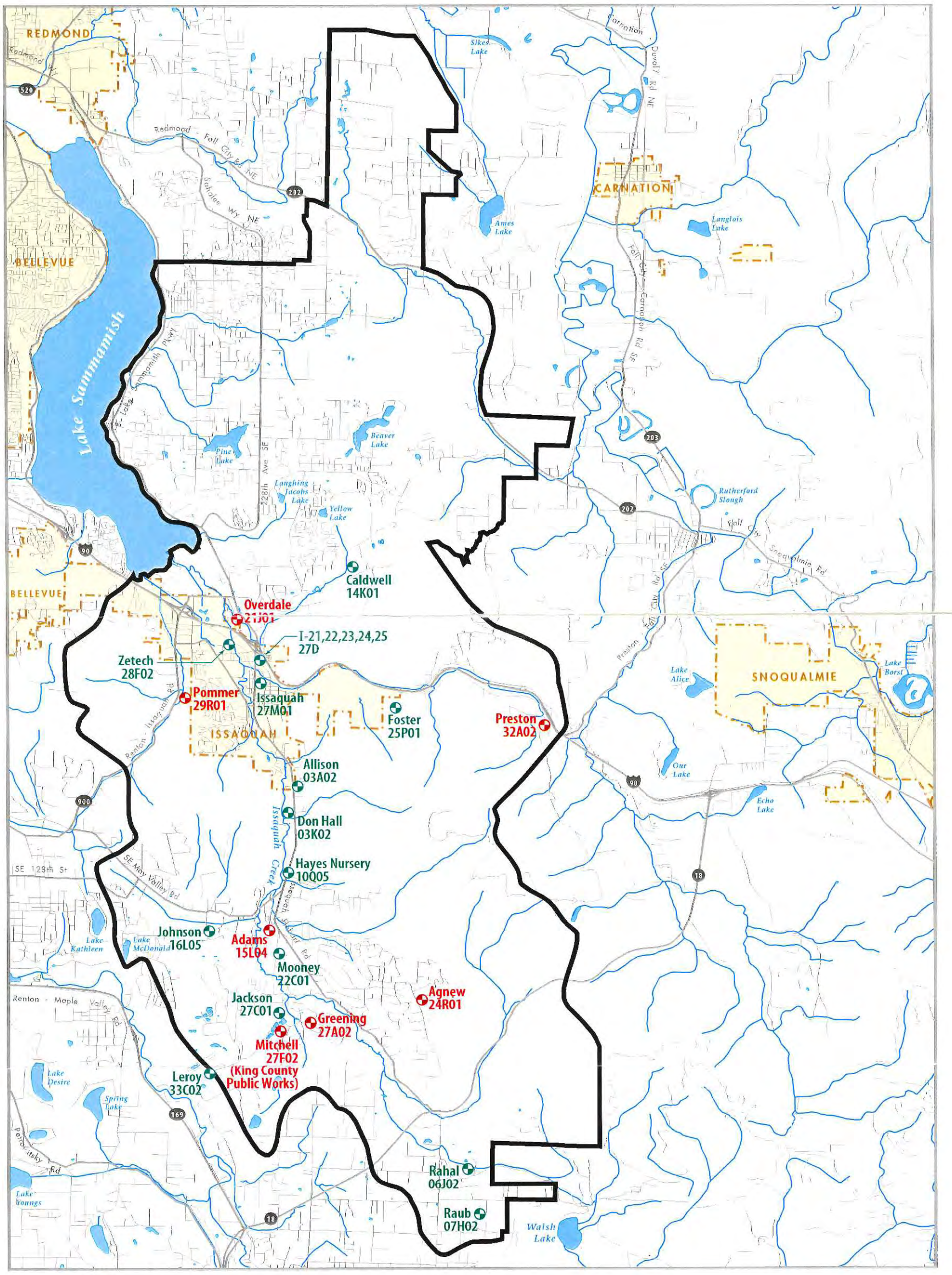
SCALE IN MILES

0 .5 1

Figure 7.16

# Wells Sampled

*Issaquah Creek Valley Ground Water Management Area*




Well Sampled for the Issauqah Creek Valley Groundwater Management Program

Well Individually Graphed (figs. 7.17-7.23)

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

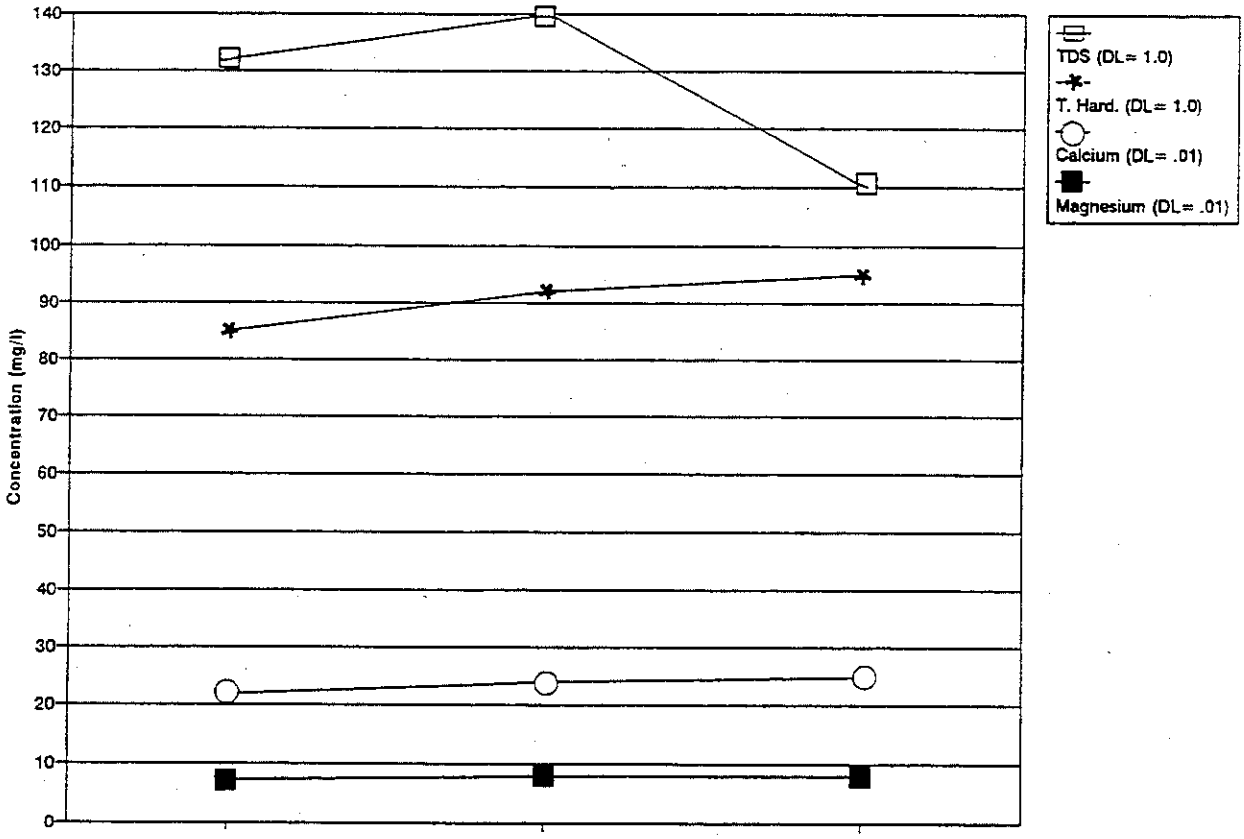
**File name:** 9903 IssGWwells716 wg

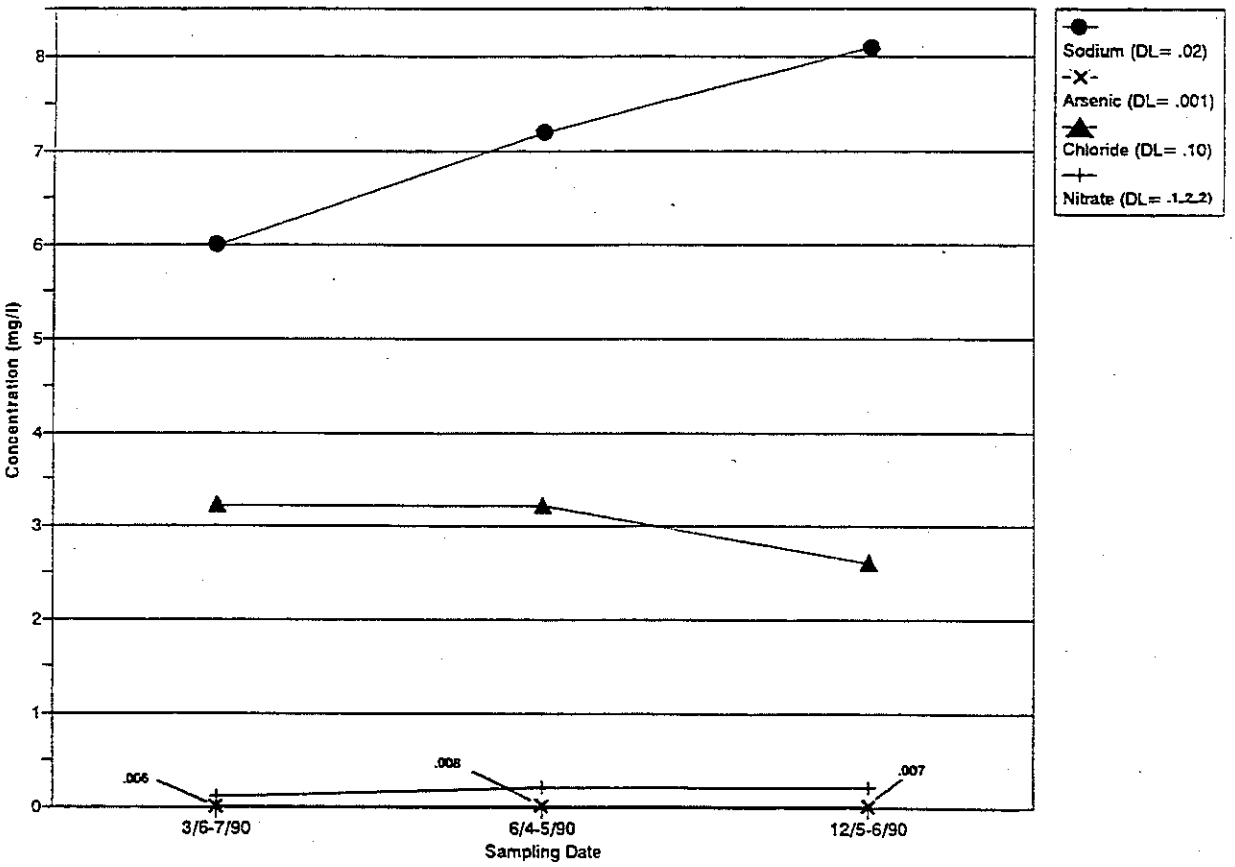
**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

**Source:** 1996 Issaquah Creek Valley GWMP

King County
Department of Natural Resources

Adams Well
23/06E-15L04

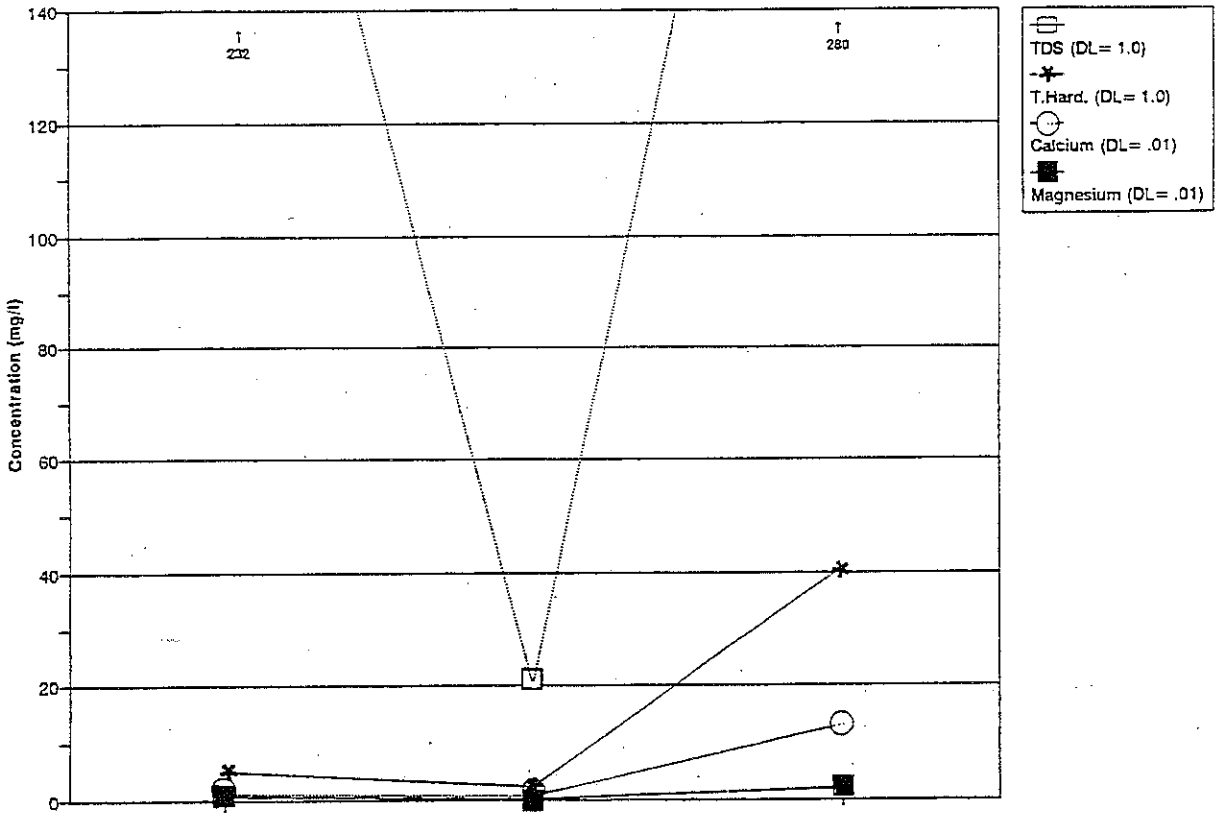


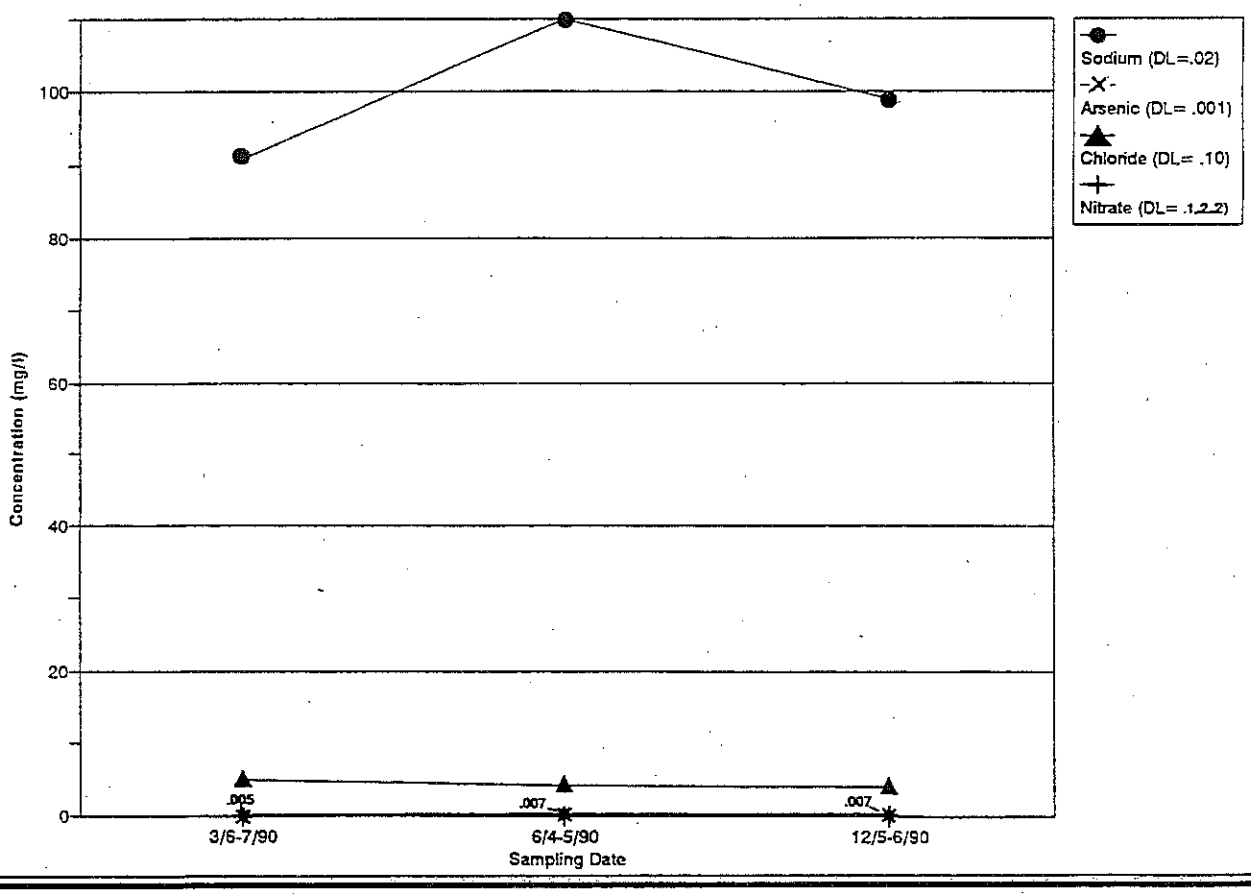




Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.17 Adams Well

Agnew Well
23/06E-24R01

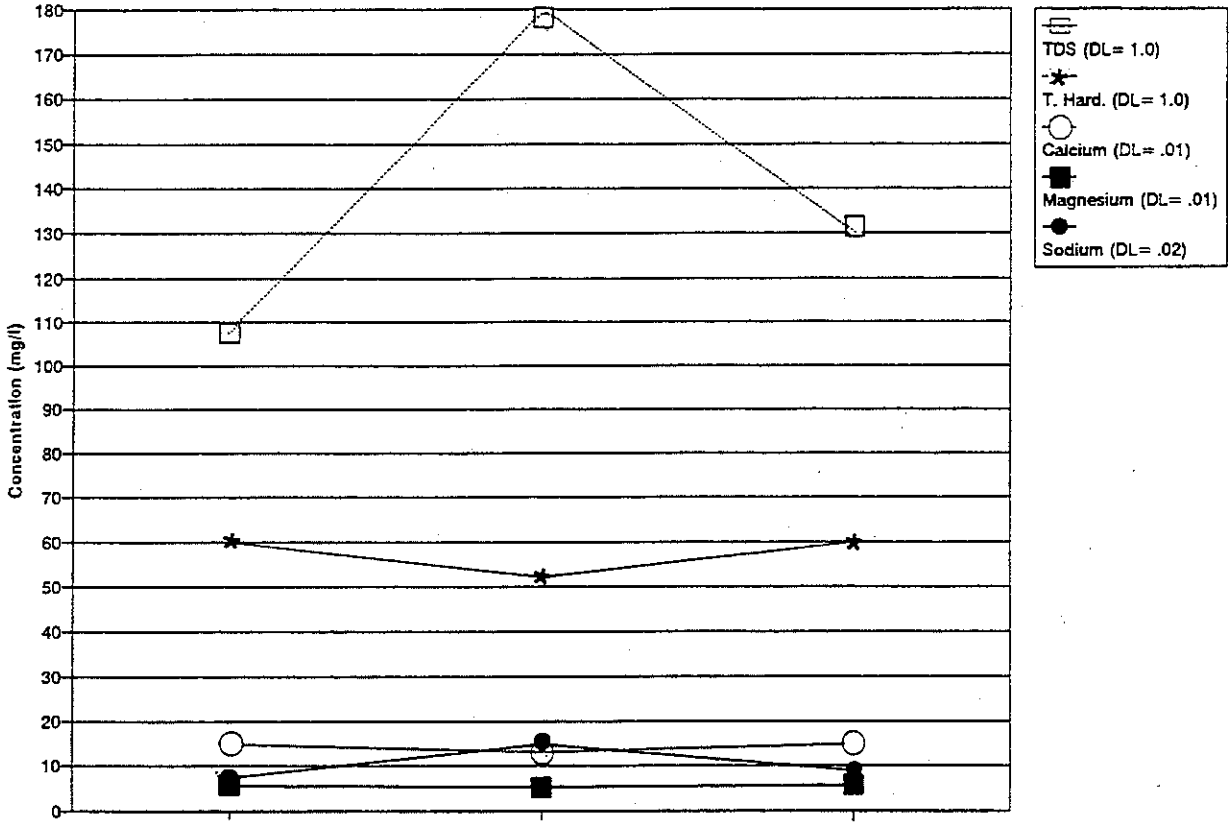


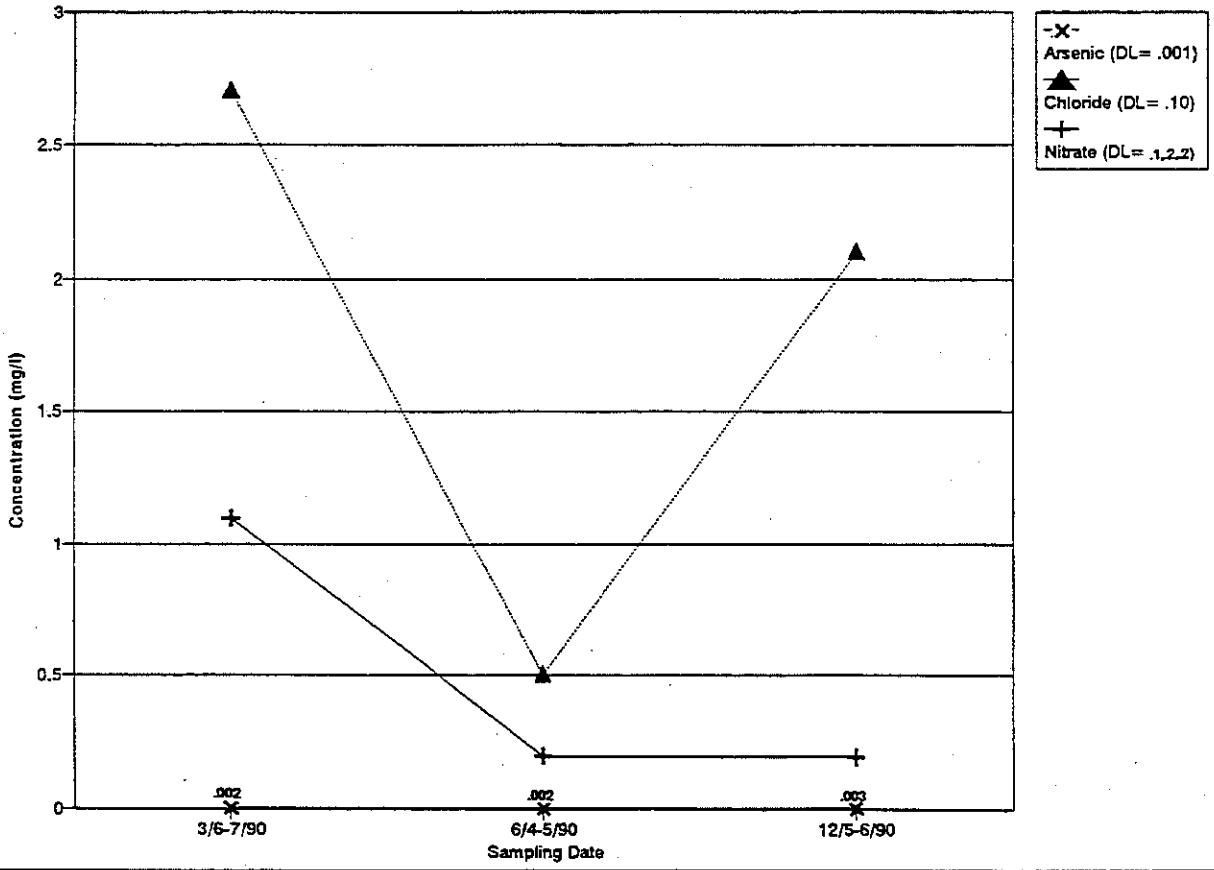




Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.18 Agnew Well

Greening Well
23/06E-27A02

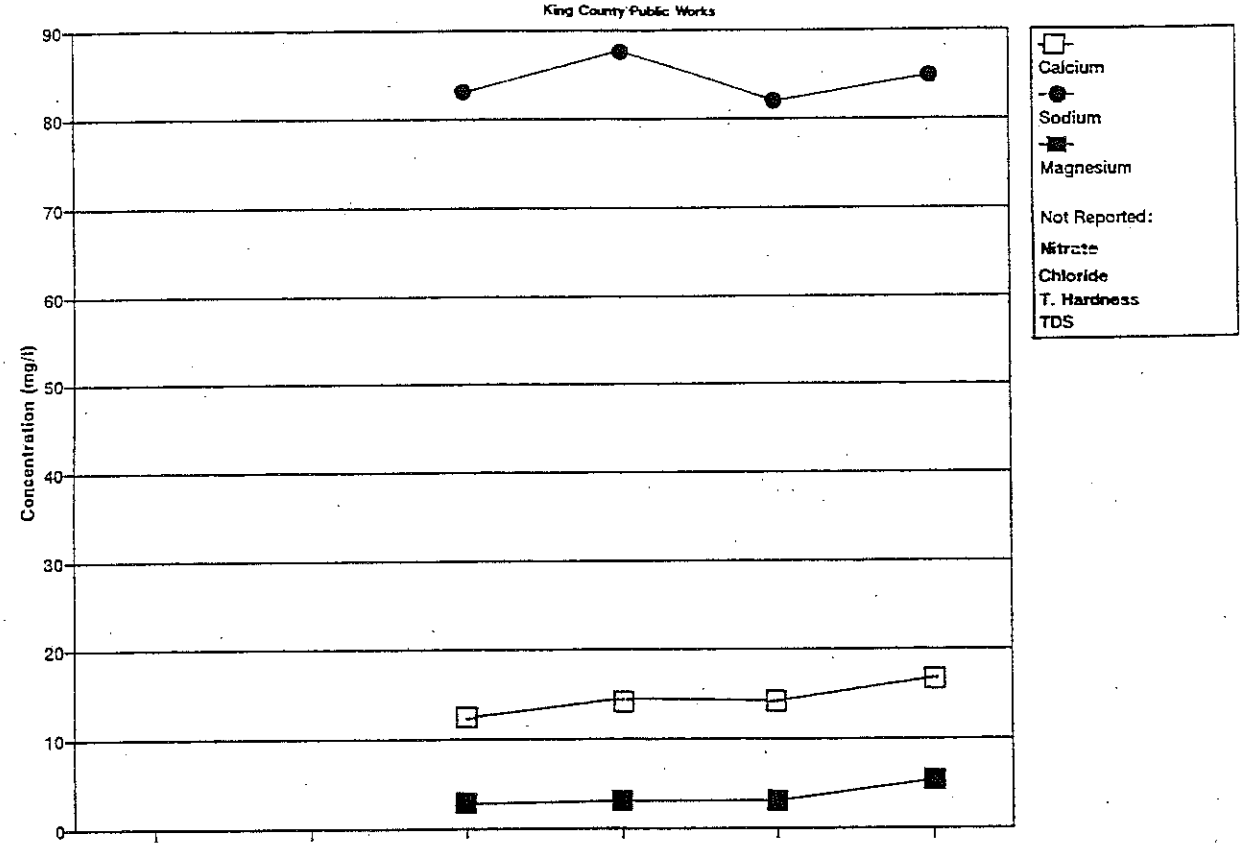


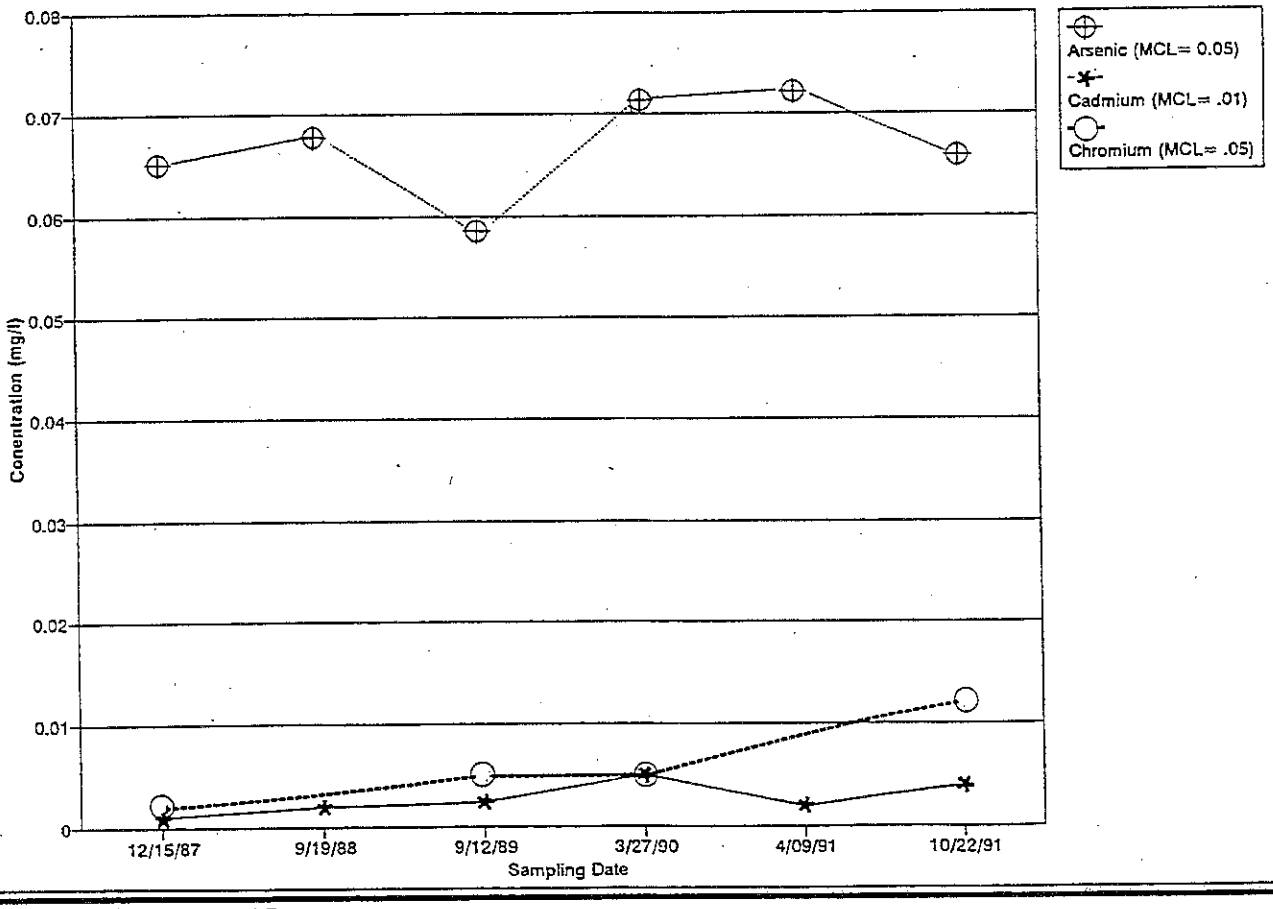




Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.19 Greening Well

Mitchell Well
23/06E-27F02
King County Public Works

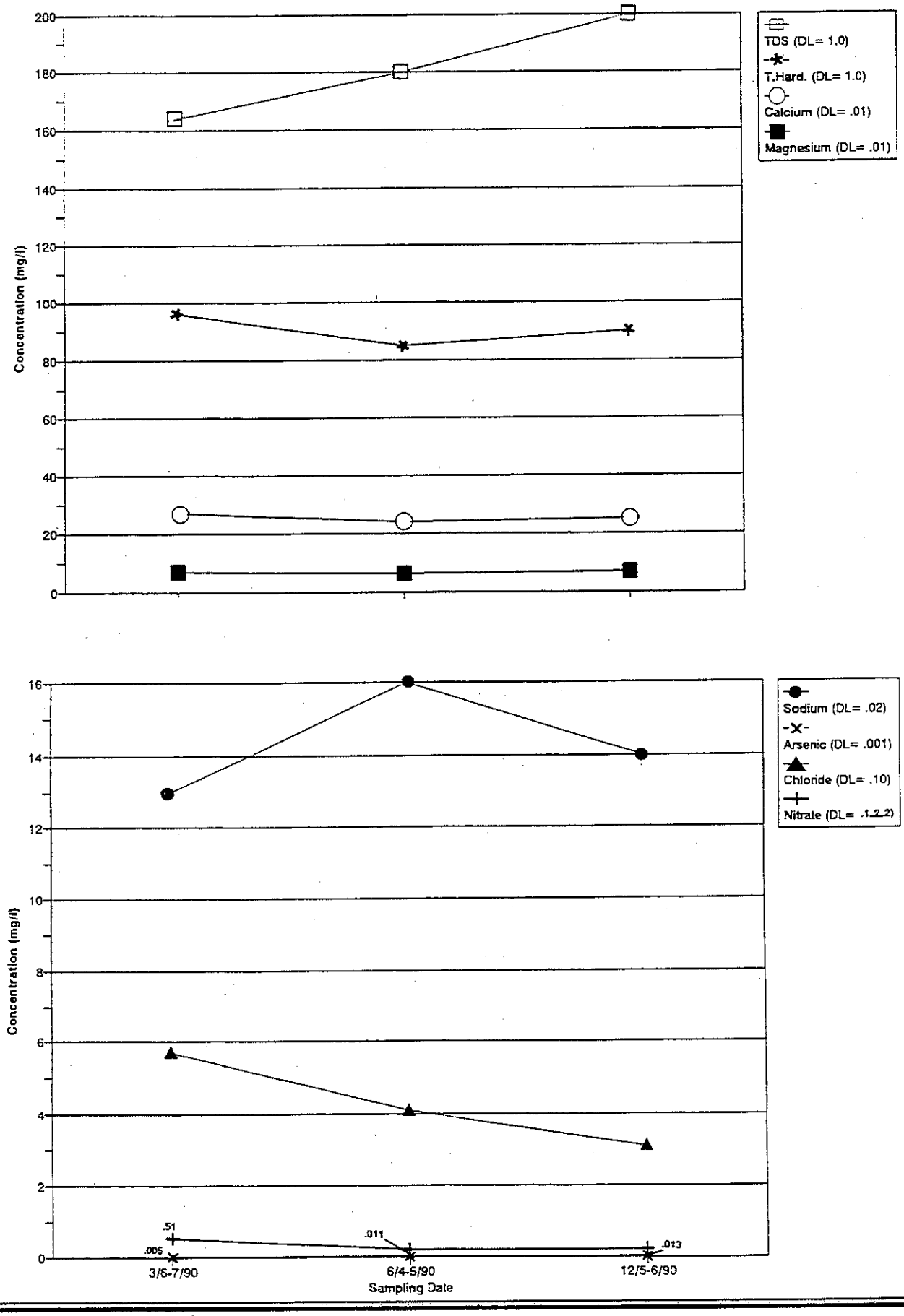



Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.20 Mitchell Well

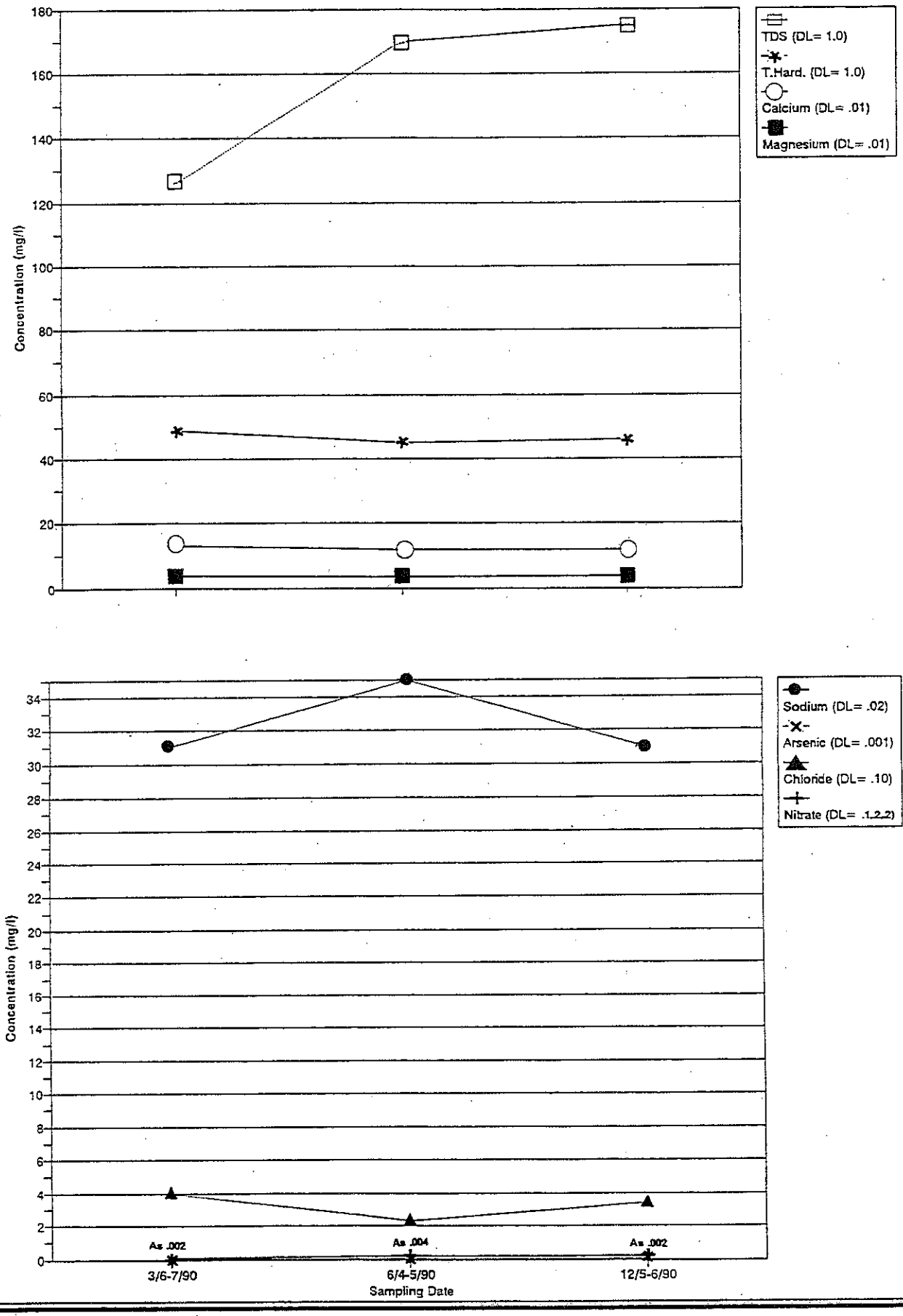
Overdale Well
24/6E-21J01




Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.21 Overdale Well

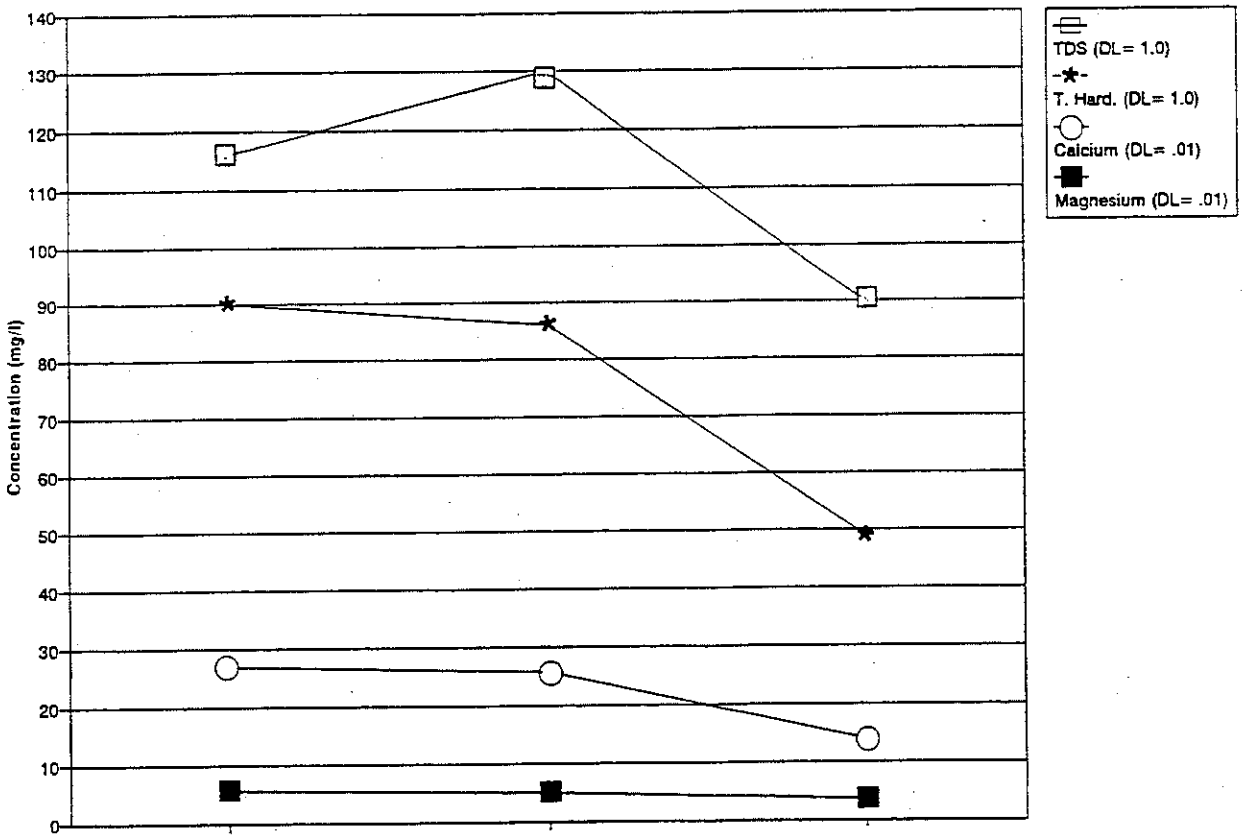
Pommer Well
24/06E-29R01

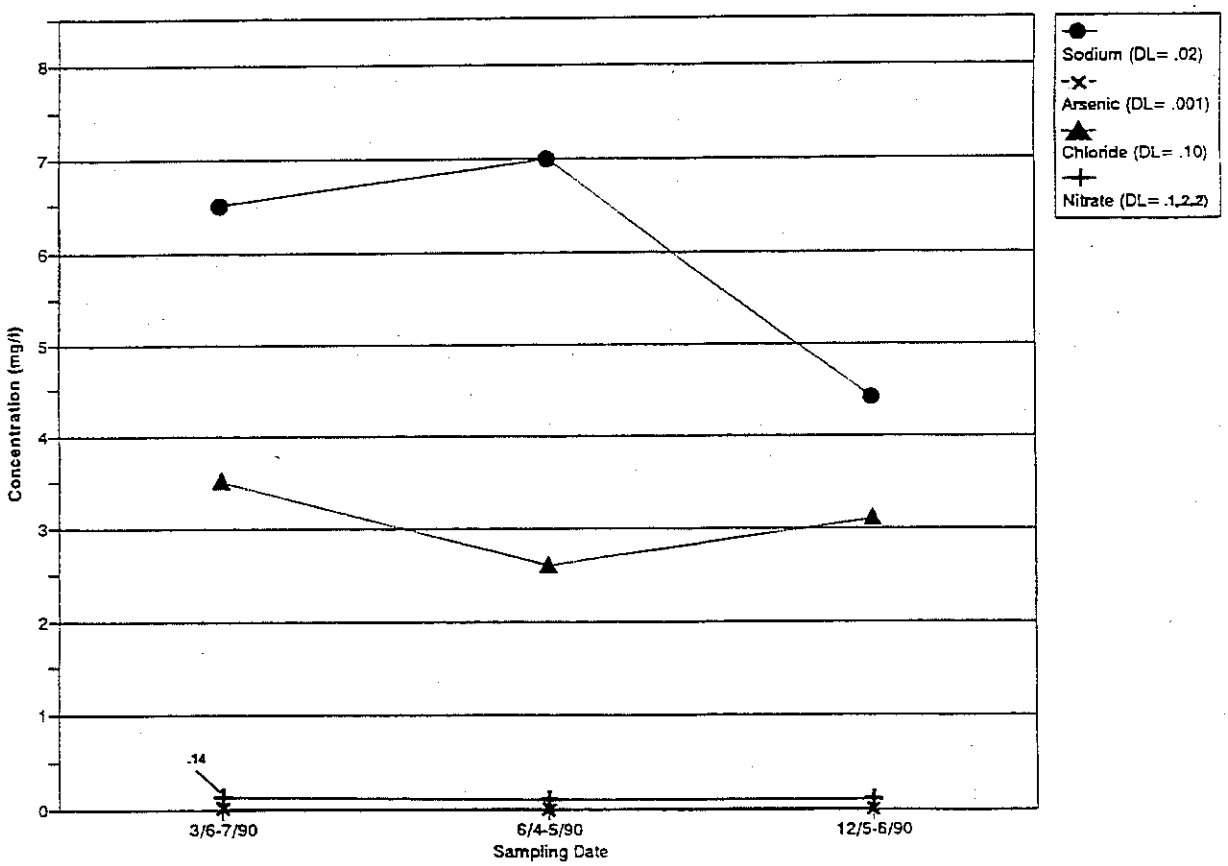



Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.22 Pommer Well

Preston Industrial Park
24/07E-32A

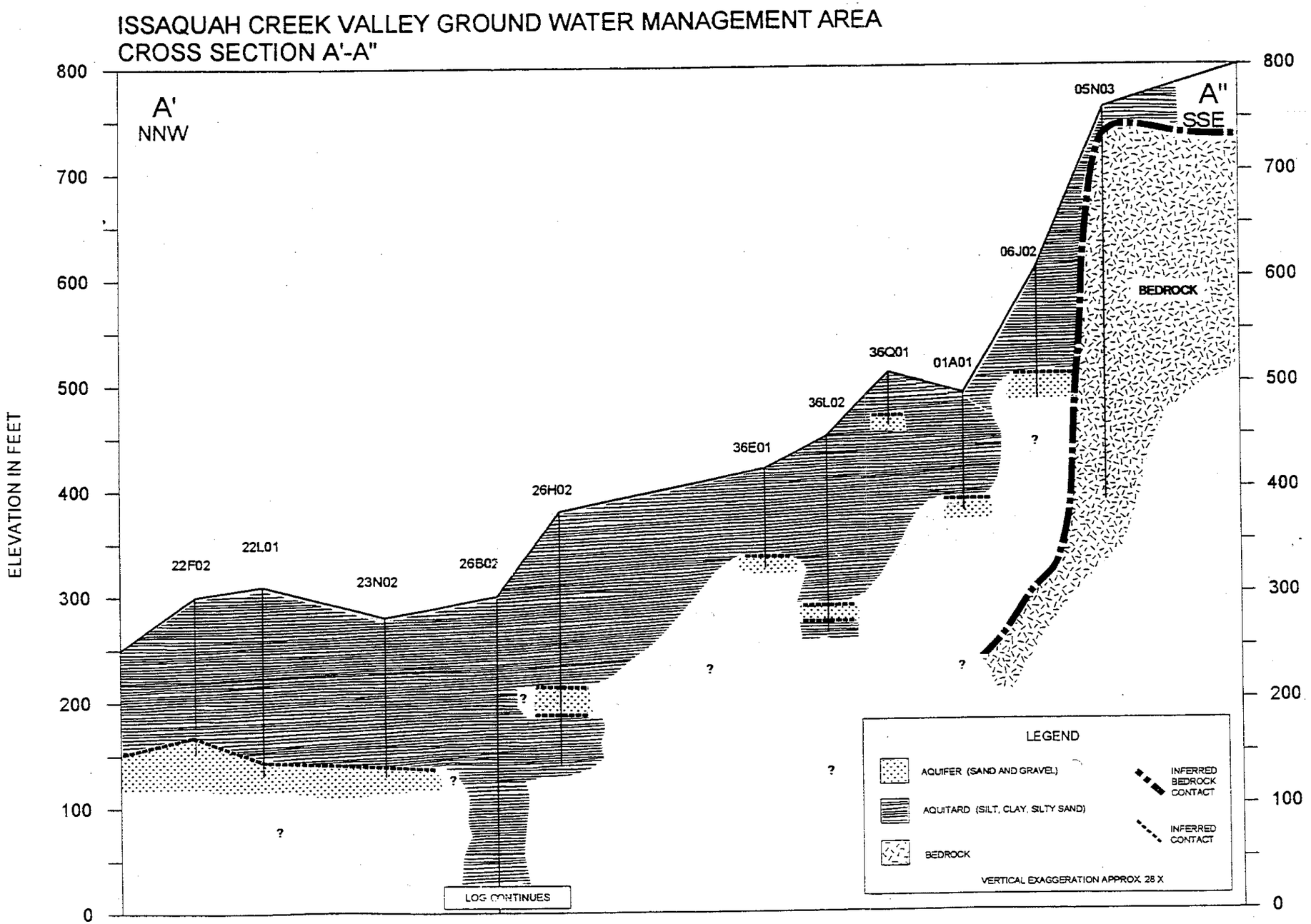



Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

Fig. 7.23 Preston Industrial Park

Fig. 7.7 Cross Section A'-A"

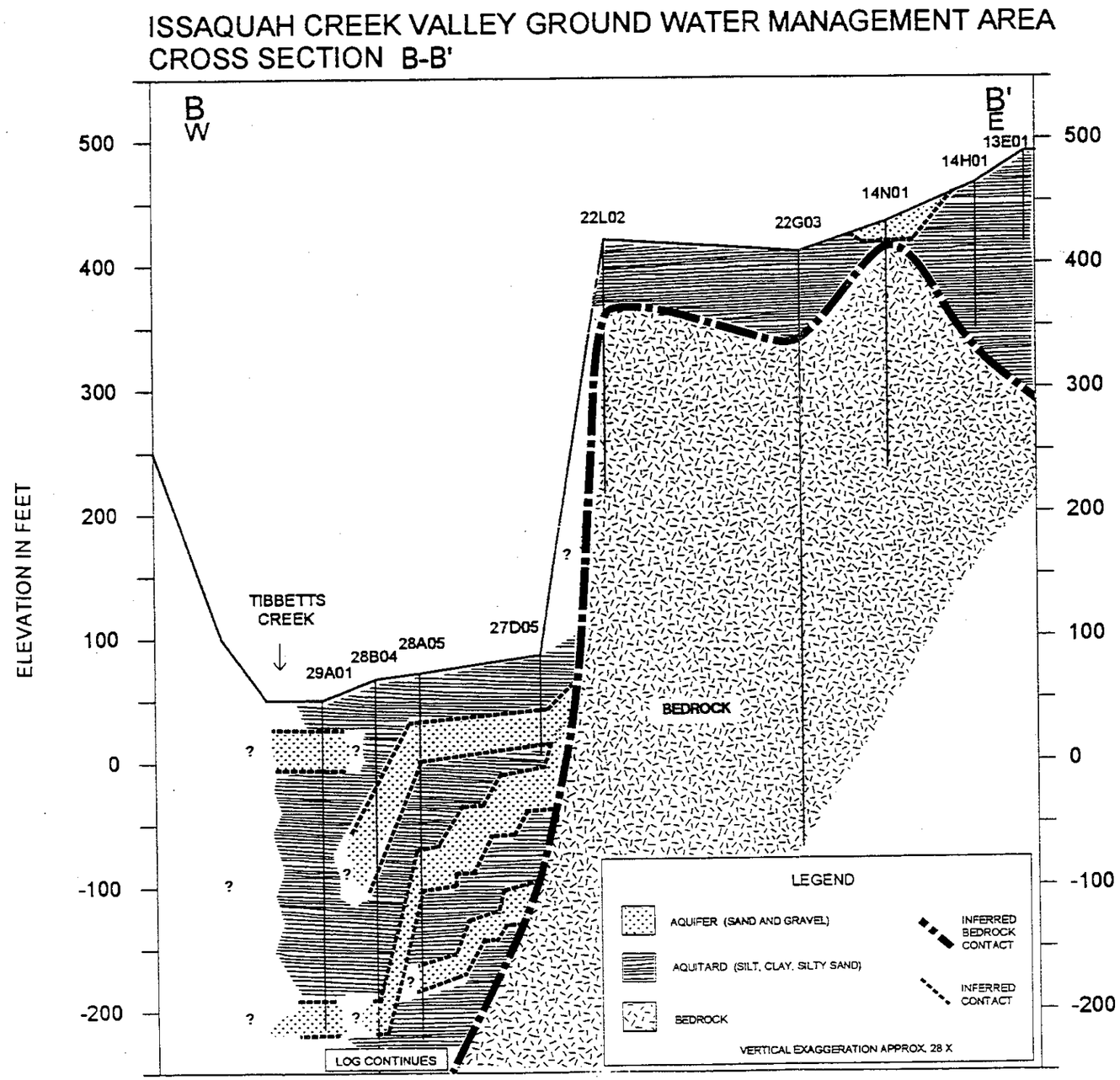



Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

SCALE IN MILES

0 .5 1

Fig. 7.8 Cross Section B-B'

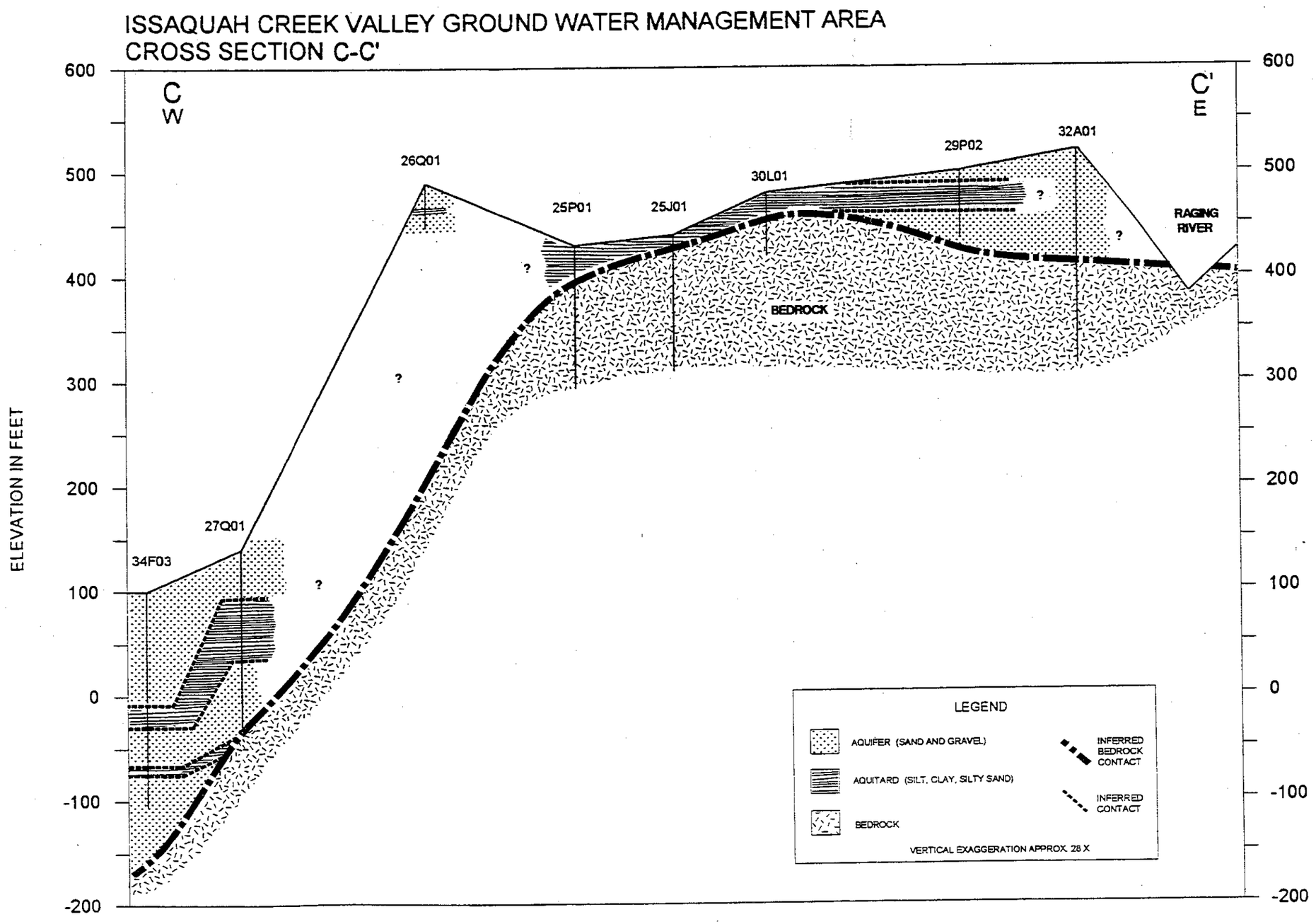



Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

SCALE IN MILES

0 .5 1

Fig. 7.9 Cross Section C-C'




Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

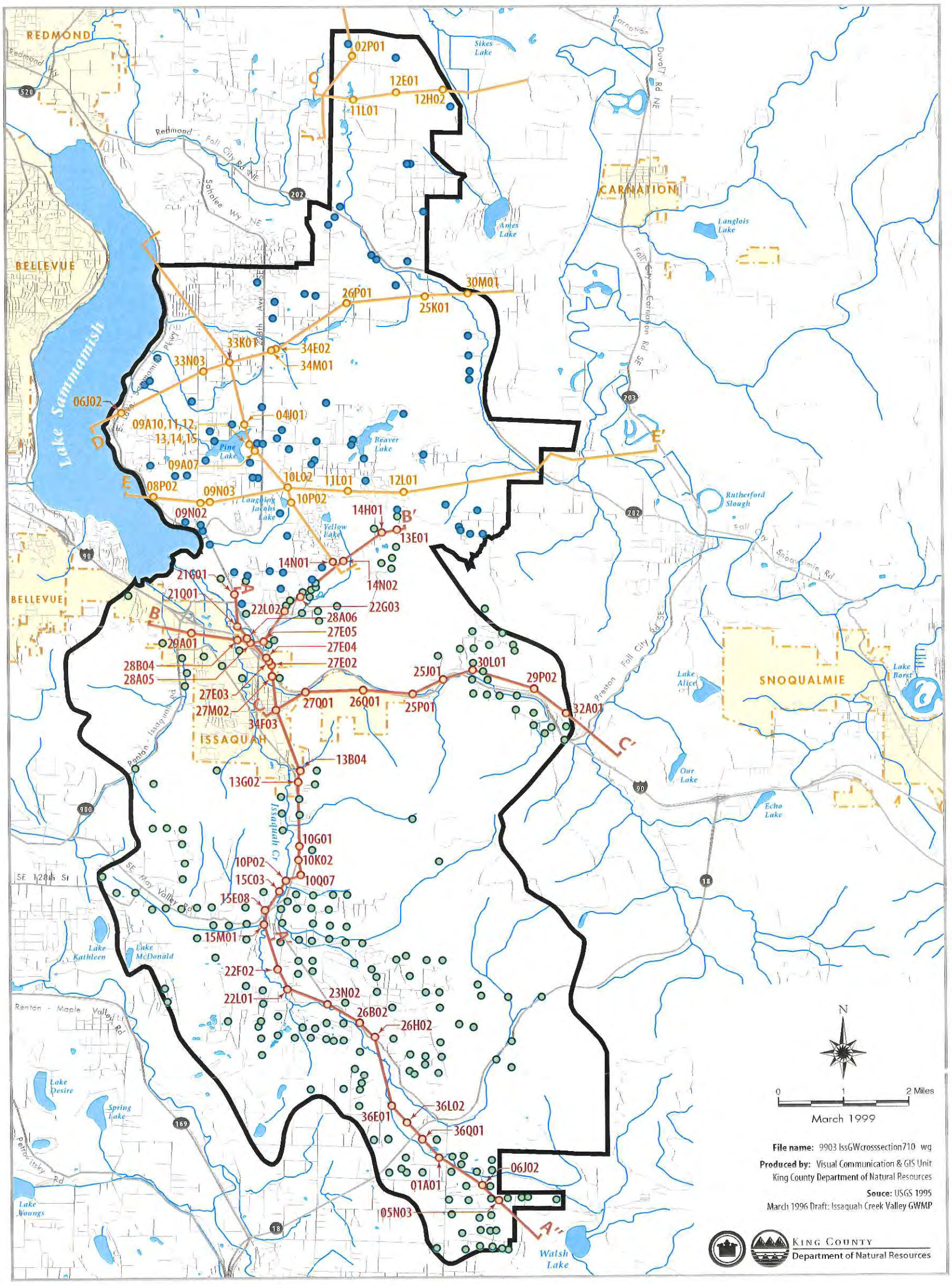
SCALE IN MILES

0 .5 1

Figure 7.10

# Cross Section Location Map

*Issaquah Creek Valley Ground Water Management Area*

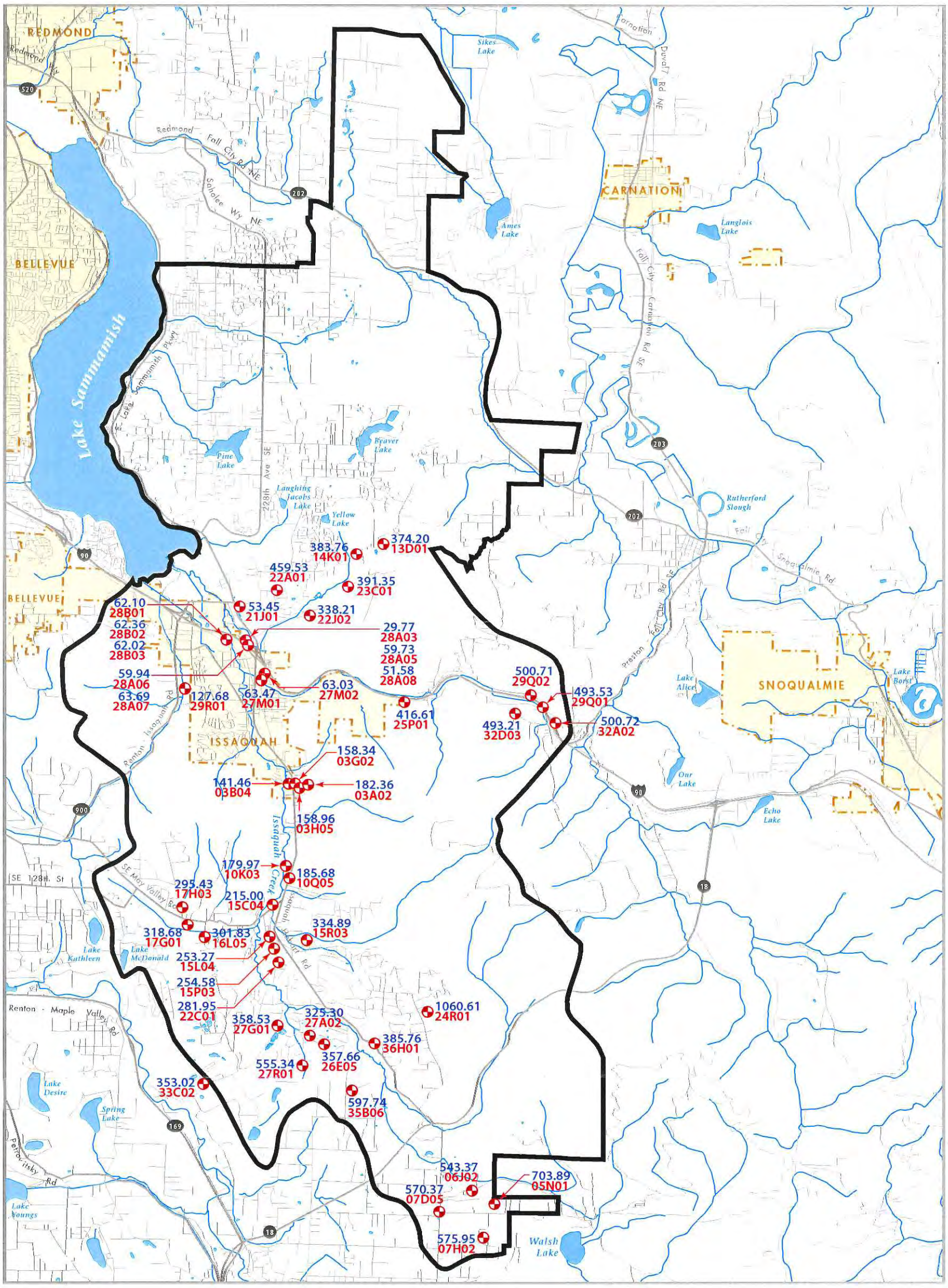



- Approximate Well location from IGWMA Database
- 05N03 Approximate Well location used in IGWMAHydrogeologic Cross Section
- A A' Hydrogeologic Cross Section Location In Original Issaquah Creek Valley GWMA
- Approximate Well location from USGS Database
- 05N03 Approximate Well location used in USGS Hydrogeologic Cross Section
- D D' Hydrogeologic Cross Section Location in Sammamish Plateau Area, See USGS (1995)
- Stream/Lake
- Groundwater Management Area
- Incorporated Area

Figure 7.11

# Well Location Map

*Issaquah Creek Valley Ground Water Management Area*




Well Included in Monthly Monitoring

570.37 Water Level (Dec. 1990)

07D05 Location Identifier

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

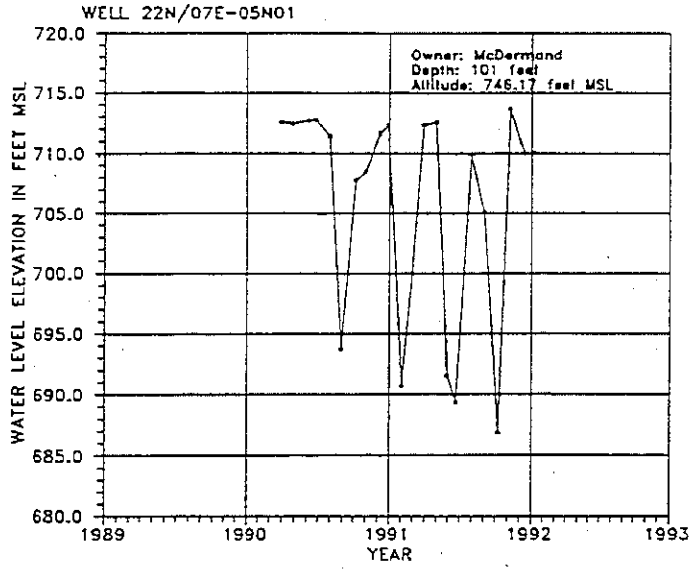
**File name:** 9903 IssGWwells711 wg

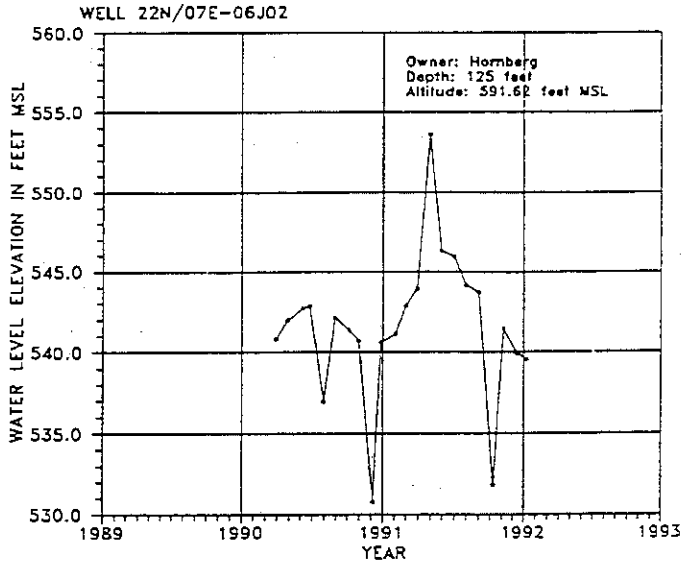
**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

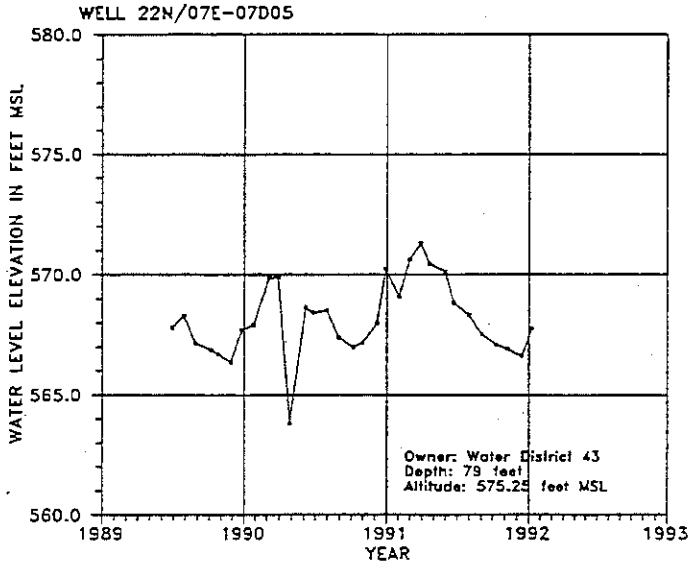
**Source:** 1996 Issaquah Creek Valley GWMP

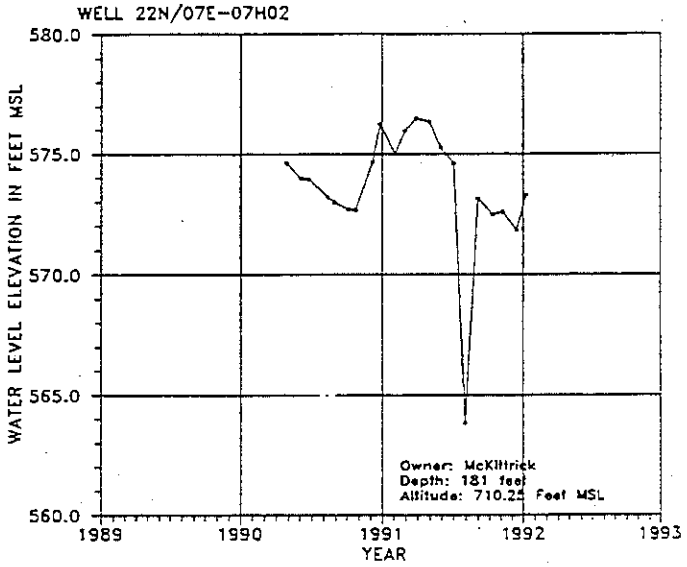
King County
Department of Natural Resources

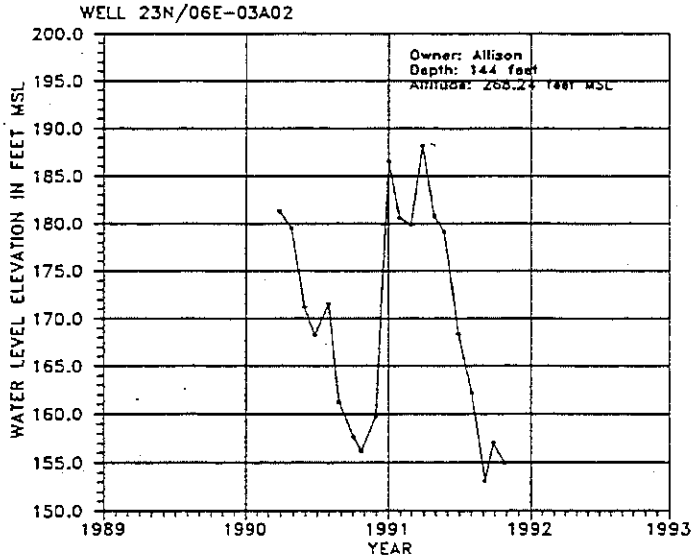
# Issaquah Ground Water Management Program

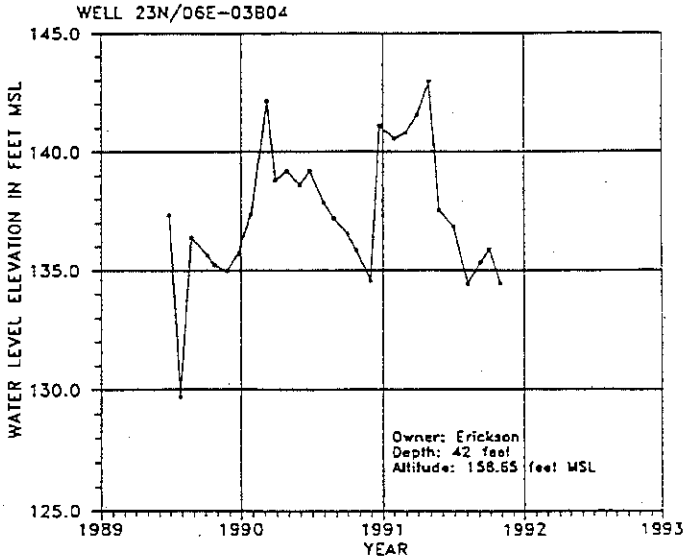


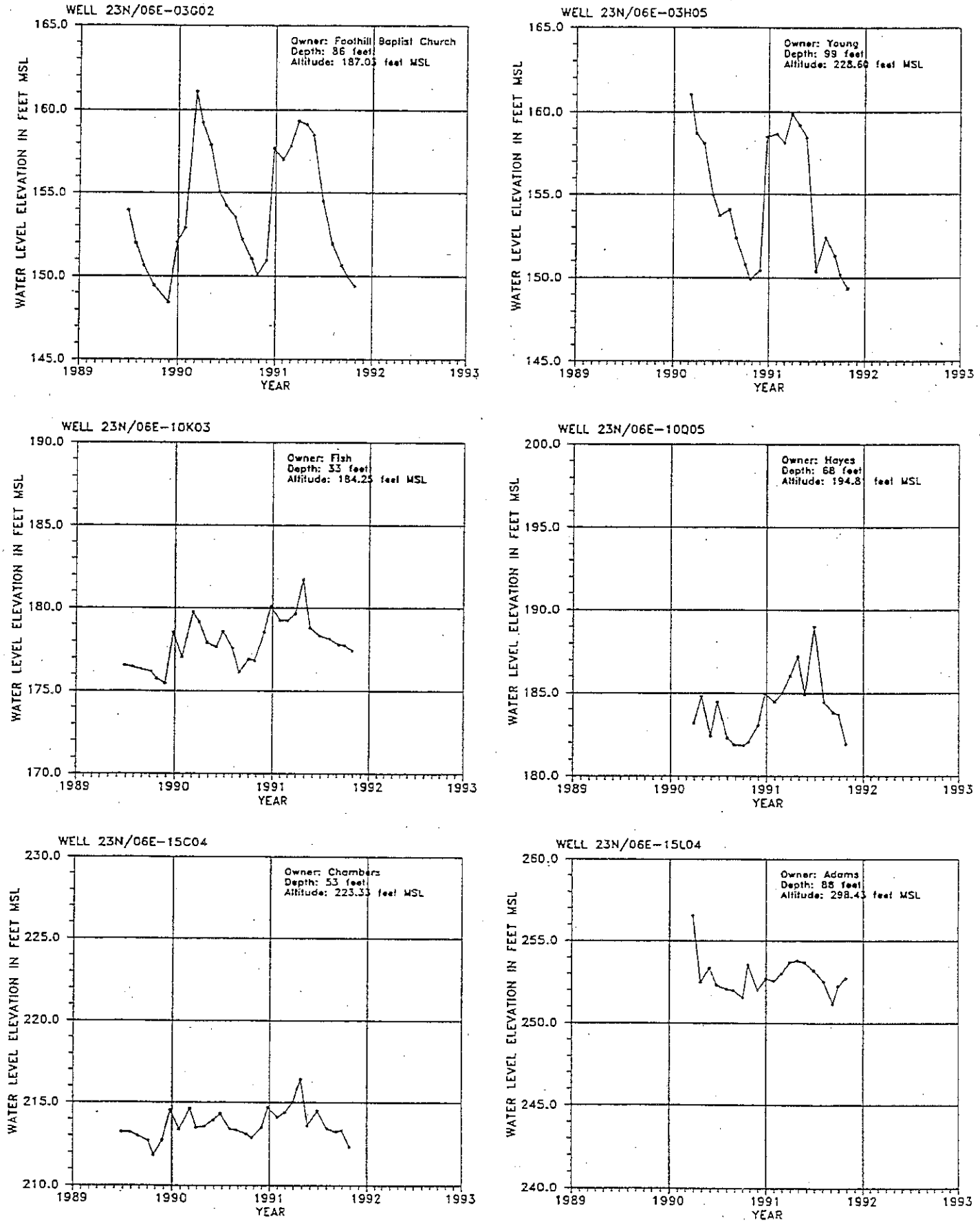




Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

**Fig. 7.12A Water Level Trend**

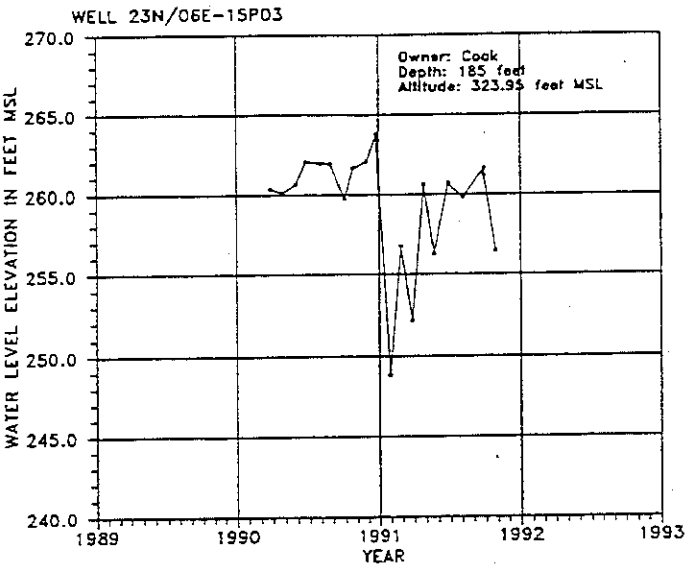
# Issaquah Ground Water Management Program

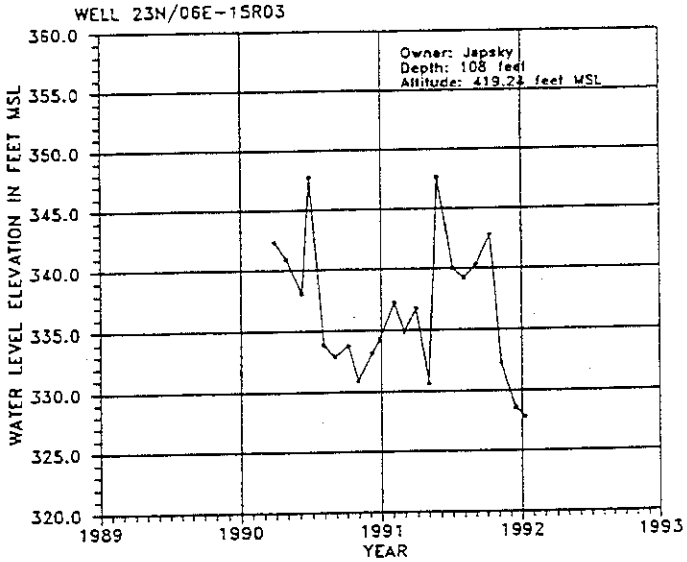


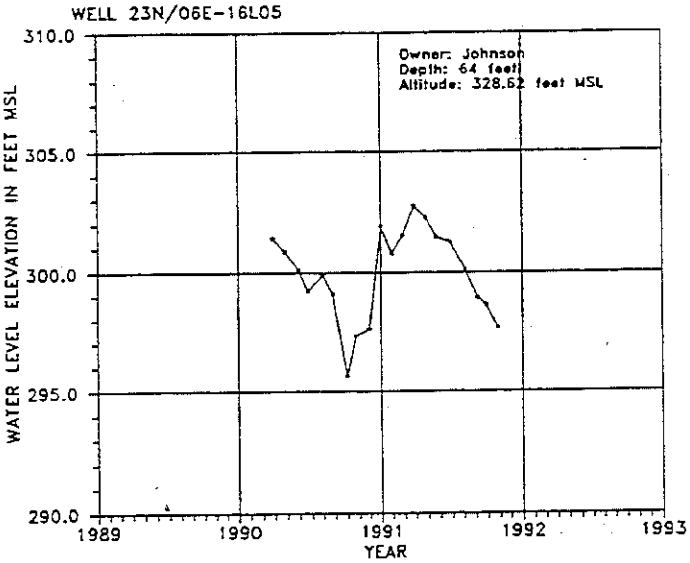

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

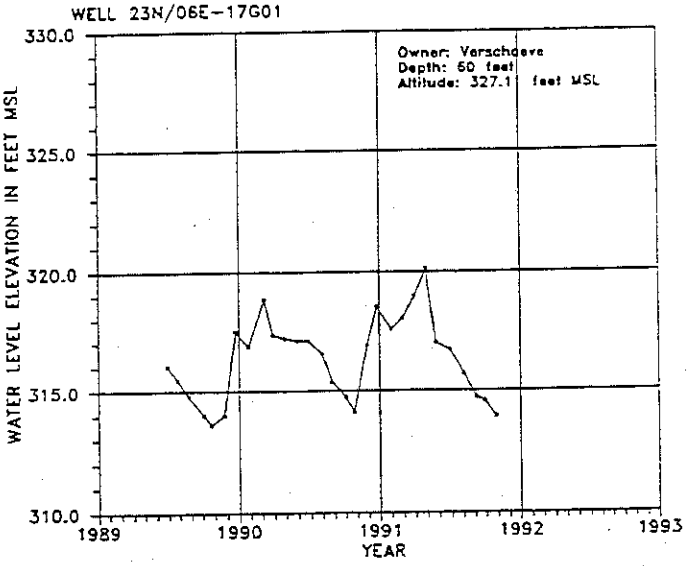
**Fig. 7.12B Water Level Trend**

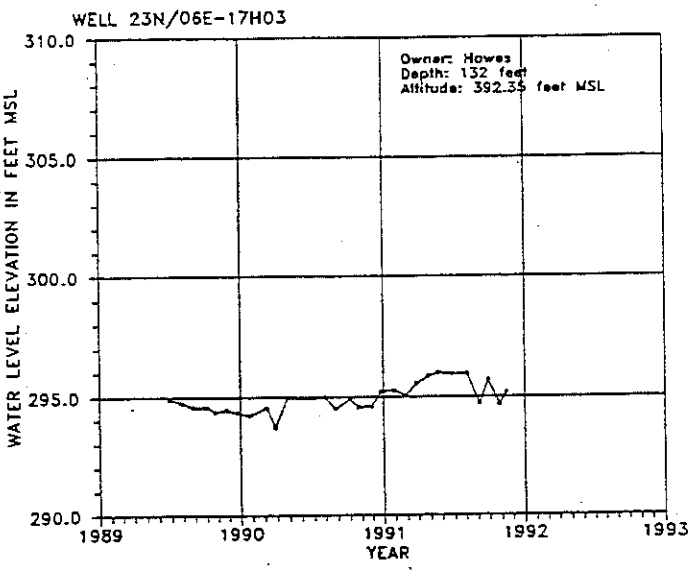
# Issaquah Ground Water Management Program

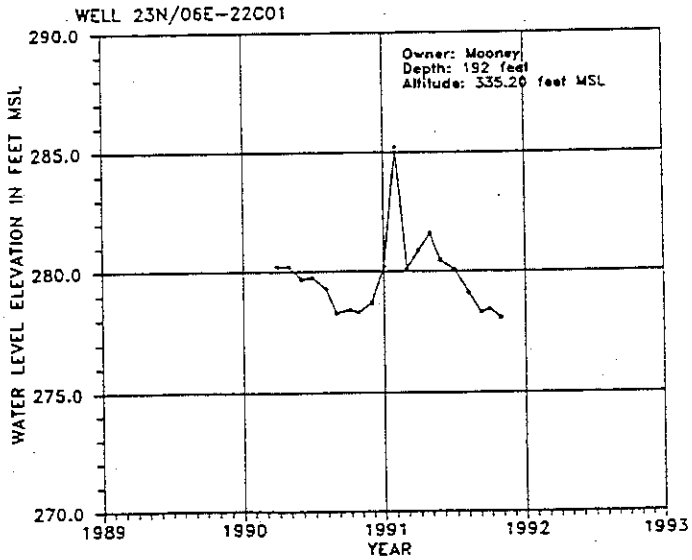


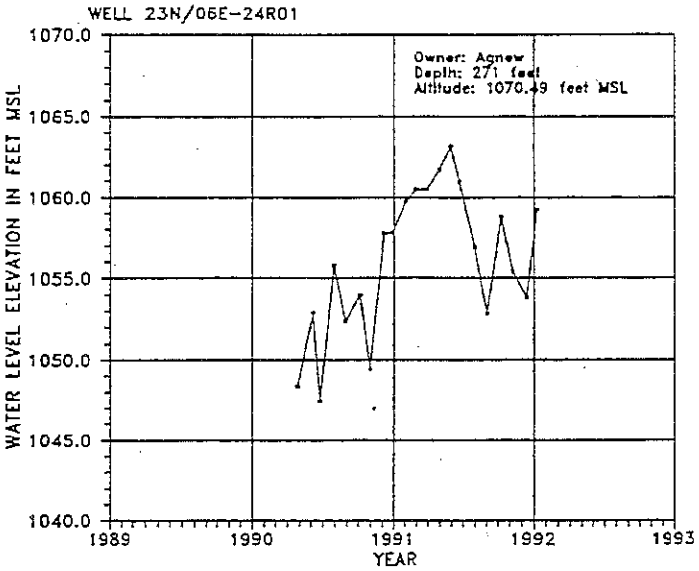



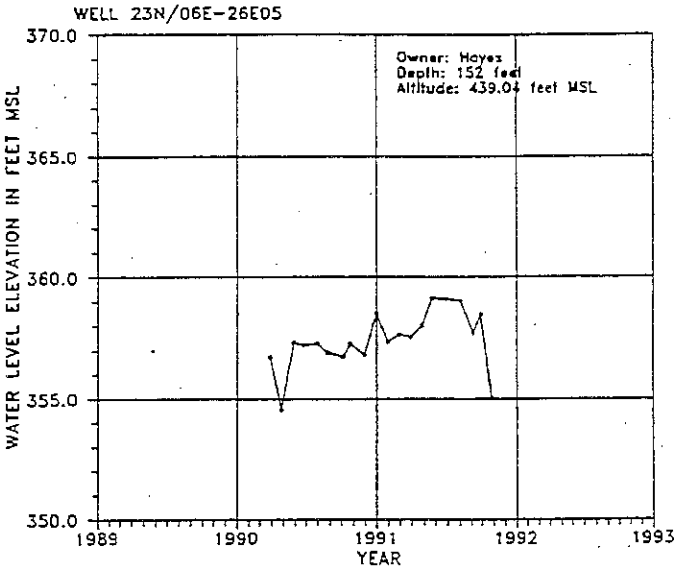



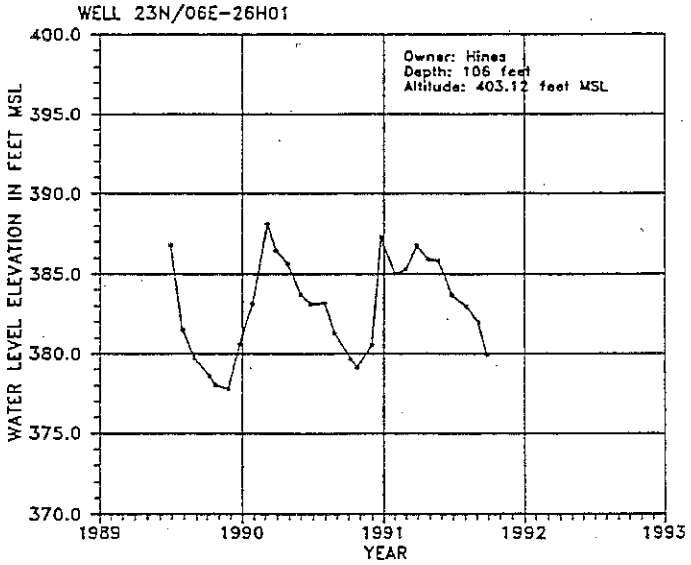

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

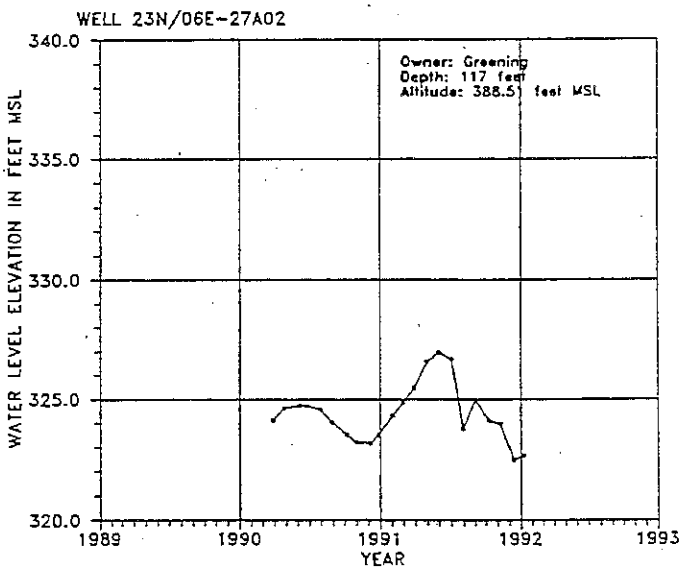
**Fig. 7.12C Water Level Trend**

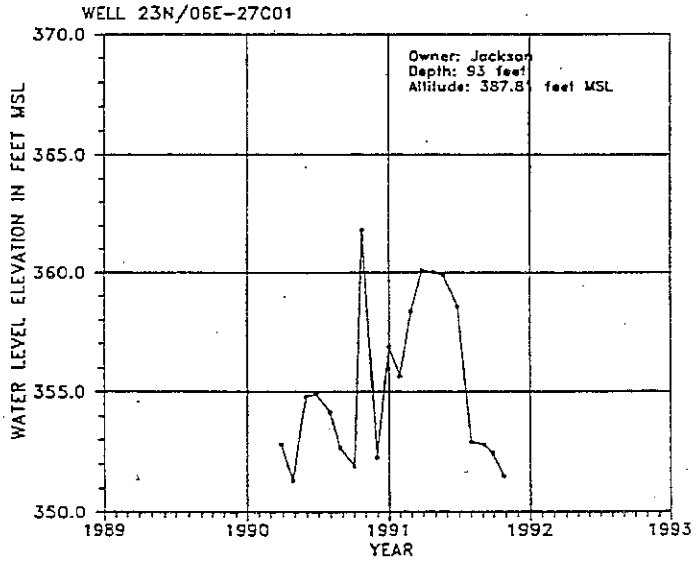
# Issaquah Ground Water Management Program

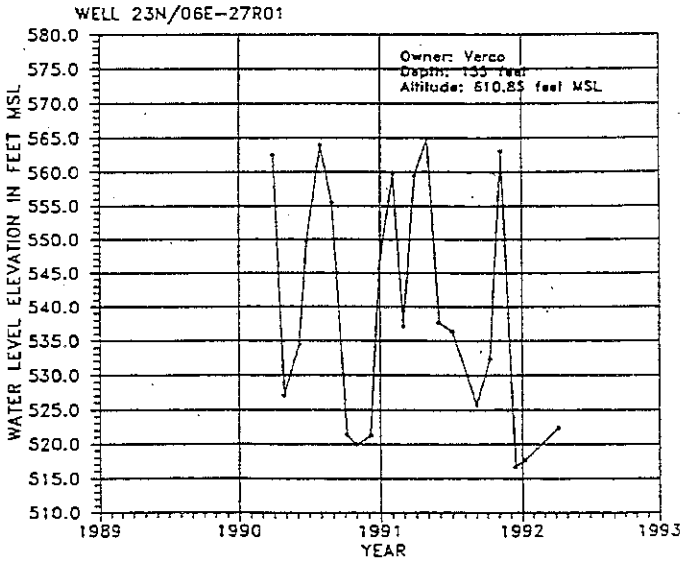


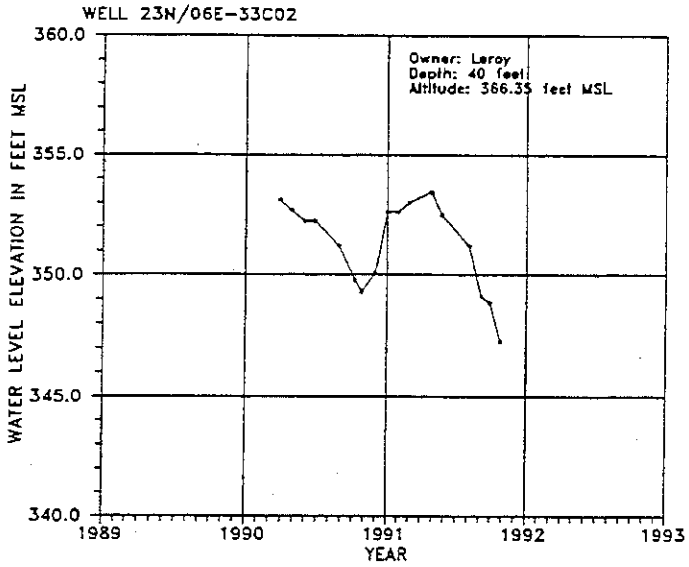



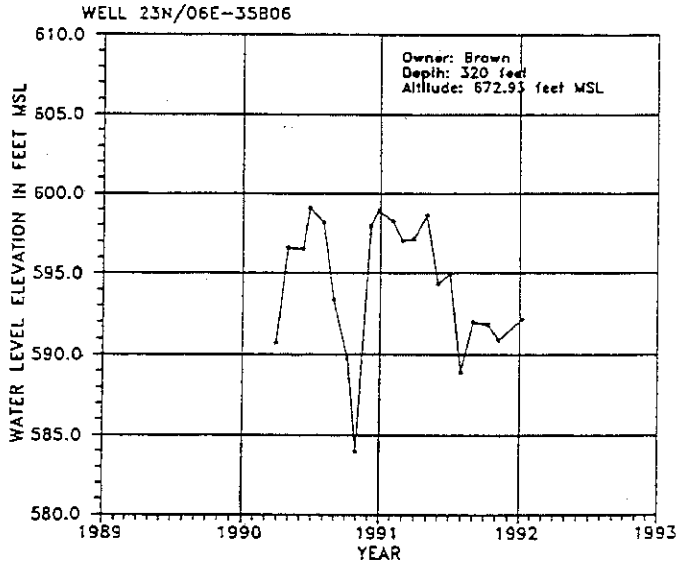



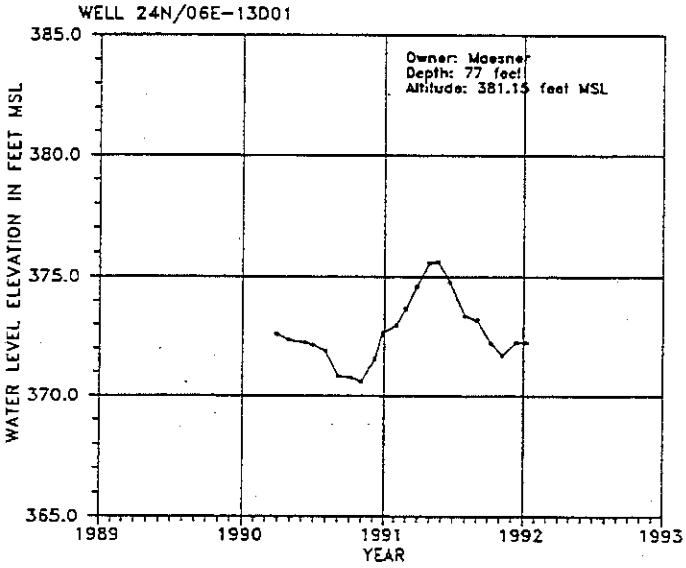

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

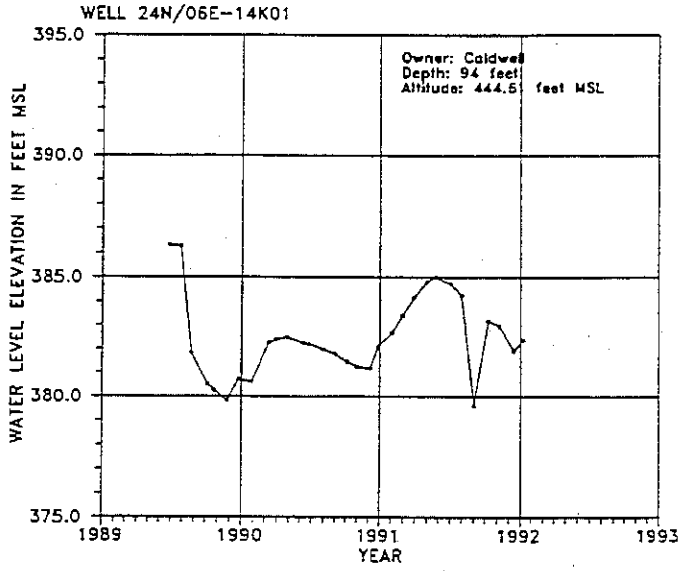
**Fig. 7.12D Water Level Trend**

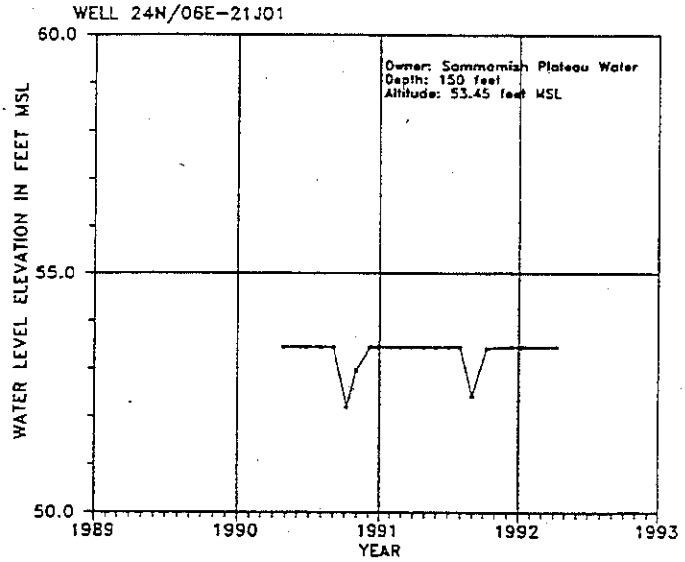
# Issaquah Ground Water Management Program

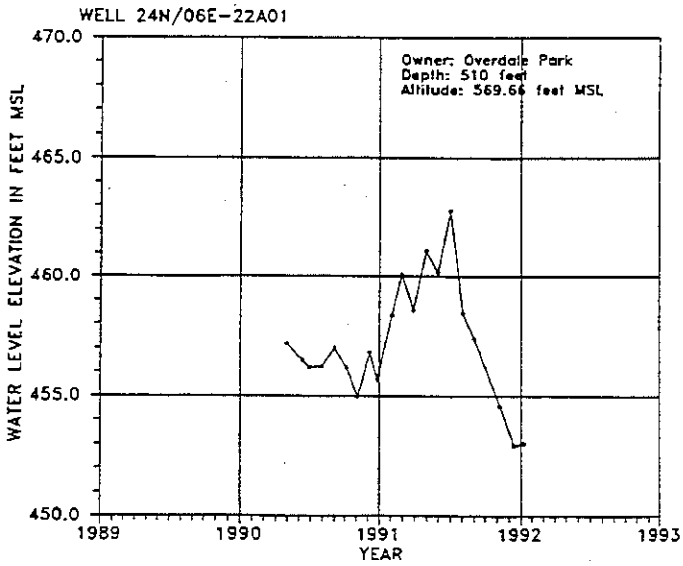


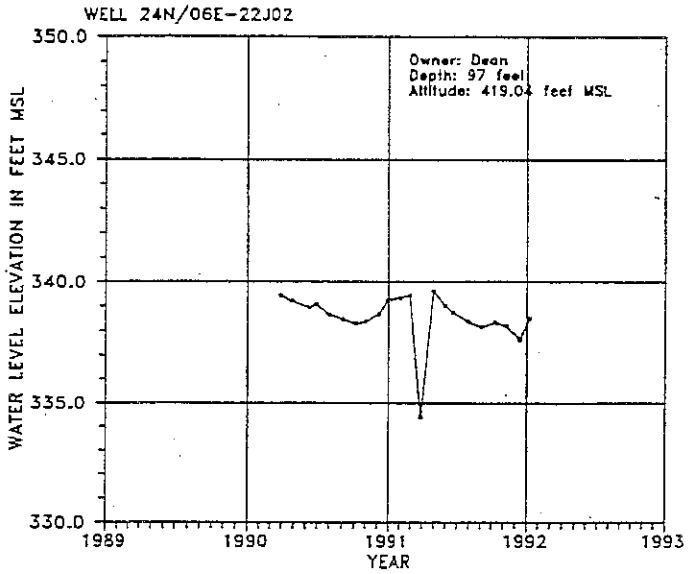



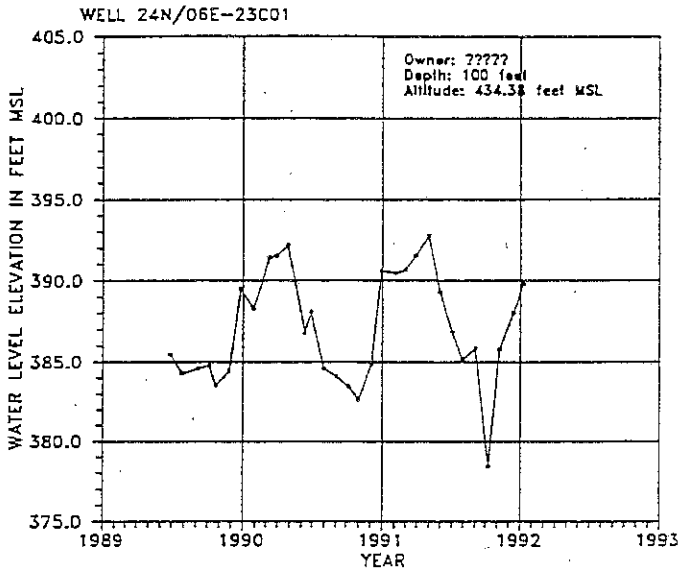



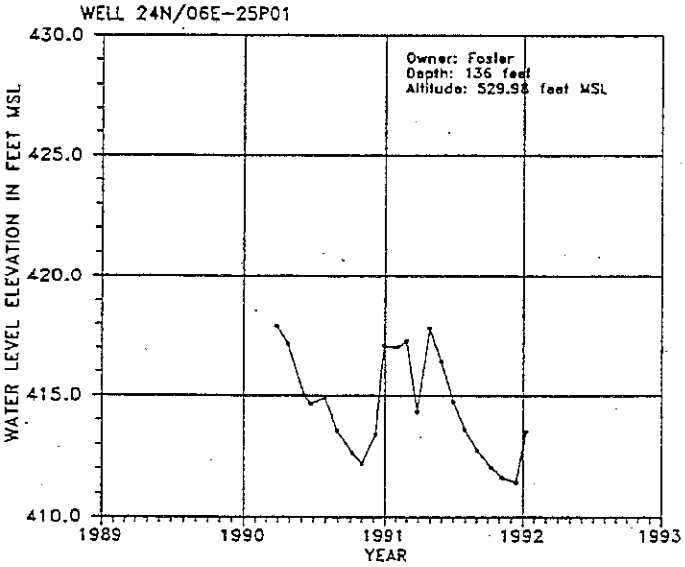

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

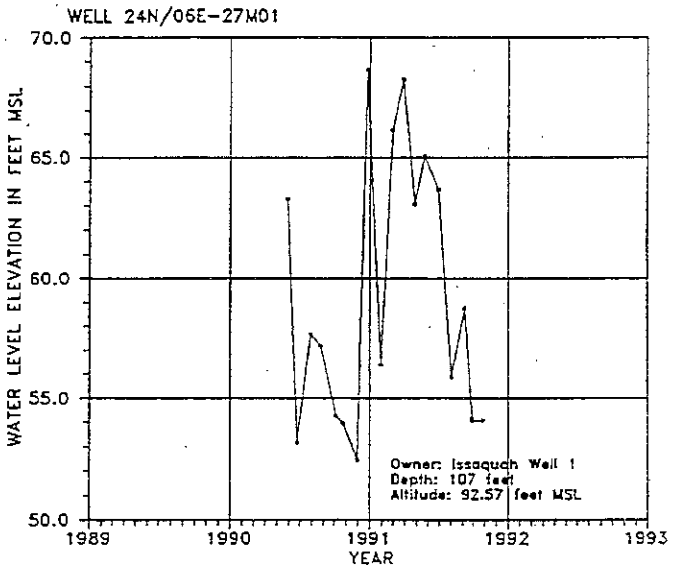
**Fig. 7.12E Water Level Trend**

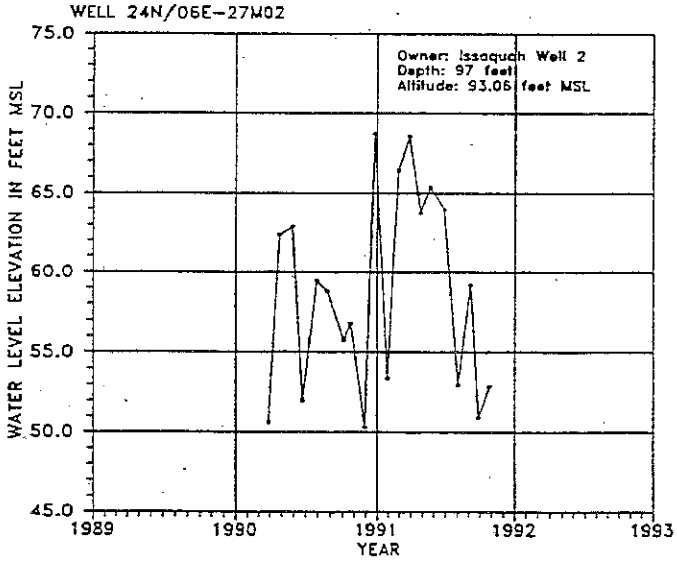
# Issaquah Ground Water Management Program

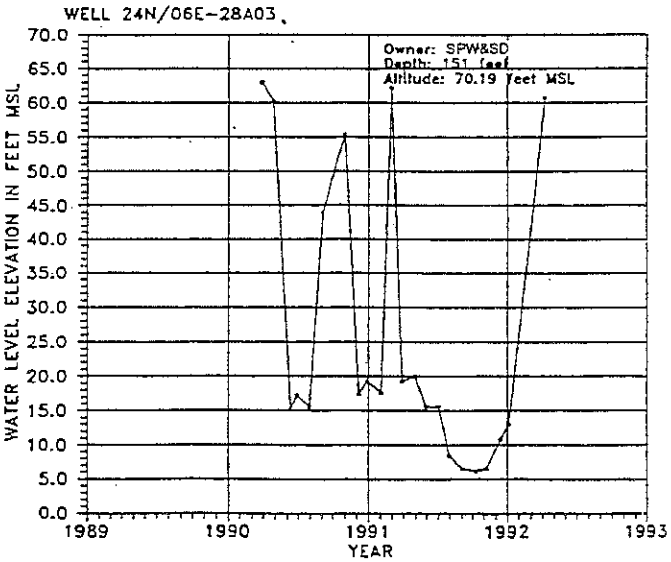


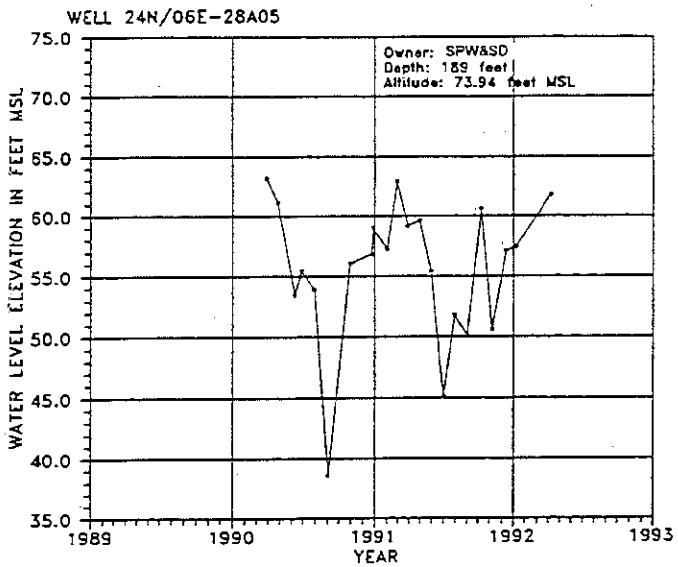



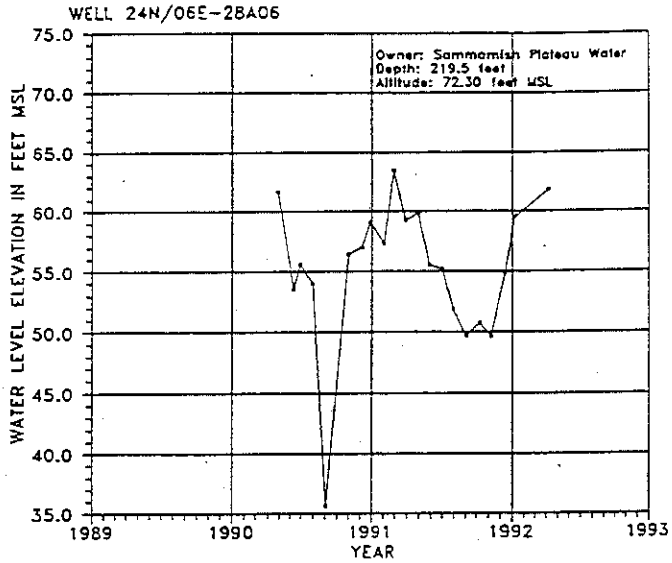



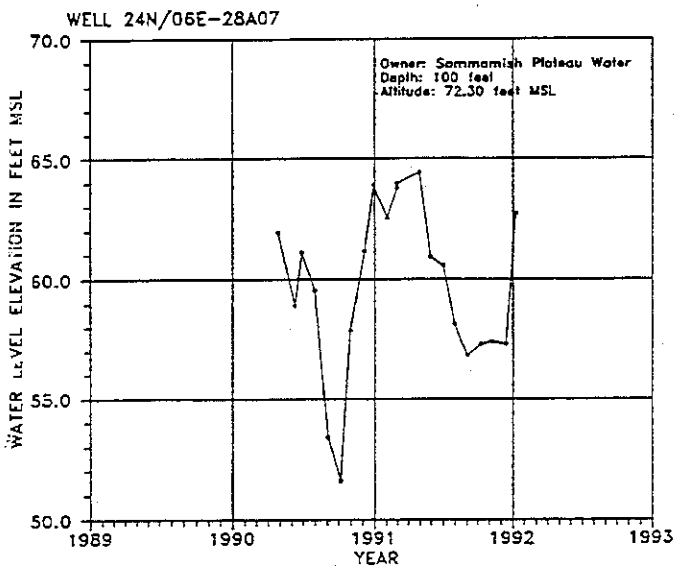

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

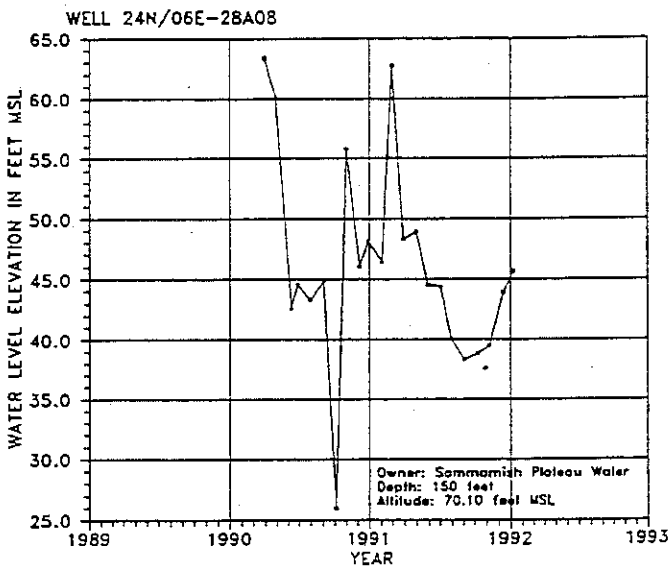
**Fig. 7.12F Water Level Trend**

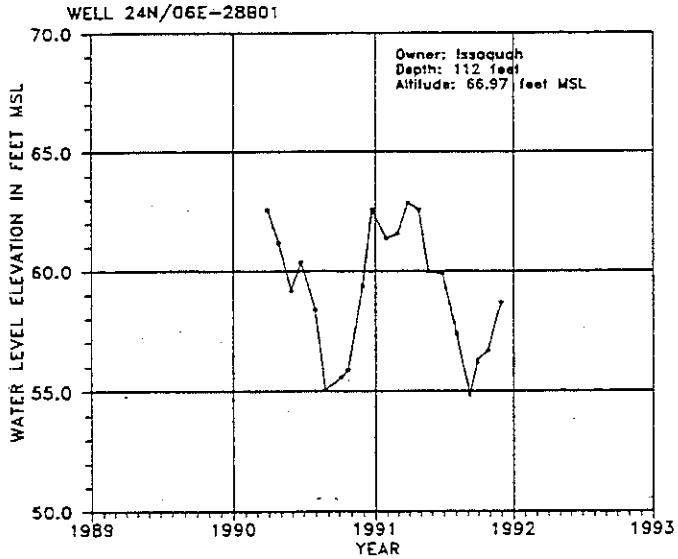
# Issaquah Ground Water Management Program

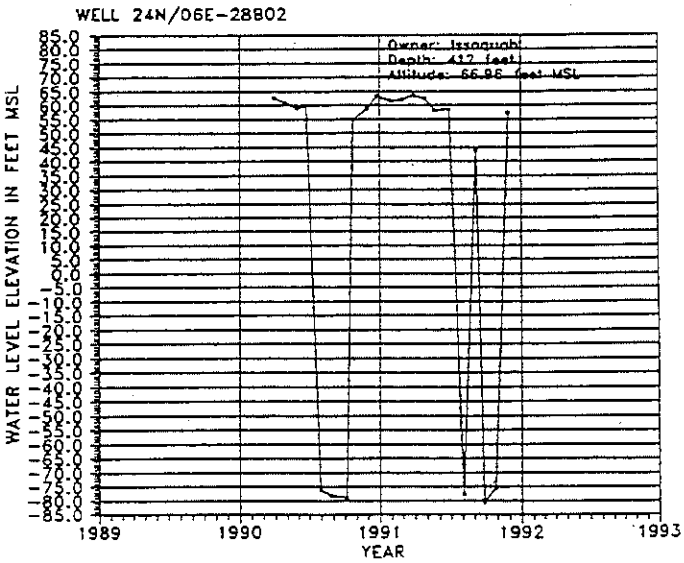


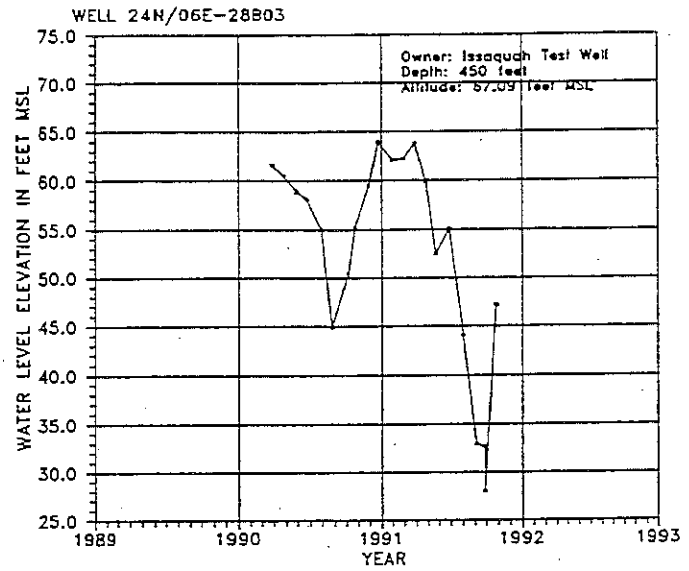



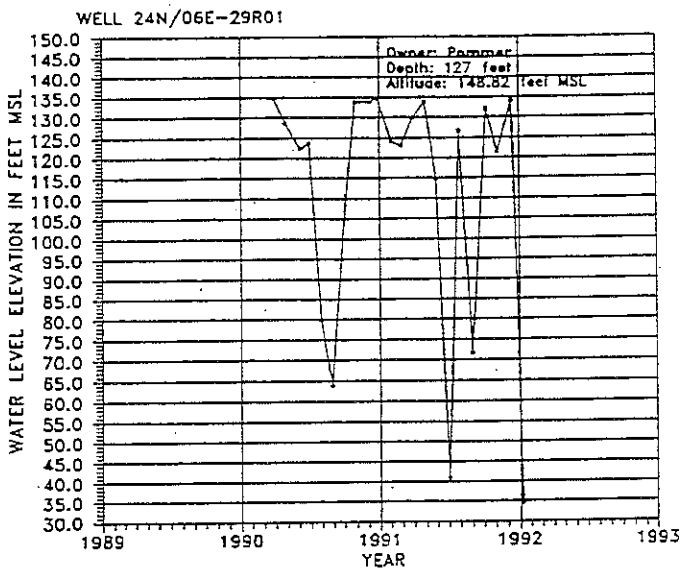



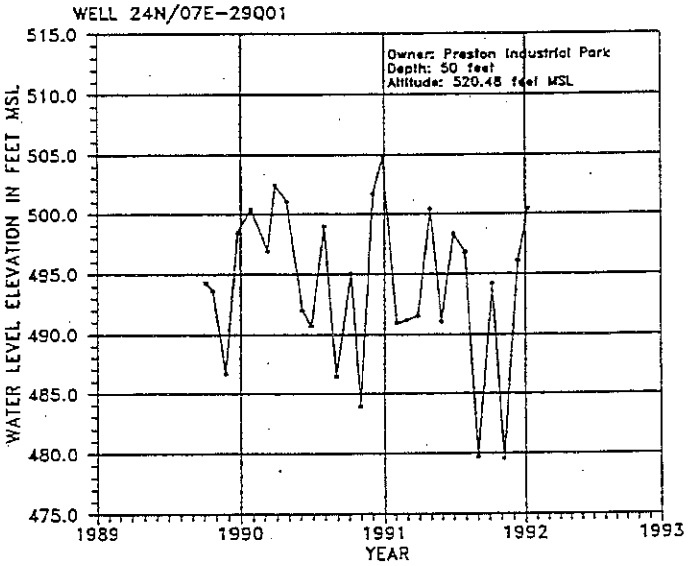

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

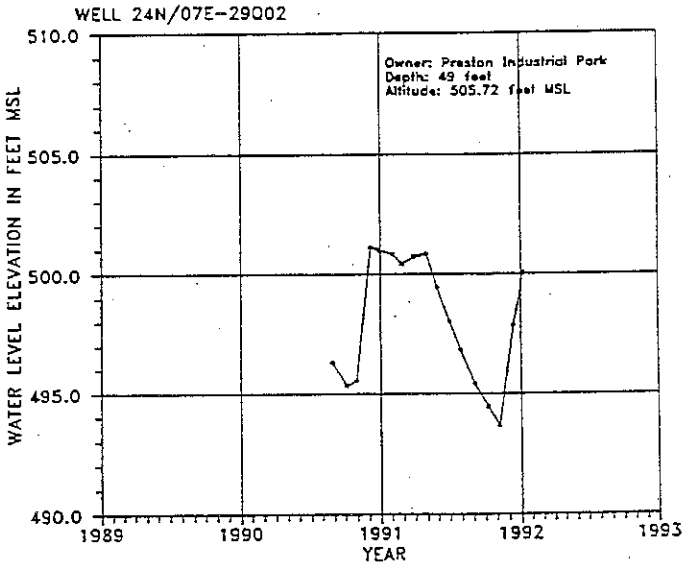
**Fig. 7.12G Water Level Trend**

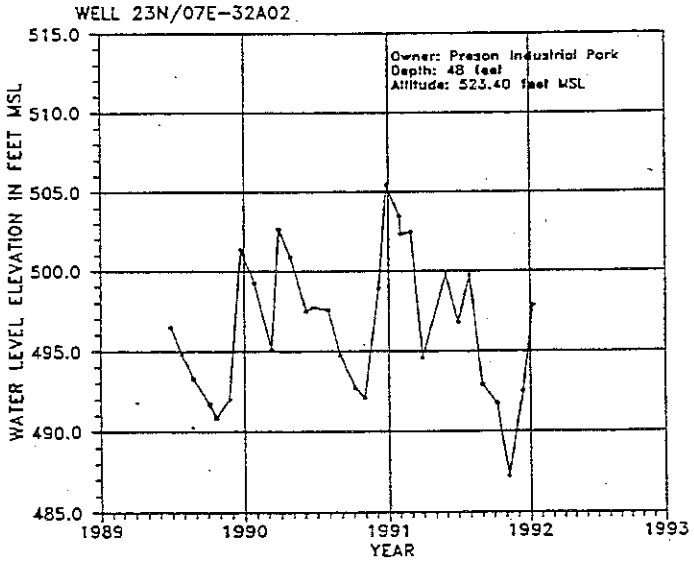
# Issaquah Ground Water Management Program

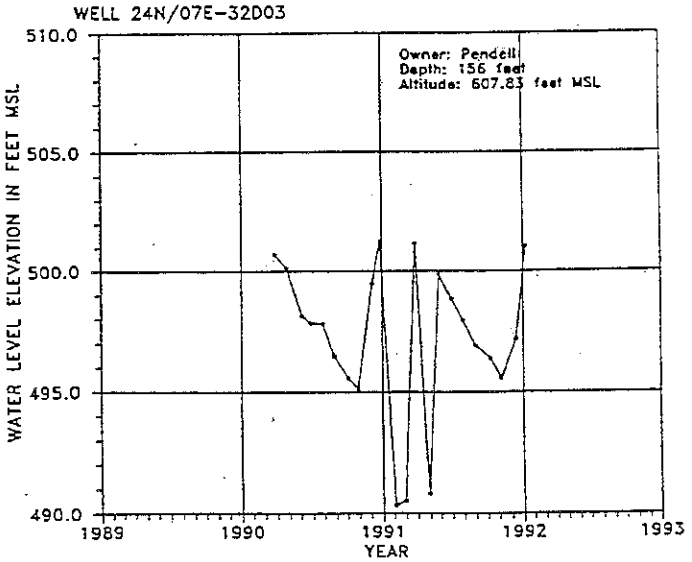


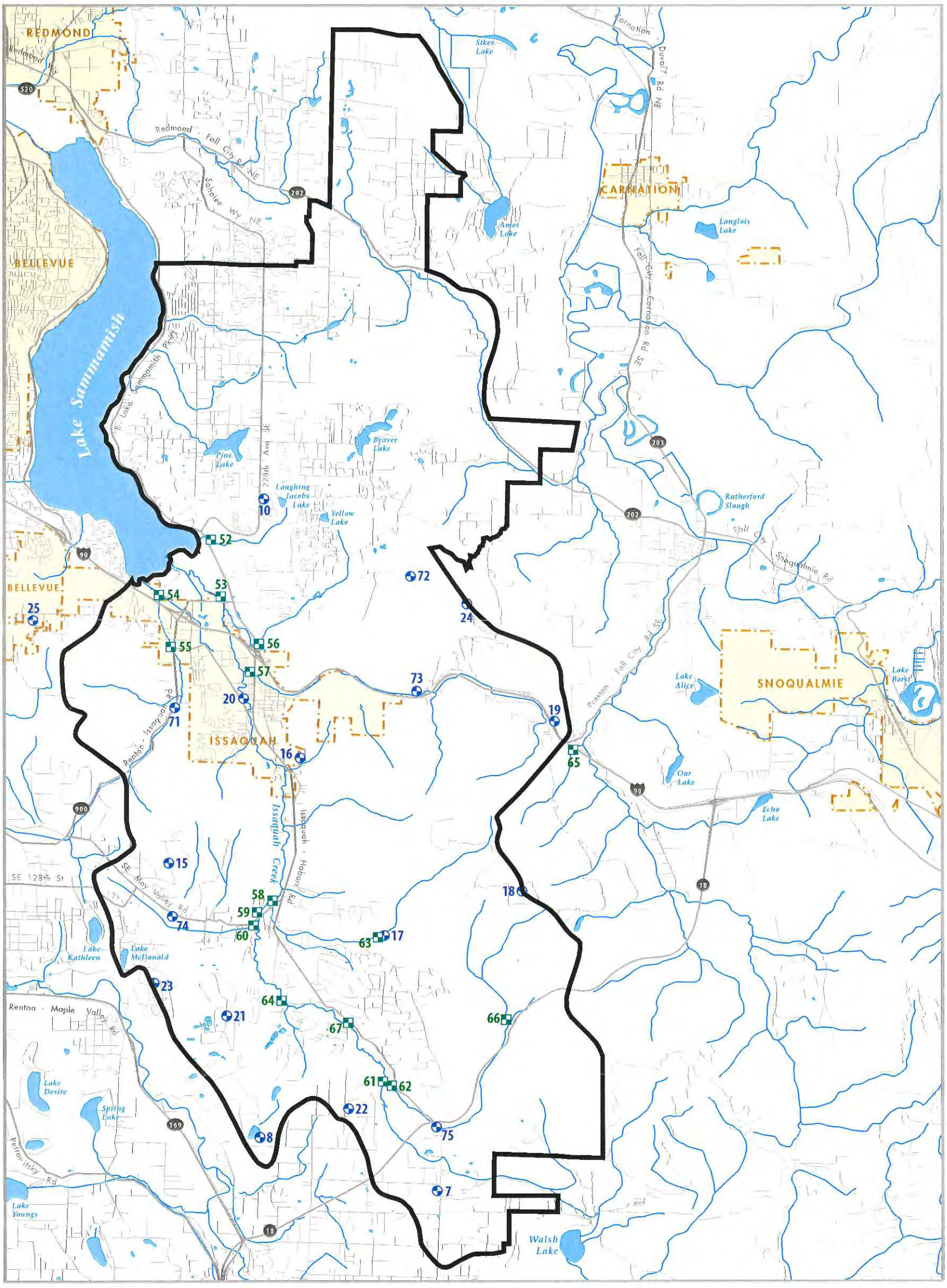

Source: Task 5: Hydrogeological Report - Carr/Association Sept. 1993

Fig. 7.12H Water Level Trend

Figure 7.13

# Precipitation and Stream Gauging Sites

*Issaquah Creek Valley Ground Water Management Area*




21 Precipitation Gauge and Number

66 Stream Gauge and Number

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

March 1999

**File name:** 9903 IssGWprecipSTREAM713 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

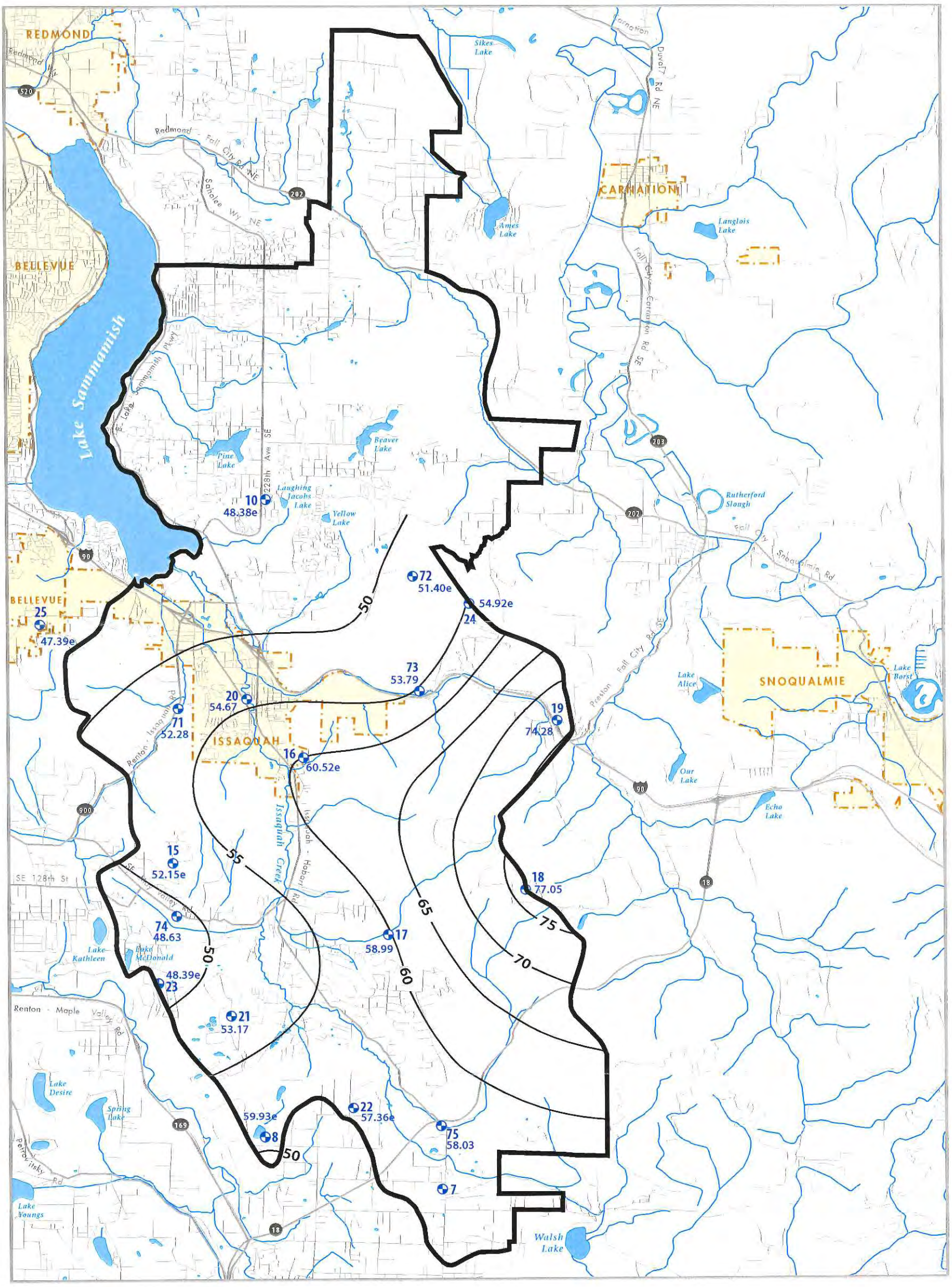
**Source:** 1996 Issaquah Creek Valley GWMP

King County
Department of Natural Resources

Figure 7.14

# Precipitation Isohyetals 1988 Data Analysis

*Issaquah Creek Valley Ground Water Management Area*




50 Precipitation Isohyetals

75 Precipitation Gauge and Number

58.03 1988 Annual Precipitation in Inches ("e" indicates that value was estimated from 1990 data)

Stream/Lake

Groundwater Management Area

Incorporated Area

N

0 1 2 Miles

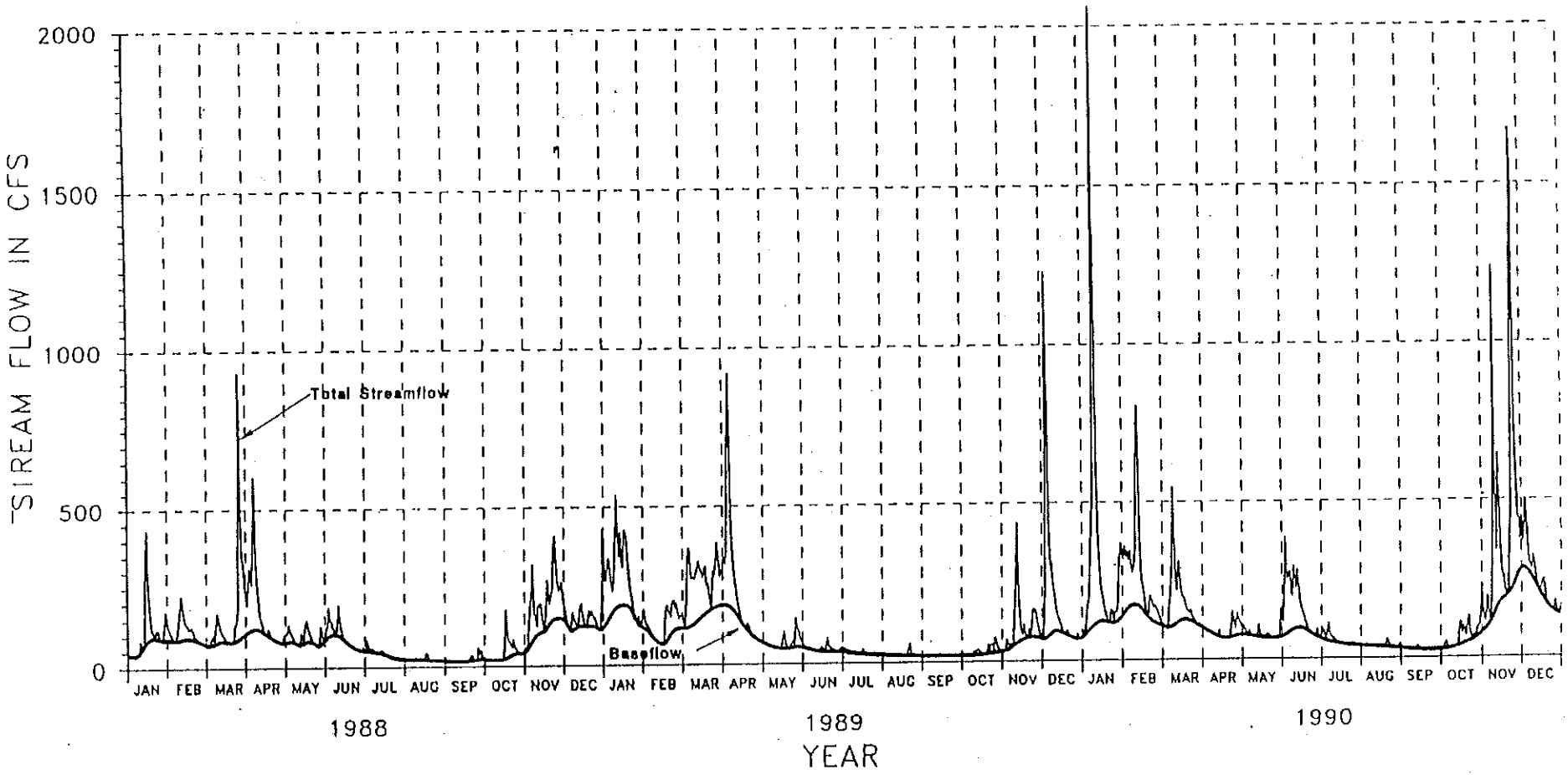
March 1999

**File name:** 9903 IssGWprecipISOHYETALS714 wg

**Produced by:** Visual Communication & GIS Unit
King County Department of Natural Resources

**Source:** 1996 Issaquah Creek Valley GWMP

King County
Department of Natural Resources




Source: Task 5: Hydrogeological Report - Carr/Associates. Sept. 1993

**Fig. 7.15 Total Stream Flow and Baseflow Hydrographs USGS Stn. 121216**