Geologic datasets for weights-of-evidence analysis in northeast Washington —2. Mineral databases

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Abstract

Digital mineral databases are necessary to carry out weights-of-evidence modeling of mineral resources for epithermal gold and carbonate-hosted lead-zinc deposits in northeast Washington. This report describes spreadsheet tables consisting of: 1) training sites for epithermal gold, 2) placer gold sites, 3) training sites for carbonate-hosted lead-zinc, and 4) small lead-zinc mines and prospects. A fifth table provides location data about sites in the four tables.

Introduction

Digital mineral databases were necessary to perform spatial modeling of mineral resources and to investigate mineral potential in Northeastern. The spatial modeling was performed using weights-of-evidence analysis on a geographic information system and requires all digital data. Four mineral database themes necessary for the spatial modeling are described in this report, placer gold sites, a training set for epithermal gold deposits, a training set for carbonate-hosted lead-zinc deposits, and small lead-zinc mines and prospects. Tables 1 and 2 were used in weights-of-evidence modeling of epithermal gold deposits of northeast Washington (unpublished data). Tables 3 and 4 were similarly used for modeling of carbonate-hosted lead-zinc deposits of northeastern Washington (unpublished data). A fifth table provides additional township and range location data about sites in the four tables. The data in these tables occur within a 138-mile by 72-mile area in northeast Washington bounded by Idaho on the east and Canada on the north. It includes all of Pend Oreille County and large portions of Douglas, Ferry, Okanogan, and Stevens counties. (Figure 1)

Description of data

The data in each of the tables described below were obtained primarily from the USGS Mineral Resource Data System (MRDS, 1998) database and supplemented using the USBM Minerals Availability System (MAS-MILS, 1995) database by applying specific selection criteria. The USGS MRDS and USBM MAS-MILS databases contain economic geology data for over 220,000 mines, prospects or mineral occurrences worldwide. The MRDS number begins with the letters “SP”, “D”, “W”, “K” or “M” followed by a 5- or 6-digit number and the MAS-MILS sequence number contains 10 digits. MAS-MILS record data were included because they complement the MRDS. Multiple MRDS records describing the same property were identified for at least 33 properties The duplicated MRDS records were retained for later reference.

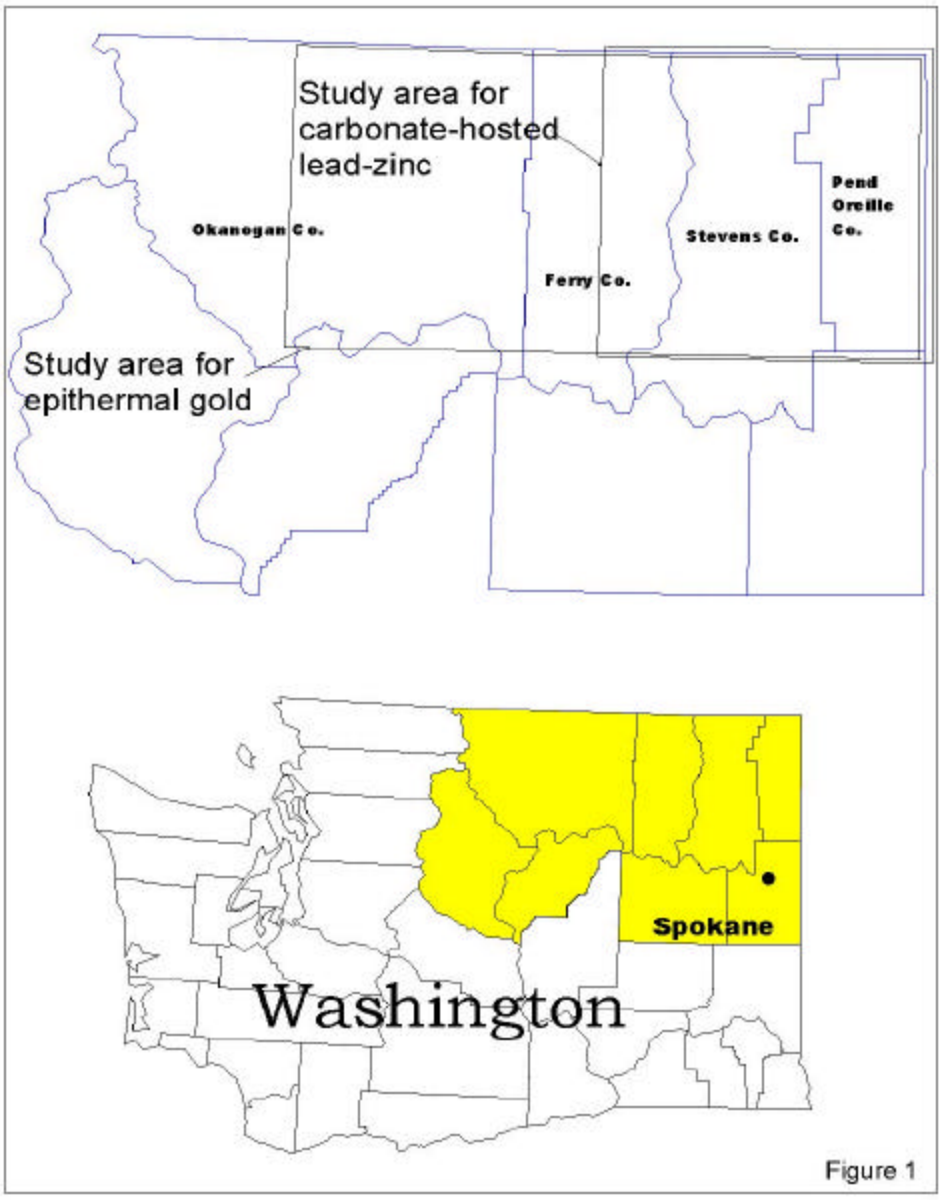

Figure 1. Location map showing study areas of epithermal gold and carbonate-hosted lead-zinc deposits.

Training sites for epithermal gold model.

The training sites consist of a collection of mines, prospects or occurrences selected from MRDS or MAS-MILS database because of their epithermal gold-like characteristics. Sites were qualified for the epithermal gold model if they met the selection criteria below for any of the USGS models for Au-Ag hot spring, 25a (Berger, 1992), Creede epithermal veins, 25b (Mosier and others, 1992), or Comstock epithermal veins, 25c (Mosier, Singer and Berger, 1992). See Table 1. Fifty sites were selected where

- sites are spatially associated with Eocene volcanic or hypabyssal rocks and
- gold occurs in quartz veins or disseminations.

Additional characteristics provided from records for each site facilitated classifying the deposit with models, 25a, 25b, or 25c.

In addition to location data, the mining district, commodities present, production size and development status are also provided.

Placer gold sites.

Placer sites indicate locations of mines or prospects of placer gold mining or prospecting. (Table 2) Sixty-seven sites were selected from the MRDS and MAS-MILS where:

- gold is the primary commodity and
- "placer" was indicated by the name, deposit type, or modifier of commodity.

Thirty-six of the sites were obtained from the USGS MRDS database and the remaining 31 sites were obtained from the MAS-MILS database. Production data were not available for any sites.

Training sites for carbonate-hosted lead-zinc model

The second group of training sites were selected because they exhibit characteristics similar to the USGS model for carbonate-hosted lead-zinc (Briskey, 1992). Eleven mines were selected where (Table 3):

- lead and zinc are the primary commodities,
- the deposit is either stratiform or pipe-like in form or exhibit breccia or replacement texture,
- the deposit occurs within strata of either the Maitlen Phyllite of Cambrian age, the Metaline Formation of Cambrian age or the Ledbetter Slate of Ordovician age, and
- the mine has produced more than 100,000 tons of ore.

Small lead-zinc mines and prospects

Smaller deposits described as carbonate-hosted lead-zinc deposits are those where no ore was produced or those having total production up to 100,000 tons. These smaller deposits were selected using the selection criteria used (above) for training sites of carbonate-hosted lead-zinc deposits. Sixty-two deposits are represented in the group. See Table 4.

Table 5 provides locations for sites in tables 1-4 given by township, range and section (TRS)and by latitude and longitude. The latitude and longitude were calculated from the TRS. The latitude and

longitude were calculated for a central point in a section. For sites occupying two or more sections, this was done by arbitrarily selecting an "assumed section" that occupied that occurred at the center. The calculation method then uses the freeware script, 'TRS2LL' (Martin Wefald, written commun.). The resulting latitude and longitude refer to a point in the center of the assumed section.

Four files found on the diskette include:

- Report containing all tables and metadata appendices labeled "of99-384.doc" (~ 415 kb, MS Word 97);
- Tables 1-5 on spreadsheet (~ 200 kb, MS Excel 97) which contains five worksheet tables in file labeled "of99-384.xls". Worksheets are labeled as follows: 1. Small_PbZn_Mines, 2. Placer_Sites, 3. Trainsites_epith, 4. Trainsites_PbZn, and 5. Township_location;
- Metadata (~ 16 kb) in text document labeled "of99-384.met"; and
- Figure 1 (139 kb, JPEG image) labeled "of99-384.jpg".

How to obtain digital data

The complete digital files are available at the USGS web site.

To obtain copies of the digital data, do one of the following:

Download the digital files from the USGS public access World Wide Web site on the Internet URL = http://wrgis.wr.usgs.gov/open-file/of99-384/

The data are also available on diskette from USGS Open-File Services, Denver Federal Center, Denver, CO.

References

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Mosier, D.L., Singer, D.A., and Berger, B.R., 1992, Descriptive model of Comstock epithermal veins (25c): U S Geological Survey Bulletin 1693, p. 150.

USBM, 1995, US Bureau of Mines MAS/MILS CD-ROM: Spatial data extracted from the Mineral Availability System/Mineral Industry Location System (MAS/MILS): US Bureau of Mines Special Publication 12-95, 1 CD-ROM.

USGS, Mineral Resource Data System: U.S. Geological Survey.

Table 1. Training sites for epithermal gold.

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	COMMODITIES PRESENT	USGS MODEL[1]	PRODUCTION SIZE	DEVELOPMENT STATUS
1	ADMIRAL	M056000		48.6600	-118.7369	FERRY	WA	AU	25a	No production	Occurrence
2	ADVANCE	M056001		48.6267	-118.7453	FERRY	WA	AU AG	25a	No production	Occurrence
3	ALPINE	M056023		48.6767	-118.7578	FERRY	WA	AU AG	25a	No production	Occurrence
4	ANECIA	M056024		48.6619	-118.7803	FERRY	WA	AU AG	25a	No production	Occurrence
5	BEN HUR	SP00062		48.6686	-118.7581	FERRY	WA	AU AG	25c	No production	Developed prospect
6	BLACK TAIL (Hope)	SP00063		48.6633	-118.7475	FERRY	WA	AU AG	25c	No production	Occurrence
7	BODIE	M056027		48.6606	-118.7572	FERRY	WA	AU AG	25a	No production	Occurrence
8	COOK	M056029		48.6372	-118.7536	FERRY	WA	AU	25a	No production	Occurrence
9	EAST SAN POIL	M056030		48.6614	-118.7572	FERRY	WA	AU AG	25a	No production	Occurrence
10	EL CALIPH	M056031,SP00068		48.6592	-118.7639	FERRY	WA	AU AG	25c	No production	Prospect
11	FLAG HILL	M056032,SP00069		48.6522	-118.7536	FERRY	WA	AU AG SE	25c	No production	Prospect
12	GOLDEN EAGLE	M056004		48.6600	-118.7369	FERRY	WA	AU AG	25a	No production	Occurrence
13	IDA MAY	SP00075		48.6547	-118.7647	FERRY	WA	AU AG	25c	No production	Occurrence
14	INSURGENT	SP00076		48.6669	-118.7461	FERRY	WA	AU AG	25c	No production	Occurrence
15	IRON MASK	M056033		48.6561	-118.7544	FERRY	WA	AU AG	25a	No production	Prospect
16	IRON MOUNTAIN	M056123		48.5639	-118.5994	FERRY	WA	AG AU	25a	No production	Prospect
17	JIM BLAINE FRACTION	M056009		48.6328	-118.7453	FERRY	WA	AU AG	25a	No production	Occurrence
18	K2 MINE[2]	na	0530190470	48.8660	-118.6680	FERRY	WA	AU AG	25a	Large	Active mine
19	KANGAROO	M056034		48.6614	-118.7572	FERRY	WA	AU AG	25a	No production	Occurrence
20	KETTLE	SP00080		48.8789	-118.6256	FERRY	WA	AU AG	25a	Large	Active mine
21	KNOB HILL MINE-PLANT	na	0530190084	48.6734	-118.7578	FERRY	WA	AU AG	25c	Large	Inactive producer

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	COMMODITIES PRESENT	USGS MODEL[1]	PRODUCTION SIZE	DEVELOPMENT STATUS
22	LAST CHANCE	M056010,D001629, SP0008		48.6658	-118.7458	FERRY	WA	AU AG	25a	Small	Developed prospect
23	LITTLE COVE	M056036,SP00085		48.6669	-118.7533	FERRY	WA	AU AG	25c	No production	Prospect
24	LONE PINE	M056037,SP00086		48.6653	-118.7506	FERRY	WA	AU AG	25c	Small	Developed prospect
25	MAMMOTH	M056011		48.6725	-118.7428	FERRY	WA	AU AG	25a	No production	Occurrence
26	MOUNTAIN LION	M056039,SP00095		48.6789	-118.7686	FERRY	WA	AU AG	25c	Small	Developed prospect
27	NORTH SAN POIL	SP00096,M056012		48.6667	-118.7586	FERRY	WA	AU AG	25c	No production	Occurrence
28	OLD HICKORY	SP00097,M056013		48.6392	-118.7428	FERRY	WA	AU	25c	No production	Occurrence
29	PEARL	M056040,SP00100		48.6669	-118.7533	FERRY	WA	AU AG	25c	No production	Prospect
30	PRINCESS MAUDE (Southern Republic)	SP00102		48.6347	-118.7475	FERRY	WA	AU AG	25c	No production	Occurrence
31	QUILP (Imperator, Eureka)	M056016		48.6561	-118.7475	FERRY	WA	AU AG	25c	Small	Developed prospect
32	REBATE	M056041		48.6939	-118.7542	FERRY	WA	AU AG	25a	No production	Occurrence
33	REPUBLIC (Blaine Republic)	SP00104		48.6375	-118.7453	FERRY	WA	AU AG SE	25c	No production	Occurrence
34	SAN POIL FRACTION	M056043, M056042, SP0010		48.6669	-118.7533	FERRY	WA	AU AG	25a	No production	Occurrence
35	SEATTLE	M056044,SP00107		48.6642	-118.7669	FERRY	WA	AU AG	25c	No production	Prospect
36	SNOWSTORM	M056045		48.6614	-118.7572	FERRY	WA	AU AG	25a	No production	Occurrence
37	SOUTH PENN	SP00112,M056046		48.6903	-118.7558	FERRY	WA	AU AG	25c	No production	Occurrence
38	STANDARD AND EMMA	M056018		48.6306	-118.7461	FERRY	WA	AU AG	25a	No production	Occurrence

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	COMMODITIES PRESENT	USGS MODEL[1]	PRODUCTION SIZE	DEVELOPMENT STATUS
39	SURPRISE	SP00114,M056019		48.6608	-118.7492	FERRY	WA	AU AG	25c	No production	Occurrence
40	TOM THUMB	SP00117,M056047		48.6961	-118.7572	FERRY	WA	AU AG	25c	No production	Occurrence
41	TRADE DOLLAR	M056048,SP00118		48.6733	-118.7508	FERRY	WA	AU AG	25c	No production	Prospect
42	V FRACTION	M056021		48.6658	-118.7458	FERRY	WA	AU AG	25a	No production	Occurrence
43	ZALLA M	M056126,SP00122		48.7667	-118.8314	FERRY	WA	AG CU AU	25b	Small	Developed prospect
44	AMERICAN FLAG	SP00186		48.7536	-118.8453	OKANOGAN	WA	AU CU ZN	25b	No production	Occurrence
45	BODIE GOLD MINE (Northern Gold)	M056791		48.8158	-118.9036	OKANOGAN	WA	AU AG CU	25a	Small	Developed prospect
46	SHERIDAN (Phil Sheridan)	SP00283		48.7786	-118.8547	OKANOGAN	WA	AG AU	25a	Small	Inactive producer
47	SILVER BELL	SP00285		48.7597	-118.8383	OKANOGAN	WA	AU AG	25b	Small	Occurrence
48	FIRST THOUGHT MINE	M060170,M056476		48.8839	-118.1611	STEVENS	WA	AU AG	25c	Small	Inactive producer
49	HIDDEN TREASURE	M056495		48.8739	-118.1656	STEVENS	WA	AU	25a	No production	Prospect
50	NEST EGG	M056501		48.8481	-118.1586	STEVENS	WA	AU AG CU	25a	No production	Occurrence

[1] Hot spring Au-Ag (25a); Creede epithermal veins(25b); Comstock epithermal veins (25c);; [2] Long, DeYoung, and Ludington, 1998; (..) alternate name; na none available

Table 2. Placer gold sites

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT
1	BOULDER CR. PLACERS	W007555		48.6006	-116.0883	BOUNDARY	ID	PRIEST LAKE
2	COPPER CREEK	na	0160210133	48.9803	-116.1728	BOUNDARY	ID	
3	POINT BAR PLACER	na	0160210134	48.7861	-116.1533	BOUNDARY	ID	
4	ALVA STOUT	M056072		48.6494	-118.7744	FERRY	WA	REPUBLIC
5	BLANCE	M056073		48.6528	-118.8058	FERRY	WA	REPUBLIC
6	BLUE BAR ISLAND	M056062		48.2000	-118.2003	FERRY	WA	
7	BLUE BAR ISLAND PLACER	na	0530190123	48.2072	-118.1994	FERRY	WA	
8	BRIDGE CREEK	M056063		48.2264	-118.1767	FERRY	WA	
9	DAISY	M056067		48.3897	-118.1981	FERRY	WA	
10	DORA B PLACER	na	0530190127	48.6472	-118.8153	FERRY	WA	
11	DOVA B	M056074		48.6528	-118.8058	FERRY	WA	EUREKA
12	GOLD CREEK	M056077		48.4253	-118.8450	FERRY	WA	
13	GOOSMUS CREEK PLACER	na	0530190129	48.9631	-118.5806	FERRY	WA	
14	JOHNSON PLACER	M056068		48.2911	-118.1633	FERRY	WA	
15	KELLER PLACERS	na	0530190397	48.0856	-118.6903	FERRY	WA	

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT
16	NINEMILE	M056070		48.0158	-118.3972	FERRY	WA	
17	SANDPOIL RIVER, WEST FLA.	M056076		48.4581	-118.7719	FERRY	WA	
18	SINGER PLACER	SP00111		48.9961	-118.5308	FERRY	WA	DANVILLE
19	STRAY DOG PLACER	M056065		48.2053	-118.1992	FERRY	WA	
20	THOMPSON	M056066		48.2189	-118.1861	FERRY	WA	
21	TURTLE RAPIDS PLACER	na	0530190177	48.1783	-118.2500	FERRY	WA	
22	BALLARD PLACER	na	0530470493	48.5319	-119.7450	OKANOGAN	WA	
23	CASSIMER BAR PLACER	SP00204		48.0992	-119.7181	OKANOGAN	WA	
24	CONDON FERRY PLACER	na	0530470512	48.1100	-119.3111	OKANOGAN	WA	
25	CROUNSE PLACER	SP00211		48.3997	-118.8789	OKANOGAN	WA	
26	CUBA LINE PLACER	M056821		48.9967	-119.1053	OKANOGAN	WA	MYERS CREEK; CHESAW
27	DAN MOONEY PLACER	na	0530470513	48.9606	-119.0406	OKANOGAN	WA	
28	DAVEY PLACER	na	0530470514	48.9600	-119.0408	OKANOGAN	WA	

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT
29	DEADMAN CREEK PLACER	na	0530470497	48.9167	-119.0550	OKANOGAN	WA	
30	FOURTH OF JULY CREEK PLACER	na	0530470498	48.9167	-119.0558	OKANOGAN	WA	
31	GOLD BAR PLACER	na	0530470508	48.1053	-119.2664	OKANOGAN	WA	
32	HOPKINS PLACER	na	0530470499	48.1133	-119.2311	OKANOGAN	WA	
33	MARY ANN CREEK PLACER	SP00250		48.9403	-119.0517	OKANOGAN	WA	
34	MEADOWS PLACER	na	0530470501	48.6550	-119.8528	OKANOGAN	WA	
35	MURRAY PLACER	M056823		48.2000	-119.2544	OKANOGAN	WA	KARTAR
36	NESPELEM BAR PLACER	na	0530470502	48.1361	-119.0539	OKANOGAN	WA	
37	NUGGET PLACER	na	0530470503	48.4100	-118.9039	OKANOGAN	WA	
38	RICH BAR PLACER	na	0530470045	48.9822	-119.5364	OKANOGAN	WA	
39	SHOTWELL PLACER	SP00284		48.0342	-119.6828	OKANOGAN	WA	
40	SIMILKAMEEN FALLS PLACER	na	0530470505	48.9703	-119.5017	OKANOGAN	WA	

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT
41	SIMILKAMEEN PLACERS	na	0530470506	48.9806	-119.5492	OKANOGAN	WA	
42	WALKER PLACER	SP00299		48.9689	-119.1144	OKANOGAN	WA	MYERS CREEK
43	BROWNS LAKE PLACER	M025803		48.4392	-117.1828	PEND OREILLE	WA	BEAD LAKE
44	HARVEY BAR PLACER	M025804		48.9439	-117.3300	PEND OREILLE	WA	METALINE
45	SCHIERDING PLACER	M025805		48.9881	-117.3447	PEND OREILLE	WA	METALINE
46	SCHULTZ PLACER	na	0530510304	48.8597	-117.4111	PEND OREILLE	WA	
47	SULLIVAN CREEK PLACER	na	0530510305	48.8383	-117.2653	PEND OREILLE	WA	
48	AMBROSE MINING	na	0530650884	48.9611	-117.8500	STEVENS	WA	
49	BLUE BAR	M056523		48.1714	-118.1875	STEVENS	WA	KETTLE FALLS
50	BLUE BAR PLACER	na	0530650172	48.1700	-118.1833	STEVENS	WA	
51	BOSSBURG BAR	M056520		48.7564	-118.0475	STEVENS	WA	
52	CHINA BEND PLACER	na	0530650173	48.8006	-118.0192	STEVENS	WA	
53	COLLINS	M056525		48.3883	-118.1697	STEVENS	WA	
54	EVANS PLACER	na	0530650174	48.9350	-117.7631	STEVENS	WA	
55	GIBSON BAR	M056524		48.0214	-118.3919	STEVENS	WA	

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT
56	HOLSTEN	M056522		48.5000	-118.1750	STEVENS	WA	
57	MARCUS PLACER	M056518		48.6656	-118.0675	STEVENS	WA	
58	MEYERS FALLS	M056515		48.5936	-118.0647	STEVENS	WA	
59	NIGGER CREEK BAR PLACER	na	0530650179	48.9403	-117.7656	STEVENS	WA	
60	NINEMILE BAR	M056519		48.7956	-118.0036	STEVENS	WA	
61	NOBLES PLACER	na	0530650182	48.8472	-117.9117	STEVENS	WA	
62	ORIENT	M056521		48.8611	-118.1997	STEVENS	WA	ORIENT
63	ORIENT PLACER	na	0530650184	48.8606	-118.0722	STEVENS	WA	
64	REED AND ROBERTS PLACER	na	0530650185	48.9544	-117.7344	STEVENS	WA	NORTHPORT
65	SANDOZ	M056517		48.6964	-118.0164	STEVENS	WA	
66	STRANGER CREEK	M056069		48.3083	-118.1478	STEVENS	WA	
67	VALBUSH BAR	M056516		48.7000	-118.0206	STEVENS	WA	

na none available

Table 3. Training sites for carbonate-hosted lead-zinc.

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT	COMMODITIES PRESENT	TONS PRODUCED[1]	DEVELOPMENT STATUS
1	ADMIRAL CONSOLIDATED[1]	na	0530650405	48.92720	-117.57580	STEVENS	WA	NORTHPORT	ZN PB AG CD	115,545	INACTIVE PRODUCER
2	BLUE BUCKET MINE (Kroll)	M025855		48.84333	-117.40690	PEND OREILLE	WA	METALINE	ZN PB AG	183,000	INTERMITTENT PRODUCER
3	DEEP CREEK MINE (Gorien Zinc, Northport)	M060115		48.86389	-117.71500	STEVENS	WA	NORTHPORT	PB ZN CU AG AU	450,000	INACTIVE PRODUCER
4	ELECTRIC POINT[1]	na	0530650244	48.88280	-117.54140	STEVENS	WA	NORTHPORT	PB AG ZN CU	600,000	INACTIVE PRODUCER
5	GLADSTONE MINE	M060143		48.88611	-117.54167	STEVENS	WA	NORTHPORT	PB AG ZN CU	310,000	INTERMITTENT PRODUCER
6	GRANDVIEW MINE	na	0530510133	48.87778	-117.35750	PEND OREILLE	WA	METALINE	ZN PB AG CD U CU	2,348,000	INACTIVE PRODUCER
7	JOSEPHINE MINE (Clark)	M025825		48.88000	-117.37111	PEND OREILLE	WA	METALINE	ZN PB AG CD U F	283,000	INACTIVE PRODUCER
8	LAST CHANCE MINE (Jupiter)	M060171		48.86694	-117.69917	STEVENS	WA	NORTHPORT	PB ZN AG	118,000	INACTIVE PRODUCER
9	METALINE FALLS PROSPECT	M025845		48.86833	-117.36667	PEND OREILLE	WA	METALINE	PB ZN	410,724	PROSPECT
10	PEND OREILLE MINE (Josephine, Metaline Metals, Yellowhead, Flusey-Hoopala)	M060153		48.86330	-117.35530	PEND OREILLE	WA	METALINE	ZN PB CU AG CD	14,000,000	INTERMITTENT PRODUCER
11	VAN STONE MINE	M060114		48.76250	-117.75528	STEVENS	WA	NORTHPORT	ZN PB	4,400,000	INACTIVE PRODUCER

[1] Additional data also provided by Derkey, Joseph, and Lasmanis, 1990; (...) alternate name; na none available

Table 4. Small lead-zinc mines and prospects.

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT	TONS PRODUCED
1	BELLA MAY MINE	M060151		48.8481	-117.4042	PEND OREILLE	WA	METALINE	0
2	CLIFF PROSPECT	M025857		48.9578	-117.3550	PEND OREILLE	WA	METALINE	848
3	DIAMOND R. CLAIM	M025840		48.8508	-117.4208	PEND OREILLE	WA	METALINE	200
4	DUMONT PROSPECT - LOWER	M025822		48.9361	-117.3006	PEND OREILLE	WA	METALINE	0
5	DUMONT PROSPECT - UPPER	M025823		48.9375	-117.2578	PEND OREILLE	WA	METALINE	0
6	FLUSEY-HOOPALULA	M025815		48.9356	-117.3339	PEND OREILLE	WA	METALINE	0
7	GIANT - FLYING SQUIRREL MINE	M025790		48.9550	-117.3533	PEND OREILLE	WA	METALINE	0
8	HANLEY[1]	na	0530510134	48.9861	-117.3500	PEND OREILLE	WA	METALINE	400
9	HOAGE[1]	M025824	0530510135	48.9492	-117.3547	PEND OREILLE	WA	METALINE	50
10	JIM CREEK MINE	M060167		48.8111	-117.5153	PEND OREILLE	WA	METALINE	0
11	KING TUT[1]	na	0530510052	48.9750	-117.2014	PEND OREILLE	WA	METALINE	20
12	LAKEVIEW PROPERTY	M025826		48.9894	-117.3117	PEND OREILLE	WA	METALINE	0
13	LEAD HILL MINE	M025832		48.9708	-117.1961	PEND OREILLE	WA	METALINE	10,850
14	LEAD KING PROPERTY	M025816		48.9378	-117.3536	PEND OREILLE	WA	METALINE	20
15	LEAD QUEEN PROSPECT	M025817		48.9764	-117.3292	PEND OREILLE	WA	METALINE	20
16	LEHIGH IRON PITS	M025807		48.8503	-117.4153	PEND OREILLE	WA	METALINE	800
17	LUCKY STRIKE MINE[1]	na	0530650445	48.9306	-117.3306	PEND OREILLE	WA	METALINE	99
18	METALINE DISTRICT	K002909		48.8833	-117.3553	PEND OREILLE	WA	METALINE	0
19	MM PROSPECT	M025818		48.9972	-117.3111	PEND OREILLE	WA		0
20	MOCKINGBIRD PROSPECT	M025820		48.9311	-117.3450	PEND OREILLE	WA		0
21	MOHAWK LODE	M025847		48.8719	-117.3531	PEND OREILLE	WA	METALINE	0
22	MORNING AND MAMMOTH MINES	M025821		48.8778	-117.3597	PEND OREILLE	WA	METALINE	0
23	RED TOP MINE	M025842		48.9958	-117.3222	PEND OREILLE	WA	METALINE	5
24	RIVERSIDE MINE	M025833		48.9186	-117.3336	PEND OREILLE	WA	METALINE	0
25	ROBERT E. LEE MINE	M025834		48.9258	-117.3408	PEND OREILLE	WA	METALINE	0
26	STAR[1]	na	0530510086	48.9389	-117.2458	PEND OREILLE	WA	METALINE	0
27	STERLING[2]	na	0530510154	48.8389	-117.3903	PEND OREILLE	WA	METALINE	99
28	SULLIVAN CLAIM	M025836		48.8786	-117.3747	PEND OREILLE	WA	METALINE	99
29	TOM CAT PROSPECT	M025828		48.9894	-117.3553	PEND OREILLE	WA	METALINE	0
30	TORRENTIAL - SPHINX PROSPECT	M025829		48.9811	-117.3400	PEND OREILLE	WA	METALINE	0
31	TROYER MINE	M025844		48.9542	-117.2236	PEND OREILLE	WA	METALINE	0
32	TWIN LAKES PROSPECT	M025837		48.9461	-117.3494	PEND OREILLE	WA	METALINE	0

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	COUNTY	STATE	DISTRICT	TONS PRODUCED
33	UNCAS PROSPECT	M025830		48.9406	-117.2458	PEND OREILLE	WA	METALINE	0
34	WASHINGTON CLAIM	M025814		48.8678	-117.3733	PEND OREILLE	WA	METALINE	99
35	WEST CONTACT[1]	na	0530510336	48.8519	-117.4156	PEND OREILLE	WA	METALINE	0
36	WOLF CREEK MINE	M025841		48.8283	-117.3814	PEND OREILLE	WA	METALINE	0
37	YELLOWHEAD MINE[1]	na	0530510311	48.8839	-117.3753	PEND OREILLE	WA	METALINE	12,000
38	Z CANYON MUTUAL PROSPECT	M025831		48.9786	-117.3389	PEND OREILLE	WA	METALINE	99
39	ANDERSON PROSPECT	W001169		48.9167	-117.5911	STEVENS	WA	NORTHPORT	0
40	AVONDALE-DOME (Tenderfoot)[2,3]	na	0530650221	48.6886	-117.8550	STEVENS	WA		0
41	BECHTOL-THOMPSON-DEEPLAKE	W017880		48.8661	-117.5944	STEVENS	WA	METALINE	999
42	BIG CHIEF MINE	M060173		48.7047	-117.8650	STEVENS	WA	BOSSBURG	220
43	CHLORIDE QUEEN	M060174		48.6925	-117.8572	STEVENS	WA	BOSSBURG	435
44	FARMER MINE	M060120		48.8494	-117.6222	STEVENS	WA	NORTHPORT	99
45	GALENA KNOB[1]	na	0530650251	48.6961	-117.7633	STEVENS	WA	NORTHPORT	50
46	GREAT WESTERN[1]	na	0530650254	48.8686	-117.6969	STEVENS	WA	NORTHPORT	46,000
47	IROQUOIS MINE	M060169		48.9519	-117.5392	STEVENS	WA	NORTHPORT	2,898
48	KEYSTONE[1]	na	0530650203	48.8814	-117.5286	STEVENS	WA	NORTHPORT	99
49	LEAD TRUST[1]	na	0530650267	48.8972	-117.5586	STEVENS	WA	LEADPOINT	30,000
50	LUCKY FOUR[1]	na	0530650354	48.8864	-117.5514	STEVENS	WA	NORTHPORT	9
51	MAGMA	D001414		48.7667	-117.6403	STEVENS	WA	NORTHPORT	5
52	MAKI & DOSSER PROSPECTS[1]	na	0530650277	48.8450	-117.6008	STEVENS	WA	NORTHPORT	99
53	NEGLECTED[1]	na	0530650286	48.7217	-117.8642	STEVENS	WA	COLVILLE	99
54	NEW LEADVILLE	D000702		48.7333	-117.8756	STEVENS	WA	BOSSBURG	9
55	NORTHPORT	W017867		48.8811	-117.7669	STEVENS	WA	NORTHPORT	0
56	ORE CACHE[1]	na	0530650293	48.5486	-117.7689	STEVENS	WA	COLVILLE	9
57	R J[1]	na	0530650297	48.7367	-117.8803	STEVENS	WA	NORTHPORT	40
58	SCAMAN[1]	na	0530650304	48.9583	-117.5492	STEVENS	WA	NORTHPORT	65
59	SCANDIA MINE	M060172		48.8761	-117.7189	STEVENS	WA	NORTHPORT	999
60	SIERRA ZINC MINE	M060113		48.7750	-117.6675	STEVENS	WA	NORTHPORT	100,000
61	TYEE (Idler, Bechtol)[1]	na	0530650200	48.8581	-117.6192	STEVENS	WA	NORTHPORT	300
62	UNCLE SAM[1]	na	0530650314	48.7381	-117.8828	STEVENS	WA	NORTHPORT	999

Additional data also provided from: [1] Derkey, Joseph, and Lasmanis, 1990 contains additional data; [2] Huntting, 1956 contains additional data; [3] Mills, 1977 contains additional data;
na none available

Table 5. Township and range location for sites

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
1	ADMIRAL	M056000		48.6600	-118.7369	37N	32E	35	1
2	ADMIRAL CONSOLIDATED	na	0530650405	48.9272	-117.5758	40N	41E	36	3
3	ADVANCE	M056001		48.6267	-118.7453	36N	32E	12, 13	1
4	ALPINE	M056023		48.6767	-118.7578	37N	32E	27	1
5	ALVA STOUT	M056072		48.6494	-118.7744	036N	032E	02	2
6	AMBROSE MINING	na	0530650884	48.9611	-117.8500	040 N	039 E	16	2
7	AMERICAN FLAG	SP00186		48.7536	-118.8453	38N	31E	36	1
8	ANDERSON PROSPECT	W001169		48.9167	-117.5911	40N	41E	35	4
9	ANECIA	M056024		48.6619	-118.7803	37N	32E	33	1
10	AVONDALE-DOME (Tenderfoot)	na	0530650221	48.6886	-117.8550	37N	39 E	23	4
11	BALLARD PLACER	na	0530470493	48.5319	-119.7450	035 N	025 E	18	2
12	BECHTOL-THOMPSON-DEEPLAKE	W017880		48.8661	-117.5944	39N	41E	23	4
13	BELLA MAY MINE	M060151		48.8481	-117.4042	39N	43E	32	4
14	BEN HUR	SP00062		48.6686	-118.7581	37N	32E	34, 27	1
15	BIG CHIEF MINE	M060173		48.7047	-117.8650	37N	39E	14	4
16	BLACK TAIL (Hope)	SP00063		48.6633	-118.7475	37N	32E	34	1
17	BLANCE	M056073		48.6528	-118.8058	036N	032E	04	2
18	BLUE BAR	M056523		48.1714	-118.1875	031N	037E	20	2
19	BLUE BAR ISLAND	M056062		48.2000	-118.2003	031N	036E	12	2
20	BLUE BAR ISLAND PLACER	na	0530190123	48.2072	-118.1994	031N	036 E	12	2
21	BLUE BAR PLACER	na	0530650172	48.1700	-118.1833	031 N	037 E	20	2
22	BLUE BUCKET MINE (Kroll)	M025855		48.8433	-117.4069	39 N	43 E	29	3
23	BODIE	M056027		48.6606	-118.7572	37N	32E	34	1
24	BODIE GOLD MINE (Northern Gold)	M056791		48.8158	-118.9036	38N	31E	03	1

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
25	BOSSBURG BAR	M056520		48.7564	-118.0475	038N	037E	25	2
26	BOULDER CR. PLACERS	W007555		48.6006	-116.0883	061N	003E	33	2
27	BRIDGE CREEK	M056063		48.2264	-118.1767	032N	037E	31, 32	2
28	BROWNS LAKE PLACER	M025803		48.4392	-117.1828	034 N	044 E	24	2
29	CASSIMER BAR PLACER	SP00204		48.0992	-119.7181	030N	025E	17	2
30	CHINA BEND PLACER	na	0530650173	48.8006	-118.0192	038 N	038 E	07	2
31	CHLORIDE QUEEN	M060174		48.6925	-117.8572	37N	39E	23	4
32	CLIFF PROSPECT	M025857		48.9578	-117.3550	40N	43E	22	4
33	COLLINS	M056525		48.3883	-118.1697	033N	037E	05	2
34	CONDON FERRY PLACER	na	0530470512	48.1100	-119.3111	030 N	028 E	09	2
35	COOK	M056029		48.6372	-118.7536	36N	32E	12	1
36	COPPER CREEK	na	0160210133	48.9803	-116.1728	065 N	002 E	14	2
37	CROUNSE PLACER	SP00211		48.3997	-118.8789	034N	031E	35	2
38	CUBA LINE PLACER	M056821		48.9967	-119.1053	040N	029E	01	2
39	DAISY	M056067		48.3897	-118.1981	033N	036E	01	2
40	DAN MOONEY PLACER	na	0530470513	48.9606	-119.0406	040 N	030 E	16	2
41	DAVEY PLACER	na	0530470514	48.9600	-119.0408	040 N	030 E	16	2
42	DEADMAN CREEK PLACER	na	0530470497	48.9167	-119.0550	040 N	030 E	32	2
43	DEEP CREEK MINE (Gorien Zinc, Northport)	M060115		48.8639	-117.7150	39N	41E	26	3
44	DIAMOND R. CLAIM	M025840		48.8508	-117.4208	39N	43E	30	4
45	DORA B PLACER	na	0530190127	48.6472	-118.8153	036 N	032 E	04	2
46	DOVA B	M056074		48.6528	-118.8058	036N	032E	04	2
47	DUMONT PROSPECT - LOWER	M025822		48.9361	-117.3006	40N	43E	25	4
48	DUMONT PROSPECT - UPPER	M025823		48.9375	-117.2578	40N	44E	29	4
49	EAST SAN POIL	M056030		48.6614	-118.7572	37N	32E	34	1
50	EL CALIPH	M056031,SP00068		48.6592	-118.7639	37N	32E	34	1
51	ELECTRIC POINT	na	0530650244	48.8828	-117.5414	39N	42E	17,18,19,20	3
52	EVANS PLACER	na	0530650174	48.9350	-117.7631	040 N	040 E	30	2
53	FARMER MINE	M060120		48.8494	-117.6222	39N	41E	34	4

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
54	FIRST THOUGHT MINE	M060170,M056476		48.8839	-118.1611	39N	37E	18	1
55	FLAG HILL	M056032,SP00069		48.6522	-118.7536	36N	32E	01, 02	1
56	FLUSEY-HOOPALULA	M025815		48.9356	-117.3339	40N	43E	26	4
57	FOURTH OF JULY CREEK PLACER	na	0530470498	48.9167	-119.0558	040 N	030 E	32	2
58	GALENA KNOB	na	0530650251	48.6961	-117.7633	37N	40E	21	4
59	GIANT - FLYING SQUIRREL MINE	M025790		48.9550	-117.3533	40N	43E	22	4
60	GIBSON BAR	M056524		48.0214	-118.3919	029N	035E	10, 15	2
61	GLADSTONE MINE	M060143		48.8861	-117.5417	39N	42E	17, 18	3
62	GOLD BAR PLACER	na	0530470508	48.1053	-119.2664	030 N	028 E	14	2
63	GOLD CREEK	M056077		48.4253	-118.8450	034N, 034N	031E, 032E	25, 35, 36, 17, 18	2
64	GOLDEN EAGLE	M056004		48.6600	-118.7369	37N	32E	35	1
65	GOOSMUS CREEK PLACER	na	0530190129	48.9631	-118.5806	040 N	033 E	13	2
66	GRANDVIEW MINE	na	0530510133	48.8778	-117.3575	39N	43E	14,15,22	3
67	GREAT WESTERN	na	0530650254	48.8686	-117.6969	39N	40E	24	4
68	HANLEY	na	0530510134	48.9861	-117.3500	40N	43E	10	4
69	HARVEY BAR PLACER	M025804		48.9439	-117.3300	040 N	043 E	26	2
70	HIDDEN TREASURE	M056495		48.8739	-118.1656	39N	37E	18	1
71	HOAGE	M025824	0530510135	48.9492	-117.3547	40N	43E	22	4
72	HOLSTEN	M056522		48.5000	-118.1750	035N	037E	29	2
73	HOPKINS PLACER	na	0530470499	48.1133	-119.2311	030 N	029 E	07	2
74	IDA MAY	SP00075		48.6547	-118.7647	37N	32E	34	1
75	INSURGENT	SP00076		48.6669	-118.7461	37N	32E	35	1
76	IRON MASK	M056033		48.6561	-118.7544	37N	32E	34	1
77	IRON MOUNTAIN	M056123		48.5639	-118.5994	35N	34E	06	1
78	IROQUOIS MINE	M060169		48.9519	-117.5392	40N	42E	30	4
79	JIM BLAINE FRACTION	M056009		48.6328	-118.7453	36N	32E	12	1
80	JIM CREEK MINE	M060167		48.8111	-117.5153	38N	42E	09	4
81	JOHNSON PLACER	M056068		48.2911	-118.1633	032N	037E	08	2

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
82	JOSEPHINE MINE (Clark)	M025825		48.8800	-117.3711	39 N	43 E	16	3
83	K2 MINE	na	0530190470	48.8660	-118.6680	39N	33E	20	1
84	KANGAROO	M056034		48.6614	-118.7572	37N	32E	34	1
85	KELLER PLACERS	na	0530190397	48.0856	-118.6903	030N	033E	20	2
86	KETTLE	SP00080		48.8789	-118.6256	39N	33E	15	1
87	KEYSTONE	na	0530650203	48.8814	-117.5286	39N	42E	17	4
88	KING TUT	na	0530510052	48.9750	-117.2014	40N	44E	11	4
89	KNOB HILL MINE-PLANT	na	0530190084	48.6734	-118.7578	37N	32E	27	1
90	LAKEVIEW PROPERTY	M025826		48.9894	-117.3117	40N	43E	1	4
91	LAST CHANCE	M056010, D001629,SP0008		48.6658	-118.7458	37N	32E	35	1
92	LAST CHANCE MINE (Jupiter)	M060171		48.8669	-117.6992	39N	40E	24	3
93	LEAD HILL MINE	M025832		48.9708	-117.1961	40N	44E	14	4
94	LEAD KING PROPERTY	M025816		48.9378	-117.3536	40N	43E	27	4
95	LEAD QUEEN PROSPECT	M025817		48.9764	-117.3292	40N	43E	11	4
96	LEAD TRUST	na	0530650267	48.8972	-117.5586	39N	42E	07	4
97	LEHIGH IRON PITS	M025807		48.8503	-117.4153	39N	43E	30	4
98	LITTLE COVE	M056036,SP00085		48.6669	-118.7533	37N	32E	34	1
99	LONE PINE	M056037,SP00086		48.6653	-118.7506	37N	32E	34	1
100	LUCKY FOUR	na	0530650354	48.8864	-117.5514	39N	42E	18	4
101	LUCKY STRIKE MINE	na	0530650445	48.9306	-117.3306	39N	42E	18	4
102	MAGMA	D001414		48.7667	-117.6403	38N	41E	28	4
103	MAKI & DOSSER PROSPECTS	na	0530650277	48.8450	-117.6008	39N	41E	35	4
104	MAMMOTH	M056011		48.6725	-118.7428	37N	32E	26	1
105	MARCUS PLACER	M056518		48.6656	-118.0675	037N	038E	31	2
106	MARY ANN CREEK PLACER	SP00250		48.9403	-119.0517	040N	030E	30	2
107	MEADOWS PLACER	na	0530470501	48.6550	-119.8528	037 N	024 E	32	2
108	METALINE DISTRICT	K002909		48.8833	-117.3553	39N	43E	15	4

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
109	METALINE FALLS PROSPECT	M025845		48.8683	-117.3667	39 N	43 E	21	3
110	MEYERS FALLS	M056515		48.5936	-118.0647	036N	038E	30	2
111	MM PROSPECT	M025818		48.9972	-117.3111	40N	43E	1	4
112	MOCKINGBIRD PROSPECT	M025820		48.9311	-117.3450	40N	43E	27	4
113	MOHAWK LODE	M025847		48.8719	-117.3531	39N	43E	22	4
114	MORNING AND MAMMOTH MINES	M025821		48.8778	-117.3597	39N	43E	15	4
115	MOUNTAIN LION	M056039,SP00095		48.6789	-118.7686	37N	32E	27	1
116	MURRAY PLACER	M056823		48.2000	-119.2544	030N	028E	11	2
117	NEGLECTED	na	0530650286	48.7217	-117.8642	37N	39E	10	4
118	NESPELEM BAR PLACER	na	0530470502	48.1361	-119.0539	030 N	030 E	04	2
119	NEST EGG	M056501		48.8481	-118.1586	39N	37E	30	1
120	NEW LEADVILLE	D000702		48.7333	-117.8756	37N	39E	03	4
121	NIGGER CREEK BAR PLACER	na	0530650179	48.9403	-117.7656	040 N	040 E	28	2
122	NINEMILE	M056070		48.0158	-118.3972	029N	035E	16	2
123	NINEMILE BAR	M056519		48.7956	-118.0036	038N	038E	15	2
124	NOBLES PLACER	na	0530650182	48.8472	-117.9117	039 N	039 E	29	2
125	NORTH SAN POIL	SP00096,M056012		48.6667	-118.7586	37N	32E	34	1
126	NORTHPORT	W017867		48.8811	-117.7669	39N	40E	16	4
127	NUGGET PLACER	na	0530470503	48.4100	-118.9039	034 N	031 E	34	2
128	OLD HICKORY	SP00097,M056013		48.6392	-118.7428	36N	32E	12	1
129	ORE CACHE	na	0530650293	48.5486	-117.7689	35N	40E	09	4
130	ORIENT	M056521		48.8611	-118.1997	039N	036E	23	2
131	ORIENT PLACER	na	0530650184	48.8606	-118.0722	039 N	037 E	23	2
132	PEARL	M056040,SP00100		48.6669	-118.7533	37N	32E	34	1
133	PEND OREILLE MINE (Josephine, Metaline Metals, Yellowhead, Flusey-Hoopala)	M060153		48.8633	-117.3553	39N	43E	16	3
134	POINT BAR PLACER	na	0160210134	48.7861	-116.1533	063 N	002 E	25	2

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
135	PRINCESS MAUDE (Southern Republic)	SP00102		48.6347	-118.7475	36N	32E	12	1
136	QUILP (Imperator, Eureka)	M056016		48.6561	-118.7475	37N	32E	35	1
137	R J	na	0530650297	48.7367	-117.8803	37N	39E	03	4
138	REBATE	M056041		48.6939	-118.7542	37N	32E	22	1
139	RED TOP MINE	M025842		48.9958	-117.3222	40N	43E	2	4
140	REED AND ROBERTS PLACER	na	0530650185	48.9544	-117.7344	040 N	040 E	20	2
141	REPUBLIC (Blaine Republic)	SP00104		48.6375	-118.7453	36N	32E	12	1
142	RICH BAR PLACER	na	0530470045	48.9822	-119.5364	040 N	026 E	11	2
143	RIVERSIDE MINE	M025833		48.9186	-117.3336	40N	43E	35	4
144	ROBERT E. LEE MINE	M025834		48.9258	-117.3408	40N	43E	35	4
145	SAN POIL FRACTION	M056043, M056042,SP0010		48.6669	-118.7533	37N	32E	34	1
146	SANDOZ	M056517		48.6964	-118.0164	037N	038E	22	2
147	SANDPOIL RIVER, WEST FLA.	M056076		48.4581	-118.7719	034N	032E	09, 10	2
148	SCAMAN	na	0530650304	48.9583	-117.5492	40N	42E	19	4
149	SCANDIA MINE	M060172		48.8761	-117.7189	39N	40E	23	4
150	SCHIERDING PLACER	M025805		48.9881	-117.3447	040 N	043 E	14	2
151	SCHULTZ PLACER	na	0530510304	48.8597	-117.4111	039 N	043 E	19	2
152	SEATTLE	M056044,SP00107		48.6642	-118.7669	37N	32E	34	1
153	SHERIDAN (Phil Sheridan)	SP00283		48.7786	-118.8547	38N	31E	24	1
154	SHOTWELL PLACER	SP00284		48.0342	-119.6828	029N	025E	10	2
155	SIERRA ZINC MINE	M060113		48.7750	-117.6675	38N	41E	19	4
156	SILVER BELL	SP00285		48.7597	-118.8383	38N	31E	28	1
157	SIMILKAMEEN FALLS PLACER	na	0530470505	48.9703	-119.5017	040 N	026 E	13	2
158	SIMILKAMEEN PLACERS	na	0530470506	48.9806	-119.5492	040 N	026 E	10	2
159	SINGER PLACER	SP00111		48.9961	-118.5308	040N	034E	4,5	2
160	SNOWSTORM	M056045		48.6614	-118.7572	37N	32E	34	1
161	SOUTH PENN	SP00112,M056046		48.6903	-118.7558	37N	32E	22	1
162	STANDARD AND EMMA	M056018		48.6306	-118.7461	36N	32E	12	1

NO.	SITE NAME	MRDS ID. NO.	MAS ID. NO.	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TABLE
163	STAR	na	0530510086	48.9389	-117.2458	40N	44E	28, 29	4
164	STERLING	na	0530510154	48.8389	-117.3903	39N	43E	32	4
165	STRANGER CREEK	M056069		48.3083	-118.1478	033N	037E	34	2
166	STRAY DOG PLACER	M056065		48.2053	-118.1992	031N	036E	12	2
167	SULLIVAN CLAIM	M025836		48.8786	-117.3747	39N	43E	16	4
168	SULLIVAN CREEK PLACER	na	0530510305	48.8383	-117.2653	039 N	044 E	32	2
169	SURPRISE	SP00114,M056019		48.6608	-118.7492	37N	32E	34	1
170	THOMPSON	M056066		48.2189	-118.1861	031N	037E	06	2
171	TOM CAT PROSPECT	M025828		48.9894	-117.3553	40N	43E	3	4
172	TOM THUMB	SP00117,M056047		48.6961	-118.7572	37N	32E	15, 22	1
173	TORRENTIAL - SPHINX PROSPECT	M025829		48.9811	-117.3400	40N	43E	11	4
174	TRADE DOLLAR	M056048,SP00118		48.6733	-118.7508	37N	32E	27	1
175	TROYER MINE	M025844		48.9542	-117.2236	40N	44E	22	4
176	TURTLE RAPIDS PLACER	na	0530190177	48.1783	-118.2500	031 N	036 E	15	2
177	TWIN LAKES PROSPECT	M025837		48.9461	-117.3494	40N	43E	22	4
178	TYEE (Idler, Bechtol)	na	0530650200	48.8581	-117.6192	39N	41E	27	4
179	UNCAS PROSPECT	M025830		48.9406	-117.2458	40N	44E	28	4
180	UNCLE SAM	na	0530650314	48.7381	-117.8828	37N	39E	03	4
181	V FRACTION	M056021		48.6658	-118.7458	37N	32E	35	1
182	VALBUSH BAR	M056516		48.7000	-118.0206	037N	038E	16, 21	2
183	VAN STONE MINE	M060114		48.7625	-117.7553	38N	40E	33, 34	3
184	WALKER PLACER	SP00299		48.9689	-119.1144	040N	029E	13, 14	2
185	WASHINGTON CLAIM	M025814		48.8678	-117.3733	39N	43E	21	4
186	WEST CONTACT	na	0530510336	48.8519	-117.4156	39N	43E	30	4
187	WOLF CREEK MINE	M025841		48.8283	-117.3814	38N	43E	4	4
188	YELLOWHEAD MINE	na	0530510311	48.8839	-117.3753	39N	43E	16	4
189	Z CANYON MUTUAL PROSPECT	M025831		48.9786	-117.3389	40N	43E	11	4
190	ZALLA M	M056126,SP00122		48.7667	-118.8314	38N	32E	30	1

na not available

Appendix I. Metadata

Identification_Information:
  Citation:
    Citation_Information:
      Originator: David Boleneus
      Publication_Date: 1999
      Title:
        Geologic datasets for weights-of-evidence analysis in
        northeast Washington--2. Mineral databases
      Edition: version 1.0
      Geospatial_Data_Presentation_Form:
        spreadsheet files in Microsoft Excel 97
        format
      Series_Information:
        Series_Name: U.S.G.S. Open-File Report
        Issue_Identification: OF99-384

      Publication_Information:
        Publication_Place: Spokane WA
        Publisher: U.S. Geological Survey
      Online_Linkage: http://wrgis.wr.usgs.gov/open-file/of99-384/
  Description:
    Abstract:
      Digital mineral databases are necessary to carry out
      weights-of-evidence modeling of mineral resources for
      epithermal gold and carbonate-hosted lead-zinc deposits
      in northeast Washington. This report describes four
      digital data sets (presented as separate sheets in
      tables.xls, an Excel97-format file) used for this
      modeling: 1) training sites for epithermal gold,
      2) placer gold sites, 3) training sites for
      carbonate-hosted lead-zinc, and 4) small lead-zinc
      mines.

    Purpose:
      This dataset was developed to provide mineral resource data
      for northeast Washington for use in future spatial
      analysis by a variety of users.

      This database is not meant to be used or displayed at any
      scale larger than 1:24,000 (e.g., 1:12,000 or 1:2,000).

    Supplemental_Information:
      The Excel97 file, of99-384.xls, contains five (5) sheets
      corresponding to the five tables listed in the Open-File
      Report 99-384 text.
      Table 1 in the text corresponds to the sheet titled
        'Trainsites_epith'
      Table 2 in the text corresponds to the sheet titled
        'Placer_gold_sites'

Table 3 in the text corresponds to the sheet titled
'Trainsites_PbZn'
Table 4 in the text corresponds to the sheet titled
'Small_PbZn_Mines'
Table 5 in the text corresponds to the sheet titled
'Township_location'
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Currentness_Reference:
Date that original data was extracted from the USGS MRDS
and MAS/MILS databases.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: No updates are planned.

Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -121.0
East_Bounding_Coordinate: -117.0
North_Bounding_Coordinate: 49.0
South_Bounding_Coordinate: 47.75

Keywords:
Theme:
Theme_Keyword_Thesaurus: none
Theme_Keyword: mineral resources
Theme_Keyword: lead
Theme_Keyword: zinc
Theme_Keyword: gold
Theme_Keyword: silver
Theme_Keyword: training sites
Theme_Keyword: placers
Theme_Keyword: mines
Theme_Keyword: prospects
Theme_Keyword: occurrences
Place:
Place_Keyword_Thesaurus: none
Place_Keyword: Washington
Place_Keyword: northeast Washington
Place_Keyword: Ferry County
Place_Keyword: Okanogan County
Place_Keyword: Pend Oreille County
Place_Keyword: Stevens County
Place_Keyword: Colville National Forest
Place_Keyword: Okanogan National Forest
Place_Keyword: Sandpoint
Place_Keyword: Okanogan
Place_Keyword: Pacific Northwest
Place_Keyword: USA

Access_Constraints: none

Use_Constraints:
This digital database is not meant to be used or displayed at any scale larger than 1:24,000 (e.g., 1:12,000 or 1:2,000).

Any hardcopies utilizing these data sets shall clearly indicate their source. If the user has modified the data in any way they are obligated to describe the types of modifications they have performed on the hardcopy map/report. User specifically agrees not to misrepresent these data sets, nor to imply that changes they made were approved by the U.S. Geological Survey.

Data_Set_Credit:
David Boleneus compiled the data in digital format from the USGS MRDS and MAS/MILS databases. Compilation included removal of duplicate records, verifying latitude-longitude location and classifying sites as type of mineral deposit as described in the text. The accuracy of the data in the MRDS and MAS/MILS was relied upon as correct and was not field checked. Other sources were used to verify the correctness of the data to the extent possible.

Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: David Boleneus
Contact_Organization: U.S. Geological Survey
Contact_Position: geologist
Contact_Address:
Address_Type: mailing and physical address
Address: 904 W. Riverside Ave., Rm. 202
City: Spokane
State_or_Province: WA
Postal_Code: 99201
Country: USA
Contact_Voice_Telephone: 1-509-368-3100
Contact_Facsimile_Telephone: 1-509-368-3199
Contact_Electronic_Mail_Address: dboleneu@usgs.gov

Native_Data_Set_Environment: Microsoft Excel97 for Windows95

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
Attribute accuracy was verified by manual comparison of MRDS record printouts with MAS/MILS record printouts to the extent possible.

Logical_Consistency_Report:

Point data is given in latitude and longitude (decimal degrees).

Completeness_Report:
This digital dataset was produced from unpublished MRDS and MAS/MILS databases and is not considered to be a unique mineral resource dataset for the area.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
The horizontal positional accuracy for the digital data was not checked. The point locations given by the MRDS and MAS/MILS databases were not modified and were compared to determine the most accurate location.

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. Bureau of Mines/U.S. Geological Survey
Publication_Date: unpublished
Title:
MAS/MILS (Minerals Availability System/Mineral Industry Location System)
Geospatial_Data_Presentation_Form: digital database
Type_of_Source_Media: digital files
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Source_Currentness_Reference:
Date that the digital data was extracted from the MAS/MILS database for this report.
Source_Citation_Abbreviation:
U.S. Bureau of Mines MAS/MILS CD-ROM (USBM,1995)

Source_Contribution: Locations and attributes of sites.

Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. Geological Survey
Publication_Date: unpublished
Title: MRDS (Mineral Resources Data System)
Geospatial_Data_Presentation_Form: digital database
Type_of_Source_Media: digital files
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Source_Currentness_Reference:
Date that the digital data was extracted from the

MRDS database for this report.
Source_Citation_Abbreviation:
USGS MRDS

Process_Step:
Process_Description:
The data was originally provided in two formats.
The USGS MRDS was provided in an ACCESS database and was exported to EXCEL97 for purposes in this report 1998. The USBM MAS/MILS was provided in dBase format by Douglas Causey of USGS and was exported to EXCEL97 for purposes of this report in 1998.

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Geographic_Coordinate_Units: Decimal degrees

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
The data consists of five worksheets in the Excel97 file, "OF99-384.xls".

Definitions of attributes in Excel97 file, of99-384.xls:

The following eight field names/items/column headers are common to Tables 1, 2, 3, 4, and 5:

1. No.-- Record number in table

2. Site name -- Name used in MRDS or MAS/MILS databases

3. MRDS ID NO. -- MRDS identifier number, 1st or 2nd digit are letters, followed by numbers

4. MAS ID NO.-- MAS identifier number, a 10-digit number

5. Latitude -- Latitude location of the site as cited in the database in decimal degrees. If the latitude was not cited, then it was calculated from the township, range and section using the Wefald script.

6. Longitude--Longitude location of the site as cited in the database in decimal degrees. If the longitue was not cited, then it was calculated from the township, range and section using the Wefald script.

7. County -- County in which site/deposit is located.

8. State -- State in which site/deposit is located.

Other field names/items/column headers used in OF99-384.xls:

9. Commodities present -- Elements/mineral commodities

present

10. USGS Model -- Name and number of USGS mineral deposit-type model (Berger, 1992; Briskey, 1992; Mosier, Sato, Page, Singer, and Berger, 1992; Mosier, Singer, and Berger, 1992)

11. Production size -- Qualifier of quantity of ore produced

12. Development status -- Status of exploration or development at the site

13. District -- Mining district name

14. Tons produced -- Short tons of all historical ore produced (estimated from Derkey, Joseph and Lasmanis, 1990)

15. Township -- Township and direction (N=north)

16. Range -- Range and direction (E=east)

17. Section -- Section(s)

18. Table -- item in Table 5 indicating in which table (either Table 1, 2, 3, or 4) the site is described.

Table 1. Training sites for epithermal gold model
File name: of99-384.xls; sheet name: Trainsites_epith

The training sites consist of a collection of sites (either mines, prospects or occurrences) selected from MRDS or MAS/MILS database because of their epithermal gold-like characteristics. Sites were qualified for the epithermal gold model if they met the selection criteria below for any of the USGS models for Au-Ag hot spring, 25a (Berger, 1992), Creede epithermal veins, 25b (Mosier et al., 1992), or Comstock epithermal veins, 25c (Mosier, Singer and Berger, 1992). Minimum selection criteria are a) Sites are spatially associated with Eocene volcanic or hypabyssal rocks and b) Sites contain gold in quartz veins or disseminations.

Table 2. Placer gold sites
File name: of99-384.xls; sheet name: Placer_gold_sites

Placer gold sites -- Indicates locations of mines or prospects of placer gold exploration or development. Selection criteria for the 67 sites obtained from MRDS and MAS/MILS were a)"gold" is the primary commodity and

b) "placer" was indicated by the name, deposit type, or modifier of commodity. See definition of attributes from Table 1.

Table 3. Training sites for carbonate-hosted lead-zinc model
File name: of99-384.xls; sheetname: Trainsites_PbZn

The training sites consist of sites (mines, prospects or occurrences) selected from MRDS or MAS/MILS, because they exhibit characteristics of explored or developed carbonate-hosted lead-zinc deposits. Sites were qualified as carbonate-hosted lead-zinc deposits if they met the selection criteria below for the USGS model for carbonate-hosted lead-zinc deposits (Briskey, 1992). Minimum criteria by which the 11 mines were selected are a) lead and zinc are the primary commodities; b) the deposit is either strataform, pipe-like, or breccia in form or replacement in nature; c) the deposit occurs within strata of either the Maitlen Phyllite of Cambrian age, the Metaline Formation of Cambro-Ordovician age, or the Ledbetter Slate of Ordovician age; and d) the mine has produced more than 100,000 tons of ore.

Table 4. Small lead-zinc mines and prospects
File name: of99-384.xls; sheet name: Small_PbZn_Mines

Smaller deposits described as carbonate-hosted lead-zinc deposits are those where no ore was produced or had total production up to 100,000 tons. These smaller deposits were selected using the selection criteria used for training sites of carbonate-hosted lead-zinc deposits (Briskey, 1992) with the exception that the deposits from this group were selected because they had no commercial production or produced 100,000 tons or less of ore.

Table 5. Township and range location for sites
File name: of99-384.xls; sheet name: Township_location
The township-range-section and latitude-longitude locations in this table are taken from the databases. For those not available, the Wefald script was used to calculate from available data. Some sites were checked against those listed by the Washington Department of Natural Resources (Derkey, R.E., Joseph, N.L., and Lasmanis, R., 1990)

Entity_and_Attribute_Detail_Citation:
See Open-File Report 99-384 text, available on-line at http://wrgis.wr.usgs.gov/open-file/of99-384/

Distribution_Information:

Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization:
U.S. Geological Survey
Information Services
Contact_Address:
Address_Type: mailing and physical address
Address: Open-File Reports, Box 25286
City: Denver
State_or_Province: CO
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: 1-303-202-4200
Contact_Facsimile_Telephone: 1-303-202-4693
Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization:
U.S. Geological Survey
Earth Science Information Office
Contact_Address:
Address_Type: mailing and physical address
Address: 904 West Riverside, Rm. 135
City: Spokane
State_or_Province: WA
Postal_Code: 99201
Country: USA
Contact_Voice_Telephone: 1-509-368-3130
Contact_Facsimile_Telephone: 1-509-368-3194
Contact_Electronic_Mail_Address: esnfic@mailmcan1.wr.usgs.gov
Hours_of_Service: 8:00 a.m. - 4:30 p.m., Pacific time zone
Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: David Boleneus
Contact_Organization: U.S. Geological Survey
Contact_Position: geologist
Contact_Address:
Address_Type: mailing and physical address
Address: 904 West Riverside, Rm. 202
City: Spokane
State_or_Province: WA
Postal_Code: 99201
Country: USA
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Metadata_Reference_Information:
Metadata_Date: 19991116
Metadata_Review_Date: 19990517
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: U.S. Geological Survey
Contact_Person: David Boleneus
Contact_Position: geologist
Contact_Address:
Address_Type: mailing and physical address
Address: 904 West Riverside Avenue, Rm. 202
City: Spokane
State_or_Province: WA
Postal_Code: 99201
Country: USA
Contact_Voice_Telephone: 1-509-368-3110
Contact_Facsimile_Telephone: 1-509-368-3199
Contact_Electronic_Mail_Address: dboleneu@usgs.gov
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Access_Constraints: none
Metadata_Use_Constraints:
These data are not meant to be used or displayed at any scale larger than 1:24,000 (e.g., 1:12,000 or 1:6,000).