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GEOLOGICAL SURVEY

A tabulation of lead isotopic ratios for lead minerals from mines and prospects in the Belt-Purcell Basin in the United States and Canada

by

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This report is preliminary and has not been edited or reviewed for conformity with Geological Survey editorial standards and stratigraphic nomenclature.

The lead isotopic ratios for 264 samples have been tabulated; 261 samples are from the Belt-Purcell Basin of northwestern Montana (Table 1), northern Idaho (Table 2), northeastern Washington (Table 3), and southeastern British Columbia, Canada (Table 4). Included in the tabulation, comprised mainly of published data, are new results determined for 14 galena samples by personnel of the Isotope Geology Branch, U.S. Geological Survey, Denver, Colorado<sup>1/</sup>. Sample locations are shown on plate 1; a mine or prospect is shown only once, even though more than one sample may have been analyzed from that mine or prospect. The map numbers for sample locations start at 1 and continue consecutively for each state and for British Columbia, Canada.

No attempt has been made to normalize the data to a common standard, and some caution must be exercised in making comparison of isotopic ratios among the different references. Variability in instrumental fractionation and the uncertainty in correcting for that fractionation are especially large--exceeding 1% in some cases--in analyses published prior to 1970. A greatly improved precision, generally of the order of 0.1%, characterize analyses published subsequently. Furthermore, the two laboratories that produced all of the post-1970 data did share a common standard, and, therefore, are directly intercomparable [UBC Broken Hill #1:  $^{206}\text{Pb}/^{204}\text{Pb} = 16.007$ ,  $^{207}\text{Pb}/^{204}\text{Pb} = 15.397$ ;  $^{208}\text{Pb}/^{204}\text{Pb} = 36.675$ ].

Tables 1-4 are subdivided according to county (except for British Columbia), and, for each analyzed occurrence, the tables give the name of the mine or prospect from which the sample was collected, the latitude and longitude, the lead isotopic composition, a brief geologic description of the deposit, the interpreted age of mineralization--either Proterozoic, P, or Mesozoic-Cenozoic, Mz/Cz, and a reference to the information source. The designation of an age of mineralization is based on the arguments presented by Zartman and Stacey (1971) concerning the lead isotopic ratios. The mines listed in Tables 1-4 have not been classified as to size or tonnage mined. They range from large, well-known lead-producers through mines with moderate to small production records to small mines with no known production; indeed, some small mines might better be called prospects.

<sup>1/</sup>Analysts for the new lead isotopic ratios reported in this report are as follows: Maryse Delevaux analyzed the eight samples from British Columbia, Canada, and the two samples from Silver Bow County, Montana. Holly Stein, guest scientist with the U.S. Geological Survey, analyzed the four samples from the Troy Mine, and one sample from the Vermiculite Mine, all in Lincoln County, Montana. Ake Johansson, guest scientist with the U.S. Geological Survey, analyzed the two samples from the Tischborn-and-Stokes Mine and the Blackjack prospect, both in Lincoln County, Montana.

Table 1--Location, geologic relationships, and lead isotopic composition of some deposits in western Montana, U.S.A.

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{206}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
Flathead County								
1 Flathead	47°55.4' 114°35.9'	16.831	15.299	36.857	Fissure veins and pods in altered latite stock, country rock is Ravalli Group, Belt Supergroup.	---	X	10
2 West Flathead	47°55.3' 114°35.5'	16.794	15.296	36.797	Supergene enrichment zone in Ravalli Group, Belt Supergroup, near andesite plug.	---	X	10
3 Battle Butte	47°54.5' 114°35.2'	16.818	15.299	36.811	Fracture filling and replacement in Ravalli Group, Belt Supergroup, near latite stock.	---	X	10
4 Blacktail (Sanko Creek)	48°25.5' 114°41.6'	16.514	15.417	36.126	Fault-controlled fracture-filling vein in Wallace Fm., Belt Supergroup.	X	---	10
Lake County								
5 Jumbo	47°57.3' 114°21.5'	16.469	15.403	36.147	Fault-controlled fracture-filling vein in Burke Fm., Belt Supergroup.	X	---	10
Lewis and Clark County								
6 Mike Horse	47°01.5' 112°21.6'	17.074	15.490	37.662	Disseminated sulfides and replacement veins in Spokane Fm., Belt Supergroup, near diorite pluton.	X	---	11
7 (not given)	<sup>1</sup> 47°30' 112°52'	16.57	15.61	36.73	Mineralization in the Helena dolomite, Belt Supergroup.	X	---	6
8 (not given)	<sup>1</sup> 47°30' 112°52'	17.11	15.75	37.42	---do-----	X	---	6
9 (not given)	<sup>1</sup> 47°30' 112°52'	16.56	15.50	36.41	---do-----	X	---	6
10 (not given)	<sup>1</sup> 47°17' 112°30'	16.80	15.81	37.49	Mineralization in the Spokane Fm., Belt Supergroup.	X	---	6
Lincoln County								
11 Tischborn and Stokes No. 1	48°52.3' 114°47.5'	16.685	15.431	36.272	Galena mineralization in the Spokane Fm., Belt Supergroup.	X	---	This paper
12 Blackjack (prospect)	48°50.6' 114°52.5'	16.490	15.405	36.160	Galena mineralization in the Helena dolomite, Belt Supergroup.	X	---	Do.
13 Vermiculite	48°26.5' 115°24.5'	18.702	15.594	38.479	Galena from pyroxenite of the pyroxenite-syenite complex that intruded the Helena, Wallace, and Empire Fms., Belt Supergroup.	---	X	Do
14 Troy (Spar Lake)	48°13.5' 115°53.5'	16.278	15.373	35.918	Galena from disseminated silver-copper mineralization (stratiform deposit) in the Revett Fm., Belt Supergroup.	X	---	Do.
do.	do.	16.285	15.373	35.921	---do-----	X	---	Do.
15 Troy (Spar Lake)	48°14' 115°53.7'	16.297	15.373	35.930	---do-----	X	---	Do.
16 Troy (Spar Lake)	48°14.5' 115°54'	16.278	15.370	35.910	---do-----	X	---	Do.
17 Strodtbeck	48°18.6' 115°03.6'	18.001	15.571	38.590	Fault-controlled fissure vein in Prichard Fm., Belt Supergroup.	---	X	10
18 Second Chance	48°41.8' 115°17.8'	17.552	15.510	37.435	Replacement vein along shear zone in upper part of Prichard Fm., Belt Supergroup.	---	X	10
19 Jager	48°47.6' 114°49.1'	16.325	15.381	36.101	Fault-controlled fissure vein in Wallace Fm., Belt Supergroup.	X	---	10
20 Silver Butte (King)	47°56.1' 115°30.4'	16.316	15.406	36.016	Fracture-filling fissure vein in Prichard Fm., Belt Supergroup.	X	---	10

<sup>1</sup>Approximate lat., long.; latitude and longitude were not given for collection site of analyzed sample.

Table 1--Location, geologic relationships, and lead isotopic composition of some deposits in western Montana, U.S.A. (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
21 Fisher Creek (Branagan)	48°01.9' 115°31.9'	18.373	15.563	38.455	Bedding-plane fracture-filling vein in Prichard Fm., Belt Supergroup.	---	X	10
22 Golden West (New)	48°03.8' 115°34.8'	18.554	15.604	38.565	---do-----	---	X	10
23 Snowshoe	48°12.1' 115°38.5'	18.062	15.508	38.039	Fracture filling in Snowshoe fault between Wallace Fm. and Ravalli Group, Belt Supergroup.	---	X	10
do.	do.	17.90	15.33	37.67	Vein material from shear contact zone between Wallace Fm. and lower part of Ravalli Group, Belt Supergroup.	---	X	1
24 St. Paul	48°11.7' 115°36.7'	16.292	15.390	35.962	Fault-controlled fissure vein in Ravalli Group, Belt Supergroup.	X	---	10
25 Glacier Silver Lead (Lukens Hazel)	48°18.3' 115°35.8'	18.372	15.571	38.255	Shear-controlled fracture-filling vein in Wallace Fm., Belt Supergroup.	---	X	10
26 Trio	48°15.2' 115°52.2'	16.357	15.405	36.046	Fault-controlled fracture-filling vein in Ravalli Group, Belt Supergroup.	X	---	10
27 Hiawatha	48°22.5' 115°55.5'	16.364	15.411	36.045	Fault-controlled fracture filling and disseminated sulfides in Grouse Mountain dike in Prichard Fm., Belt Supergroup.	X	---	10
28 Big Eight	48°26.2' 115°59.5'	16.318	15.399	35.996	Fissure vein in Snowstorm dike in Prichard Fm., Belt Supergroup.	X	---	10
29 Duplex	48°35.9' 116°02.2'	16.288	15.389	35.937	Fault-controlled fissure vein in metagabbro pluton in Prichard Fm., Belt Supergroup.	X	---	10
Mineral County								
30 Gildersleeve	47°02.1' 115°02.1'	16.449	15.406	36.116	Fracture-filling fissure vein in Wallace Fm., Belt Supergroup.	X	---	10
31 Nancy Lee	47°16.2' 114°57.3'	16.320	15.402	36.014	Fracture filling and banded replace- ment in sheared Burke and Revett Fms., Belt Supergroup, near Osburn Fault.	X	---	10
32 Little Pittsburgh	47°16.2' 114°59.1'	16.725	15.434	36.459	Shear-controlled fracture-filling veins near contact between St. Regis Burke and Revett Fms., Belt Supergroup.	X	---	10
33 Rock Island	47°26.1' 115°18.8'	16.599	15.450	36.295	Fault-controlled fracture-filling vein in Wallace Fm., Belt Supergroup.	X	---	10
34 Hemlock	47°26.0' 115°30.9'	17.264	15.513	36.754	Fracture filling in sheared Wallace Fm., Belt Supergroup, adjacent to South Branch of Osburn Fault.	X(?)	---	10
35 Iron Mountain	<sup>1</sup> 47°14' 114°51'	16.23	15.35	35.82	Vein material from mine dump of 1600 ft level; vein in Wallace Fm., Belt Supergroup.	X	---	1
Missoula County								
36 Lost Cabin	47°08.9' 114°26.5'	16.298	15.394	35.966	Shear-controlled fracture-filling veins in Prichard Fm., Belt Supergroup.	X	---	10
Powell County								
37 (not given)	<sup>1</sup> 46°57' 112°48'	17.15	15.86	37.51	Mineralization in the Helena Dolomite, Belt Supergroup.	X	---	6
Sanders County								
38 Liver Peak (prospect)	47°38.5' 115°15.5'	16.540	15.240	36.518	Galena association with molybdenum- tungsten mineralization in Wallace Fm., Belt Supergroup; material from drill core at 270 m interval.	---	X	5
do.	do.	16.697	15.274	36.757	Galena associated with molybdenum- tungsten mineralization in Burke Fm., Belt Supergroup; material from drill core at 860 m interval.	---	X	5

<sup>1</sup>Approximate lat., long.; latitude and longitude were not given for collection site of analyzed sample.

Table 1--Location, geologic relationships, and lead isotopic composition of some deposits in western Montana, U.S.A. (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$\frac{206\text{Pb}}{204\text{Pb}}$			Geologic relationships	Age of mineralization		Reference
		$\frac{206\text{Pb}}{204\text{Pb}}$	$\frac{207\text{Pb}}{204\text{Pb}}$	$\frac{208\text{Pb}}{204\text{Pb}}$		$\rho$	Mz/Cz	
38 Liver Peak (prospect)	47°38.5' 115°15.5'	16.557	15.244	36.546	Galena associated with molybdenum-tungsten mineralization in quartz monzonite stock; material from drill core at 1085 m interval.	---	X	5
39 Lucky Lode	47°16.1' 114°34.4'	17.806	15.533	37.487	Fissure and replacement bedding-plane vein in Prichard Fm., Belt Supergroup.	---	X	10
40 Letterman	47°25.7' 114°53.6'	17.924	15.579	37.640	Fault-controlled fracture-filling vein in Prichard Fm., Belt Supergroup, near diorite sill.	---	X	10
41 Morning Star Extension	47°29.5' 115°07.5'	18.363	15.607	38.369	Fracture-filling fissure vein in Prichard Fm., Belt Supergroup.	---	X	10
42 Blue Bird	47°29.0' 115°07.5'	18.237	15.583	38.235	Fault controlled fissure vein in diorite sill in Prichard Fm., Belt Supergroup	---	X	10
43 Silver King (Belle Stowe)	47°36.8' 115°11.1'	17.085	15.368	37.139	Fault-controlled fracture-filling veins in Ravalli group, Belt Supergroup.	---	x	10
44 Montana Standard	47°33.4' 115°31.6'	16.309	15.426	36.054	Transverse fissure-filling veins in Prichard Fm., Belt Supergroup.	X	---	10
45 Jim Fiske	47°33.3' 115°36.9'	16.253	15.368	35.948	Mineralized wallrock of fissure vein in Prichard Fm., Belt Supergroup.	X	---	10
46 Jack Waite	47°39.9' 115°43.8'	16.262	15.388	35.937	Fault-controlled fissure veins in Prichard Fm., Belt Supergroup.	X	---	10
47 Holiday	47°58.7' 115°54.8'	16.361	15.420	36.066	Fracture-filling veins controlled by Holiday Fault in Wallace Fm., Belt Supergroup.	X	---	10
48 Broken Hill	48°07.2' 115°57.7'	16.289	15.390	35.954	Discontinuous fracture filling controlled by Blue Creek Fault in sheared Ravalli Group, Belt Supergroup.	X	---	10
Silver Bow County								
49 Prospect of Home- stake Mineral Development Co.	45°43.0' 112°37.2'	16.817	15.671	36.466	Disseminated to massive sulfide mineralization along bedding planes in lower Prichard Fm., Belt Supergroup. Analyzed material from drill hole no.3 at 77-87 ft interval (0.32% Pb).	X	---	This report
do.	do.	16.805	15.700	36.496	Disseminated to massive sulfide mineralization along bedding planes in lower Prichard Fm., Belt Supergroup. Analyzed material from drill hole no. 3 at 108-114 ft interval (0.42% Pb).	X	---	This report

Table 2—Location, geologic relationships, and lead isotopic composition of some deposits in northern Idaho, U.S.A

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		p	Mz/Cz	
Benewah County								
1 Rainbow No. 3	47°24.8' 116°29.7'	16.421	15.453	36.045	Replacement vein in lower part of Prichard Fm., Belt Supergroup	---	X	10
Bonner County								
2 Weber	47°54.2' 116°25.9'	19.048	15.666	39.270	Fracture filling in sheared part of Wallace Fm., Belt Supergroup.	---	X	10
do.	<sup>1</sup> 47°54' 116°26'	19.26	15.77	39.61	(average of 5 galena analyses) ore from veins in the Wallace Fm., Belt Supergroup.	---	X	1
3 Conjecture	47°55.0' 116°25.7'	18.997	15.649	39.244	Fracture-filling vein in lower part of Wallace Fm., Belt Supergroup.	---	X	10
do.	<sup>1</sup> 47°55' 116°26'	19.16	15.71	39.57	Vein on 700 ft level, lower part of Wallace Fm., Belt Supergroup.	---	X	1
4 Hope	48°10.0' 116°10.3'	18.299	15.607	38.510	Fault-controlled fissure vein in upper part of Wallace Fm., Belt Supergroup, near Hope fault.	---	X	10
do.	48°10' 116°10'	18.07	15.42	38.05	Sheared ore in altered argillite on 700 ft level. Wallace Fm., Belt Supergroup.	---	X	1
5 Falls Creek	48°03.7' 116°24.3'	18.637	15.624	38.917	Fault controlled fracture-filling veins in Wallace Fm., Belt Supergroup.	---	X	10
6 Talache	48°08.3' 116°29.0'	18.891	15.644	39.004	Fault-controlled fissure vein in St. Regis Fm., Belt Supergroup.	---	X	10
7 Whitedelf	48°09.8' 116°11.1'	18.255	15.580	38.419	Fault-controlled fissure vein in upper part of Wallace Fm., Belt Supergroup, near Hope Fault.	---	X	10
8 Lawrence	48°08.8' 116°08.9'	18.320	15.570	38.477	Fault-controlled fissure vein in Striped Peak Fm., Belt Supergroup, near Hope Fault.	---	X	10
9 Plume Creek	48°22.6' 116°13.2'	18.528	15.615	38.815	Fault-controlled fissure vein in metagabbro sill in Prichard Fm., Belt Supergroup.	---	X	10
Boundary County								
10 Prospect on Boulder Creek	48°37.1' 116°04.0'	16.296	15.398	35.976	Fracture-filling vein in Prichard Fm., Belt Supergroup, near Boulder Creek fault.	X	---	10
11 Jane Silver-Lead	48°40.8' 116°10.7'	16.318	15.397	35.985	Fissure vein in metagabbro sill in Prichard Fm., Belt Supergroup.	X	---	10
12 Prospect near Eileen	48°46.8' 116°08.7'	16.327	15.402	35.991	Fissure vein in metagabbro sill in Prichard Fm., Belt Supergroup, near Moyle fault.	X	---	10
13 Silver Spoon	48°49.5' 116°09.9'	17.289	15.512	37.333	Joint-controlled fracture-filling vein in metagabbro sill in Prichard Fm., Belt Supergroup.	---	X	10
14 Regal (Silver Crescent)	48°51.1' 116°15.5'	18.247	15.604	37.798	Fracture-filling and replacement galena in sheared granite, Kaniksu batholith.	---	X	10
15 Hoosier Boy	48°52.8' 116°03.8'	18.198	15.584	37.883	Fracture-filling and replacement galena in sheared Prichard Fm., Belt Supergroup.	---	X	10
16 Buckhorn	48°52.4' 116°03.3'	17.927	15.561	37.963	-----do-----	---	X	10
17 Tilley	48°54.6' 116°12.6'	18.296	15.597	38.039	Fracture-filling galena in sheared Prichard Fm., Belt Supergroup.	---	X	10
18 Miller Brothers	48°57.0' 116°17.8'	18.533	15.618	38.505	Fracture-filling vein in metagabbro sill in Prichard Fm., Belt Supergroup	---	X	10

<sup>1</sup>Approximate lat., long.; latitude and longitude were not given for collection site of analyzed sample(s).

Table 2.—Location, geologic relationships, and lead isotopic composition of some deposits in northern Idaho, U.S.A. (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
19 Prospect near Copper Falls	48°58.3' 116°08.5'	17.769	15.531	37.710	Fissure vein at contact of meta- gabbro sill and Prichard Fm., Belt Supergroup.	---	X	10
20 Idaho Continental	48°55.7' 116°53.6'	16.340	15.399	36.022	Fault-controlled fracture filling and replacement galena in Burke Fm., Belt Supergroup.	X	---	10
Kootenai County								
21 Stroebe	47°31.9' 116°33.4'	18.358	15.630	38.649	Fault-controlled fracture-filling vein in Prichard Fm., Belt Supergroup.	---	X	10
22 Caribou	47°36.1' 116°39.6'	17.801	15.485	38.321	Fracture-filling veins at contact of quartz monzonite pluton and Prichard Fm., Belt Supergroup.	---	X	10
23 Silver Tip	47°35.2' 116°38.3'	17.836	15.495	38.220	Fracture-filling replacement veins in Prichard Fm., Belt Supergroup.	---	X	10
24 Riverside	47°44.4' 116°24.9'	16.518	15.423	36.226	Fracture-filling veins in sheared lower part of Wallace Fm., Belt Supergroup.	X	---	10
25 Commonwealth	47°49.4' 116°39.5'	19.027	15.676	39.247	Fault-controlled, fracture-filling vein in Wallace Fm., Belt Supergroup.	---	X	10
26 Prospect on Tom Levin Creek	47°52.2' 116°30.5'	19.113	15.665	39.276	Fracture-filling in Packsaddle Fault between granodiorite pluton and Burke Fm., Belt Supergroup.	---	X	10
Shoshone County								
27 Bunker Hill	<sup>1</sup> 47°32' 116°09'	16.259	15.387	35.962	Fault-controlled fracture-filling Emery vein in Revett Fm., Belt Supergroup.	X	---	This report
do.	do.	16.255	15.382	35.941	Fracture-filling replacement veins in the March ore body in the Revett Fm., Belt Supergroup.	X	---	Do.
do.	do.	16.229	15.377	35.945	Fracture-filling replacement veins in the Pate ore body in the Revett Fm., Belt Supergroup.	X	---	Do.
do.	47°31.5' 116°09.4'	16.260	15.399	35.973	Disseminated galena along bedding planes (stratiform-type deposit) in Revett Fm., Belt Supergroup.	X	---	10
do.	do.	16.237	15.384	35.905	Fault-controlled fracture-filling vein in Revett Fm., Belt Supergroup.	X	---	10
28 Bunker Hill and Sullivan mines	<sup>1</sup> 47°35' 116°05'	16.45	15.64	36.35	Vein material from mine workings at -350 ft elevation.	X	---	7
do.	do.	16.46	15.63	36.40	Vein material from mine workings at 325 ft elevation.	X	---	7
do.	do.	16.46	15.67	36.36	Vein material from mine workings at 1200 ft elevation.	X	---	7
do.	do.	16.48	15.64	36.33	Vein material from mine workings at 3150 ft elevation.	X	---	7
do.	do.	16.48	15.66	36.49	Vein material from mine workings at approximately 150 ft elevation.	X	---	7
29 Sunshine	<sup>1</sup> 47°30' 116°10'	16.42	15.61	36.79	Vein material-----	X	---	7
do.	do.	16.45	15.57	36.75	---do-----	X	---	7
do.	do.	16.47	15.68	36.78	---do-----	X	---	7
do.	do.	16.52	15.56	36.85	---do-----	X	---	7
do.	do.	16.89	15.47	36.87	---do-----	X	---	7
do.	<sup>1</sup> 47°30' 116°04'	16.20	15.29	35.62	Chester vein at 3250 ft level in the St. Regis Fm., Belt Supergroup.	X	---	1

<sup>1</sup>Approximate lat., long., latitude and longitude were not given for collection site of analyzed sample(s).

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Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		p	Mz/Cz	
30 Lucky Friday	47°28.2' 115°46.8'	16.216	15.377	35.905	Fracture-filling veins in sheared St. Regis and Revett Fms., Belt Supergroup.	X	---	10
do.	47°28' 115°47'	16.27	15.43	36.04	Vein from stope on 2450 ft level in the Revett quartzite, Belt Supergroup.	X	---	1
do.	do.	16.44	15.58	36.44	Vein on the 2450 ft level-----	X	---	4
do.	do.	16.35	15.47	36.52	Vein on the 1600 ft level-----	X	---	4
31 Sidney	47°29.2' 116°11.4'	16.284	15.406	35.969	Fracture-filling vein in the Prichard Fm., Belt Supergroup.	X	---	10
do.	47°29' 116°11'	16.36	15.36	35.98	Sidney vein occurring in middle member of Prichard Fm., Belt Supergroup.	X	---	1
do.	do.	16.43	15.58	36.48	Vein on 1300 ft level-----	X	---	4
do.	do.	16.41	15.51	36.29	Vein on the 100 ft level-----	X	---	4
32 Galena	47°28.6' 115°58.0'	16.304	15.394	36.968	Fault-controlled fracture-filling vein in Revett Fm., Belt Supergroup.	X	---	10
do.	47°29' 115°58'	16.38	15.60	36.70	Vein on the 1600 ft level-----	X	---	4
do.	do.	16.51	15.61	36.59	Vein on the 3400 ft level-----	X	---	4
33 Hypotheek	47°30.7' 116°16.5'	16.147	15.367	35.886	Fracture-filling vein in the Prichard Fm., Belt Supergroup.	X	---	10
do.	47°31' 116°16'	16.12	15.32	35.87	Vein material from mine dump, probably from vein in Prichard(?) Fm., Belt Supergroup.	X	---	1
34 Prospect in South Gem stock	47°31.3' 115°53.1'	16.288	15.395	35.990	Disseminated galena in monzonite pluton at contact with upper part of Prichard Fm., Belt Supergroup.	X	---	10
35 Star	<sup>1</sup> 47°30' 115°50'	16.16	15.31	35.64	Vein on 2100 ft level in the Revett quartzite, Belt Supergroup.	X	---	1
do.	do.	16.45	15.62	36.59	Vein on the 850 ft level-----	X	---	4
do.	do.	16.44	15.63	36.51	Vein on the 2900 ft level-----	X	---	4
do.	do.	16.46	15.60	36.76	Vein on the 5700 ft level-----	X	---	4
36 Mountain Goat	<sup>1</sup> 47°33' 115°52'	16.55	15.68	36.94	Vein material from ore-bin-----	X	---	4
37 Edith	<sup>1</sup> 47°38' 115°49'	16.48	15.59	36.53	Vein material from mine dump-----	X	---	4
38 Page	<sup>1</sup> 47°37' 116°12'	16.38	15.53	36.36	Vein on the 2770 ft level-----	X	---	4
39 Sunset Minerals	<sup>1</sup> 47°30' 116°13'	16.45	15.56	36.42	Vein on the 800 ft level-----	X	---	4
40 Hercules	<sup>1</sup> 47°33' 115°48'	16.24	15.41	35.92	Vein on the 1600 ft level in the Prichard Fm., Belt Supergroup.	X	---	1
do.	do.	16.47	15.68	36.55	Vein on the 1600 ft level-----	X	---	4
do.	do.	16.53	15.68	36.55	Veinlet in monzonite dike (east side).	X	---	4
41 Success	<sup>1</sup> 47°32' 115°52'	16.53	15.62	36.39	Veinlet in monzonite pluton (specimens taken from mine dump).	X	---	4
do.	do.	16.42	15.42	36.17	Veinlet in monzonite pluton at quartzite (Belt Supergroup) contact (specimens taken from mine dump).	X	---	1
42 Sunrise (prospect)	<sup>1</sup> 47°34' 115°49'	18.18	15.70	38.36	Veinlet in North Gem stock (specimens taken from mine dump).	---	X	4
do.	do.	18.19	15.64	38.32	---do-----	---	X	1

<sup>1</sup>Approximate lat., long.; latitude and longitude were not given for collection site of analyzed sample(s).

Table 2--Location, geologic relationships, and lead isotopic composition of some deposits in northern Idaho, U.S.A. (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{206}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
43 St. James (prospect)	<sup>1</sup> 47°34' 115°49'	18.16	15.63	38.34	Veinlet in north end of North Gem stock (monzonite). (Specimens taken from mine dump)	---	X	1
44 Sunset Lease	<sup>1</sup> 47°34' 115°50'	16.39	15.47	36.07	Vein material from the mine dump----	X	---	4
45 Jack Waite	<sup>1</sup> 47°40' 115°45'	16.19	15.31	35.78	Vein from the Montana stope, 600 ft level, in the lower part of the Prichard Fm., Belt Supergroup.	X	---	1
46 Highland Surprise	<sup>1</sup> 47°28' 116°10'	16.27	15.44	35.94	Average of 2 analyses of vein material on adit level and 1400 ft level. Vein is in the Prichard Fm., Belt Supergroup.	X	---	1
47 Ione	<sup>1</sup> 47°37' 115°45'	16.18	15.33	35.75	Sheared vein on No. 1 level in lower part of the Prichard Fm., Belt Supergroup.	X	---	1
48 <sup>2</sup> Idaho-Montana Silver (prospect)	<sup>1</sup> 47°29' 115°42'	16.50	15.43	36.23	Vein in Wallace Fm., Belt Supergroup.	X	---	1
(not given)	(not given)	17.09	15.53	36.94	Vein material from the Wallace area	X	---	7
(not given)	(not given)	15.98	15.08	35.07	----do-----	---	X	7
(not given)	(not given)	16.10	15.13	35.45	----do-----	---	X	7

<sup>1</sup>Approximate lat., long.; latitude and longitude were not given for collection site of analyzed sample(s).

<sup>2</sup>Sample locality information supplied by J. F. Harrison and S. W. Hobbs of the U.S. Geological Survey.

Table 3--Location, geologic relationships, and lead isotopic composition of some deposits in northeastern Washington, U.S.A.

Location No on Plate 1	Lat., N. Long., W.	$\frac{206\text{Pb}}{204\text{Pb}}$	$\frac{207\text{Pb}}{204\text{Pb}}$	$\frac{208\text{Pb}}{204\text{Pb}}$	Geologic relationships	Age of mineralization		Reference
						p	Mz/Cz	
Pend Oreille County								
1 Key Fraction	<sup>1</sup> 48°18' 117°02'	16.47 16.48	15.55 15.56	36.43 36.46	Marshall diorite sill in the Bead Lake Fm. (Precambrian).	X	---	9
2 Kootenai Conquest	<sup>1</sup> 48°23' 117°02'	16.50	15.56	36.51	---do-----	X	---	9
3 Halfmoon Lake (prospect)	<sup>1</sup> 48°23' 117°02'	18.73	15.78	38.94	Probably fissure filling in the No Name argillite, middle member of Newport Group (Precambrian).	---	X	9
4 Skippy	<sup>1</sup> 48°23' 117°02'	18.75	15.81	39.02	Probably fissure filling in the Skookum Fm., top member of Newport Group (Precambrian).	---	X	9
5 Mule Deer (prospect)	<sup>1</sup> 48°32' 117°14'	19.26	15.77	39.61	Altered quartz monzonite, Kaniksu batholith.	---	X	1
Stevens County								
6 Chewelan Cons.	<sup>1</sup> 48°19' 117°40'	19.40	15.82	39.99	Lead mineralization-----	---	x	9
7 Jay-Dee (High Grade)	48°18.8' 117°41.2'	20.79 20.77	15.97 15.94	40.75 40.70	---do-----	---	X	9
8 Jay Gould	48°17.5' 117°39.0'	19.42	15.86	40.08	---do-----	---	X	9
9 Mullen	48°16.6' 117°38.9'	19.87	15.88	40.64	---do-----	---	X	9

<sup>1</sup>Approximate lat., long.; latitude and longitude were not given for collection site of analyzed sample(s).

Table 4--Location, geologic relationships, and lead isotopic composition of some deposits in southeastern British Columbia, Canada

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
1 Great Dane	49°46' 116°26.6'	16.353	15.406	36.049	Mineralization in the Creation Fm., Purcell Supergroup, in association with Purcell diorite.	X	---	This report
2 A (Lisa)	50°36.4' 116°21.1'	18.214	15.613	38.302	Mineralization in upper part of Mt. Nelson Fm., Purcell Supergroup.	---	X	Do.
3 Welcome and Enterprise	49°45.8' 116°28.1'	16.378	15.407	36.070	Mineralization in shear zone in Kitchener Fm., Purcell Supergroup.	X	---	Do.
(not known)	<sup>1</sup> Waterton area	16.548	15.404	36.166	Stratabound lead mineralization in Grinnell Fm., Belt Supergroup.	X	---	Do.
4 Sullivan	<sup>1</sup> 49°42' 116°00'	16.530	15.477	36.176	Banded ore from a lower mine in the Aldridge Fm., Purcell Supergroup.	X	---	Do.
do.	do.	16.507	15.460	36.153	Massive ore from Aldridge Fm., Purcell Supergroup.	X	---	Do.
do.	do.	16.69	15.70	36.55	Anglesite from oxidized upper part of ore zone in the Aldridge Fm., Purcell Supergroup	X	---	3
do.	do.	16.78	15.80	36.36	Pyromorphite from oxidized upper part of ore zone in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	49°45' 116°02'	16.62	15.59	36.67	Main ore zone in the Aldridge Fm., Purcell Supergroup.	X	---	7
do.	49°43' 115°59'	16.67	15.67	36.59	---do-----	X	---	7
do.	<sup>1</sup> 49°42' 116°00'	17.31	15.91	37.21	Main ore zone(?), Aldridge Fm., Purcell Supergroup.	X(?)	---	4
do.	do.	16.66	15.59	36.69	Galena from near hanging wall shear in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.58	15.62	36.25	Galena from fracture in footwall of main ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.62	15.64	36.58	Galena from fracture in footwall of HU ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.65	15.55	36.24	Galens from zone of intense folding in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.56	15.59	36.30	Galena veinlet in small fault in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.32	15.33	35.85	Galena in calcite vein in footwall of main ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.95	15.59	36.38	Galena cement in brecciated ore in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.45	15.47	36.19	Boulangerite from ore zone in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.81	15.65	36.72	Galena associated with relatively high tin and silver values in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.42	15.43	35.64	Galena associated with tourmalinization in the Aldridge Fm., Purcell supergroup.	X	---	3
do.	do.	16.53	15.54	36.38	Galena associated with boulangerite in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.79	15.75	36.79	Galena veining fractured-pyrrhotite in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.62	15.66	36.65	Galena from hanging wall in HU ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.66	15.58	36.55	---do-----	X	---	3

<sup>1</sup>Approximate location.

Table 4--Location, geologic relationships, and lead isotopic composition of some deposits in southeastern British Columbia, Canada (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
4 Sullivan	<sup>1</sup> 49°42' 116°00'	16.61	15.56	36.28	Galena from vicinity of Burchett fault in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.92	15.59	36.43	Galena from vicinity of Jonel fault system in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.65	15.66	36.62	HU lower ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.73	15.59	36.38	---do-----	X	---	3
do.	do.	16.58	15.58	36.29	---do-----	X	---	3
do.	do.	16.63	15.62	36.44	HU upper ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.62	15.52	36.31	---do-----	X	---	3
do.	do.	16.62	15.62	36.45	---do-----	X	---	3
do.	do.	16.62	15.65	36.66	---do-----	X	---	3
do.	do.	16.69	15.65	36.59	Galena from a chloritic zone in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.524	15.478	36.191	Huge stratiform ore body near boundary of lower and middle members of the Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.531	15.486	36.197	---do-----	X	---	2
do.	do.	16.449	15.460	36.103	---do-----	X	---	2
do.	do.	16.518	15.469	36.162	---do-----	X	---	2
do.	do.	16.519	15.477	36.187	---do-----	X	---	2
do.	do.	16.529	15.481	36.169	---do-----	X	---	2
do.	do.	16.616	15.464	36.192	---do (Tin-zone fracture)-----	X	---	2
do.	do.	16.521	15.484	36.190	---do-----	X	---	2
do.	do.	16.63	15.64	36.60	Central ore zone in Aldridge Fm., Purcell Supergroup.	X	---	8
do.	do.	16.63	15.63	36.56	"I-ore zone" in Aldridge Fm., Purcell Supergroup.	X	---	8
do.	do.	16.66	15.59	36.45	Main ore layer in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.62	15.60	36.47	---do-----	X	---	3
do.	do.	16.70	15.66	36.58	---do-----	X	---	3
do.	do.	16.77	15.76	36.83	---do-----	X	---	3
do.	do.	16.52	15.50	36.19	In or near "A ore layer" in the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.74	15.82	36.62	Ore above siltstone in open pit in the Aldridge Fm., Purcell Supergroup.	X	---	3
5 Kootenay King	<sup>1</sup> 49°44' 115°35'	16.405	15.451	36.151	Replacement ore of mid-Aldridge sediments of the Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	17.01	15.61	36.46	Replacement ore of argillite and siltstone of the Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	16.23	15.11	35.50	---do-----	---	X	3
6 Estella	<sup>1</sup> 49°47' 115°36'	16.393	15.442	36.156	Replacement and fissure veins in sheared argillite and siltite, of the Aldridge Fm., Purcell Supergroup; monzonite pluton is nearby.	X	---	2
do.	do.	16.66	15.63	36.69	---do-----	X	---	3

<sup>1</sup>Approximate location.

Table 4--Location, geologic relationships, and lead isotopic composition of some deposits in southeastern British Columbia, Canada (Cont'd)

Location No on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
7 North Star	49°42' 116°02'	16.434	15.449	36.052	Oxidized replacement ore in Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.57	15.64	36.71	Replacement ore in Aldridge Fm., Purcell Supergroup.	X	---	7
do.	do.	16.84	15.86	36.91	Oxidized ore from Aldridge Fm., Purcell Supergroup.	X	---	7
8 Stemwinder	<sup>1</sup> 49°41' 116°01'	16.444	15.450	36.087	Tabular lens of ore in thick body of pyrrhotite in the Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.67	15.75	36.86	Massive sulphide body in Aldridge Fm., Purcell Supergroup.	X	---	3
9 Vulcan	<sup>1</sup> 49°48' 116°20'	16.339	15.404	35.962	Disseminated sulphides along bedding planes in the Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.10	14.96	35.02	Disseminated sulphides along siltstone bedding planes in the Aldridge Fm., Purcell Supergroup.	---	X	3
10 Fors	<sup>1</sup> 49°22' 115°53'	16.388	15.421	36.071	Disseminated sulphides in Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.341	15.404	35.981	-----do-----	X	---	2
do.	do.	16.324	15.401	35.957	-----do-----	X	---	2
11 Kid Creek	<sup>1</sup> 49°14' 116°13'	16.332	15.406	35.985	Disseminated sulphides along bedding in quartzite in the Aldridge Fm., Purcell Supergroup.	X	---	2
12 St. Eugene	<sup>1</sup> 49°17' 115°49'	16.340	15.415	36.015	Replacement and fissure veins in fracture system in Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.41	15.59	36.59	Vein system on 200 ft level in the Aldridge Fm., Purcell Supergroup.	X	---	4
do.	do.	16.48	15.44	36.44	Vein system on 1300 ft level in the Aldridge Fm., Purcell Supergroup	X	---	4
do.	do.	16.39	15.54	36.41	Replacement and fissure veins in fracture system on 200 or 300 ft level in Aldridge Fm., Purcell Supergroup.	X	---	3
do.	do.	18.95	15.86	39.26	Sulphides in Moyie intrusive?-----	---	X	7
13 Aurora	<sup>1</sup> 49°17' 115°51'	16.337	15.409	36.024	Fissure veins in fracture system in Aldridge Fm., Purcell Supergroup.	X	---	2
14 Society Girl	<sup>1</sup> 49°16' 115°48'	16.314	15.410	35.996	Veins in zone of shearing and fracturing in uppermost Aldridge Fm., Purcell Supergroup.	X	---	2
15 Dominion	<sup>1</sup> 49°38' 116°16'	16.393	15.429	36.058	Quartz vein in fault zone in Aldridge quartzite, Purcell Supergroup, above Moyie sill.	X	---	2
do.	do.	16.52	15.42	36.21	Sulphide mineralization in a fault zone in Aldridge quartzite, Purcell Supergroup above a Moyie Sill.	X	---	3
16 Rimrock (B and V)	<sup>1</sup> 49°29' 115°54'	16.426	15.430	36.106	Numerous quartz veins in Aldridge quartzite, Purcell Supergroup.	X	---	2
17 B and V	<sup>1</sup> 49°29' 115°54'	17.78	15.54	36.40	-----do-----	---	X	3
18 Alice	<sup>1</sup> 49°08' 116°30'	16.374	15.417	36.073	Mineralization in a major fault zone involving sheared argillite and quartzite of Aldridge Fm., Purcell Supergroup.	X	---	2

<sup>1</sup>Approximate location.

Table 4—Location, geologic relationships, and lead isotopic composition of some deposits in southeastern British Columbia, Canada (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$^{206}\text{Pb}$	$^{207}\text{Pb}$	$^{208}\text{Pb}$	Geologic relationships	Age of mineralization		Reference
		$^{204}\text{Pb}$	$^{204}\text{Pb}$	$^{204}\text{Pb}$		P	Mz/Cz	
19 Marysville (prospect?)	<sup>1</sup> 49°38' 115°58'	16.603	15.467	36.392	Disseminated sulphides in Aldridge quartzite, Purcell Supergroup (drill-hole sample).	X	---	2
do.	do.	16.558	15.467	36.329	----do-----	X	---	2
20 Moyie Tungsten	<sup>1</sup> 49°24' 116°02'	16.383	15.423	36.066	Vein in Moyie intrusion in Aldridge quartzite, Purcell Supergroup.	X	---	2
21 Hope	<sup>1</sup> 49°24' 115°52'	16.319	15.406	35.996	---do-----	X	---	2
22 Park	<sup>1</sup> 49°39' 115°56'	16.406	15.436	36.079	Vein above Moyie intrusion in Aldridge quartzite, Purcell Supergroup.	X	---	2
do.	do.	17.02	15.58	36.34	----do-----	X	---	3
23 Lone Pine Hill	<sup>1</sup> 49°38' 115°54'	16.431	15.433	36.104	Vein in upper sheared Moyie intrusion in Aldridge quartzite, Purcell Supergroup.	X	---	2
24 Leadville	<sup>1</sup> 49°13' 116°20'	16.333	15.411	35.997	Vein in Moyie intrusion in Aldridge quartzite, Purcell Supergroup.	X	---	2
25 Vulcan Sill	<sup>1</sup> 49°48' 116°20'	16.421	15.413	36.072	Mineralized quartz lenses in Moyie intrusion in lower middle Aldridge Fm., Purcell Supergroup.	X	---	2
26 Pedro	<sup>1</sup> 49°39' 115°57'	16.438	15.433	36.082	Vein in upper part of Moyie intrusion in Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.78	15.62	36.53	----do-----	X	---	3
27 Pollen Basin	<sup>1</sup> 49°34' 116°19'	16.542	15.444	36.306	Mineralized quartz-calcite veins in upper part of Moyie diorite sill in Aldridge Fm., Purcell Supergroup.	X	---	2
do.	do.	16.53	15.56	36.46	----do-----	X	---	3
28 Dan Howe	<sup>1</sup> 49°36' 116°12'	17.269	15.532	37.096	Quartz veins in shear zone in lower Aldridge Fm., Purcell Supergroup, below a Moyie sill.	---	X	2
do.	do.	18.97	16.18	38.32	----do-----	---	X	3
29 Leader (Wellington)	<sup>1</sup> 49°33' 116°08'	18.532	15.612	39.009	Quartz veins in fault zone separating Creston and Kitchener Fms., Purcell Supergroup; adjacent to small grano-diorite stock.	---	X	2
do.	do.	19.63	15.93	39.78	----do-----	---	X	3
30 Warhorse (Boy Scout)	<sup>1</sup> 49°34' 116°11'	18.929	15.702	38.805	Mineralized shear zone in lower Aldridge Fm., Purcell Supergroup; adjacent to Precambrian intrusives.	---	X	2
do.	do.	18.76	15.59	38.73	----do-----	---	X	3
do.	do.	18.55	15.36	37.82	Disseminated replacement sulphides in shear zone in lower member of Aldridge Fm., Purcell Supergroup; adjacent to Precambrian intrusives.	---	X	3
32 Anderson	<sup>1</sup> 49°34' 116°02'	18.792	15.638	38.778 <sup>2</sup>	Quartz veins in sheared, altered, argillaceous Creston sediments, Purcell Supergroup, involved in the Perry Creek Fault.	---	X	2
33 Midway	<sup>1</sup> 49°14' 115°54'	17.940	15.564	38.593	Mineralized sheared quartz vein in middle member of Aldridge Fm., Purcell Supergroup.	---	X	2
34 Birdiel	<sup>1</sup> 49°33' 116°01'	18.596	15.624	38.779	Quartz veins in Perry Creek Fault cutting phyllitic argillite and quartzite of Creston Fm., Purcell Supergroup.	---	X	2
35 Palmyra	<sup>1</sup> 49°44' 115°32'	19.082	15.674	39.319	Quartz vein cutting fractured argillite of Aldridge Fm., Purcell Supergroup, and a syenite dike.	---	X	2

<sup>1</sup>Approximate location.

Table 4--Location, geologic relationships, and lead isotopic composition of some deposits in southeastern British Columbia, Canada (Cont'd)

Location No. on Plate 1	Lat., N. Long., W.	$\frac{206\text{Pb}}{204\text{Pb}}$			Geologic relationships	Age of mineralization		Reference
		$\frac{206\text{Pb}}{204\text{Pb}}$	$\frac{207\text{Pb}}{204\text{Pb}}$	$\frac{208\text{Pb}}{204\text{Pb}}$		P	Mz/Cz	
36 Lily May Extension	<sup>1</sup> 49°43' 115°32'	18.908	15.650	39.054	Quartz vein in shattered syenite dike and contorted argillites of Aldridge Fm., Purcell Supergroup.	---	x	2
37 Pitt Creek	<sup>1</sup> 49°36' 116°01'	18.613	15.618	38.600	Quartz vein in middle member of Aldridge Fm., Purcell Supergroup; NW of St. Mary fault zone.	---	X	2
do.	do.	18.64	15.58	38.63	---do-----	---	X	3
do.	do.	18.93	15.98	39.26	---do-----	---	X	3
38 Polaris	<sup>1</sup> 49°38' 116°01'	18.520	15.655	38.657	Quartz vein between 2 Moyie sills in the lower member of the Aldridge Fm., Purcell Supergroup.	---	X	2
39 Rose Pass	<sup>1</sup> 49°46' 116°37'	18.952	15.708	38.870	Quartz veins in black slate of Mt. Nelson Fm., Purcell Supergroup; near small granitic stock.	---	X	2
40 Judyiu	<sup>1</sup> 49°39' 115°36'	18.60	15.84	38.80	Galena lenses in sheared argillaceous strata of Aldridge Fm., Purcell Supergroup; in Wildhorse River fault zone.	---	X	3
41 Black Bear	<sup>1</sup> 49°39' 115°58'	19.70	15.78	39.58	Quartz vein in Moyie diorite intrusive and Aldridge quartzite, Purcell Supergroup.	---	X	3
42 Bertha	<sup>1</sup> 49°47' 115°38'	19.70	15.83	40.10	Probable fissure filling deposit in sheared and altered Moyie intrusion.	---	X	3
43 Storm King	<sup>1</sup> 49°30' 116°22'	17.96	15.04	36.92	Mineralized quartz vein in dolomitic Kitchener Fm., Purcell Supergroup.	---	X	3
44 Mineral King	50°22.5' 116°25.7'	18.503	15.640	38.466	Ore occurs as replacement of Mt. Nelson dolomite, Purcell Supergroup.	---	X	2
Paradise	(not given)	19.287	15.708	39.892	Partially oxidized replacment and fissure-filling deposits in shattered siliceous, magnesian limestone of Mt. Nelson Fm., Purcell Supergroup.	---	X	2
45 Upper Findlay Creek (prospect?)	<sup>1</sup> 50°03' 116°14'	16.48	15.46	36.04	Lead minerals in quartz vein in shear or fault zone in Moyie intrusive about 1.5 mile north of White Creek batholith.	X	---	2
46 Columbia River (Ruth Vermont)	50°57' 116°58.8'	19.059	15.695	38.897	Conformable massive sulphides in the Horsethief Creek Fm., Windermere Group. (Deposit is northwest of the Belt-Purcell basin).	---	X	This report
47 Silver Basin	50°41.4' 116°44.8'	18.997	15.661	39.172	Mineralization in the Horsethief Creek Fm., Windermere Group, near Cretaceous stock. (Deposit is northwest of the Belt-Purcell Basin).	---	X	This report
48 Lockhart Creek	<sup>1</sup> 49°30' 116°42'	18.847	15.680	39.231	Galena vein in lower part of Horsethief Creek Fm., Windermere Group. (Deposit is west of Belt-Purcell Basin).	---	X	2

<sup>1</sup>Approximate location.

## References

[Numbered references are keyed to Tables 1-4]

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