DRAFT CLOSURE REPORT
ON

INTERSTATE REMOVAL ACTION 1998 - 1999

Submitted by:

Silver Valley Natural Resource Trustees
Kellogg, Idaho

May 8, 2000

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

TABLE OF CONTENTS

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 1 – EXECUTIVE SUMMARY

Historic mining practices left contaminated sources in Nine Mile Creek, a tributary of the South Fork Coeur d'Alene River near Wallace, Idaho. The majority of zinc loading to the Nine Mile Creek occurs upstream and is attributed to the reaches in East Fork that include the Interstate-Callahan Mill area and the Success Mine/Mill area. The sources for the loading are seeps, subsurface ground water discharge along the length of the tailings piles but most evident at the downstream seeps, and mixed tailing/alluvium in the floodplain above and below the sites.

A voluntary, non-time critical CERCLA action was planned at the Interstate Mill Site by a multi-agency, owner and stakeholder group beginning in 1998. EPA approved the proposed removal action in July, 1998. The CERCLIS identification number is IDD048340921. Mill site tailings were excavated and an on-site repository built. The project removed 60,300 cubic yards of tailings from the mill site and adjoining one mile of floodplain of East Fork Nine Mile Creek.
Final cost of the project was $543,000, with funding from the Silver Valley Natural Resource Trustees and Hecla Mining Company.

PRIMARY DOCUMENTS:

"Idaho State Natural Resource Damage Trust Fund, Trustee Action Plan 1994, South Fork Coeur d'Alene River," Marti Calabretta, 1994.

"Final Work Plan for the Interstate Mill Response Action", Golder Associates Inc. Redmond Washington for the Silver Valley Natural Resource Trust Fund, March 20, 1998.

"Engineering Evaluation/Cost Analysis for the Interstate Mill Site," USEPA , July 7, 1998.

Approval Memorandum for a Removal Action at the Interstate Mill Site, USEPA, dated and signed by Randall F. Smith, July 13, 1998.

"Hydrological Investigation: Interstate Mill, Wallace, Idaho, SVNRT by Golder Associates Inc. Redmond, WA , February 18, 1998.

"Geophysical Survey, Interstate Mill, Wallace, ID, SVNRT by Golder Associates Inc. Redmond, WA, February 18, 1998.

"Hydrologic and Geophysical Investigations at the Interstate Mill Site, East Fork Ninemile Creek, ID: A case for seeps unrelated to Infiltration.", by Mitchell Linne and Jody Fay, US Bureau of Mines Wetern Field Operations Center, Spokane, WA, January, 1996.

"Construction Documents for Interstate Mill Removal Project." Silver Valley Natural Resource Trustees. Contractor Billing Worksheets, Daily Construction Reports, QA/QC, Consultant Reports and Team Meeting Reports. 1998-1999

PROJECT GOALS

The Interstate Mill Response is a voluntary, cooperative, jointly planned and sponsored project to reduce zinc loading from groundwater at an historic millsite in East Fork Ninemile Creek near Wallace Idaho.

1) Involve the property owner, Hecla mining company in the planning and long term O & M of the remedy.
2) Continue a multi-agency and stakeholder approach to characterization and planning.
3) Determine the source of loading within the site, including reviewing historic documents, geophysical and hydrologic data about the site.
4) Make use of materials on and near the site, and build the repository on the site.
5) In open contracting and bid process, seek the most cost efficient construction process available.
6) Evaluate over time the effectiveness and the possible need for in situ water treatment of remnant zinc.
7) Use CERCLA non-time critical approval process with EPA oversite.

PROJECT ACCOMPLISHMENT

Project Goals were accomplished through project construction over two seasons, 1998-1999. Characterization, planning, EECA process and final approval were accomplished over a five month period due to excellent cooperation between all agencies, owner and parties. Project estimated at $800,000 was completed with all costs included for $520,000. The Construction contract was awarded to ERI of Smelterville Idaho for a bid of $353,000, with actual work totaling $329,000.
Surface water and seep sampling in summer 1999 showed an immediate possible reduction in zinc load of 80%, but subsequent multiple event sampling will be needed to evaluate the effectiveness of the project.

Early effectiveness monitoring indicates there may be a remnant seep below the millsite from a side drainage. This location will be the possible site for a water treatment remedy designed by Bechtel and Associates from the INEEL project, who will provide free consultation for an passive treatment application on a small groundwater source.

This Site completion Report documents that the Silver Valley Natural Resource Trust and other sponsors have completed activities for the Interstate Mill site Response in accordance with the work plan. The response is a non-time critical CERCLA aqction occurring in 1998 and 1999. Mr. Earl Liverman, OSC, has met with the project manager and technical implementation team on an as-needed basis. Environmental consultant Golder Associates oversaw critical points of construction and reviewed QA/AC done by AGRA Earth and Environmental.

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 2 -INTRODUCTION

Long term Operations and Maintenance of the repository are the responsibility of the owner Hecla Mining Company after the second year after completion fall 2001. Repairs of stabilization instream features, additional erosion controls and or additional vegetation will be done by the SVNRT. Long term effectiveness monitoring is done by surface water sampling done by Idaho DEQ.

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 3 - HISTORY OF SITE

The Interstate Mill site was a Day Mines Property, now merged with Hecla Mining Company. In 1993 and 1994, Hecla hired ERI as contractor to recontour the mill dump. The Bureau of Mines worked with Hecla mining company to investigate the sources of the groundwater loading. This previous experience led to more extensive site characterization to provide a level of comfort with the preferred alternative.

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 4 - PROJECT EXECUTION

The site is remote and as such daily reports were typed and faxed by the production control clerk at the end of each day. The SVNRT had staff present at all times that equipment was running.

Best Management Practices were designed and implemented with the specific concern on this site of avoiding any flooding of the site and providing a functional sediment trap below the primary activity. In – stream removals were done in the dry by small work diversions and turbidity monitoring was done when equipment was working on removals or stability structures in the creek corridor.

The primary repository shape was completed in November 1998 and a winter cover of plastic was placed for the winter. In summer 1999, a survey identified problems with the original configuration and grade and the slope was redone, the impermeable soil cap placed and organic soils placed prior to hydroseeding in November 1999.

QA/QC was completed in accordance with Section 02200 part 1.8 of the Construction Contract Bid Notice Request for Bid for The Interstate Mill Response Action 1998. Compaction test where completed by AGRA Earth & Environmental on tailings material and capping materials.

Removals in the stream channel downstream on EFNM were completed in 1998. Stream stabilization was completed prior to winterization in 1998.

Interstate Millsite Project Time Line

1997		
	October	Technical work group conveened.
1998		
	Feb. 18	Hydrological Investigation/Geophysical Survey Complete
	March 20	Work Plan
	March 27	EECA Completed
	April 16 - May 13	Public Comment Period
	April 22	Public Meeting, Wallace Id
	May 1	Bid Document Available

	June 4	Bid Awarded to ERI
	July 6	EPA Approval Memo
	July 6	Contractor Mobilized
	November 30	Close Site for Winter
1999		
	July 27	Site Opened for work
	December 14	Site Work Completed

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 5 – PROJECT MILESTONES: VARIATIONS FROM INITIAL SCOPE

No major changes in scope occurred. No side water or adit discharges were uncovered during construction of the repository base.

The site provided an opportunity to build a on-site repository in a confined space in a remote location. Handling of the materials several times was anticipated as a realistic problem to accomplish the task. The bid document reinforced the problem and the contractor's responsibility in achieving the goal at the bid cost. The walkthrough generally defined the repository structure in the middle of the existing tailings pile. By the nature of the bid , therefore, the Trustees and the Environmental Engineer avoided any direction to the contractor as to sequence of his activity. We developed concern that the Contractor had made some judgments that might impact the size of the repository . We pointed out our concern adding the information that we did not intend to pay for these changes.

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 6 – SUMMARY OF COSTS (as of 4-30-00)

INTERSTATE
SV19ML-05

REMEDIAL DESIGN	$ 74,878
REMEDIAL ACTION	$ 351,431
CONSTRUCTION MANAGEMENT	$ 116,278
TOTALS	$ 542,587

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 7 - DIFFICULTIES ENCOUNTERED

As a matter of policy, a representative of the Trustees was on site at all times equipment was being operated and witnessed all QA/QC and survey activity. The project environmental consultant and engineer for the project visited the site at critical decision points as the project advanced. The construction Contractor, ERI, stated they had an engineer dedicated to the project, but in fact, the individual assigned changed frequently during the duration of the project. Unlike past projects, the agency and stakeholder technical team met infrequently and was not involved in weekly decision making. A walkthrough performed by EPA on-scene coordinator and the CdA Tribal staff occurred on two or more occasions to review past work and make recommendations.

One of the challenges for this site because of the remote location, was to locate clean materials for construction/contract requirements. Ie. Repository base rock.

The Contractor, ERI of Smelterville Idaho, had several turnovers in engineering staff and crew leaders. The sequence of development of the site was critical to successfully building an on-site repository with minimal expense for haul roads and moving materials more than once. As well the floatation tailings had been known to have a high moisture content and was characterized as such. the contractor did not use sufficient forethought in have dryer tailings to mix with the floats and increased the volume some by mixing clean dry materials (October 1998). The Trustees had alerted the contractor with concern about sequence decisions and the Trust would not pay the additional costs incurred.

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 8 - RECOMMENDATIONS

Work can be done in a timely and cost effective manner if the sponsors are willing to take risks and to adjust to field changes that may be encountered. The understanding of the loading of metals to the surface waters and the planning of scope was accomplished with an organized sampling protocol, historic review and minimal test pits. In the case a technical team participated heavily in the planning efforts but infrequently visited the site.

INTERSTATE REMOVAL ACTION 1998-1999

A VOLUNTARY, COOPERATIVE AND JOINTLY SPONSORED PROJECT TO REDUCE NON POINT SOURCE LOADING OF TRACE METALS TO THE SOUTH FORK COEUR D'ALENE RIVER FROM HISTORIC SITE IN EAST FORK NINE MILE CREEK , WALLACE, IDAHO

SECTION 9 – INDEX OF DOCUMENTS OF SITE

Golder Associates Inc. 1998. Final Work Plan for the Interstate Mill Response Action.

Golder Associates Inc. 1998. Geophysical Survey, Interstate Mill, Wallace, Idaho.

Golder Associates Inc. 1998. Hydrological Investigation: Interstate Mill, Wallace, Idaho.

Idaho State Natural Resource Damage Trust Fund. 1994. Trustee Action Plan - 1994, South Fork Coeur d'Alene River.

Idaho State Natural Resource Trustees. 1993. South Fork Coeur d' Alene River Inventory File, Remediation Sites.

Silver Valley Natural Resource Trustees. 1998 – 1999. Daily Construction Reports.

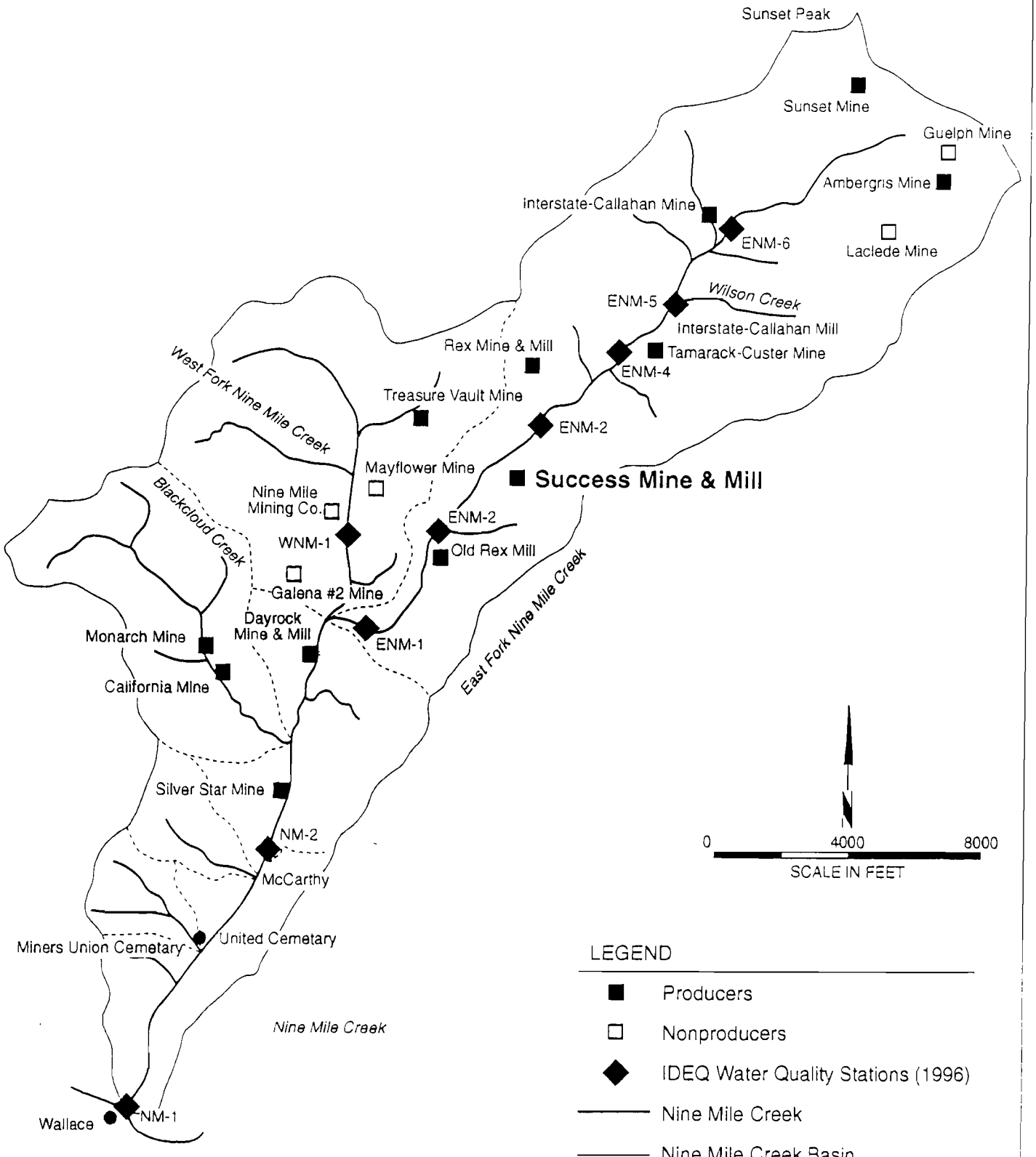
Silver Valley Natural Resource Trustees. 1998. Copies of legal notices for public meeting and request for bid.

Silver Valley Natural Resource Trustees. 1998. Request for Bid – Interstate Mill Response Action 1998.

US Bureau of Mines Western Field Operations Center. 1996. Hydrologic and Geophysical Investigations at the Interstate Mill Site, East Fork Ninemile Creek, ID: A case for seeps unrelated to Infiltration. Mitchell Linne and Jody Fay, Spokane, WA.

US EPA. 1998. Engineering Evaluation/Cost Analysis for the Interstate Mill Site.

US EPA. 1998. Approval Memorandum for the Removal Action at the Interstate Mill Site.



DRAWING **2.1**

MINE AND MILL SITES IN NINEMILE CREEK DRAINAGE

SVNRT/SUCCESS EECA/ID

PROJECT NO. 963 1416.1010 DRAWING NO. 91619 DATE 2/29/00 DRAWN BY TK

Golder Associates

Figure 1. S.F. Coeur d'Alene Watershed Huc # 17010302

Huc # 17010302-(#)

Water Quality Limited Segments

S.F. Coeur d'Alene R.# 1
Pine Creek # 2
E.F. Pine Creek # 4
Government Gulch # 6
Moon Creek # 7
Canyon Creek # 14
Nine Mile Creek # 16
E.F. Nine Mile Creek # 17
Terror Gulch # 18

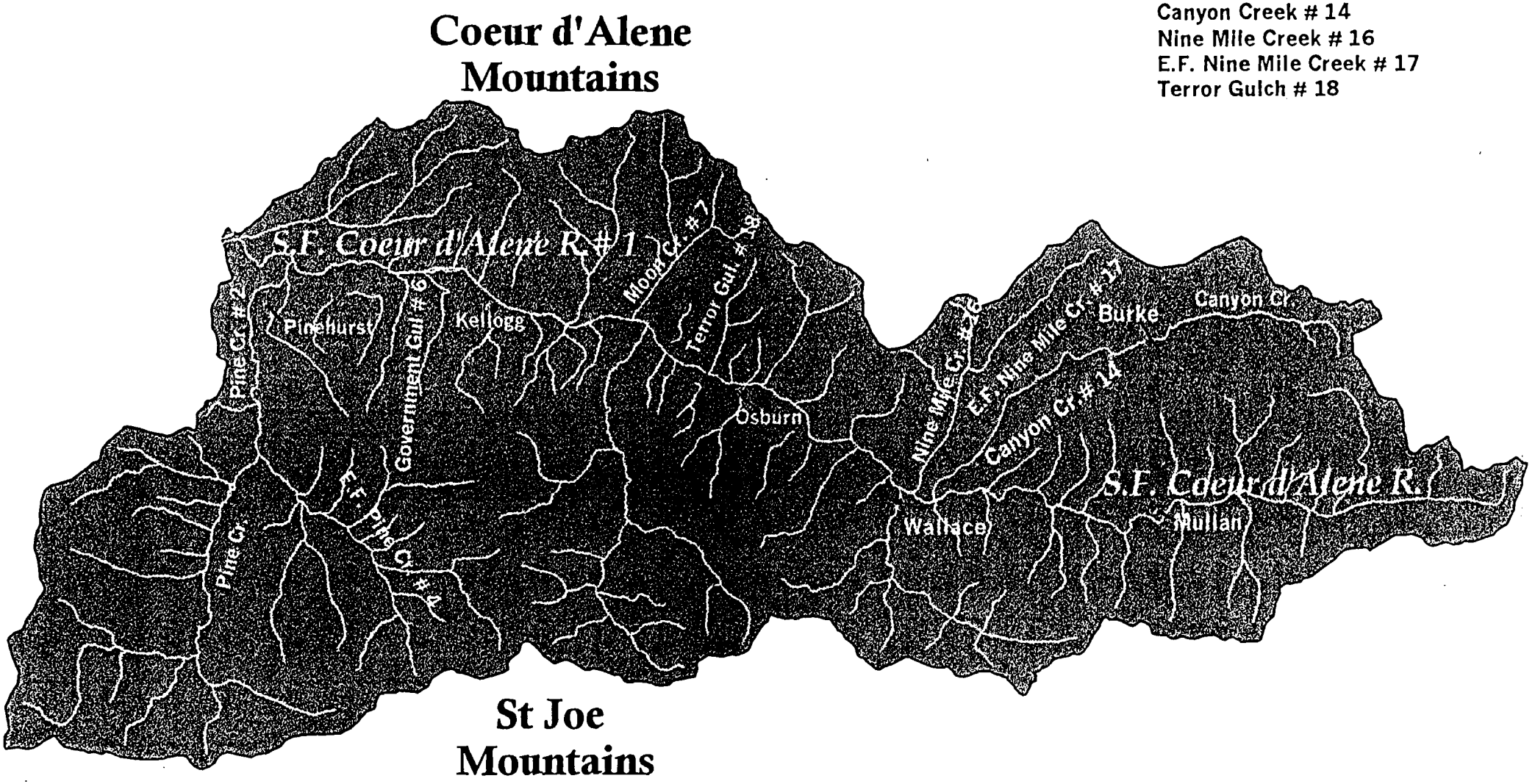
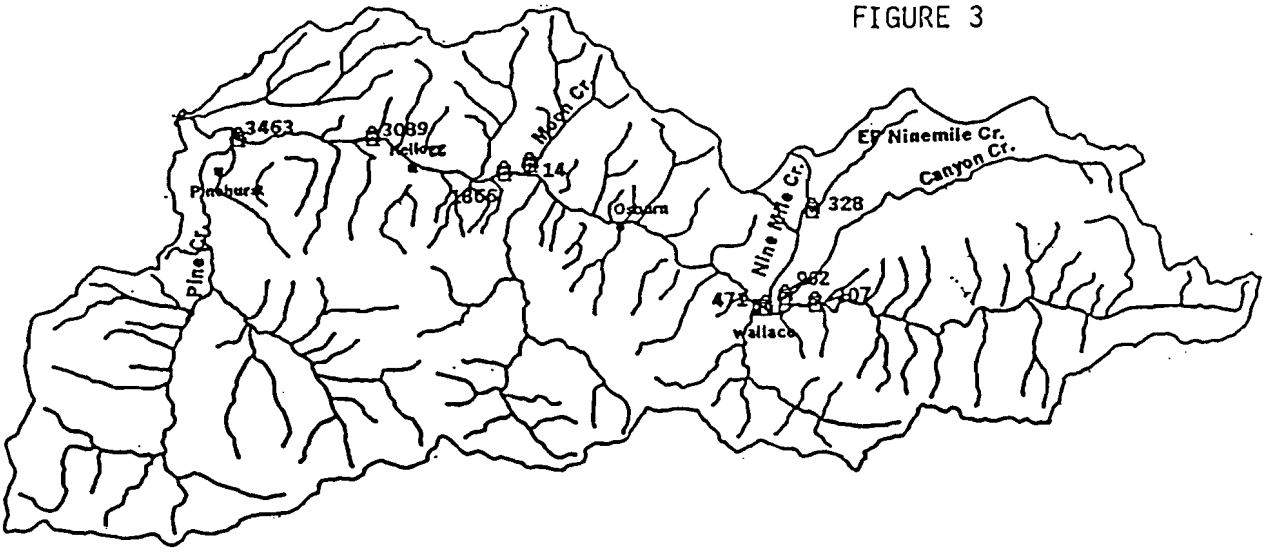


FIGURE 3

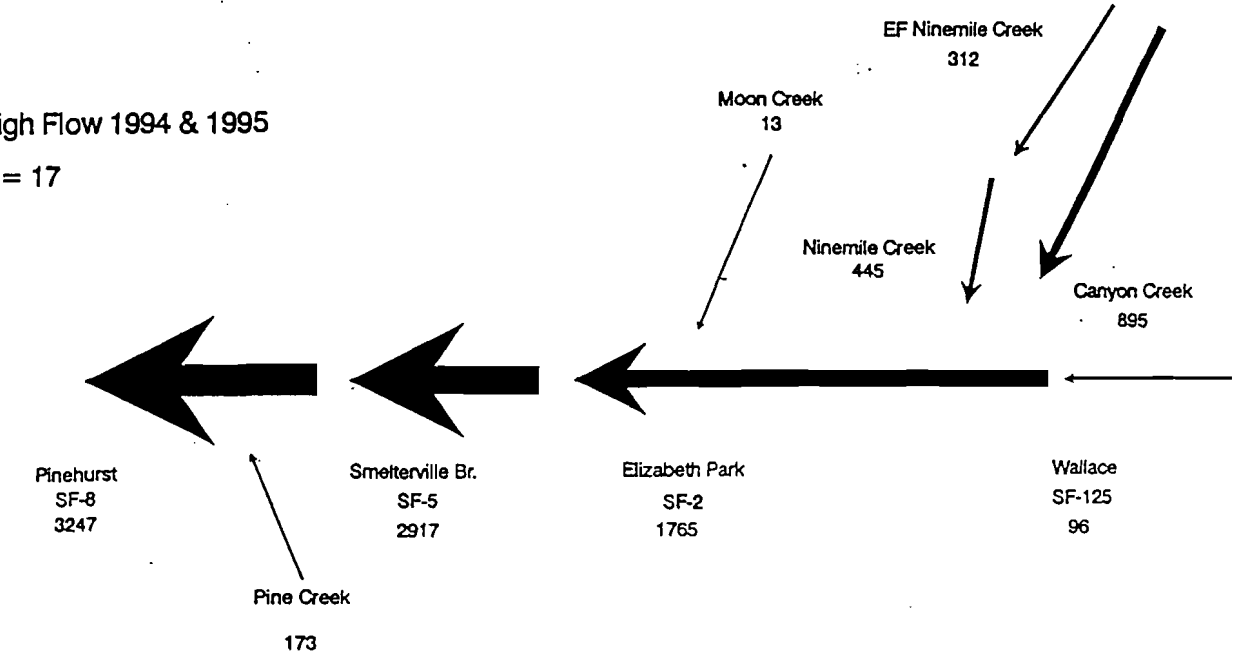


SF Coeur d'Alene River

Total Zinc Load (lb/d)

High Flow 1994 & 1995

n = 17



Low Flow 1994 & 1995

n = 17

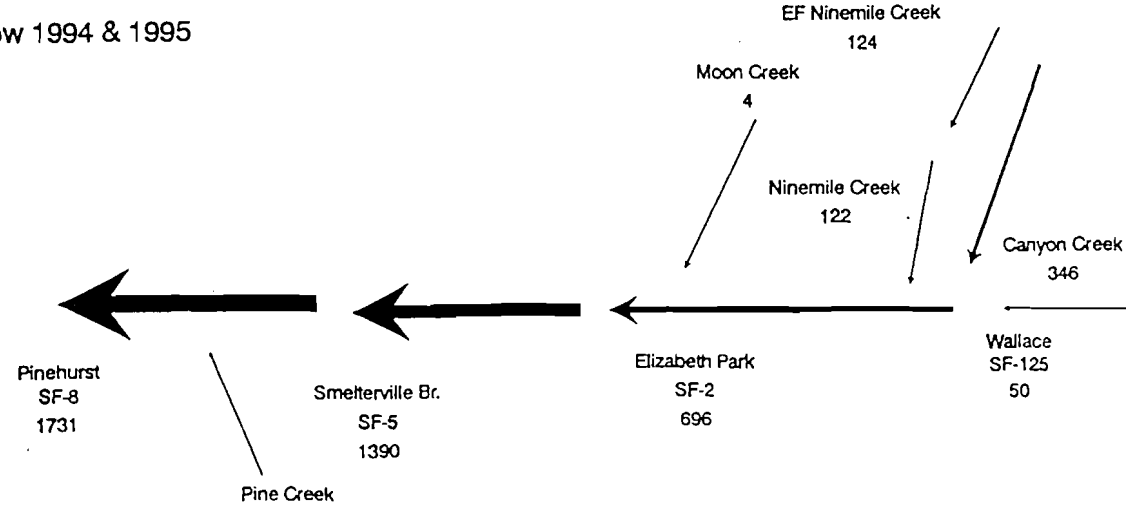
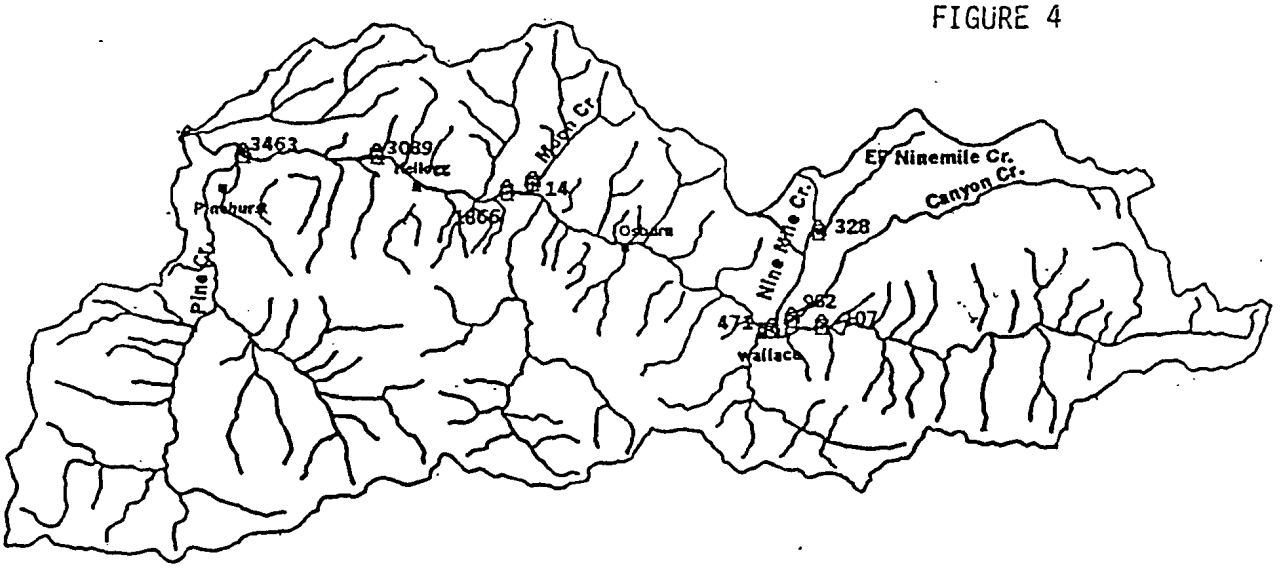


FIGURE 4

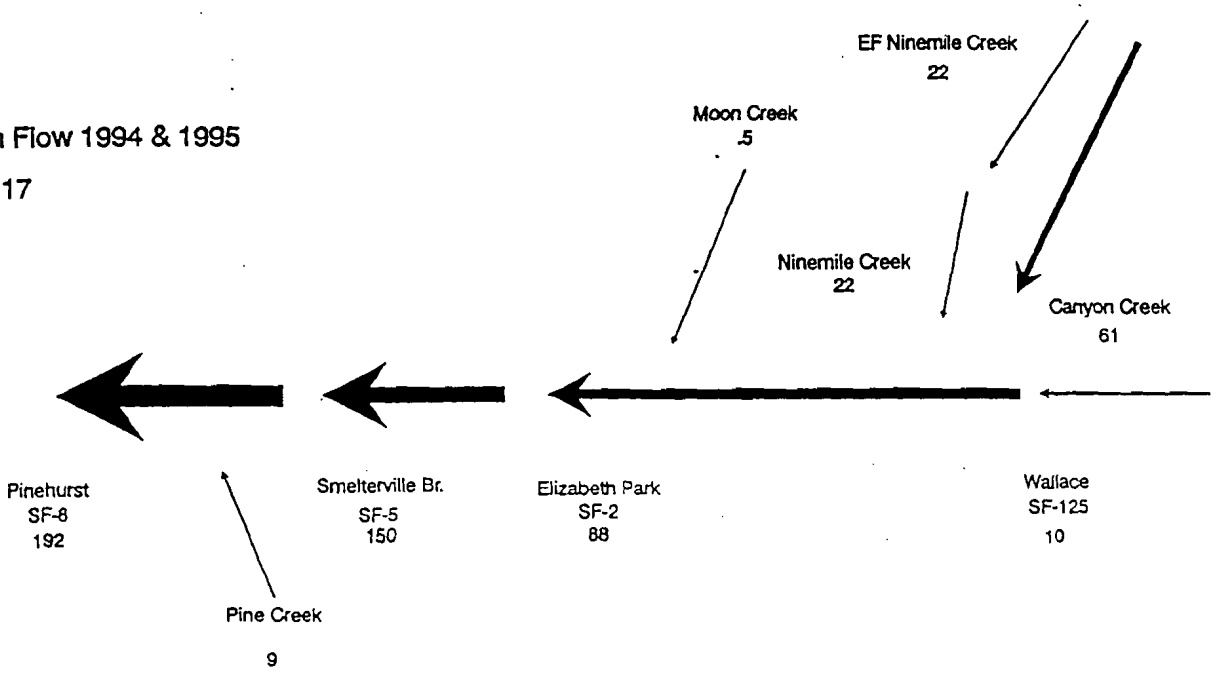


SF Coeur d'Alene River

Total Lead Load (lb/d)

High Flow 1994 & 1995

n = 17



Low Flow 1994 & 1995

n = 17

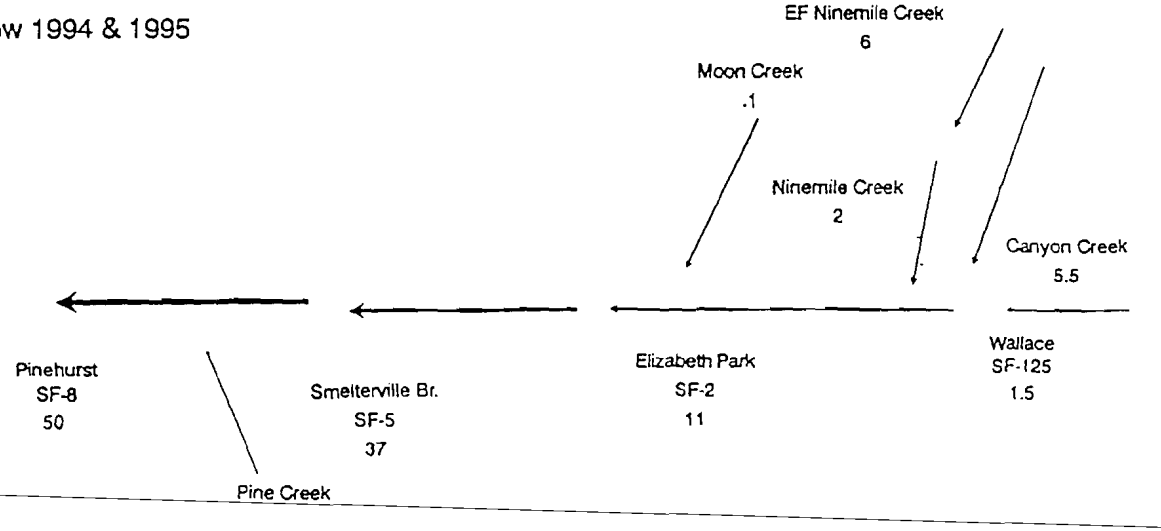
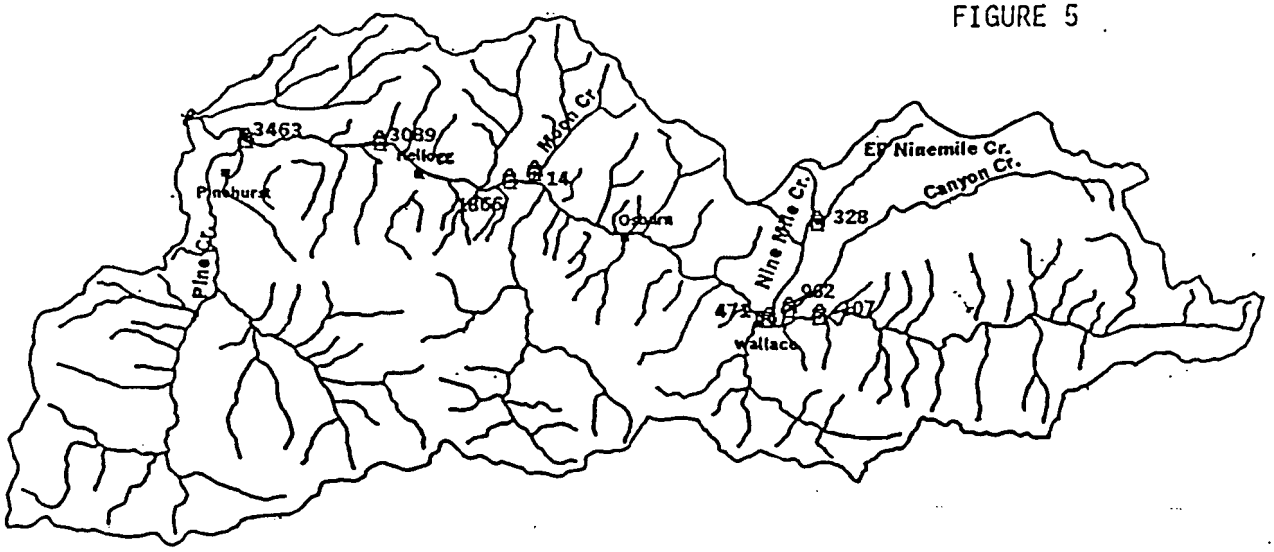


FIGURE 5

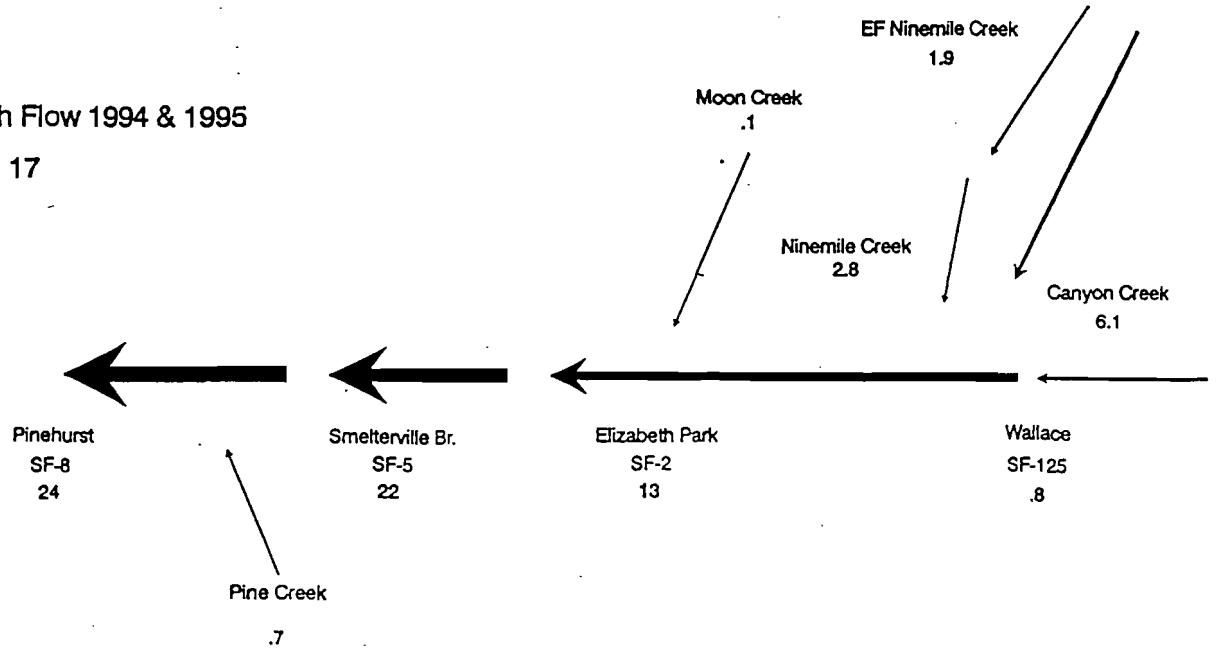


SF Coeur d'Alene River

Total Cadmium Load (lb/d)

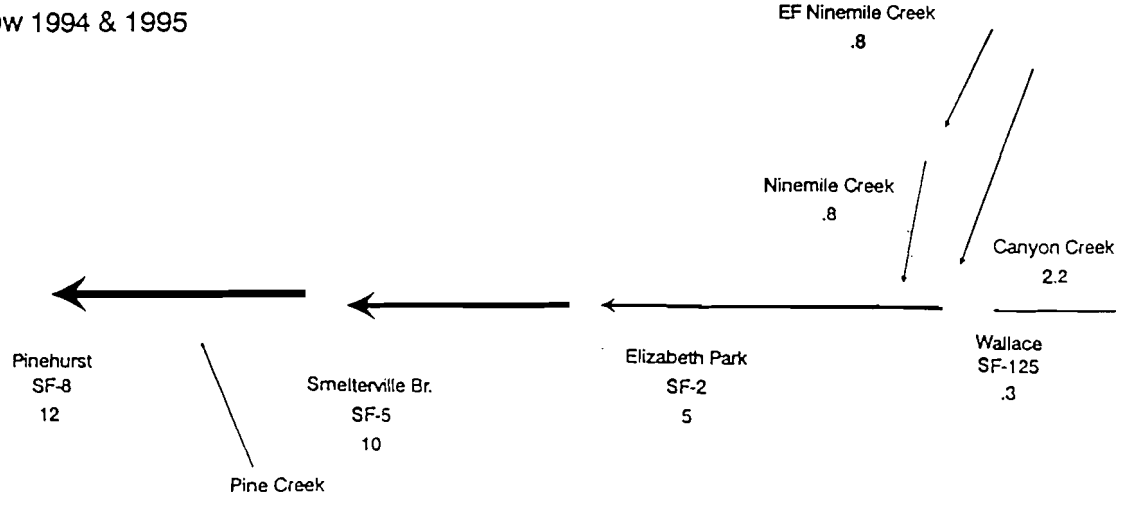
High Flow 1994 & 1995

n = 17



Low Flow 1994 & 1995

n = 17



TOTAL METALS LOADING DATA

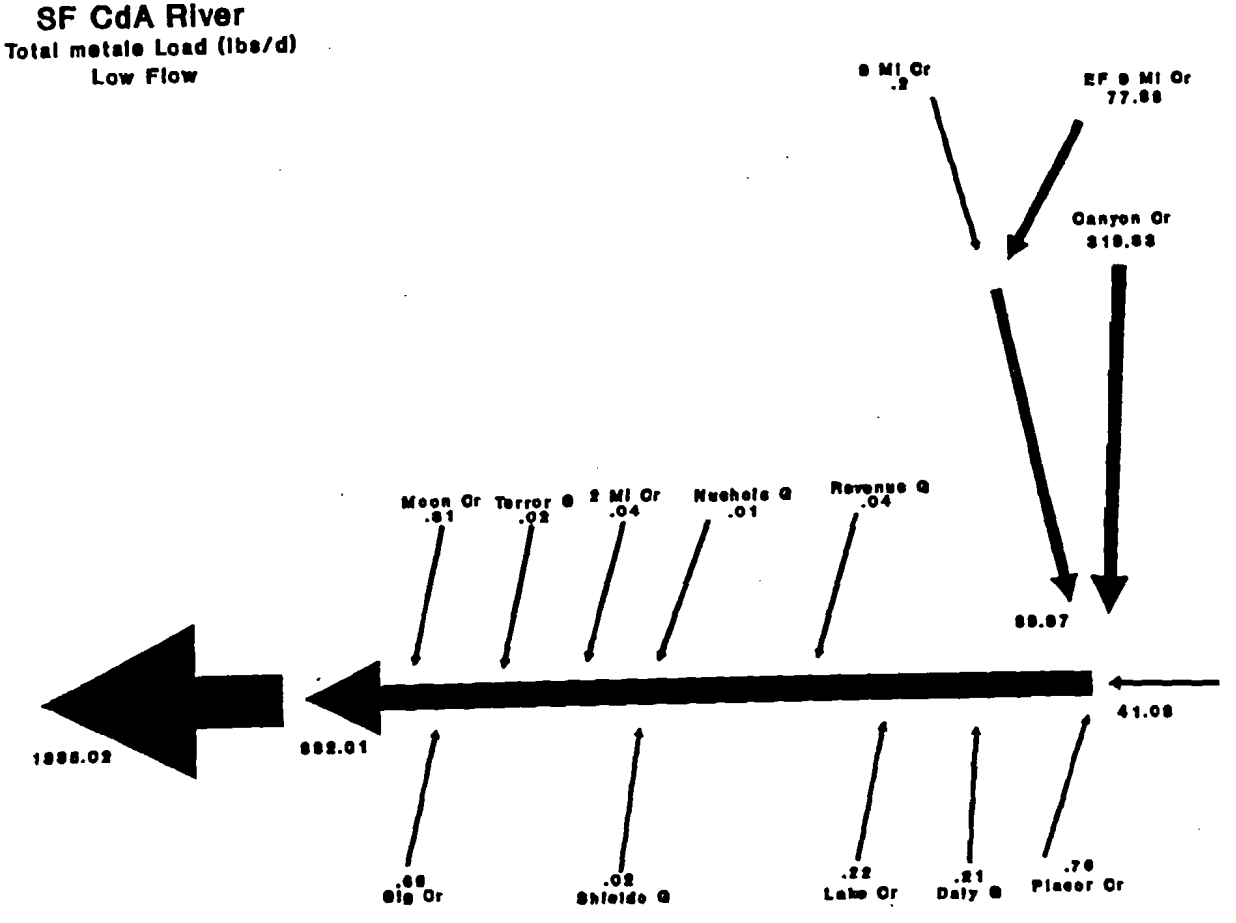
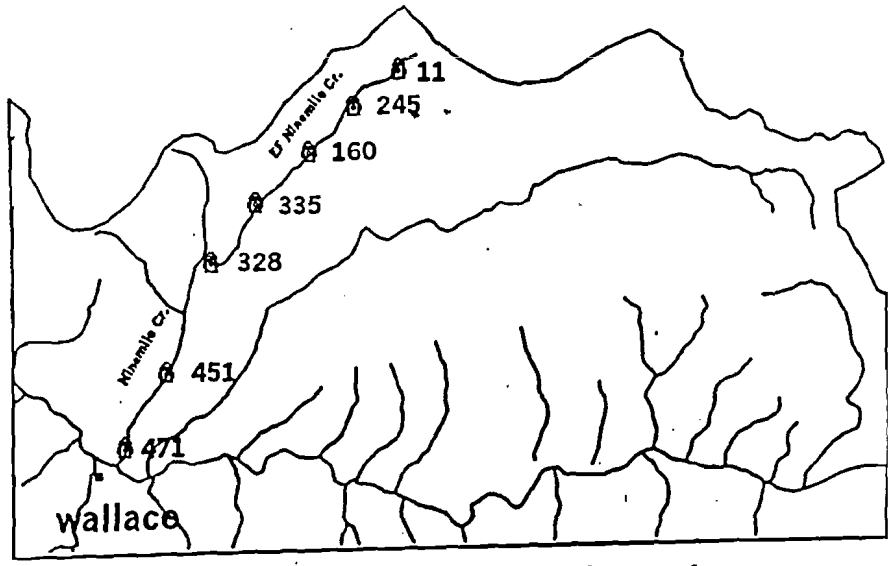


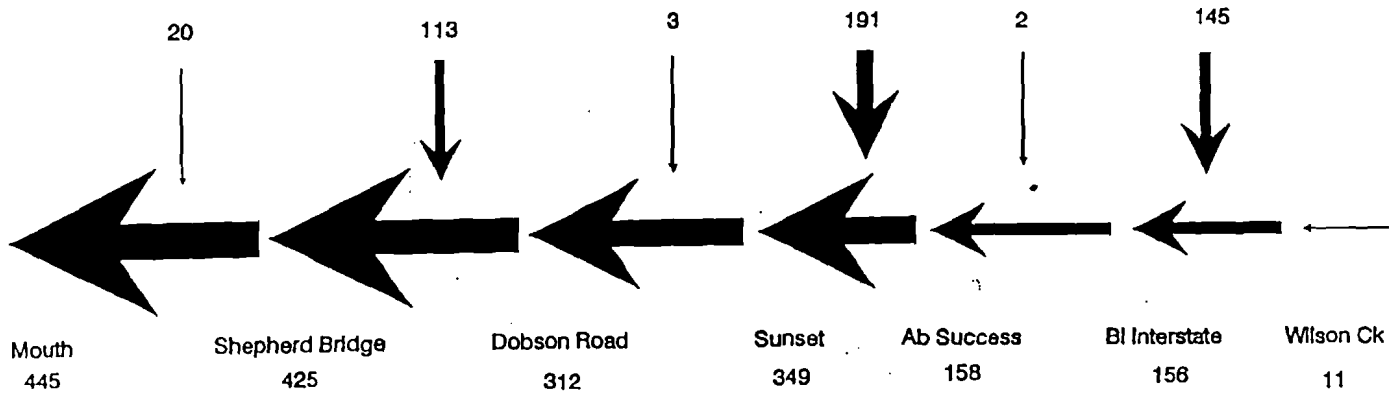
FIGURE 1



Ninemile - East Fork Ninemile Creeks

Total Zinc Load (lbs/d)

High Flow 1994 & 1995
n = 17



Low Flow 1994 & 1995
n = 17

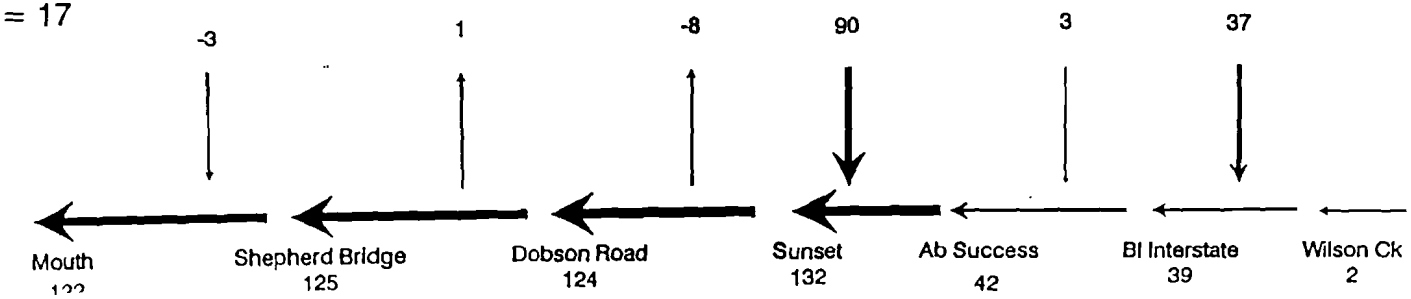
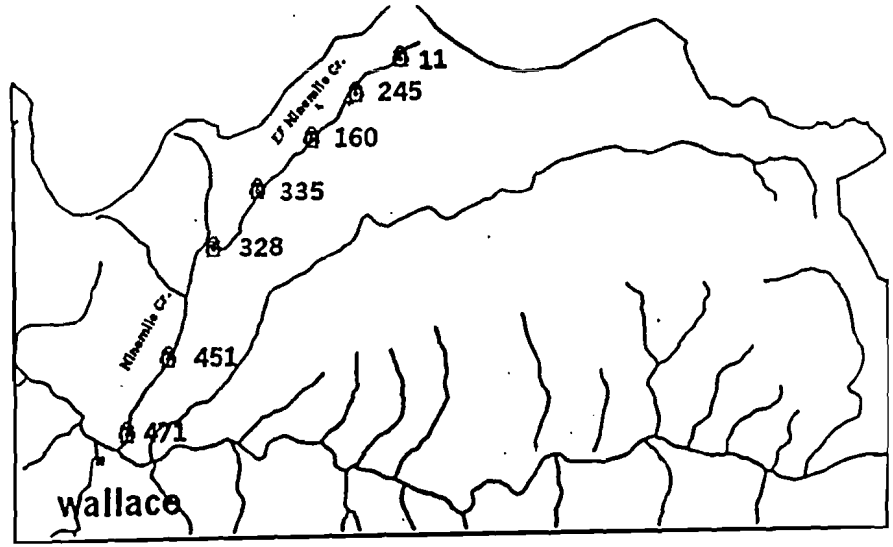


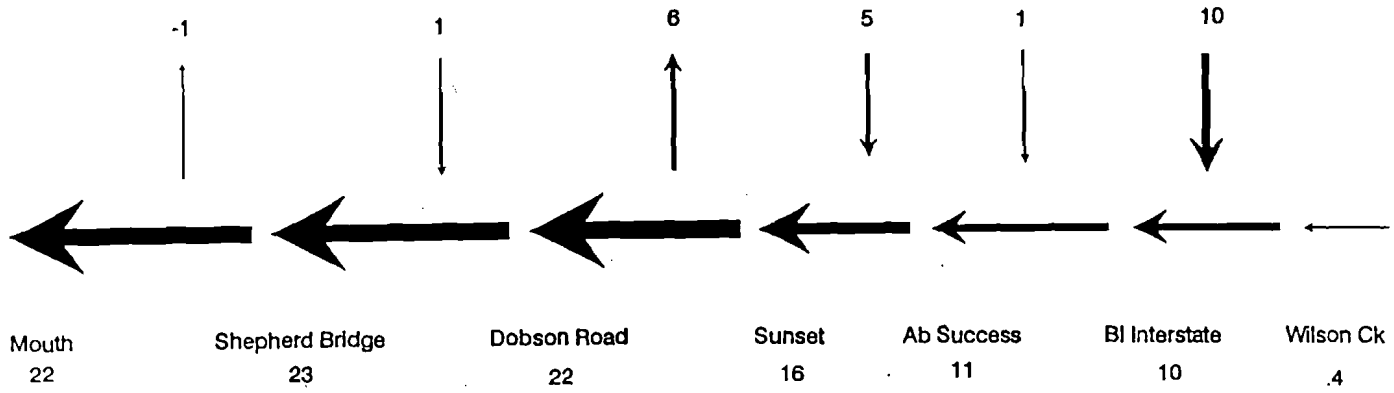
FIGURE 12



Ninemile - East Fork Ninemile Creeks

Total Lead Load (lbs/d)

High Flow 1994 & 1995
n = 17



Low Flow 1994 & 1995
n = 17

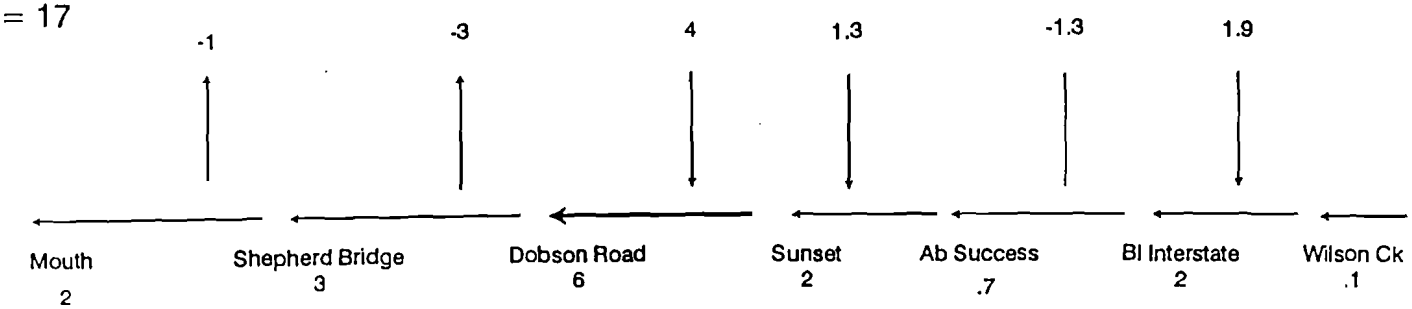
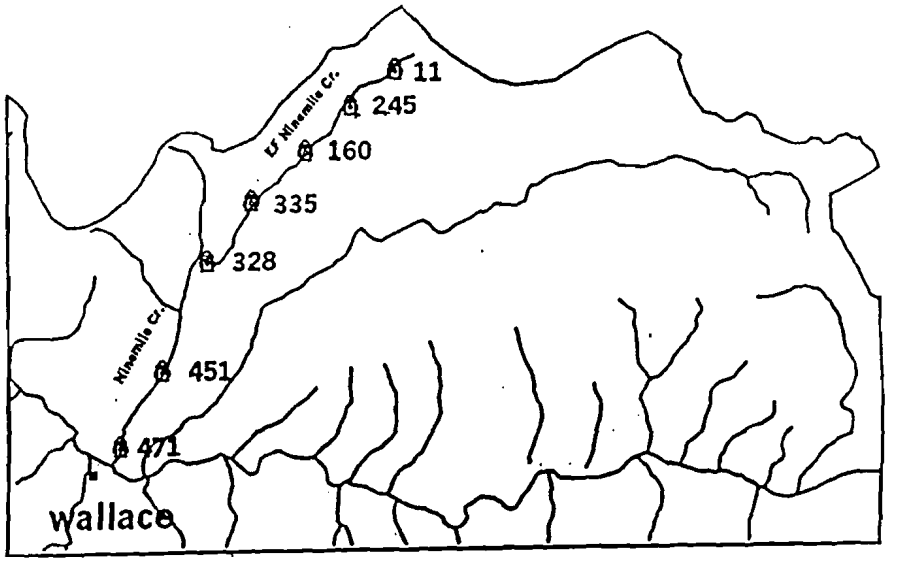


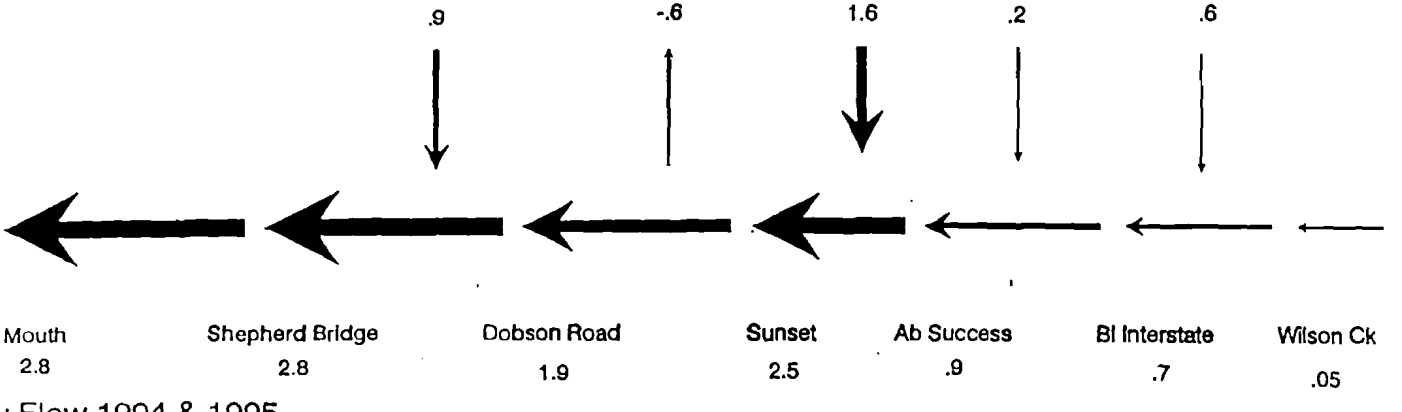
FIGURE 13



Ninemile - East Fork Ninemile Creeks

Total Cadmium Load (lbs/d)

High Flow 1994 & 1995
n = 17



Low Flow 1994 & 1995
n = 17

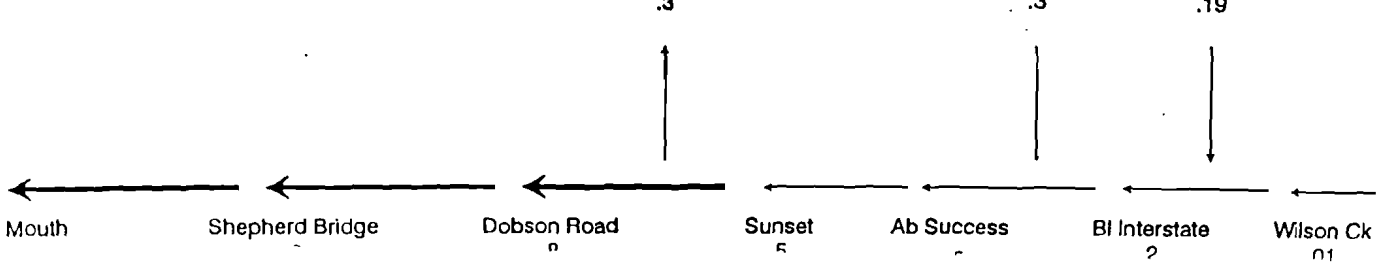


FIGURE 14