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THE UNIVERSITY OF BRITISH COLUMBIA
Department of Geological Sciences
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8 April, 1987.

Dr Kenneth M. Dawson
Geological Survey of Canada
100 West Pender Street
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Account No. 5-50130

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INVOICE: RE LEAD ISOTOPE ANALYSES BY THE GEOCHRONOLOGY LABORATORY
DEPARTMENT OF GEOLOGICAL SCIENCES, UNIVERSITY OF BRITISH COLUMBIA

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NUMBER OF ANALYSES DOCUMENTATION PRICE PER SAMPLE COST
28 Tables \$180.00 \$5040.00

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Respectfully submitted

Colin I. Godwin, Ph.D, PEng(B.C.)

Encl: Table attached; Copy: R. Spratley.

1. Tabulation of Deposit Name, Coordinates, Sample Source, Analytical Specifications, and Lead Isotope Values are in attached tables. NOTE: duplicates are not billed.

SAMPLES BILLED ARE: a) Unbilled as per 13 January 1986

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|------------------------|--------------|------------------------|-----------------|
| 1. 30385-101 = DY3080 | Granite Ck | 2. 30385-102 = DY3078 | Upper D zone |
| 3. 30460-012 = DY2929 | Medway dike | 4. 30872-101 = DY3089A | Mudflat Silver |
| 5. 30873-101 = DY3086 | Bill Corrick | 6. 30873-102 = DY3087 | Bill Corrick |
| 7. 30876-101 = DY3092 | Silver Knife | 8. 30884-101 = DY3174 | Glacier Ck |
| 9. 30884-102 = DY3179 | Glacier Ck | 10. 30885-101 = DY3184 | Cap x |
| 11. 30886-101 = DY3144 | Low Heshat | 12. 30887-101 = DY3185 | Fossiliferous x |

b) Samples submitted during 1986

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|------------------------|-------------------|------------------------|--------------------|
| 13. 10186-101 = DY3256 | Spl. Har + menden | 14. 10186-102 = DY3259 | Silver flat barium |
| 15. 30612-102 = DY3239 | Olympic adit ga | 16. 30864-101 = DY3276 | Romond skarn |
| 17. 30864-102 = DY3281 | Ramrod Bvcm | 18. 30864-103 = DY3282 | Ramrod dike |
| 19. 30870-102 = DY3249 | Tel | 20. 30874-101 = DY3274 | Pyramid Mtn skarn |
| 21. 30959-101 = DY3233 | Minto adit ga | 22. 30961-101 = DY3243 | Golden Sidewalk ga |
| 23. 30000-001 | | 24. 30000-002 | |
| 25. 30000-003 | | 26. 30000-004 | |
| 27. 30001-001 | | 28. 30002-001 | |

c) SAMPLES SUBMITTED BUT NOT ANALYSED (NOT SUITABLE MATERIAL)

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|-------------------------|---------------|------------------------|---------------------------|
| 1. 30345-101 = DY3240A | Coyne's adit | 2. 30345-102 = DY3226 | Loran extension (stibite) |
| 3. 30346-101 = DY3218 | Robson adit | 4. 30346-102 = DY3219 | Robson adit #2 |
| 5. 30391-101 = DY3290 | Lively Jam | 6. 30392-101 = DY3230 | Lively Strike sph + ? ga |
| 7. 30413-101 = DY3244 | Tyax Elmer | 8. 30611-101 = DY3242 | Peerless adit sph. |
| 9. 30612-101 = DY3237 | Olympic stib. | 10. 30859-101 = DY3214 | |
| 11. 30859-102 = DY3242A | | 12. 30859-103 = DY3241 | |
| 13. 30875-101 = DY3284 | | 14. 30958-101 = DY3228 | Dauntless sph, stib |
| 15. 30972-101 = DY3288 | | | |

Contract granted up for accounting purposes only. At least 6 samples credited.

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1984

1985

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TABLE 2. Host Units, Tectonic Setting, References and Basic Lead Isotope Data for Samples in Lead Isotope Database.

SAMPLE NO	DEPOSIT/SAMPLE NAME	NTS & GOVT REF	LAT N LONG W	SAMPLE SOURCE	HOST DESCRIPTION	HOST AGE	DEP TYPE	ANL MT	PB6/4	PB7/4	PB8/4	PB6/7	PB6/8
10186-101	Silver Hart (Meteorite)	105/B/07/E:SE-	60.33 130.72	K Dawson: DY 3256	Atan Gp: limestone, shale	Early Cambrian	Skarn and replacement	JG GL	19.494	15.756	39.777	1.23729	0.490091
10186-102	Silver Hart (Breccia)	105/B/07/E:SE-	60.33 130.72	K Dawson: DY 3259	Atan Gp: limestone	Early Cambrian	Replacement and skarn	JG GL	19.565	15.729	39.727	1.24389	0.492477
30385-101	MARBLE BASIN (UPPER D)	104/P/05/W:SW-	59.26 129.87	K DAWSON: DY 3078	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	REPLACEMENT IN	JG GL	19.198	15.687	39.320	1.22379	0.488235
30385-101D	MARBLE BASIN (UPPER D)	104/P/05/W:SW-	59.26 129.87	K DAWSON: DY 3078	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	REPLACEMENT IN	JG GL	19.196	15.683	39.306	1.22400	0.488376
30385-101AV	MARBLE BASIN (UPPER D) (N=2)	104/P/05/W:SW-	59.26 129.87	K DAWSON: DY 3078	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	STRATABOUND IN	JG GL	19.197	15.685	39.313	1.22390	0.488306
30385-102!	MARBLE BASIN (GRANITE CREEK)	104/P/05/W:SW-	59.26 129.86	K DAWSON: DY 3080	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	REPLACEMENT IN	JG PY	19.218	15.786	39.288	1.21742	0.489162
30460-102!	MIDWAY (TOOTSIE RIVER)	104/D/16/E:NE-039	59.22 130.33	K DAWSON: DY 2929	MCDAME GROUP: LIMESTONE CUT BY DYKE	CAMBRIAN	STRATABOUND IN	JG PY	19.323	15.822	39.637	1.22127	0.487495
30612-102	Olympic	092/J/15/W:NE-092	50.89 122.73	K Dawson: DY 3239	Bridge R Gp: basalt, chert breccia	Late Triassic	Vein	JG GL	18.992	15.621	38.649	1.21583	0.491398
30864-101	Ramrod (Skarn)	095/E/12/E:NW-	61.54 127.60	K Dawson: DY 3276	Limestone	Middle Cambrian	Skarn	JG GL	19.490	15.731	39.546	1.23900	0.492848
30864-102	Ramrod (B Vein)	095/E/12/E:NW-	61.54 127.58	K Dawson: DY 3281	Limestone	Middle Cambrian	Skarn	JG GL	19.471	15.755	39.618	1.23588	0.491473
30864-103A	Ramrod (Dyke)	095/E/12/E:NW-	61.54 127.60	K Dawson: DY 3282	Limestone, porphyry dyke	Middle Cambrian	Disseminated in dyke	JG GL	19.474	15.754	39.585	1.23613	0.491954
30870-102	Tel, Banks Island	103/G/08/E:SE-039	53.37 130.16	K Dawson: DY 3249	Alexander terrane: limestone	Late Paleozoic	Replacement and skarn	JG GL	18.591	15.562	38.209	1.19465	0.486556
30872-001	NEEDLEPOINT SILVER	104/P/04/W:SW-	59.14 129.78	K DAWSON: DY 3089A	NEEDLEPOINT MOUNTAIN STOCK: GRANITE	70MA, CRETACEOUS	VEIN	JG GL	19.348	15.695	39.530	1.23271	0.489442
30873-001	BILL-CARLICK (TRENCH 1)	104/P/03/E:SW-	59.22 129.22	K DAWSON: DY 3086	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	REPLACEMENT IN	JG GL	18.257	15.620	38.276	1.16884	0.476997
30873-002	BILL-CARLICK (TRENCH 2)	104/P/03/E:SW-	59.22 129.22	K DAWSON: DY 3087	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	REPLACEMENT IN	JG GL	18.153	15.607	38.200	1.16314	0.475220
30873-AVG	BILL-CARLICK (N=2)	104/P/03/E:SW-	59.22 129.22	K DAWSON: DY 3087	ATAN GROUP LIMESTONE	LOWER CAMBRIAN	STRATABOUND IN	JG GL	18.205	15.614	38.238	1.16554	0.476109
30874-101	Pyramid Mt (MB)	095/E/13/W:NW-	61.88 127.98	K Dawson: DY 3274	Limestone	Middle Cambrian	Skarn	JG GL	19.436	15.741	39.452	1.23470	0.492637
30876-001	SILVER KNIFE	104/D/16/W:NE-	59.93 130.36	K DAWSON: DY 3092	LIMESTONE	DEVONIAN OR EARLIER	REPLACEMENT IN	JG GL	19.462	15.716	39.744	1.23832	0.489671
30884-001	GLACIER CREEK	114/P/08/W:SE-	59.40 136.39	K DAWSON: DY 3174	TUFF, ANDESITIC FLOWS, BASALT, PHYLLITE, LIMESTONE	LATE TRIASSIC (?)	STRATIFORM VEIN (?)	JG GL	18.839	15.580	38.240	1.20918	0.492658
30884-002	GLACIER CREEK (MAIN)	114/P/08/W:SE-	59.40 136.39	K DAWSON: DY 3179	TUFF, ANDESITIC FLOWS, BASALT, PHYLLITE, LIMESTONE	LATE TRIASSIC (?)	STRATIFORM	JG GL	18.816	15.584	38.243	1.20739	0.492001
30884-AVG	GLACIER CREEK (N=2)	114/P/08/W:SE-	59.40 136.39	K DAWSON: DY 3174, 3179	TUFF, ANDESITIC FLOWS, BASALT, PHYLLITE, LIMESTONE	LATE TRIASSIC (?)	STRATIFORM	JG GL	18.827	15.582	38.242	1.20879	0.492330
30885-001	CAP	114/P/08/W:SE-	59.38 136.39	K DAWSON: DY 3184	FELSIC TUFFITE	LATE TRIASSIC (?)	STRATIFORM	JG GL	18.761	15.542	38.101	1.20711	0.492389
30886-001	LOW HERBERT	114/P/07/E:SE-	59.36 136.50	K DAWSON: DY 3144	FELSIC TUFFITE	LATE TRIASSIC (?)	STRATIFORM	JG GL	18.796	15.583	38.248	1.20619	0.491431
30887-001	FRASERGOLD	093/A/07/S:SE-	52.18 120.57	K DAWSON: DY 3185	BLACK PHYLLITE	LATE	VEIN	JG GL	18.758	15.644	38.611	1.19905	0.485811

TABLE 2. Host Units, Tectonic Setting, References and Basic
Lead Isotope Data for Samples in Lead Isotope Database.

SAMPLE NO	DEPOSIT/SAMPLE NAME	NTS & GOVT REF	LAT N	LONG W	SAMPLE SOURCE	HOST DESCRIPTION	HOST AGE	DEP TYPE	ANL MT	PB6/4	PB7/4	PB8/4	PB6/7	PB6/8
30959-101	Minto	092/J/15/W:NE-075	50.90	122.75	K Dawson: DY 3233	Bridge R Gp: argillite, chert	Late Triassic	Vein	JG GL	19.042	15.612	38.633	1.21972	0.492885
30961-101	Golden Sidewalk (Beta)	092/J/15/W:NE-015	50.92	122.77	K Dawson: DY 3243	Bridge R Gp: argillite	Late Triassic	Vein	JG GL	18.932	15.608	38.570	1.21294	0.490835

TABLE 1. Lead Isotope Data for Deposits in the Canadian Cordillera.

SAMPLE NO	DEPOSIT/SAMPLE NAME	NTS & GOVT REF	LAT N	LONG W	MAP	HST	DT	TEC	ANALYST	RUN:NORM	RN	QL:TC	MT	PB6/4	%6/4	PB7/4	%7/4	PB8/4	%8/4	PB6/7	%6/7	PB6/8	%6/8
30000-001	Bralorne-Pioneer	092/J/15/W:NE-001	50.77	122.80	000	TL	V	IBR	C Leitch	01/15/87: 1	good:	GL	18.722	0.00	15.576	0.01	38.263	0.00	1.20197	0.01	0.489298	0.00	
										06/26/85	1170:13												
30000-002	Bralorne-Pioneer	092/J/15/W:NE-001	50.77	122.80	000	TL?	V	IBR	C Leitch	01/15/87: 1	good:	GL	19.012	0.00	15.656	0.01	38.785	0.00	1.21439	0.00	0.490190	0.01	
										06/26/85	1200:18												
30000-003	Bralorne-Pioneer	092/J/15/W:NE-001	50.77	122.80	000	TL?	V	IBR	C Leitch	02/03/87: 1	good:	GL	18.727	0.00	15.579	0.00	38.278	0.00	1.20209	0.00	0.489235	0.00	
										06/26/85	1150:07												
30000-004	Bralorne (Ida May, Blackbird)	092/J/15/W:NE-002	50.76	122.79	000	TL?	V	IBR	C Leitch	02/03/87: 1	good:	GL	18.652	0.01	15.526	0.04	38.082	0.01	1.20134	0.00	0.489787	0.00	
										06/26/85	1170:07												

TABLE 2. Host Units, Tectonic Setting, References and Basic Lead Isotope Data for Samples in Lead Isotope Database.

SAMPLE NO	DEPOSIT/SAMPLE NAME	NTS & GOVT REF	LAT N	LONG W	SAMPLE SOURCE	HOST DESCRIPTION	HOST AGE	DEP TYPE	ANL	MT	PB6/4	PB7/4	PB8/4	PB6/7	PB6/8
30000-001	Bralorne-Pioneer	092/J/15/W:NE-001	50.77	122.80	UBC E Collection: E73.004.048	Unknown	Late Triassic, 225Ma	Vein	CL	GL	18.722	15.576	38.263	1.20197	0.489298
30000-002	Bralorne-Pioneer	092/J/15/W:NE-001	50.77	122.80	UBC E Collection: Suite 60, drawer 3	Unknown, possibly diorite	Late Triassic, 225Ma?	Vein	CL	GL	19.012	15.656	38.785	1.21439	0.490190
30000-003	Bralorne-Pioneer	092/J/15/W:NE-001	50.77	122.80	C Leitch: C116-14 (#13)	Bralorne Diorite	Late Triassic, 225Ma?	Vein	CL	GL	18.727	15.579	38.278	1.20209	0.489235
30000-004	Bralorne (Ida May, Blackbird)	092/J/15/W:NE-002	50.76	122.79	UBC E Collection: E73.004.047	Bralorne Diorite	Late Triassic, 225Ma?	Vein	CL	GL	18.652	15.526	38.082	1.20134	0.489787