



***Abandoned Mine Lands  
Initial Investigation Report  
McNally Mine  
Orient, Washington***

***Prepared for  
Washington State  
Department of Ecology***

***December 28, 2006  
17274-00(MC)***



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Washington State  
Department of Ecology  
Rick Roeder, Project Manager**

**December 28, 2006  
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**EXPIRES 12/03/2007**

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**ABANDONED MINE LANDS INITIAL INVESTIGATION REPORT  
MCNALLY MINE  
ORIENT, WASHINGTON**

**1.0 EXECUTIVE SUMMARY**

Information obtained during this assessment is summarized in Table 1.

**Table 1 – McNally Mine Data Summary**

Mine Name:	McNally Mine (Pelkey & Dille, Regina)
Last Known Operation:	According to Huntting (1956) the last date of the mine's operation was 1938 and it consisted of several claims. Development included a 330-foot adit, a 250-foot adit, several shorter adits, a 75-foot shaft, and several open cuts totaling about 1,000 feet. Copper, gold, silver, and lead were produced.
Location:	6 miles east of Rockcut, Washington, by road. Stevens County Latitude/Longitude: 48.925, 118.104. Quad Map: Churchill Mtn. and Laurier Quadrangles TRS: Township 40N, Range 37E, Section 34
Features Observed	One Waste Rock Pile (2,400 cubic yards) One adit Two pits
Results above Criteria	The soil and sediment samples both exceeded human health criteria for arsenic and one sample exceeded human health criteria for iron. One sample exceeded MTCA criteria for protection of ecological receptors, and both samples exceeded MTCA screening criteria for ecological receptors for chromium, copper, mercury, and nickel.
Work by Others	No previous site assessment information was identified.
Potential Receptors / Degree of Hazard	Concentrations of several metals exceed MTCA criteria for human health or ecological protection. The proximity of Pierre Creek makes migration to surface water likely. No homes or occupied cabins were observed in the vicinity. The nearest dwelling is approximately 1.4 miles west of the site.

## 2.0 INTRODUCTION

This report summarizes the results of the initial limited soil and surface water investigation at the McNally Mine site located near Orient, Washington (Figures 1 and 2). Hart Crowser performed this initial investigation for the Washington State Department of Ecology (Ecology) under Contract No. C06254 according to the Ecology Statement of Work (SOW) and project Sampling and Analysis Plan (SAP) prepared by Hart Crowser (Hart Crowser 2006).

The objectives of this initial investigation are to:

- Determine whether the site has released or has a potential to release hazardous substances to the environment at concentrations above Model Toxics Control Act (MTCA) human health or ecological screening levels, to identify sites that may require additional investigation and sampling;
- Identify and document waste source areas including estimates of waste mass and/or volume; and
- Identify and document the presence of potential waste transport pathways and receptors.

For this study, samples were collected of the soil-like fraction of waste rock, mine tailings, and/or natural soils that was potentially affected by mining. Analytical results were compared to the MTCA criteria for soils. Use of terms such as “soils” or “waste rock”, etc. are for convenience only and do not indicate potential future designation in accordance with Chapter 173-350 WAC, or Chapter 173-303 WAC, or other regulatory criteria.

Subsurface openings observed for this study may include shafts, adits, prospect pits, collapsed stopes, and/or excavations completed for other purposes. The terms used in this report are based on visual interpretation in the field and may not fully characterize historic site use.

Prior to the site visit, Hart Crowser performed file reviews; evaluated aerial photographs, U.S. Forest Service and USGS maps; reviewed the Inventory of Washington Minerals; and reviewed county tax assessor records to:

- Identify the location of mines and associated features/structures;
- Identify property owners, mineral claimants, and mine operators; and
- Obtain contact information to gain permission for site access.

Table 2 presents the project team members and their roles and responsibilities for this investigation. A site visit was accomplished on July 14, 2006.

### **3.0 SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS**

#### **3.1 Site Location**

The McNally Mine is located in the Colville National Forest (Figure 1). Directions to the mine are as follows:

- From Kettle Falls, head north on Highway 395, through Orient, Washington.
- Turn right on Rockcut Road.
- At 0.3 mile stay straight onto Sand Creek Road.
- Turn right at the fork at 1.2 miles.
- At 1.5 miles, stay on the main gravel road, toward the right.
- At 4.0 miles, turn left on Churchill Mine Road. Take an immediate right at the fork.
- Cross a cattle guard at 4.4 miles.
- Take a hard right at the five-way intersection encountered at 5.4 miles.
- Approach a fork at 6.2 miles. Stay left.
- Cross cattle guard at 6.3 miles and park.
- Climb down the steep hillside to the north, toward Pierre Creek.

The access description provided herein is based on observations at the time the site was visited for this work. References to roads do not reflect property ownership, and does not imply that public access is available.

The site is located on Steven's County Parcel Nos. 8008737 and 1754700.

### **3.2 Site Description**

The McNally Mine site lies adjacent to Pierre Creek, at the bottom of a steep-sided valley. Adit 1 is at the base of a steep slope. The adit is covered with rocks and debris and support pillars stand in front of the opening (Photograph 1). A drainage channel was observed exiting between the support pillars at the adit opening and heading toward the waste rock pile (Figure 3). Pondered water was observed near the adit, but was not actively flowing through the drainage channel or over the waste rock pile. No seeps or springs were observed.

The waste rock pile, WR-1, is approximately 2,400 cubic yards, and abuts Pierre Creek. It is composed a moist, gray, slightly silty, sandy Gravel with cobbles. A cross section view of the waste rock pile is shown on Figure 4.

A small pit, measuring 7 by 15 by 10 feet deep is located on the west side of the prospect. A larger pit, 20 by 15 by 15 feet deep is located on the slope above the adit, to the west (Photograph 2).

No residences were observed in the vicinity of the site. The nearest dwelling is approximately 1.4 miles west of the site.

### **3.3 Site Ownership and Operations History**

Information on site ownership and operations is based on readily available public information and may not reflect all details of ownership and operations.

The mine is located in the Colville National Forest.

The mine was operated in 1938. It included the Pelkey and Dille claims. The most recent owner of the claim, according to Huntting (1956) was Bunker Hill & Sullivan Mining & Concentrating Company of San Francisco, California, who owned the claim from 1937 to 1951. No previous or subsequent claim owner records could be located.

## **4.0 SITE INVESTIGATION ACTIVITIES**

The initial investigation of the McNally Mine site took place on July 14, 2006. Site sketches were created, GPS data and waste rock samples were collected, and site photographs were taken. Sample locations, site photograph locations and directions, and GPS waypoints are presented on Figure 3.

#### **4.1 Soil and Waste Pile Sampling**

One waste rock sample, McNally-WR1-S1, was collected during a site visit on July 14, 2006. The sample is a moist, light gray, slightly silty, sandy Gravel with cobbles. The sample location is shown on Figure 3.

#### **4.2 Surface Water and Seep Sampling**

A small amount of ponded surface water was observed in the drainage channel exiting the adit. However, the volume was too small to sample and, therefore, a sediment sample was collected from the drainage channel.

#### **4.3 Sediment Sampling**

A five-point composite sediment sample was collected from the drainage channel exiting the adit. The channel extends from the adit, through the prospect, and across the top of the waste rock pile before disappearing. Water either infiltrates or spreads out so as to no longer form a channel. It is likely that the channel contains flowing water during wet weather.

### **5.0 ANALYTICAL RESULTS AND ENVIRONMENTAL HAZARD ASSESSMENT**

The nearest surface water is Pierre Creek, which drains into Pierre Lake. The creek abuts the site and may come in direct contact with the waste rock during periods of high flow. No residences or cabins were observed in the vicinity, but the Churchill Mtn. and Laurier Quadrangle Maps indicate that buildings are located along the access road, about 1.4 miles from the site.

Soil and water quality data were compared to regulatory criteria for screening purposes as discussed below. Further analysis, including risk-based analyses may be appropriate in additional future site assessments.

#### **5.1 Surface Water and Sediment**

Concentrations of arsenic and iron in the sediment sample exceeded MTCA Method B criteria. The arsenic concentration was below the Method A criterion for Human Health. The sediment sample also exceeded ecological protection criteria for aluminum, chromium, copper, mercury, and nickel.

Water sampling was not accomplished.

## **5.2 Soil**

Soil and waste rock sample analytical results were compared with applicable MTCA Method A cleanup levels, MTCA Method B cleanup levels for soil ingestion, soil ingestion and dermal contact combined, and with criteria for ecological protection of plants, soil biota, and wildlife. The arsenic concentration in the waste rock sample exceeded Method B carcinogenic criteria, but was below the Method A criteria. The waste rock sample also exceeded ecological protection criteria for chromium, copper, mercury, and nickel.

## **5.3 Air**

No contaminated airborne dust was observed while on the site. Because the waste rock pile lies between a steep slope and Pierre Creek, and because it is covered with vegetation and debris, it is not likely that contaminated airborne dust will be a concern at this site.

## **5.4 Methodology for Threatened and Endangered Species Information**

We contacted the Washington State Department of Natural Resources (DNR), the Washington State Department of Fish and Wildlife (WDFW), the U.S. Fish and Wildlife Service (USFWS), and the Colville National Forest – USDA Forest Service to obtain information on the presence of state and federal threatened or endangered terrestrial and aquatic species. We determined that the WDFW maintained the most accurate and up-to-date information on species distribution in its Priority Habitats and Species (PHS) Database. We requested maps and narratives identifying documented species presence at the McNally Mine. In addition, we contacted DNR and requested information on rare plants and high quality native wetland and terrestrial ecosystems within the vicinity of the McNally Mine.

Our search ranges included a 4-mile radius for terrestrial species and a 15-mile radius for aquatic species.

We reviewed approximately 86 PHS maps and accompanying narratives to determine whether any threatened or endangered species were documented within our search ranges. We drew 4- and 15-mile radii around the McNally Mine on a Colville National Forest Map. We then examined the PHS maps in relation to the search ranges for our project areas. All state and federal threatened and endangered species and habitats that occurred within our search ranges were recorded. Species and habitats that occurred on the edge of our search range were considered within the range and recorded.

A summary of the threatened and endangered species within our search ranges is provided in Table 5.

## **6.0 SUMMARY AND CONCLUSIONS**

The McNally Mine site has one adit, two pits, and a waste rock pile totaling 2,400 cubic yards that may exceed MTCA Method B or ecological protection criteria. The main constituents of concern are arsenic, chromium, copper, mercury, and nickel. Some waste rock may also exceed the applicable criteria for aluminum and iron. Risks to human health are most likely limited to direct contact and incidental ingestion by potential recreational users. MTCA Method A and B Screening Criteria may over estimate risk to recreational users since their exposure duration is less than the duration at a residential scenario. Sediment in an ephemeral drainage channel that extends across the waste rock dump from the adit exceeds ecological protection criteria. Because the waste rock pile abuts the creek, surface water may be impacted. A site-specific terrestrial ecological evaluation (TEE) would be required to evaluate ecological risks.

We recommend revisiting the Site to collect a water sample when adit drainage is occurring.

## **7.0 USE OF THIS REPORT**

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed, in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of the Washington State Department of Ecology for specific application to the referenced property. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

The information in this report is intended to be used to determine whether the site has released or has a potential to release hazardous substances to the environment at concentrations above Model Toxics Control Act (MTCA) human health or ecological screening levels.

## 8.0 REFERENCES

Ecology 1990. Washington Ranking Method Scoring Manual. Ecology Publication 90-14. Revised April 1992.

Ecology 2001a. Model Toxics Control Act Cleanup Levels and Risk Calculations (CLARC II) Update. November 2001.

Ecology 2001b. Adopted Amendments. Model Toxics Control Act Cleanup Regulations. Chapter 173-340-WAC. February 2001.

Ecology 2006. "Water Well Log Viewer" at <http://apps.ecy.wa.gov/welllog/>.

Stevens County Tax Assessor's Website:

<http://www.co.stevens.wa.us/assessor/assessor.htm>

Hart Crowser 2006. Sampling and Analysis Plan, Abandoned Mine Lands Assessments, Washington State. Prepared for Washington State Department of Ecology. June 9, 2006.

Hunting, Marshall T., 1956, "Inventory of Washington Minerals", Part II Metallic Minerals, 2 volumes. State of Washington Department of Conservation and Development, Bulletin No. 37, Washington State printing office, Olympia, Washington.

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Mindat.org website <http://www.mindat.org/index.php>

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**Table 2 - Project Team Roles and Responsibilities**

<b>Project Role</b>	<b>Personnel Assignment</b>	<b>Roles/Responsibilities</b>
Ecology Project Manager	Rick Roeder Ecology (509) 454-7837	Client Project Manager
Program Manager	Mike Bailey Hart Crowser (206) 324-9530	Ensures that all work is carried out in accordance with contractual obligations and the Delivery Order statement of work. Assists the Project Manager as needed with technical decisions and in resolving issues. Final reviewer.
Project/Task Manager	Roger McGinnis Hart Crowser (206) 324-9530	Overall responsibility for execution of the Work Plan. Coordinate with Client, Field Manager and Program Manager as necessary to resolve issues.
Corporate Health and Safety Officer (HSO)	Mike Ehlebracht Hart Crowser (206) 324-9530	Overall responsibility for review and answering questions regarding H&S.
Field Manager and Site Safety Coordinators (SSC)	Abby Bazin/Pat Reed Hart Crowser (206) 324-9530	Ensures that explorations are conducted and samples are collected in accordance with project specifications. Coordinates field activities with Project and Program Managers.
Mine Information Research	Pat Reed Mike Swenson Hart Crowser (206) 324-9530	Determined location of mine, access route, and ownership
Project Chemist	Erin Breckel Hart Crowser (206) 324-9530	Performs laboratory coordination and data quality review to assure analytical methods and data are consistent with project needs and data quality objectives.
Laboratory Services	Harvey Jacky Columbia Analytical Services (360) 577-7222	Analyzes soil, sediment, and water samples.

**Table 3 - McNally Mine Sample Inventory**

Sample Name	Sample Location	Sample Description
<b>Waste Rock Sample</b>		
McNally-WR1-S1	Top of WR-1, at the northwest corner.	Moist, light gray, slightly silty, sandy Gravel with cobbles
<b>Sediment Sample</b>		
McNally-S1-S1	4 feet from timbers at adit, then at 3 foot intervals. 5-point composite.	Wet, gray to black, very silty Sand
<b>Surface Water Parameters</b>		
Possible Residual Adit Drainage	Ponded water near adit opening	pH: 10.5 temperature: 13.7°C conductivity: 457 $\mu\text{s}/\text{cm}^2$
Creek Upstream	In Pierre Creek, upstream of site	pH: 10.1 temperature: 11.2°C conductivity: 273 $\mu\text{s}/\text{cm}^2$
Creek Downstream	In Pierre Creek, downstream of site	pH: 9.7 temperature: 11.2°C conductivity: 275 $\mu\text{s}/\text{cm}^2$

**Table 4 - Analytical Results for Soil and Sediment Samples - McNally Mine**

SDG Sample ID Sampling Date	MTCA Method A (a)	MTCA Method B		Ecological Protection (c) Plant/Soil Biota/Wildlife	K0606045 McNally-Sed 1 7/14/2006	K0606045 McNally-WR1-S1 7/14/2006
		Soil Ingestion (b)	Soil Ingestion & Dermal Contact (b)			
<b>Total Solids in %</b>					54.6	95.1
<b>Total Metals in mg/kg</b>						
Aluminum	--	80,000	72,072	50 / -- / --	<b>14,800</b>	
Antimony	--	32	29	5 / -- / --	0.21	0.07 J
Arsenic	20	0.67	0.62	10 <sup>(d)</sup> / 60 / 132	<b>5.6</b>	<b>3.3</b>
Beryllium	--	160	144	10 / -- / --	0.31	1.23
Cadmium	2	80	74	4 / 20 / 14	0.32	0.3
Chromium	2,000 <sup>e</sup>	120,000 <sup>e</sup>	44,571 <sup>e</sup>	42 / 42 / 67	<b>50.4</b>	<b>89.8</b>
Copper	--	2,960	2,700	100 / 50 / 217	<b>113</b>	<b>726</b>
Iron	--	24,000	21,622	-- / -- / --	<b>27,500</b>	
Lead	250	--	--	50 / 500 / 118	10.3	18.8
Manganese	--	11,200	10,090	1,100 / -- / 1,500	411	
Mercury	2	24	18	0.3 / 0.1 / 5.5	<b>0.26 J</b>	<b>0.81 J</b>
Nickel	--	1,600	1,441	30 / 200 / 980	<b>83</b>	<b>71.4</b>
Selenium	--	400	360	1 / 70 / 0.3	2.1 U	2.1 U
Silver	--	400	360	2 / -- / --	0.1	0.43
Thallium	--	5.6	5.0	1 / -- / --	0.11	0.13
Zinc	--	24,000	22,000	86 / 200 / 360	57.7	58.5

**Notes:**

U = Not detected at the detection limit indicated.

J = Estimated value.

-- Not established or Not applicable.

Bold - Concentration exceeds ecological criterion.

Box - Concentration exceeds MTCA Method A or Method B criterion.

(a) WAC 173-340-740(2), WAC 173-340-900 (Table 740-1). Model Toxics Control Act (MTCA) Method A.

(b) WAC 173-340-740(3). MTCA Method B Unrestricted land use soil cleanup standards. For carcinogenic constituents, the value presented is the lower of the non-carcinogenic and carcinogenic level calculated using Equations 740-1 and 740-2 for ingestion only. Equations 740-4 and 740-5 for ingestion and dermal contact. Information from CLARC 3.1 was used unless otherwise noted.

(c) WAC 173-340-740(3)(b)(ii), WAC 173-340-749, WAC 173-340-900 (Table 749-3).

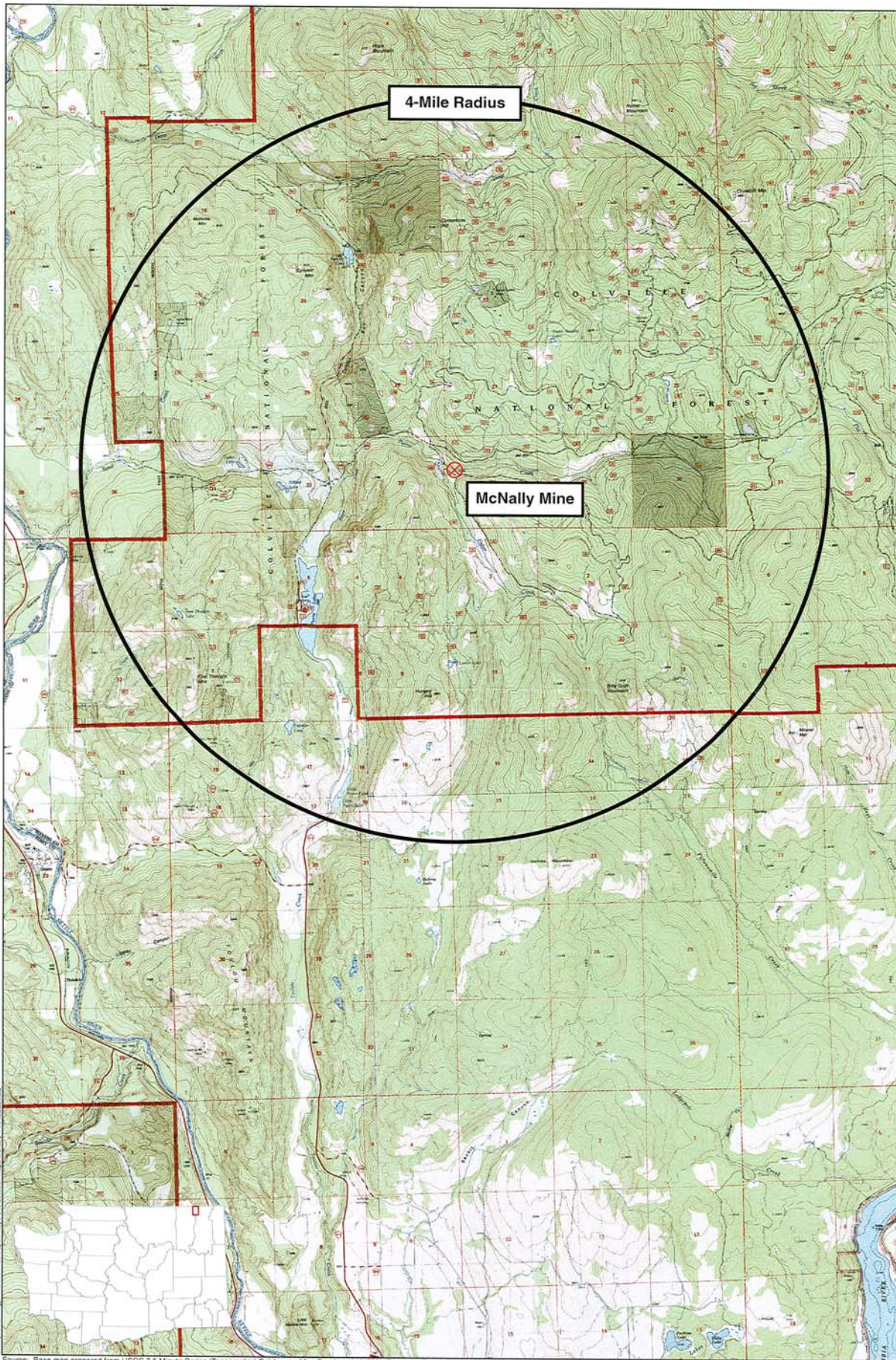
(d) Based on Arsenic V (10 mg/kg)

(e) Based on Chromium III

**Table 5 - Threatened and Endangered Species**

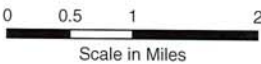
Species	Federal Status		State Status		Narrative
	T	E	T	E	
Bull trout ( <i>Salvelinus confluentus</i> )	X				Lower reach of Onion Creek, lower reach of Boulder Creek, Deep Creek, Big Sheep Creek and Deadman's Creek
Lynx ( <i>Lynx canadensis</i> )	X		X		Surrounding Churchill Mtn, Mineral Mtn

**Site Location Map**  
**McNally Mine**

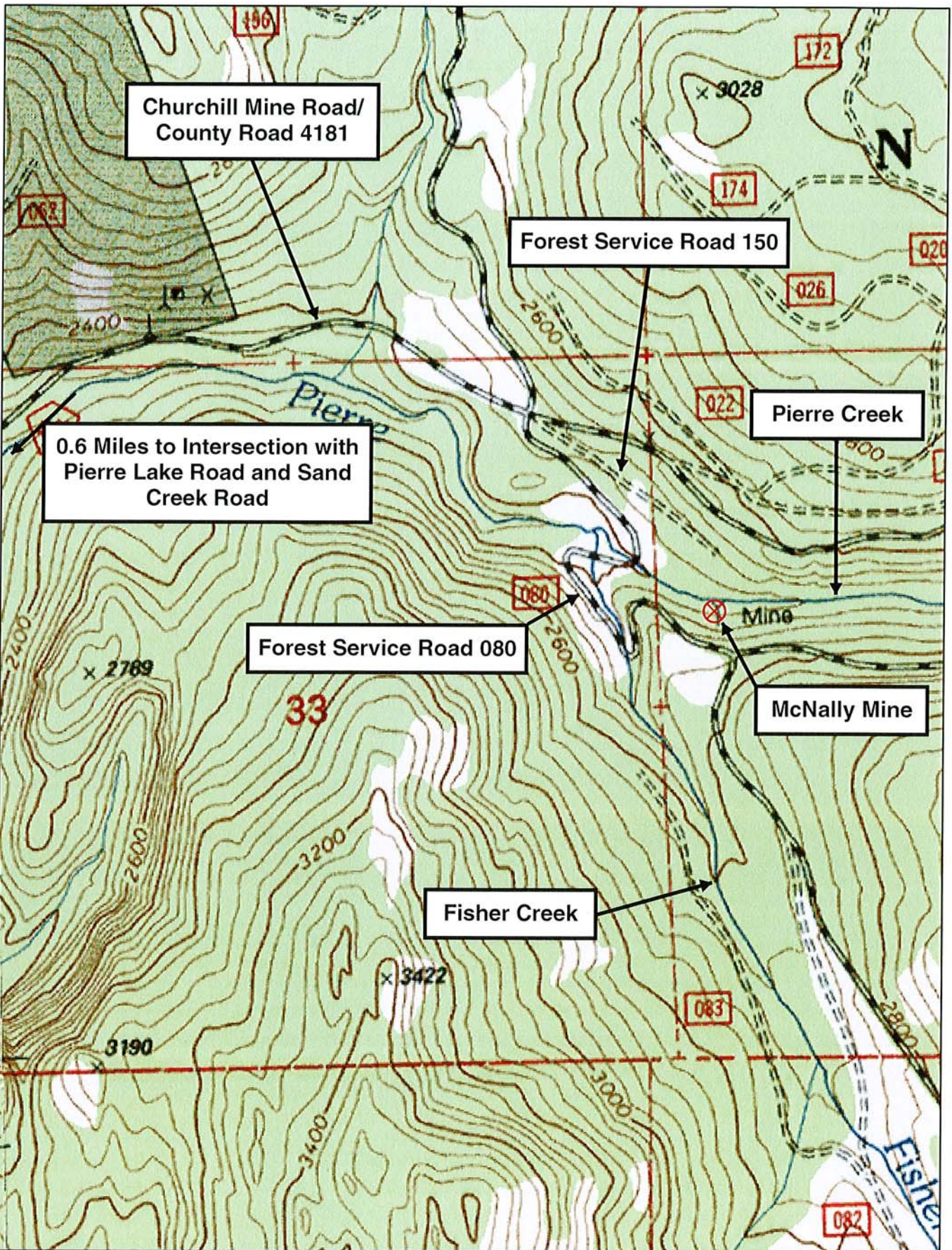


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Source: Base map prepared from USGS 7.5 Minute Series (Topographic) Belshazzar Mtn. Quadrangle (1992), Bossburg Quadrangle (1969), Church Mtn. Quadrangle (1992), Laurier Quadrangle (1992), Orient Quadrangle (1992).



**Vicinity Map**  
**McNally Mine**



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









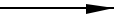






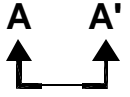
Source: Base map prepared from USGS 7.5 Minute Series (Topographic) Churchill Mtn. Quadrangle (1992).



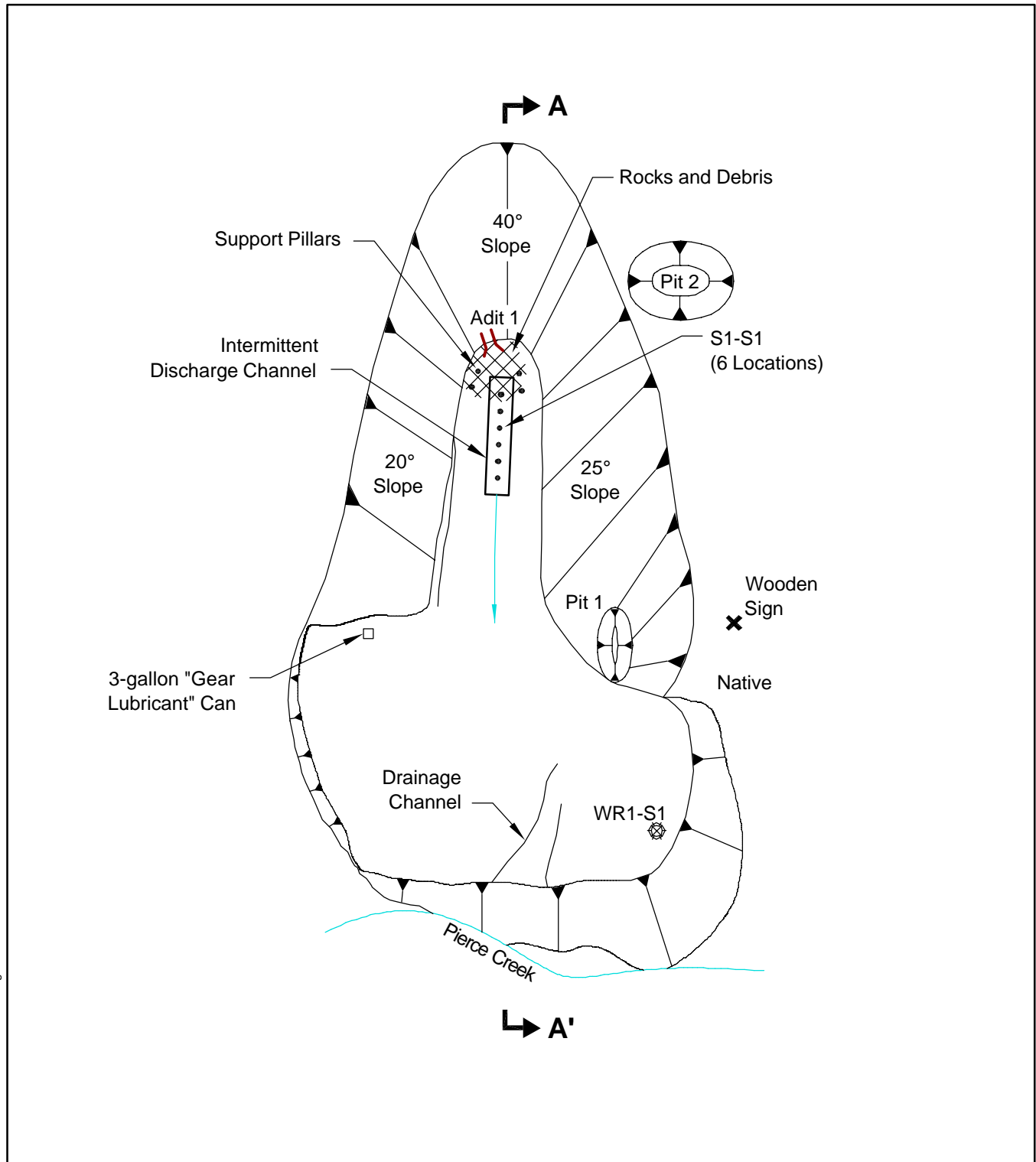
Mine Location Visited in Field

# Standard Key for Site Plan

## McNally Mine

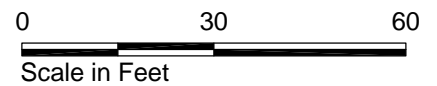
	GPS Data Point Location and Number
<b>WR1-S2</b> 	Soil or Waste Rock Sample Location and Number (Note: Site name prefix also part of sample number)
<b>W1</b> 	Water Sample Location and Number
45 	Composite Sediment Sample Location and Number
	Adit
	Shaft
	Prospect/Pit
	Building/Structure
	Seep
	Drainage Channel
	Intermittent/Seasonal Drainage Channel
	Wood Debris
	Metal Debris
	Soil or Seep Staining
	Other Feature
	Groundwater Well
	Photo Location, Number and Direction
	Approximate Cross Section Location and Designation

# Site Plan McNally Mine

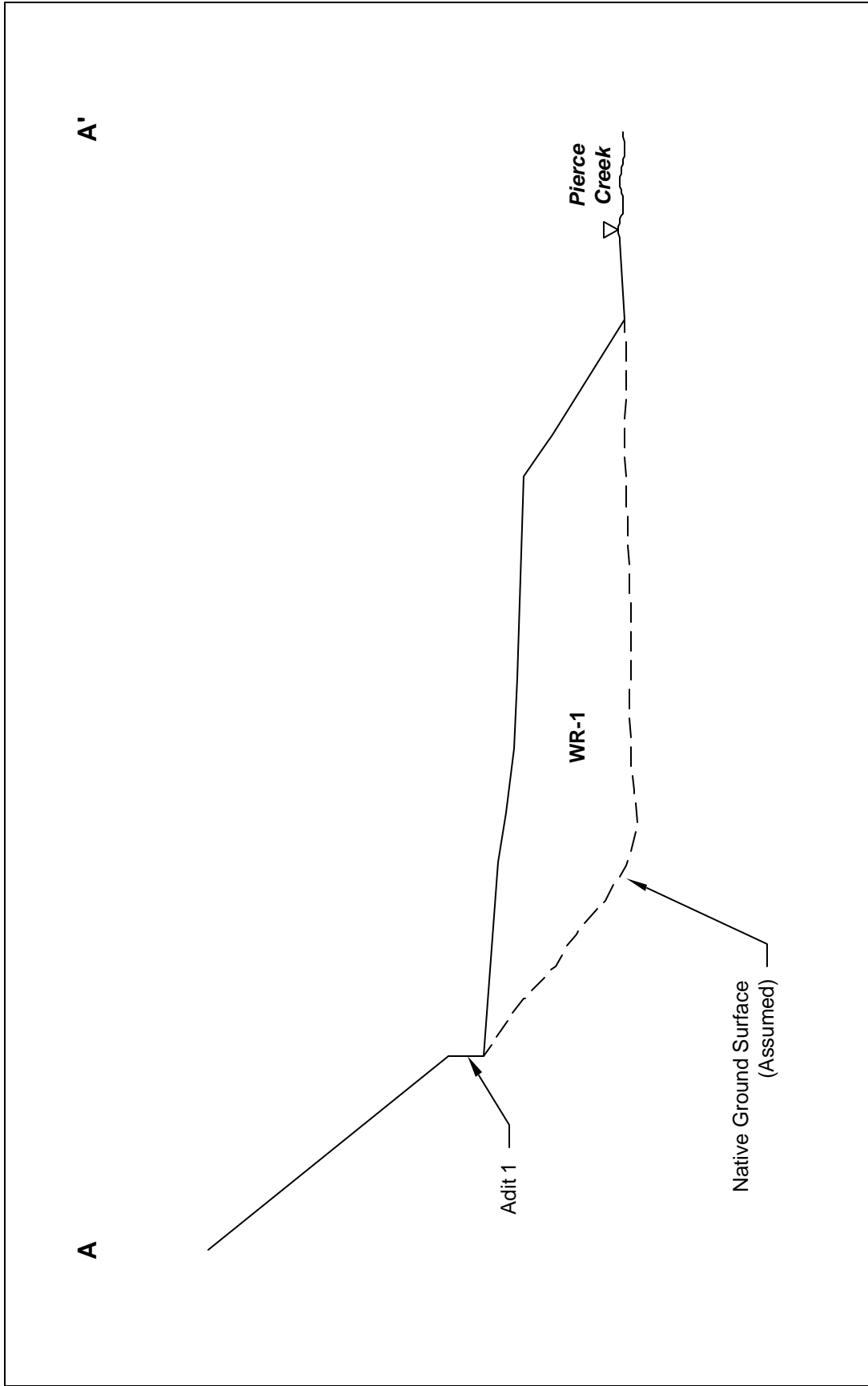


CEC 09/15/06 1727400-032.dwg

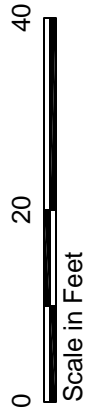
**Source:** Base map prepared from a site sketch by Hart Crowser personnel.



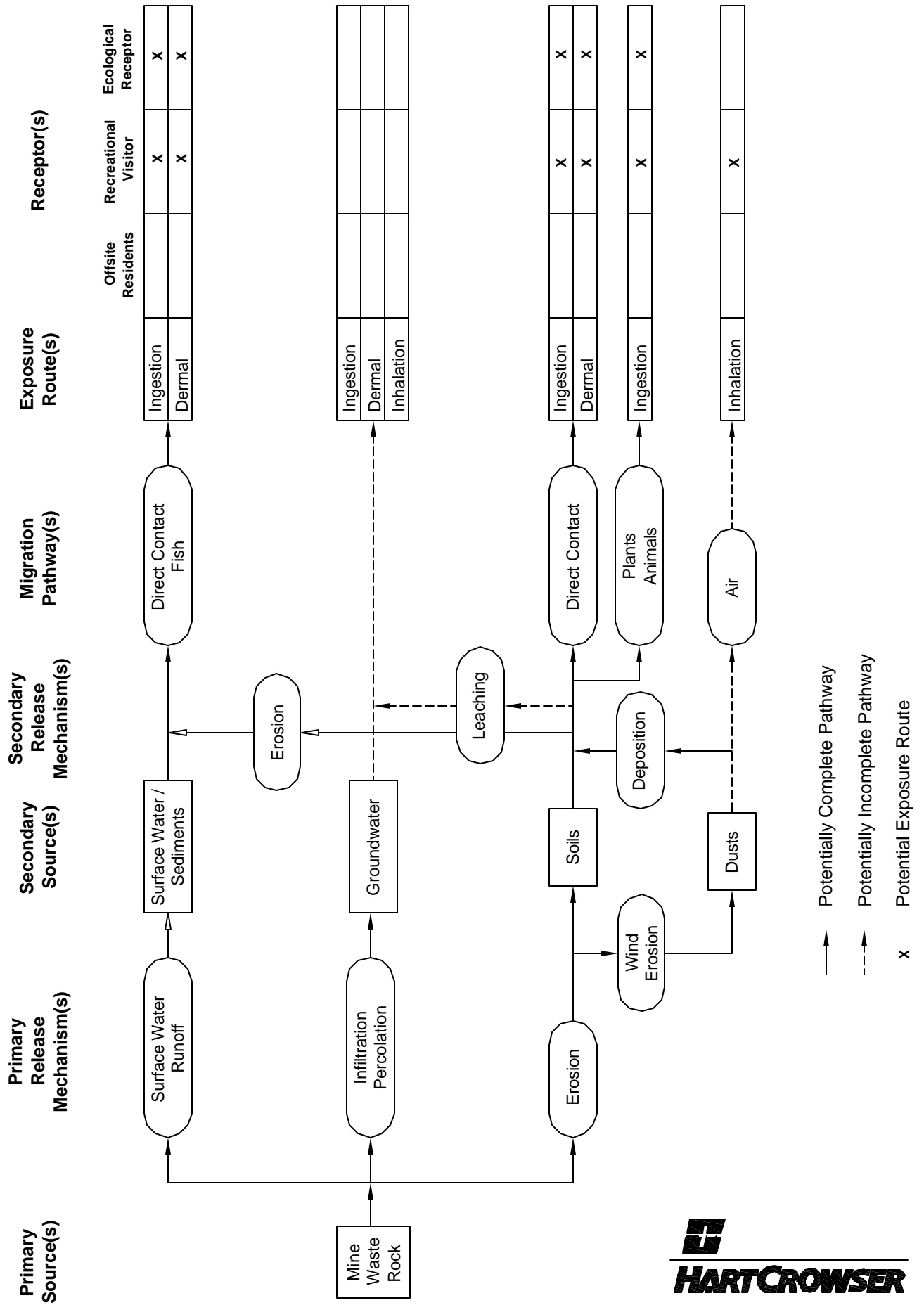
**Cross Section A-A'**  
**McNally Mine**



Source: Base map prepared from field notes 07/14/08



# Mine Waste Rock Conceptual Site Model for Human and Ecological Risk McNally



**APPENDIX A  
FIELD DOCUMENTATION**



AML Feature Inventory

Feature ID McNally

Survey Date 7/14/06

Surveyor(s) AS, MS

Physical Features / Sources (Continued)

Mining Activity-Related Ponds or Liquid Containment Structures:  leach ponds(s)  tailings ponds(s)  tailings impoundment(s)  other (explain)

Pond Type / Count ID (i.e.) LP 1	Dimensions in ft (L x W x D)	Lined (Y/N)	Liquid Present (Y/N)	pH	Parameters:			Animals Present (e.g. bats, other)	Sample Name(s)	GPS
					Cond in mS	Temp in C	Flowrate in GPM			
<u>φ</u>	50 x 30 x 4	N	N	-	-	-	N	Butte - LP1 - S1-S2	G5: 1278965, 476985	

Seep(s)  Creek(s)  Pond(s)  Lake(s)

Type / Count ID	Location	Sample Name	pH	Cond in mS	Temp in C	Parameters:	Odor, sheen, discoloration?
(i.e.) Flume Creek	southern site border	Butte - Flume Creek 1	6.2	0.153	10.9		None
<u>2. (e) side Creek</u>	<u>Northern site border</u>	<u>none</u>					

Soil Staining  Seep Staining

Type / Count ID	Location	Color	Distance from Potential Contaminant Source to Receptor	Source & Receptor	Notes
(e) Stain 1	soil downslope of Adit 1	orange/brown	100' upslope of Flume Creek	fish	ferricrete-like

Seasonal Flow Paths or Channels

Count / ID	Water Present (Y/N)	Sample Name	GPS	pH	Cond in mS	Temp in C	Distance from Potential Contaminant Source to Receptor	Source & Receptor
(e) Drainage 1	N	Butte - Sed 1	G1: 1279645, 476965					
<u>Drainage 1</u>	<u>only weak adit</u>	<u>McNally - S1 - S1</u>						fish

Wetlands

Count / ID	GPS	Flowrate in GPM	pH	Cond in mS	Temp in C	Distance from Potential Contaminant Source to Receptor	Source & Receptor
(e) Wetland 1	G7: 127866, 476985	1 L/min	5.9	0.2	12.1	50' N of Pend Oreille River	None

AML Feature Inventory

Feature ID McNALLY  
 Surveyor(s) ASB, MJS

Survey Date 7/12

Physical Features / Sources (Continued)

Water Supply Structures:  GW Well(s)  SW Intake(s)  Pit Toilet(s)  Other (explain)

Type / ID	Inner Diameter	Depth	Soil Type	Population Served	Distance from Potential Contaminant Source	GPS	General Location
<u>1</u>							

Mill Present / ID	Mill Footprint in ft <sup>2</sup>	Waste Associated with Mill	Chemicals Assoc with Mill	GPS
<u>2</u>				

Buildings / Structures

Count / ID	Blkg. Footprint in ft <sup>2</sup>	Suspected Bldg. Use	Bldg. Condition	GPS	Comments
<u>2</u>					

Liquid or Waste Containment Structures:

drum(s)  tank(s)  other (explain)

Type / ID	Count	Volume in Gal.	Condition	Suspected Contents
<u>Oil can</u>	<u>1</u>	<u>55</u>	<u>dry, rusted, no lid</u>	<u>unknown</u>
	<u>3</u>		<u>no lid paint still intact</u>	<u>white oil</u>

Debris / Refuse:  assay equip & retorts  drum(s)  scrap lumber  scrap metal  machinery  other (explain)

Type / ID	Number	Size	Location	Description
<u>None found debris</u>		<u>5' x 10' x 1'</u>	<u>top of mill</u>	<u>limbers (some charred), rails, stakes, and sheet metal</u>
			<u>in front of adit</u>	<u>logs &amp; packages</u>

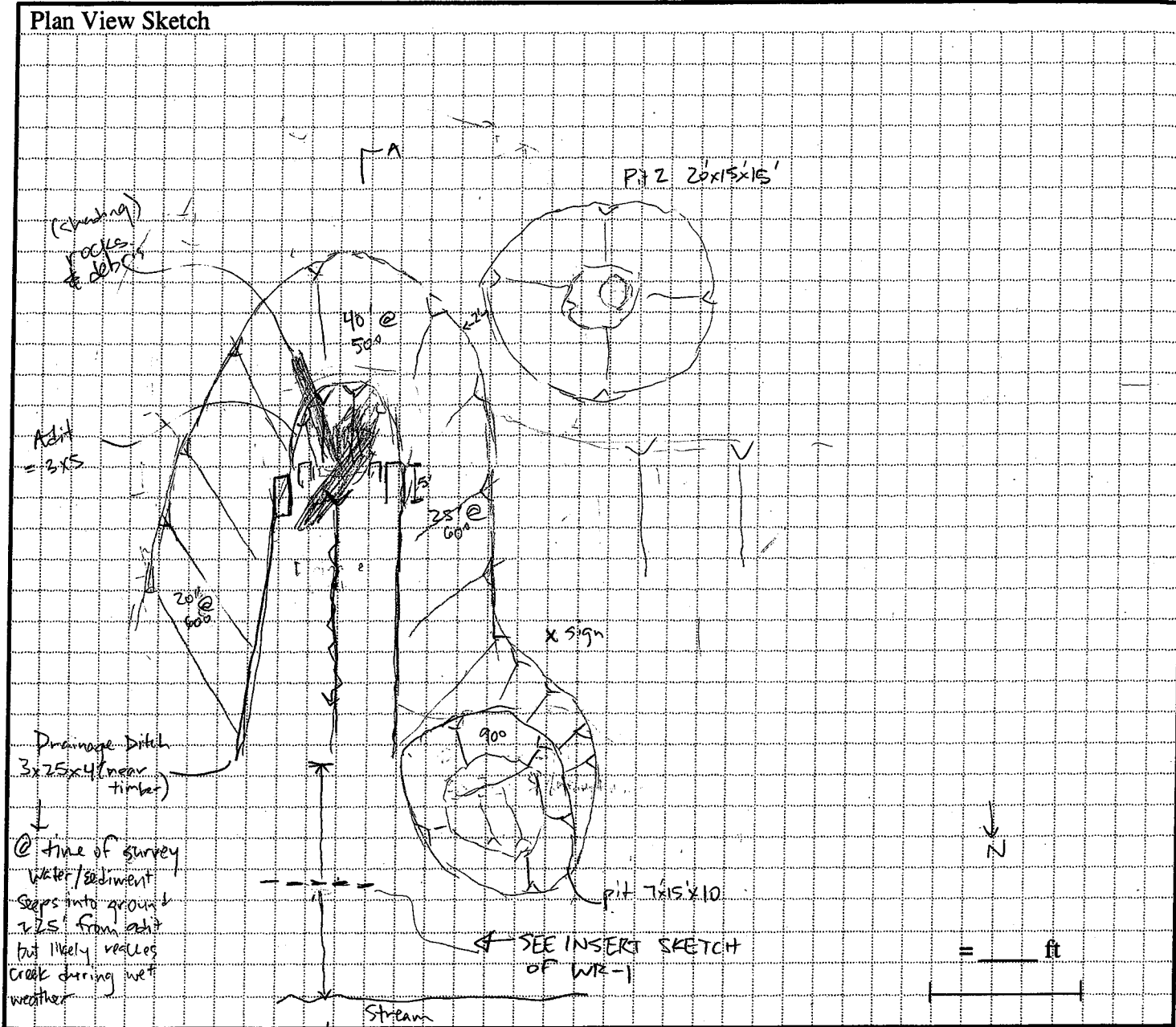
Other Observations:

Ground Cover	Description	Quantity	Endangered / Threatened?	Distressed Vegetation?	Comments
<u>Vegetation</u>	<u>WR-1 is densely forested</u>			<u>N</u>	
<u>Evidence of Wildlife or Recent Human Activity</u>	<u>choreo-prints (w.d?)</u>				<u>Small grazing near road. Prints are found in mud near creek</u>

# AML FEATURE INVENTORY/MONITORING FIELD FORM

Feature ID	<u>McNally</u>
Date	<u>7/14/06</u>
Weather	<u>Clear skies, ~85°</u>

## Plan View Sketch



**INCLUDE THE FOLLOWING IN THE FIELD SKETCH FOR:**

- North Arrow
- Scale Bar
- Photo Location(s) and View Direction(s)
- Sample Location(s) and ID(s):
  - W-# Water
  - S-# Soil
  - T-# Tailings
  - R-# Rock (Waste)
  - O-# Ore
  - S-# Other (Describe)

- FOOTPRINT(S) OF:
- MILLS
  - BUILDINGS
  - STRUCTURES
  - MINING-RELATED PILES
  - OTHER

- SURFACE WATER (PONDS, SEEPS, ETC.)
- GPS Collection Location ☼
  - Elevation (Topographic Variation)
  - Slope Direction

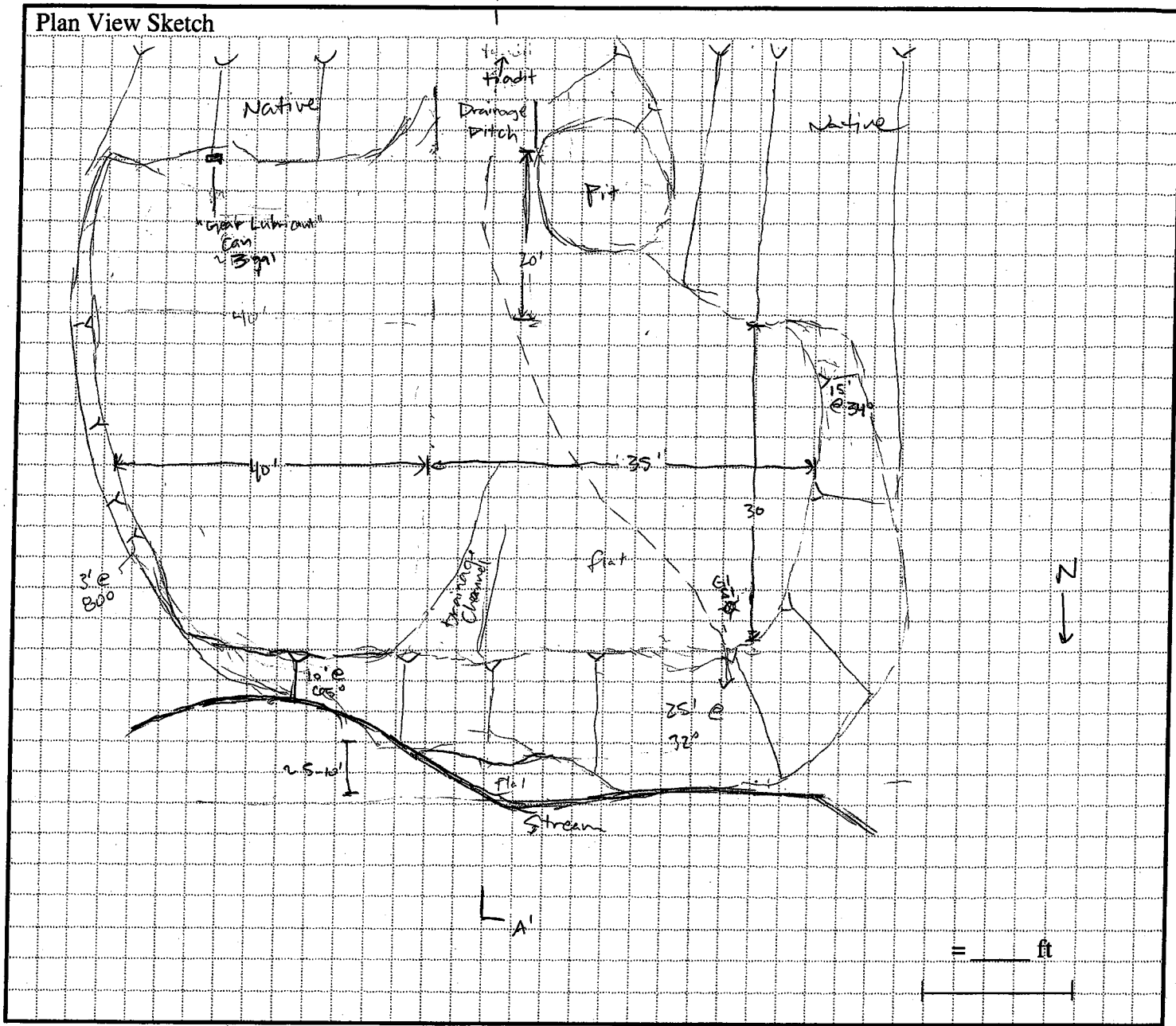
6-2" vegetative mat over WR-1

# AML FEATURE INVENTORY/MONITORING FIELD FORM

Feature ID	<u>McNally</u>
Date	<u>7/14/06</u>
Weather	<u>clear skies, ~85°F</u>

to A see sheet 1

## Plan View Sketch



**INCLUDE THE FOLLOWING IN THE FIELD SKETCH FOR:**

North Arrow  
Scale Bar

Photo Location(s) and View Direction(s)

Sample Location(s) and ID(s):

- W-# Water
- S-# Soil
- T-# Tailings
- R-# Rock (Waste)
- O-# Ore
- S-# Other (Describe)

FOOTPRINT(S) OF:

- MILLS
- BUILDINGS
- STRUCTURES
- MINING-RELATED PILES
- OTHER

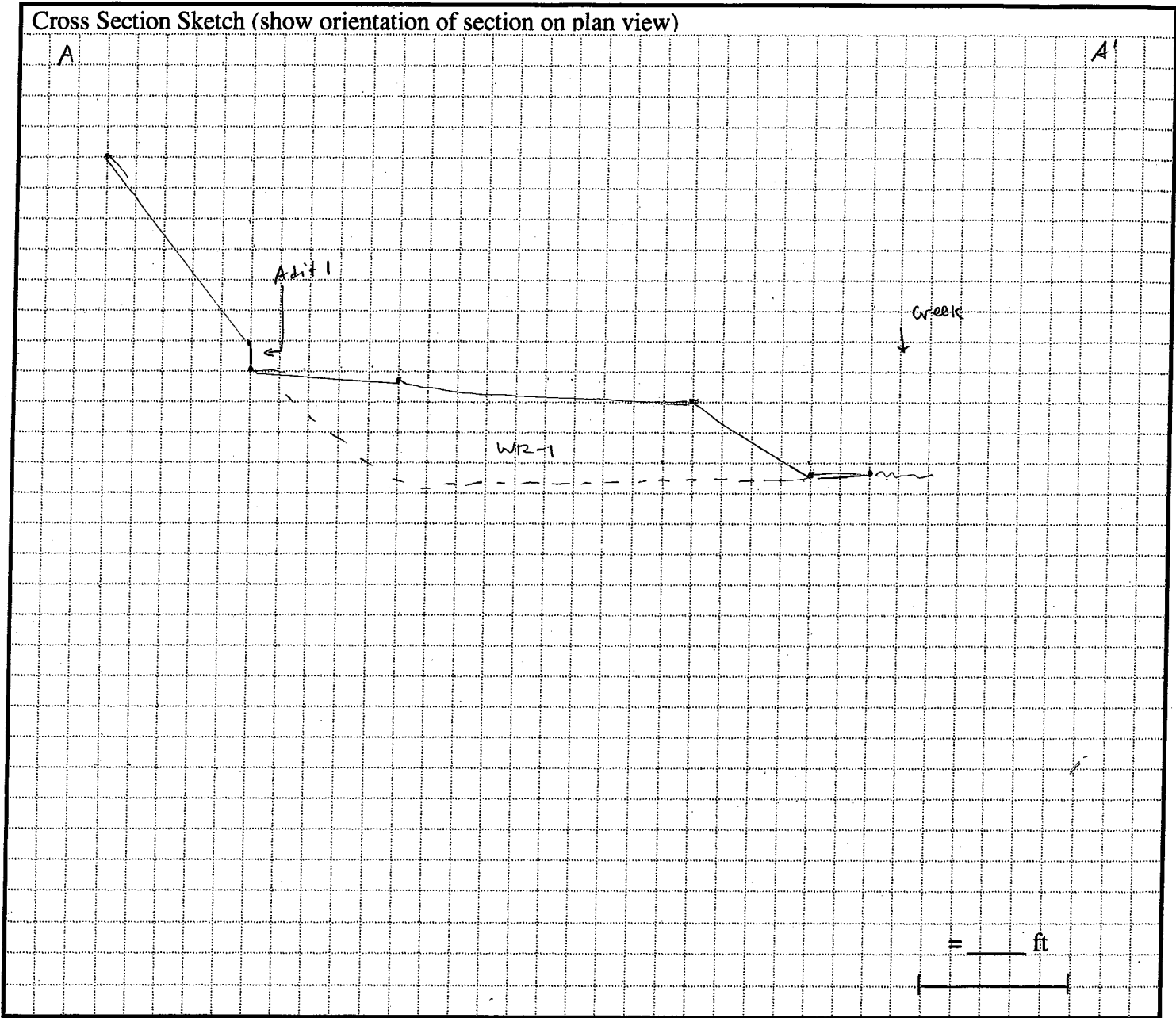
SURFACE WATER (PONDS, SEEPS, ETC.)

- GPS Collection Location
- Elevation (Topographic Variation)
- Slope Direction

---> Seasonal Drainage Channel

Feature ID Mc Nally  
 Date 7/14/06  
 Weather clear Skies, ~ 85°F

Cross Section Sketch (show orientation of section on plan view)



INCLUDE THE FOLLOWING IN THE FIELD SKETCH FOR:

60+125

- X - X' Cross Section Orientation
- Scale Bar
- Photo Location(s) and View Direction(s)
- Sample Location(s) and ID(s):
  - W-# Water
  - S-# Soil
  - T-# Tailings
  - R-# Rock (Waste)
  - O-# Ore
  - S-# Other (Describe)

- LOCATION(S) OF:
- MILLS
  - BUILDINGS
  - STRUCTURES
  - MINING-RELATED PILES
  - OTHER

- SURFACE WATER (PONDS, SEEPS, ETC.)
- GPS Collection Location
- Elevation (Topographic Variation)

□ = 5'

## Ecology AML

<b>McNally</b>			
<b>Coordinate Name</b>	<b>Northing</b>	<b>Easting</b>	<b>Altitude</b>
MCNALLY-WR1-S1	1319100	2216876	2431
MCNALLY-PIT1	1319065	2216908	2468
<b>Average</b>	<b>1319082</b>	<b>2216892</b>	<b>2449</b>

### Notes:

Northings and Eastings are reported in units of US Feet, relative to NAD 83 State Plane Coordinate System, Washington Zone South.



Photograph 1 - View of Adit 1. ←Up



Photograph 2 - View of Pit 2.