FRENCH CLAIM

GEOCHEMISTRY & PETROLOGY REPORT

OMINECA MINING DIVISION
BRITISH COLUMBIA

NTS 93-M-07W

Latitude 55 degrees 22 minutes 47 seconds North

Longitude 126 degrees 54 minutes 01 second West

By

Robin C. Day, B.Sc. F.G.A.C.

September 01, 2000

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FRENCH CLAIM PROSPECTING AREA

PROJECT LOCATION
West central B.C. about 60 kilometers north-north-east of Smithers, centered on minfile # 093M 014-(SNOW), on the southwest flank of French Peak, north of Suskwa Pass.

N.T.S MAP
093-M-07W at about 55 degrees 22 minutes 47 seconds north and 126 degrees 54 minutes 01 minutes west.

WORK HISTORY
From 1966-1969, Mastadon-Highland Bell performed prospecting, geological mapping, soil and geophysical (IP and magnetic) surveys and about 3000 meters of cat trenching.

From 1970-1971, Silver Standard performed a soil survey and drilled 6 holes totaling 1505 feet on the west end of a strong copper-silver soil anomaly.

During 1985, Ryan Exploration Company performed some soil geochemistry, geological and prospecting work (AR# 14583, 15252).

ACCESS AND LOGISTICS
By truck from Smithers to a nearby logging block and by helicopter to the 5500 foot level.

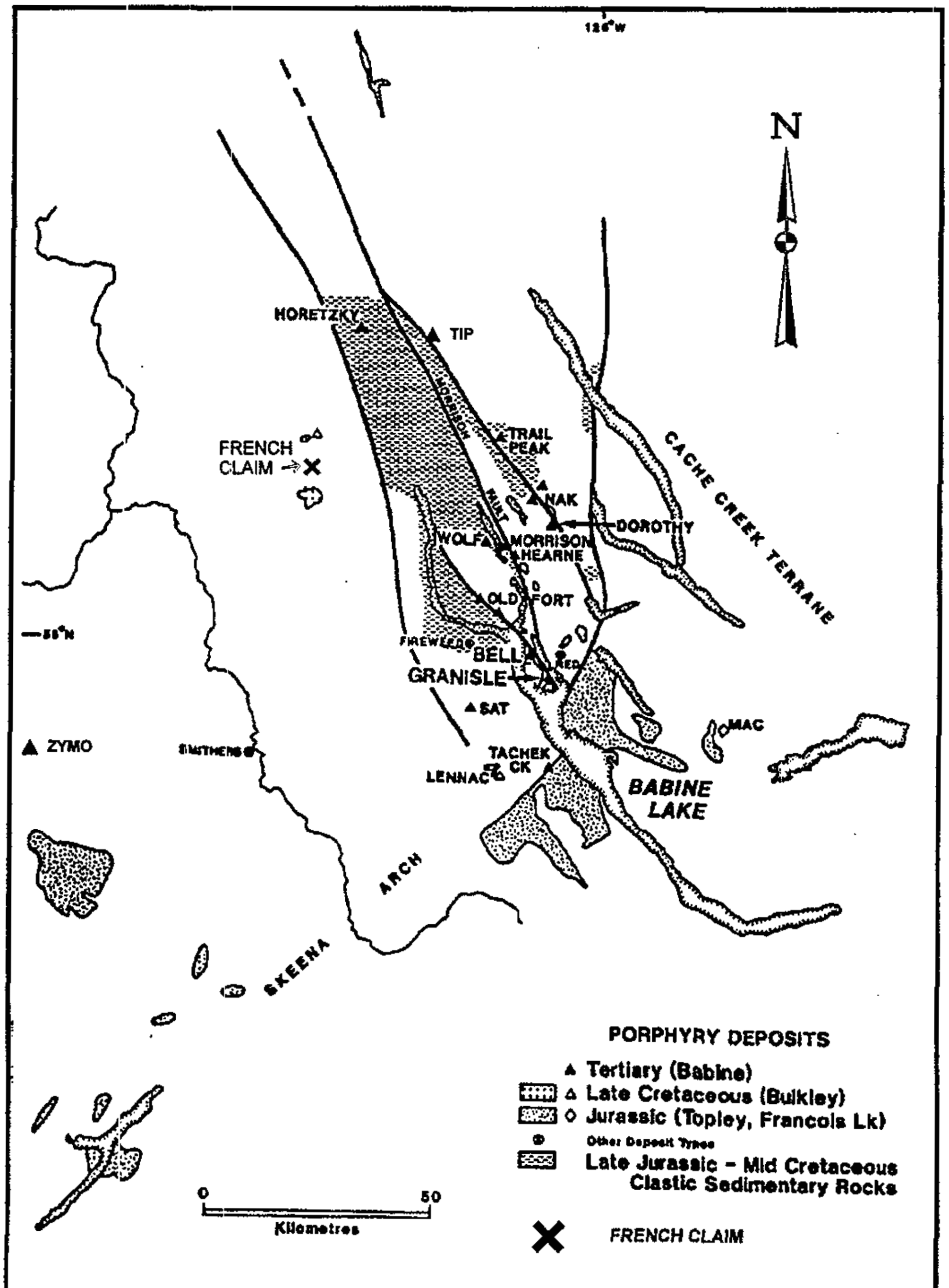
COMMODITIES-Cu, Au, Ag, Mo

DEPOSIT TYPE
Bulkley age (~71 million years) Cu-Au-Ag-Mo porphyry system.

GEOLOGY
On a district scale, the French claim is located in the Stikine terrain and on the north flank of the Skeena Arch.

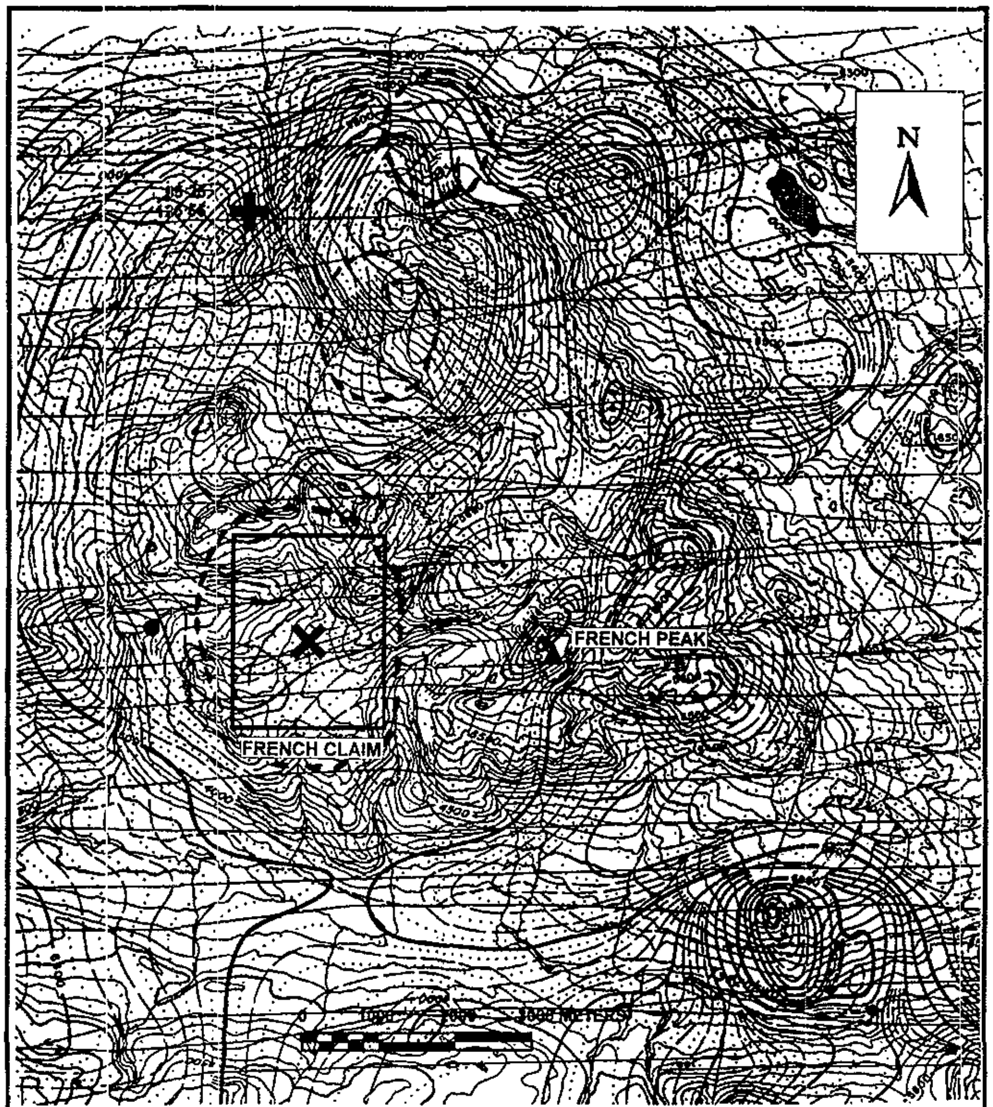
Locally, the French claim overlies the southernmost of three hydrothermal centers situated on the French Peak intrusive complex. This complex exhibits a large positive airborne magnetic signature. A multi-element RGS silt anomaly occurs on the creek draining the French claim (see figure 02). The target area is underlain by a Bulkley age, multiphase granodioritic feldspar porphyry intruded into shales, mudstones and conglomerates of the Lower Cretaceous Kitsuns Creek Formation (Skeena Group). Pyritization and fracturing is widespread. Alteration types reported include, argillic, phyllic and quartz and K-spar. Chalcopyrite, molybdenite, sphalerite, tetrahedrite and galena are reported as disseminated and in fractures. The best intersection reported from a 1970 drilling program was 36.5 meters of 0.2 % copper.

CLAIM OWNERSHIP
Title is held by R. Day.



126°W
N
HORETZKY
TIP
FRENCH
CLAIM
TRAIL
PEAK
NAK
DOROTHY
CACHE CREEK TERRANE
WOLF
MORRISON
HEARNE
OLD FORT
BELL
GRANISLE
SAT
ZYMO
TACHEK
CK
LENNAC
MAC
BABINE
LAKE
SKEENA
ARCH
PORPHYRY DEPOSITS
Tertiary (Babine)
Late Cretaceous (Bulkley)
Jurassic (Topley, Francois Lk)
Late Jurassic - Mid Cretaceous
Clastic Sedimentary Rocks
0
50
Kilometres
FRENCH CLAIM

Fig. 01



FRENCH CLAIM - 93 - M - 07W

AIRBORNE MAGNETICS, TOPOGRAPHY & LOCATION MAP

Hyrothermal center- pyrite, argillic & sericitic alteration

RGS Stream sediment sample location: Cu 270 ppm; Au 34 ppb; Zn 355 ppm; As 41 ppm Sb 9 ppm; Pb 68 ppm; Hg 90 ppb

Minfile 093M 014 - 'SNOW' - Porphyry Cu±Mo±Au; chalcopyrite, molybdenite, sphalerite, tetrahedrite and galena occur disseminated and in fractures.

note:after geophysical paper 5257

fig. 02

CLAIM RECORD DATA

Claim Name	Record No	Record Date
French	374997	March 31, 2000

WORK PROGRAM

Wide spaced soil sampling in existing trenches was undertaken to verify historical results. Rock samples were also collected over a broad area for petrology and whole rock geochemistry to help assess where within a porphyry system the surface geology is located.

RESULTS

Multi-element soil geochemistry confirms prior reported results (Ar#14,583). High copper values from >400 to 3269ppm are accompanied by high Mo. Elevated As and Zn appears to form a halo around a core of higher Cu-Mo values. Au values appear to be associated with Cu-Mo and the outer As-Zn halo (see appendix A).

DISCUSSION

Mineralization, alteration (see petrology report in Appendix B), and geology indicates: the porphyry system is hosted within a large precursor pluton; alteration/petrology studies indicate a high level porphyry with texturally destructive phyllic alteration that is superimposed on the contact area between potassium silicate and propylitic alteration zones; hornfels roof pendants were most likely originally tuffs, suggesting the porphyry system had an overlying volcanic complex; and potential exists for high grade, hypogene Cu-Au-Ag-Mo ore shell near surface.

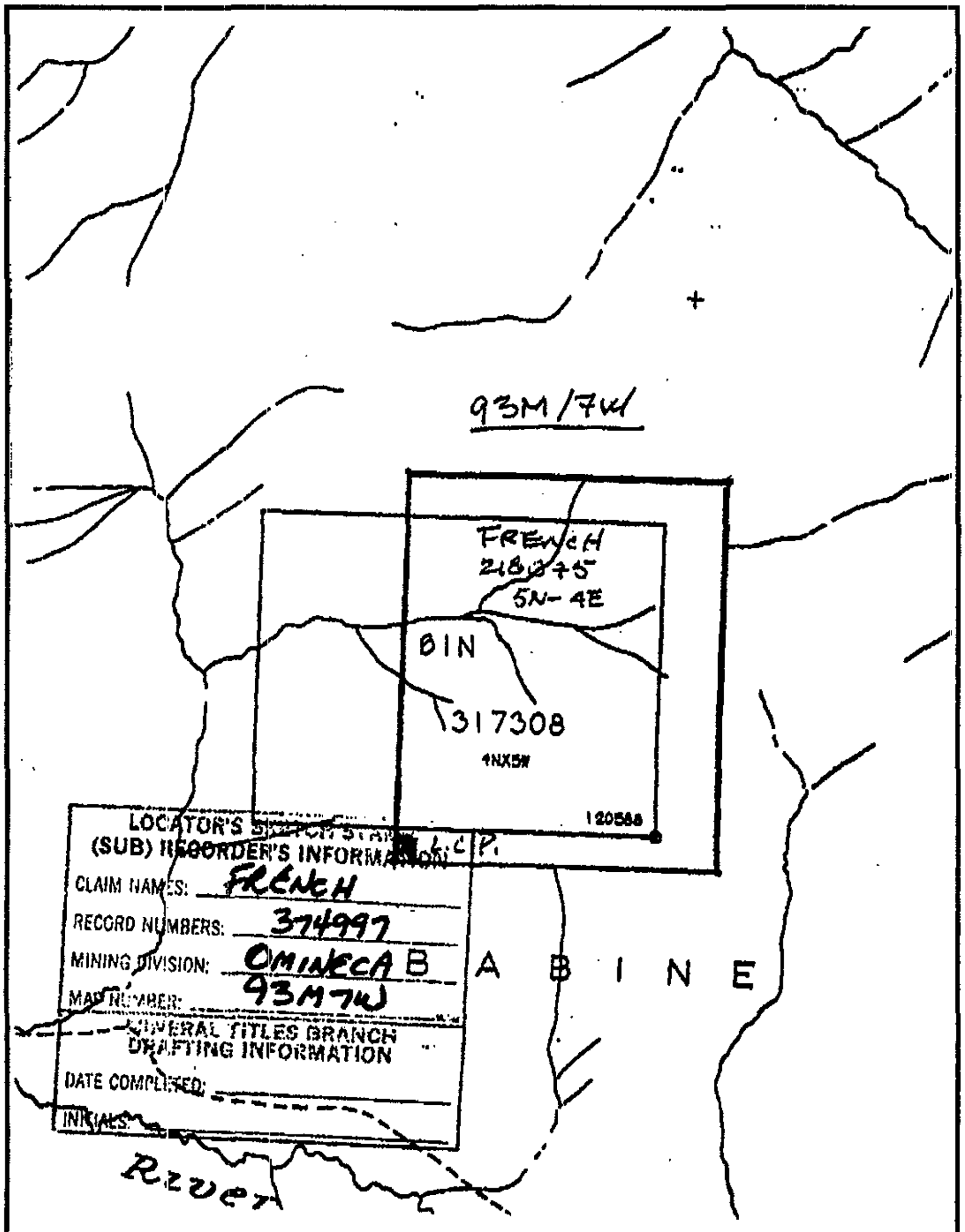
It is unusual for a ~71 m.y. age Bulkley poryphyry to occur at such a high level. Geological relationships in the field indicate that the French porphyry was down dropped in a graben, thus providing extended preservation from erosion.

CONCLUSION

Depths explored by a five-hole drill in 1970 were shallow and located on the western edge of the porphyry system, orientated towards the west. The French Cu-Au porphyry system remains to be adequately drill tested in order to locate and determine depth to a Cu-Au-Ag-Mo "ore" shell, overall grade and size.

REFERENCES

1. Gem 1971, page 191
2. Assessment reports: 14583, 15252, 13923
3. EMPR Map 69-1
4. GSC OF 2322
5. Geophysics paper 5257
6. Topographic map N.T.S. 97-M-07W

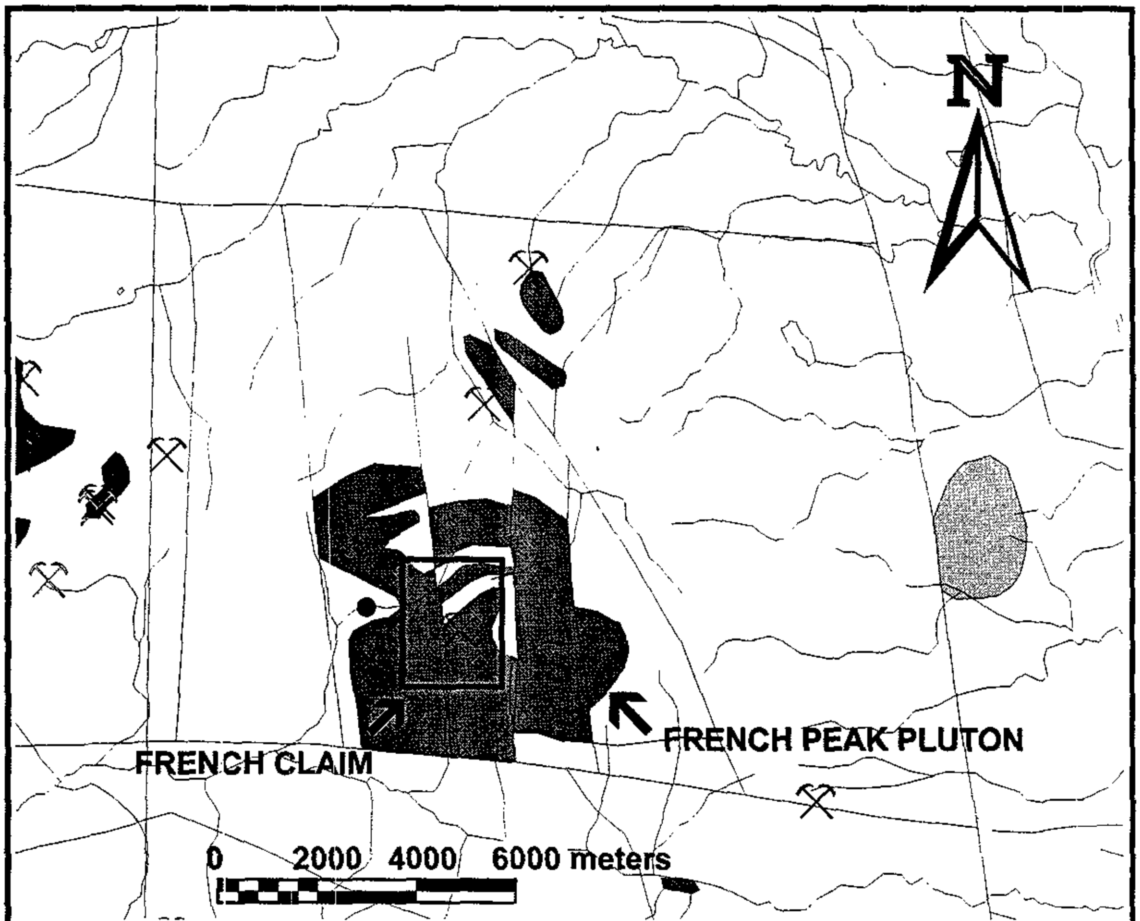


FRENCH CLAIM

CLAIM MAP

NTS 93 - M - 07W

FIG. 03



FRENCH CLAIM

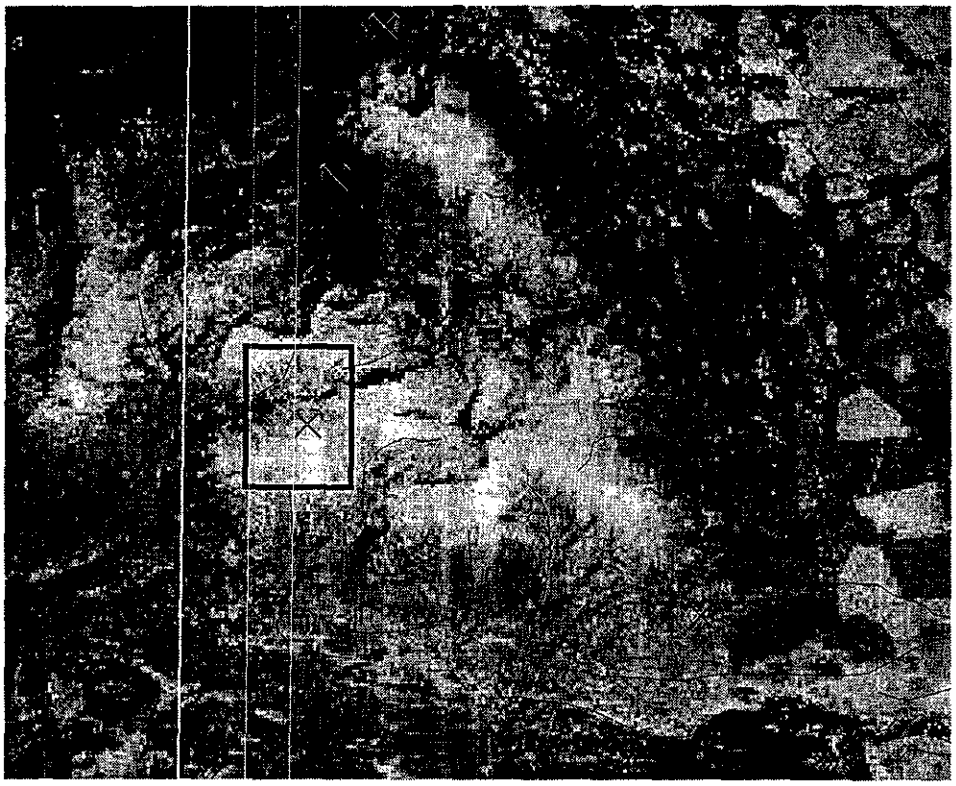
NTS 93 - M - 07W

GEOLOGY & CLAIM LOCATION

- *RGS stream sediment sample location: Cu 270ppm; Au 34 ppb; Zn 355 ppm; As 41 ppm; Sb 9 ppm; Pb 68 ppm; Hg 90 ppb*

NOTE: The French porphyry prospect is centrally located on a large precursor pluton. Emplacement appears to be structurally controlled.

Fig. 04



B.C. LANDSAT

FRENCH CLAIM

NTS 93 - M - 07W

EXPENDITURES

Travel: by helicopter (mobe and egress) 2.1 hours	$2200.00
Analysis, petrology	$4700.00
Equipment/supplies	$ 600.00
Food and accommodation 40 man days @ $60.00 day	$2400.00
Wages for hired help ($100/day each for two student assistants)	$2000.00
Cook @$150/day	$1500.00
Vehicle operation ($38/kilometer) 1300 kilometers	$ 494.00
Cook's vehicle ($.38/kilometer) 1574 kilometers	$ 598.12
Report	$ 400.00
Drafting	$ 450.00
Wages for geologist @ $400.00/day	$4800.00
Total	$20,142.00

TABLE 1
SAMPLE LOCATIONS

NAD 83, ZONE 09

SAMPLE NUMBER	NORTHING	EASTING
S-01	6137215	632325
S-02	6137314	632320
S-03	6137443	622314
S-04	6137447	632481
S-05	6137525	632500
S-06	6137572	632502
S-07	6137356	632566
S-08	6137284	632570
S-09	6137370	632444
S-10	6137268	632446
S-11	6137163	632455
S-12	6137062	632463
S-13	6137118	632492
S-14	6137035	632483
S-15	6137103	632519
S-16	6137178	632553
S-17	6137051	632428
S-18	6136950	632426
S-19	6136852	632433
S-20	6136752	632431
S-21	6136650	632427
S-22	6136770	632467
S-23	6136846	632471
S-24	6136904	632472
S-25	6136684	632664
S-26	6136792	632647
S-27	6136882	632649
S-28	6136981	632644
S-29	6137084	632626
S-30	6137011	633523
S-31	6136907	633514
S-32	6136786	633503
S-33	6136564	632974
S-34	6136663	632979
S-35	6136764	632970
S-36	6136864	632974
S-37	6136964	632955
S-38	6137071	632936

S-39	6137143	632926
SAMPLE NUMBER	NORTHING	EASTING
S-40	6137221	632966
S-41	6137324	632971
S-42	6137394	632970
SLT-01	6137457	632430
R-01	6137225	632325
R-02	6137443	632314
R-02A	6137433	632444
R-03	6137525	632500
R-04	6137318	632568
R-04A	6137245	632570
R-05	6137163	632455
R-06	6137103	632519
R-07	6136950	632426
R-08	6136655	632427
R-09	6136792	632647
R-10	6136758	633509
R-11	6136764	632970
R-12	6137143	632926
R-13	6137178	632921
R-14	6137355	632972
R-15	6137343	632456
R-16	6137265	632465
OLD DRILL COLLARS		
DDH-01(-45, 355' azi 300)	6137094	632497
DDH-02(-45, 213' azi 260)	6137218	632464
DDH-03(-45, 495' azi 290)	6137238	632518
DDH-04(268')	DIDN'T LOCATE	
DDH-05(-45, 174'azi 290)	6137320	632407

Appendix A

Valley Gold

Attention: Robin Day

Project: French

Sample: Soil

Assay Canada

8282 Sherbrooke St., Vancouver, B.C., V5X 4R6

Tel: (604) 327-3436 Fax: (604) 327-3423

Report No : 0V0309 SJ

Date : Jul-19-00

MULTI-ELEMENT ICP ANALYSIS

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
S-01	0.8	4.20	50	50	0.5	5	0.08	<1	10	10	257	7.32	0.04	0.33	590	30	0.01	9	1550	66	10	3	<10	5	0.01	40	<10	5	133	12
S-02	2.4	0.31	140	130	<0.5	10	0.01	<1	17	<1	536	9.72	0.06	0.03	605	90	0.01	8	610	84	15	1	<10	8	<0.01	15	<10	1	371	7
S-03	1.4	1.71	85	40	<0.5	10	0.02	<1	24	8	210	9.94	0.04	0.27	1580	2	0.01	10	1520	136	40	2	<10	7	0.02	44	<10	4	204	7
S-04	0.8	0.62	65	180	<0.5	5	0.03	<1	5	7	151	7.35	0.10	0.22	310	14	0.01	9	1230	74	10	2	<10	12	<0.01	32	<10	2	219	5
S-05	0.2	2.13	20	40	<0.5	<5	0.02	<1	18	11	109	9.06	0.08	0.19	835	4	0.01	11	1060	62	5	3	<10	7	0.04	69	<10	4	151	6
S-06	0.6	3.19	10	140	0.5	<5	0.12	1	18	19	113	4.39	0.06	0.55	765	2	0.01	17	970	10	<5	2	<10	17	0.02	54	<10	9	173	4
S-07	1.6	1.87	270	60	1.0	15	0.08	<1	22	7	982	12.07	0.04	0.13	1785	70	0.01	14	2060	660	20	3	<10	5	0.01	38	<10	8	571	11
S-08	1.0	1.67	75	190	2.5	15	0.13	<1	28	15	2319	10.50	0.07	0.38	1895	16	0.01	22	2320	160	10	9	<10	19	0.01	60	<10	26	440	7
S-09	0.8	1.49	35	140	<0.5	<5	0.25	<1	7	7	463	5.34	0.05	0.14	320	26	0.01	7	1240	42	5	1	<10	99	0.01	43	<10	3	157	4
S-10	1.0	1.07	80	280	0.5	5	0.36	<1	17	8	1739	5.84	0.07	0.31	815	50	0.01	15	1040	104	10	4	<10	102	0.01	38	<10	11	450	5
S-11	1.2	0.42	90	300	1.0	10	0.12	5	25	1	2210	10.32	0.06	0.07	1635	98	0.01	12	2210	200	20	5	<10	33	<0.01	27	<10	19	1149	7
S-12	1.0	1.21	50	170	1.0	15	0.06	<1	34	1	1289	>15.00	0.07	0.20	1505	70	0.01	18	3310	782	20	5	<10	7	<0.01	41	<10	11	501	16
S-13	5.4	1.01	255	130	1.5	50	0.16	<1	43	<1	3050	>15.00	0.08	0.05	2105	318	0.01	19	1980	1190	20	5	<10	14	<0.01	27	<10	20	398	12
S-14	1.6	1.03	130	180	1.0	10	0.05	<1	28	2	729	11.06	0.08	0.16	1585	58	0.01	11	1920	308	45	4	<10	8	<0.01	28	<10	13	432	8
S-15	1.8	0.85	160	460	1.0	25	0.02	<1	35	1	3269	14.92	0.08	0.08	1785	242	0.01	16	3990	456	10	5	<10	11	<0.01	35	<10	17	616	12
S-16	0.6	2.12	125	100	0.5	<5	0.06	<1	17	10	531	6.62	0.07	0.42	1030	30	0.01	12	1020	86	10	4	<10	9	0.02	50	<10	6	301	4
S-17	0.2	2.97	50	50	0.5	<5	0.02	<1	7	5	220	7.93	0.05	0.50	470	28	0.01	7	2020	68	5	2	<10	5	<0.01	32	<10	3	184	8
S-18	0.4	1.62	195	140	0.5	5	0.08	<1	19	9	194	6.73	0.08	0.39	1250	6	0.01	13	1170	140	10	5	<10	11	<0.01	47	<10	8	590	5
S-19	0.6	1.16	170	370	0.5	<5	0.36	<1	19	10	139	5.61	0.12	0.42	1485	10	0.01	18	1030	216	5	4	<10	27	<0.01	41	<10	11	474	11
S-20	1.0	1.45	115	300	0.5	5	0.28	1	20	12	195	7.35	0.09	0.46	1635	10	0.01	20	1170	158	10	6	<10	27	<0.01	58	<10	12	677	5
S-21	0.6	1.14	65	90	0.5	5	0.11	<1	13	9	62	4.06	0.05	0.28	1190	2	0.01	8	1150	56	5	2	<10	12	<0.01	43	<10	7	181	3
S-22	0.8	1.74	145	120	0.5	5	0.12	<1	13	8	137	6.76	0.05	0.35	870	4	0.01	12	1370	208	5	3	<10	13	<0.01	45	<10	14	672	7
S-23	0.4	2.05	180	170	0.5	5	0.07	<1	20	10	155	7.15	0.05	0.46	1500	2	0.01	14	1050	168	10	5	<10	15	0.01	54	<10	11	467	6
S-24	0.4	2.17	125	70	0.5	<5	0.06	<1	12	8	187	6.91	0.04	0.41	760	8	0.01	10	1150	98	10	3	<10	6	0.01	48	<10	6	305	6
S-25	0.2	0.67	75	130	1.0	10	0.12	<1	25	1	39	10.65	0.04	0.06	1190	6	<0.01	16	1890	126	10	3	<10	10	<0.01	26	<10	12	273	9
S-26	1.0	1.65	625	100	0.5	5	0.13	<1	16	9	157	7.12	0.05	0.34	1475	4	0.01	13	1070	552	10	3	<10	14	0.01	43	<10	12	670	7
S-27	1.6	2.26	195	70	0.5	5	0.06	<1	18	9	127	7.66	0.05	0.31	1275	6	0.01	12	1300	314	5	3	<10	5	<0.01	46	<10	5	492	7
S-28	1.4	1.79	185	90	0.5	10	0.05	<1	22	5	332	9.33	0.06	0.16	1335	42	0.01	12	1620	340	35	2	<10	5	<0.01	39	<10	5	637	8
S-29	1.0	2.00	95	140	0.5	10	0.08	<1	11	27	282	8.82	0.08	0.53	695	10	0.01	17	1870	144	15	2	<10	15	0.02	58	<10	3	276	6
S-30	1.0	1.10	405	80	1.5	20	0.03	<1	22	2	160	11.92	0.05	0.10	3555	6	0.01	11	3080	142	40	3	<10	6	<0.01	28	<10	21	731	9

A .5 gm sample is digested with 10 ml 3:1 HCl/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed: ____________________

Valley Gold
Attention: Robin Day
Project: French
Sample: Soil

Assay Canada
8282 Sherbrooke St., Vancouver, B.C., V5X 4R6
Tel: (604) 327-3436 Fax: (604) 327-3423

Report No : 0V0309 SJ
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MULTI-ELEMENT ICP ANALYSIS

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
S-31	0.4	1.36	55	130	1.0	<5	0.15	<1	13	7	135	6.15	0.05	0.30	1020	24	0.01	10	1120	242	15	3	<10	10	<0.01	30	<10	12	360	5
S-32	0.6	1.65	<5	140	<0.5	5	0.01	<1	3	4	126	12.37	0.05	0.41	215	104	0.29	7	1830	30	5	1	<10	109	<0.01	71	<10	5	41	8
S-33	0.2	2.26	5	110	1.0	<5	0.19	8	36	7	106	9.33	0.02	0.98	2250	2	0.01	14	2840	186	5	13	<10	14	<0.01	75	<10	29	1227	7
S-34	1.8	1.63	415	80	0.5	20	0.01	<1	10	9	581	8.22	0.05	0.22	760	2	0.01	8	1840	332	40	3	<10	22	<0.01	58	<10	3	575	7
S-35	2.0	2.04	290	140	1.0	20	0.20	<1	20	13	471	9.10	0.05	0.28	2030	2	0.01	16	1640	606	15	3	<10	19	<0.01	42	<10	12	1527	10
S-36	4.4	1.29	6600	170	1.0	10	0.21	<1	37	8	254	12.48	0.05	0.25	4910	<2	0.01	14	1210	6232	15	7	<10	25	<0.01	47	<10	36	1061	13
S-37	0.2	0.96	1025	30	0.5	15	0.01	<1	43	2	121	13.11	0.04	0.17	1680	<2	0.01	13	2010	74	25	3	<10	4	<0.01	40	<10	5	384	9
S-38	0.4	1.50	135	110	1.0	5	0.11	<1	24	11	192	8.05	0.07	0.23	1995	6	0.01	19	1390	132	20	3	<10	12	<0.01	43	<10	15	748	8
S-39	0.8	1.64	115	40	1.0	10	0.06	<1	11	4	258	14.22	0.04	0.06	800	6	0.01	9	1980	76	10	1	<10	12	0.02	52	<10	11	564	11
S-40	2.0	1.18	20	50	1.5	10	0.03	<1	27	1	1989	13.39	0.05	0.04	1935	314	0.01	7	2560	178	10	4	<10	15	<0.01	25	<10	15	315	11
S-41	3.0	1.10	430	140	0.5	20	0.04	<1	16	7	655	8.78	0.07	0.11	1460	30	0.01	12	1190	496	100	4	<10	15	<0.01	42	<10	7	590	6
S-42	1.8	1.37	180	80	0.5	10	0.09	<1	18	7	467	8.63	0.06	0.21	1270	22	0.01	11	1420	402	70	3	10	21	0.01	40	<10	9	485	6

A .5 gm sample is digested with 10 ml 3:1 HCl/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed:

ASSAYERS CANADA

Assayers Canada
8282 Sherbrooke St.
Vancouver, B.C.
V5X 4R6
Tel: (604) 327-3436
Fax: (604) 327-3423

Quality Assaying for over 25 Years

Geochemical Analysis Certificate

0V-0309-SG1

Company:	**Valley Gold**
Project:	French
Attn:	Robin Day

Jul-19-00

We *hereby certify* the following geochemical analysis of 24 soil samples submitted Jul-13-00 by Robin Day.

Sample Name	Au PPB
S-01	47
S-02	105
S-03	44
S-04	29
S-05	10
S-06	3
S-07	87
S-08	38
S-09	20
S-10	36
S-11	78
S-12	71
S-13	179
S-14	47
S-15	49
S-16	20
S-17	68
S-18	29
S-19	27
S-20	33
S-21	19
S-22	25
S-23	23
S-24	34

Certified by ____________________

Assayers Canada
8282 Sherbrooke St.
Vancouver, B.C.
V5X 4R6
Tel: (604) 327-3436
Fax: (604) 327-3423

Quality Assaying for over 25 Years

Geochemical Analysis Certificate

0V-0309-SG2

Jul-19-00

Company: **Valley Gold**
Project: French
Attn: Robin Day

We *hereby certify* the following geochemical analysis of 18 soil samples submitted Jul-13-00 by Robin Day.

Sample Name	Au PPB
S-25	18
S-26	200
S-27	41
S-28	127
S-29	41
S-30	99
S-31	17
S-32	121
S-33	9
S-34	77
S-35	95
S-36	747
S-37	25
S-38	63
S-39	42
S-40	69
S-41	39
S-42	37

Certified by ____________

Valley Gold
Attention: Robin Day
Project: French
Sample: Silt

Assayers Canada
8282 Sherbrooke St., Vancouver, B.C., V5X 4R6
Tel: (604) 327-3436 Fax: (604) 327-3423

Report No. : **0V0309 LJ**
Date : Jul-19-00

MULTI-ELEMENT ICP ANALYSIS

Aqua Regia Digestion

Sample Number	*Ag* ppm	*Al* %	*As* ppm	*Ba* ppm	*Be* ppm	*Bi* ppm	*Ca* %	*Cd* ppm	*Co* ppm	*Cr* ppm	*Cu* ppm	*Fe* %	*K* %	*Mg* %	*Mn* ppm	*Mo* ppm	*Na* %	*Ni* ppm	*P* ppm	*Pb* ppm	*Sb* ppm	*Sc* ppm	*Sn* ppm	*Sr* ppm	*Ti* %	*V* ppm	*W* ppm	*Y* ppm	*Zn* ppm	*Zr* ppm
SLT-01	1.6	0.89	150	60	0.5	10	0.51	<1	25	10	363	9.16	0.06	0.40	750	16	0.01	22	1100	156	10	3	<10	50	0.02	48	<10	7	749	7

A .5 gm sample is digested with 10 ml 3:1 HCl/HNO3
at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed: ____________

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Quality Assaying for over 25 Years

Geochemical Analysis Certificate

0V-0309-LG1

Company: **Valley Gold**
Project: French
Attn: Robin Day

Jul-19-00

We *hereby certify* the following geochemical analysis of 1 silt sample submitted Jul-13-00 by Robin Day.

Sample Name	Au PPB
SLT-01	104

Certified by ____________

Appendix B

PETROLOGICAL REPORT

On the

FRENCH PORPHYRY PROJECT

Omineca Mining Division

NTS 93M/7W

For

R. Day

By

R.C. Wells, P.Geo, FGAC, Consulting Geologist

Kamloops Geological Services Ltd.

910 Heatherton Court

Kamloops BC V1S 1P9

August 20, 2000

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1.0 INTRODUCTION

1.1 Background Information

This petrological report was requested by Robin Day and was on a suite of representative samples from his "French Porphyry" project in British Columbia. The property lies in the French Peak area, 16 kilometres west of the northern end of Babine Lake in the Omineca Mining Division of British Columbia (Figure 1).

The French Peak porphyry system lies in a belt of porphyry copper prospects in west-central British Columbia between Alice Arm and Takla Lake (Figure 2). A significant cluster of porphyry deposits occur north to north-east of Smithers including a group of significant past producers of copper (± Au ± Ag ± Mo) at Babine Lake, notably Bell and Granisle. The French Peak porphyry has been classified as a Late Cretaceous age 'Bulkley' type by Carter et al. (1976 and 1995) based on existing information. Bulkley intrusions host important copper-molybdenum (± Au) deposits including the current producing Huckleberry Cu-Mo deposit (Figure 3).

A limited amount of previous porphyry exploration has been conducted in the French Peak area. The original work was by Mastadon-Highland Bell between 1966 and 1969, involving geological, prospecting, soil geochemical and geophysical (IP and Magnetic) surveys. Bulldozer trenching on a strong copper in soil anomaly returned one 120 foot long interval averaging 0.2% Cu and 1.5 oz/t Ag (Kowall, 1971). No targets were drilled. Exploration by Silver Standard Mines Ltd. in the early 1970's included drilling 6 holes (1505 ft.) in the trench- anomaly (soils-IP-Mag) area (Kowall, 1971). The top of hole 3 intersected 90 feet averaging 0.25% Cu-Mo equivalent with 10 foot sample intervals up to 0.44% Cu and 0.015% Mo. A large area of anomalous I.P. and geochemistry was left untested (Kowall, 1971).

Recent work by Robin Day has involved a geological examination and sampling of the main trench (drilling) area and compilation of previous exploration data.

1.2 Methodology

Earlier this summer Robin Day collected a suite of 18 representative rock samples from the trench-drill area at French Peak. The locations for these samples relative to the trenches are shown on Figure 4. Table 1 gives a complete list of the samples and indicates which were selected for thin section and chemical analysis. All of their samples were examined and described by the author prior to shipment. Apparently much of the rock in the old trenches is oxidized and fractured; samples were taken of fresher material where possible (pers.com R. Day).

A total of 8 polished and 5 normal thin sections were prepared by Vancouver Petrographics Ltd. These were examined petrographically by the author. All cut slabs were routinely stained for K.feldspar using the standard sodium cobaltinitrite method. Descriptions (including hand sample) for each occur in Appendix A A summary regarding lithologies, alteration and mineralization follows in Section 2.0. Hand sample descriptions for rock samples not chosen for thin section are available in Table 2.

All 18 of the samples were shipped to Eco-Tech Laboratories Ltd. in Kamloops for 28 element ICP analysis. Seven of the less oxidized intrusive samples were selected for whole rock ICP. Selection of these focussed on representative coverage for the entire 1.3 x 1.1 km^2 trench area. ICP certificates of analysis AK 2000-173 occur in Appendix B. It should by noted that the ICP and whole rock were separate samples. Whole rock samples were more massive, with as little oxidation as possible. The lithogeochemistry of the sample suite is described in Section 3.0 with the aid of selected discrimination and ratio diagrams.

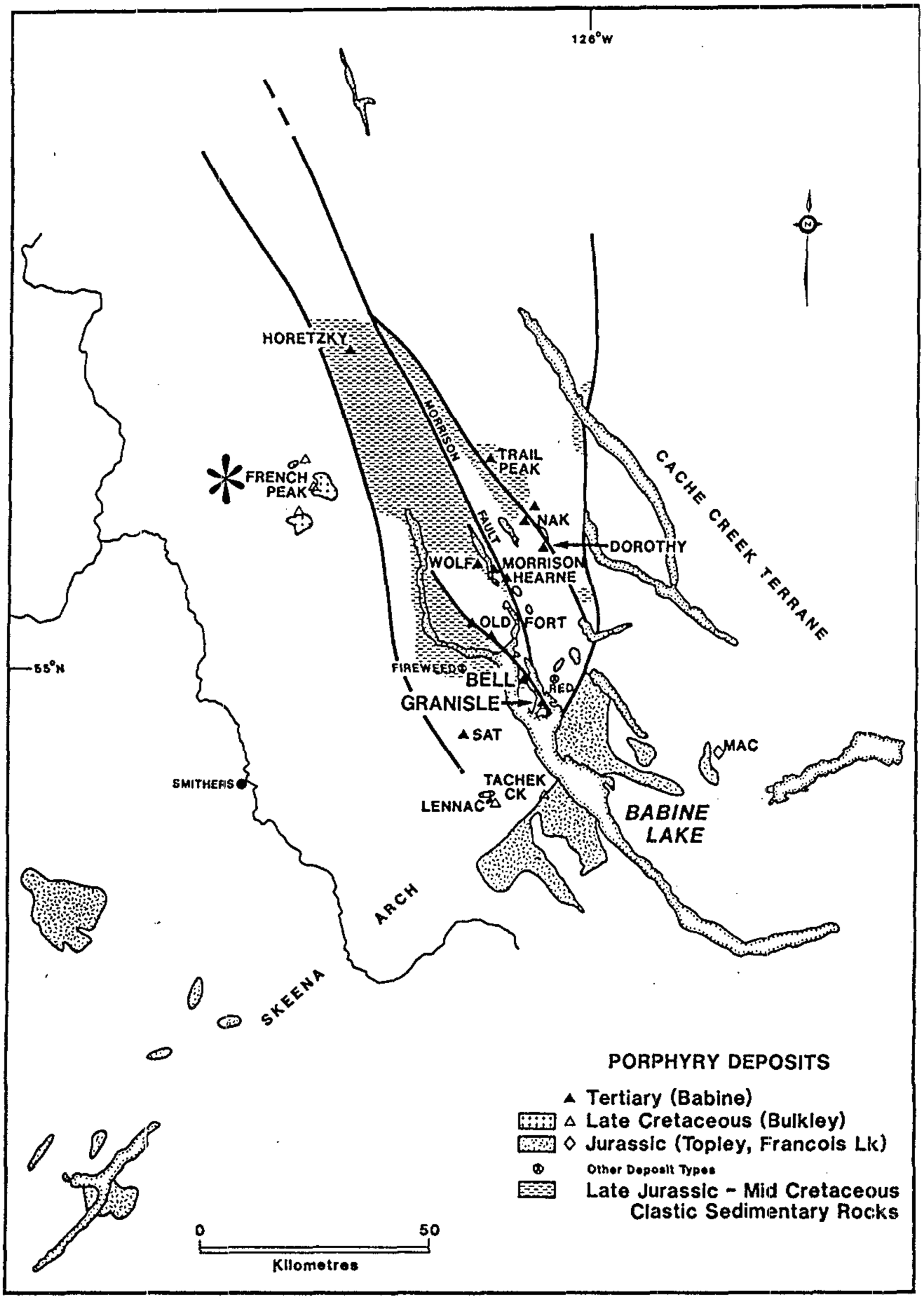
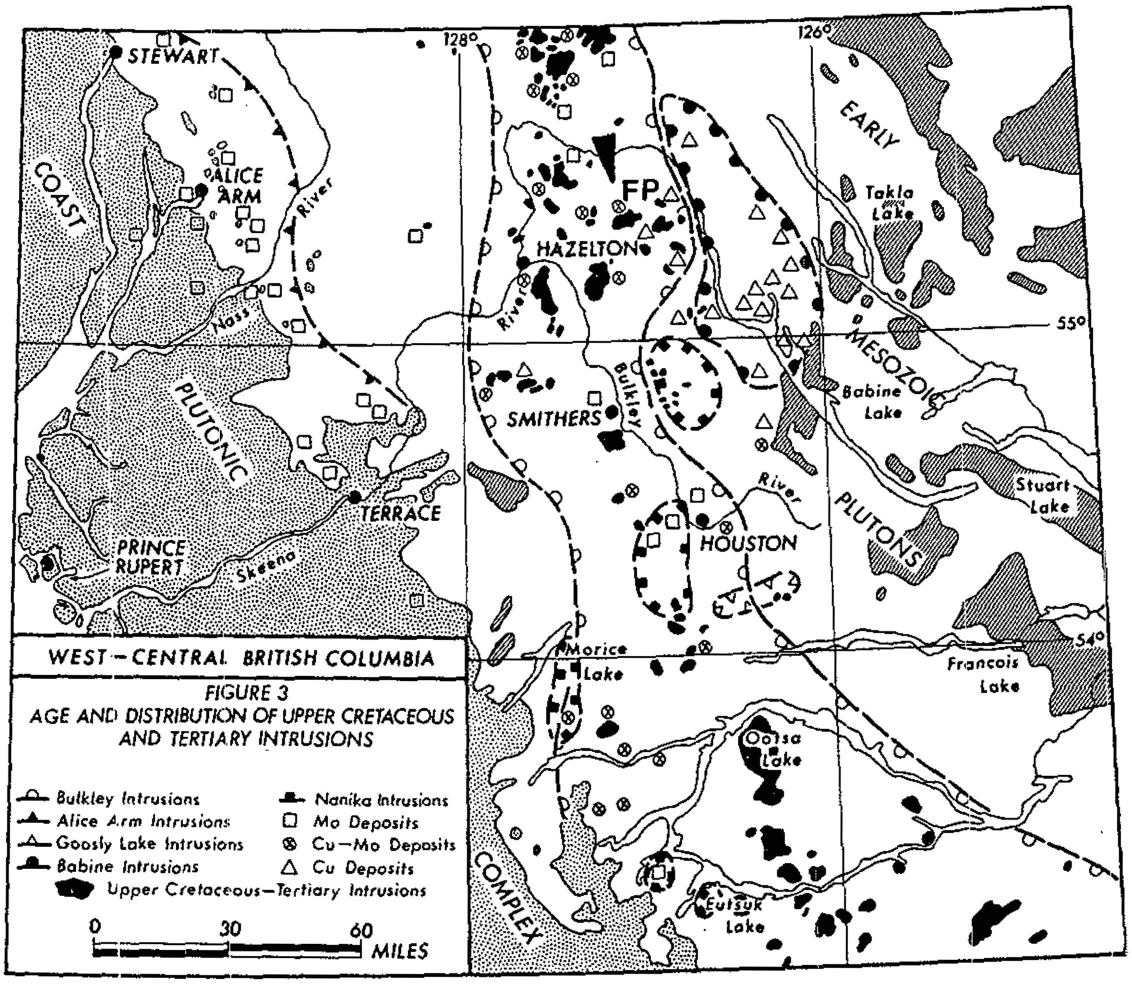


FIGURE 1. Babine Lake area — regional geological setting.

After Carter 1995.

Figure 1: French Porphyry Project Location Map.

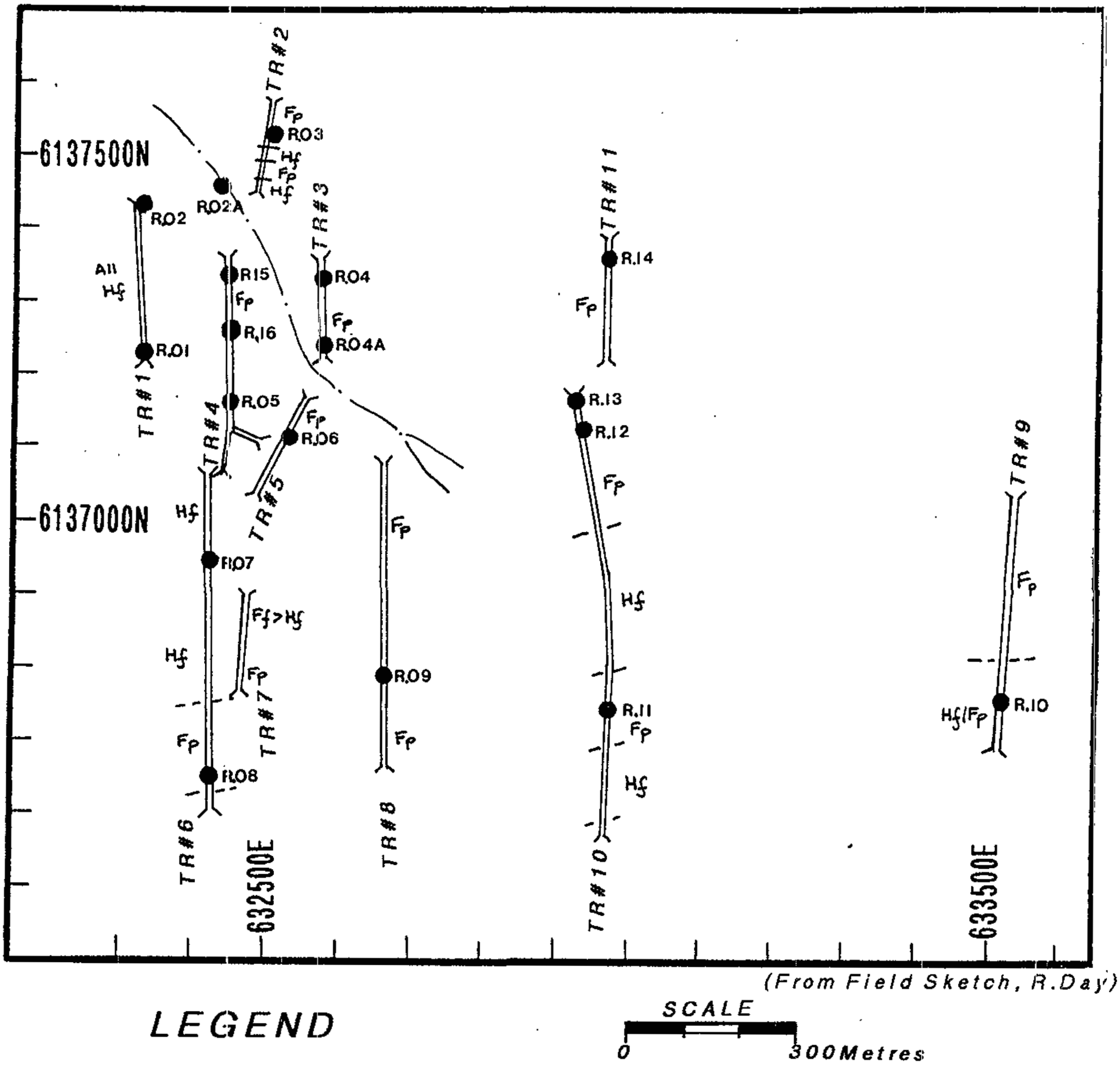


Age and distribution of Upper Cretaceous and Tertiary intrusions — west-central B.C.

CIM Special Volume No. 15

After Carter et. al. 1976.

Figure 2: Porphyry Deposits in west-central British Columbia



LEGEND

- Sample Location
- Hf Hornfels
- Fp Feldspar Porphyry

Figure 4. Trench and Sample Locations

TABLE: 1. FRENCH PORPHYRY. COMPLETE SAMPLE LIST WITH THIN SECTION AND ANALYTICAL DATA.

Sample No	Location	Rock Type	Thin Section	ICP Analysis	
				Multi-Element	Whole Rock
R.01	TR#1	Py. Hornfels	Polished	✓	
R.02	TR#1	Py. Sil. Hornfels		✓	
R.02A	TR#1-2	Py. Sil. Hornfels		✓	
R.03	TR#2	F.Q. Porphyry	Normal	✓	
R.04	TR#3	F.Q. Porphyry		✓	
R.04A	TR#3	F.Q. Porphyry	Polished	✓	✓
R.05	TR#4	F. Porphyry		✓	
R.06	TR#5	F. Porphyry	Normal	✓	✓
R.07	TR#6	Py. Hornfels	Normal	✓	
R.08	TR#6	F.Q. Porphyry	Normal	✓	✓
R.09	TR#8	F.Q. Porphyry	Normal	✓	✓
R.10	TR#9	F. Porphyry	Polished	✓	
R.11	TR#10	F.B. Porphyry	Polished	✓	✓
R.12	TR#10	F.Q. Porphyry	Polished	✓	✓
R.13	TR#10	Q. Porphyry	Polished	✓	
R.14	TR#11	F.Q. Porphyry	Polished	✓	✓
R.15	TR#4	Py. Sil. Hornfels		✓	
R.16	TR#4	F.Q. Porphyry	Polished	✓	

TABLE 2: FRENCH PORPHYRY PROJECT. DESCRIPTIONS FOR SAMPLES WITHOUT THIN SECTIONS

SAMPLE NO.	LOCATION	BRIEF DESCRIPTION
R.02	Trench #1. N. End.	Light grey, fine grained and highly siliceous country rock-hornfels. Several percent fine disseminated Py. Non magnetic, non carbonated.
R.02A	Between Tr#1 & 2	Light grey, highly siliceous with quartz veinlets which are locally vuggy. Some fine pyrite veinlets - fracture fill. Silicified, veined country rock/hornfels.
R.04	Trench #3. N. End.	Moderately oxidized. Feldspar-quartz porphyry with phenocrysts to 5mm in fine grained siliceous groundmass. Non magnetic. 3-4% fine disseminated pyrite.
R.05	Trench #4. S.End.	Two samples: 1) plagioclase porphyry with tabular phenocrysts to 5mm in fine grained siliceous groundmass. Local medium grained pyrite veinlets to 3mm. Some weak quartz veinlet stockwork. 2) More equigranular fine grained with local quartz-phenocrysts, no plagioclase phenocrysts. ICP analysis was for Sample 1.
R.15	Trench #4. N. End	Fine grained, leucocratic and highly siliceous possibly country rock with medium to coarse grained striated pyrite cubes in veins with dark fine grained mineral possibly sphalerite. Non carbonate, non magnetic.

2.0 PETROGRAPHY

Based on available geological information the trench-drill study area is underlain by hornfels-volcanics and sediments and a variety of porphyritic (feldspar ± quartz ± biotite) intrusive rocks. The hornfels occurs mainly in the western and central-southeastern area (Figure 4). Detailed petrographic data for the sample suite (in Appendix A) including modal mineralogy and styles of alteration are summarized in Table 3.

2.1 Hornfels

a) *Lithologies*

Five hornfels samples from the western area were examined in hand specimen (R.01, 02, 02A, 07, 15), two in thin section (R.01 and 07). These hornfels in hand specimen are green to grey, hard, locally banded, fine grained siliceous rocks with 3 to 12% fine disseminated pyrite. Chloritic and, or quartz-sericite alteration is texturally destructive and only sample R.01 is magnetic.

The most probable protoliths for this samples are tuffs and/or immature sediments. Sample R.07 (Plate 1) is a good candidate for a fine bedded lithic-crystal tuff. Angular locally fractured quartz grains occur in poorly sorted beds/laminae. The finer tuff matrix and laminae are strongly sericitized. In sample R.01 chloritic and quartz-sericite bands and patches may pseudomorph original crude tuff bedding. Some early brecciation is suggested by relict textures.

In the southeastern area, intrusive sample R.10 (Plate) occurs proximal to the hornfels contact and contains small, variably assimilated xenoliths of feldspar phyric volcanics and sediments?

b) *Alteration and Mineralization*

Sample R.01 contains epidote, disseminated pyrite, fine magnetite and chalcopyrite (Plate 2, upper); this could be described as propylitic alteration. No veining or carbonate was observed and texturally it is impossible to distinguish between the effects of thermal metamorphism from pervasive alteration.

The non magnetic siliceous hornfels samples are more sericitic (phyllic) and do not contain any significant carbonate. Samples R.02A, 07 and 15 all contain fine quartz-pyrite veinlets, one with possible sphalerite in R.15. A generation of fine fracture pyrite veinlets with little quartz is evident in sample R.02A. Petrographic examination of R.07 revealed fine quartz-pyrite veining with yellow-brown biotitic selvages (Plate 1, lower). This vein related alteration overprints strong (sericitic) pervasive phyllic alteration in the host and does not have any associated chalcopyrite. This phyllic alteration overprints earlier propylitic alteration (or metamorphism). Phyllic alteration is evident in the other siliceous hornfels samples, again very little chalcopyrite was observed (very fine grained?).

2.2 Porphyritic Intrusive Rocks

a) *Lithologies*

The intrusive rocks sampled in the trench area consist of a suite of fairly similar, variably altered, non magnetic, felsic porphyries with fine grained to aphanitic groundmass. Plagioclase-quartz porphyries dominate commonly with some biotite and local K.feldspar (orthoclose) as shown in Plates 3 and 4, and Table 3.

In the less altered sample such as R.09, 30 to 30% tabular feldspar phenocrysts up to 6mm long are predominantly plagioclase. These are often zoned with andesine-albite compositions based on extinction angles. Some euhedral, six sided phenocrysts have K.feldspar rims to plagioclase cores. In the majority of porphyry samples the plagioclase is strongly altered to sericite, carbonate and local chlorite, which often pseudomorph the precursor. K. feldspar phenocrysts are recognizable in some samples such as R.06 (Plate 4, lower) with fairly fresh prismatic six-sided and weakly fractured forms.

Between 1 and 8% quartz phenocrysts occur in the porphyries. The phenocrysts are variable in size, up to several millimetres single rather than composite grains. They range in form from euhedral bipyramidal through corroded-absorbed (Plate 4, upper) to distinctly angular-irregular shapes in sample R.10.

Biotite forms tabular microphenocrysts to 5mm phenocrysts and is commonly overprinted by chlorite, carbonate ± sericite alteration accompanied by abundant fine acicular brown rutile (Plate 3, lower).

The groundmass to the porphyries is very fine grained to aphanitic, commonly recrystallized-altered. Fairly equigranular quartz, feldspar (plagioclase and K.feldspar), sericite and carbonate grain mosaics predominate. Between 3 and 8% fine to medium grained, disseminated pyrite is present.

Most of the porphyry samples have been subjected to texturally destructive alteration. However without knowing field relationships this intrusive suite would pass as fairly sodic porphyritic rhyolites-dacites. Sample R.10 is a xenolithic porphyry containing clasts of volcanics and possible fine sediments? (Plate 2, lower) which have been variably assimilated. The quartz phenocrysts in the intrusive matrix are strongly corroded, often highly irregular forms.

Based on relict mineralogy the porphyries have quartz-monzonite to granodiorite magma composition.

b) ***Alteration***

Texturally destructive phyllic alteration with sericite-quartz-pyrite is evident in all of the samples though very weak to absent in R.09. This sericitic alteration is commonly accompanied by carbonate (6 to 15%) and minor chlorite (2 to 3%). Epidote and magnetite were not observed.

Phyllic alteration appears to be relatively late event which overprints earlier textures and mineralogy. It involves progressive semi-pervasive to pervasive sericite-carbonate overprinting of feldspar-biotite phenocrysts (Plate 5). The effects are less obvious in the fine grained groundmass; much of the quartz can not be classified as primary or secondary. In stronger phyllic altered samples the groundmass contains much fine sericite and patchy carbonate (Plate 5). Based on the overall degree of replacement the phyllic alteration is defined as weak, moderate or strong (W. M. or S.) in Table 3.

Porphyry sample R.14 displays weak phyllic alteration that appears to overprint earlier propylitic alteration. Earlier chlorite is bleached and converted to sericite and no magnetite remains. In sample R.06 the phllic alteration overprints plagioclase phenocrysts with K.feldspar rims and significant groundmass K.feldspar. This may indicate a phyllic overprint of earlier potassic alteration.

c) ***Veining and Mineralization***

Veining was not commonly observed in many of the thin sections of altered porphyry. It must be stressed however that veined samples in trenches were usually fractured and oxidized. These were unsuitable for thin section (R. Day, pers. comm.).

Sample R.16 features quartz veinlet stockworks with pyrite, chalcopyrite, minor sericite and carbonate cutting a moderate to strong phyllic altered host. The linear veins have fairly sharp contacts and narrow sericite-carbonate selvages with concentrations of fine anhedral, disseminated chalcopyrite and slightly coarser subhedral pyrite (local cubes) as shown in Plate 6 (upper). Both fine pyrite and chalcopyrite also occur with the quartz veinlets. 1-2% fine disseminated anhedral chalcopyrite and 5-7% pyrite occur throughout the rest of this sample. Significant concentrations of fine chalcopyrite occur within sericite-carbonate altered biotite phenocrysts (Plate 6, lower) and in fine veinlets with pyrite in fractures cutting quartz phenocrysts. This indicates that the copper mineralization accompanied phyllic alteration and was late.

Significant amounts of fine to local medium grained disseminated pyrite (3-7%) accompanies phyllic alteration in non veined samples in the porphyry suite. Chalcopyrite occurs in trace amounts as fine (separate) anhedral grains in pyrite clusters.

TABLE 3: PETROGRAPHY SAMPLES - A SUMMARY OF MINERALOGY AND ALTERATION

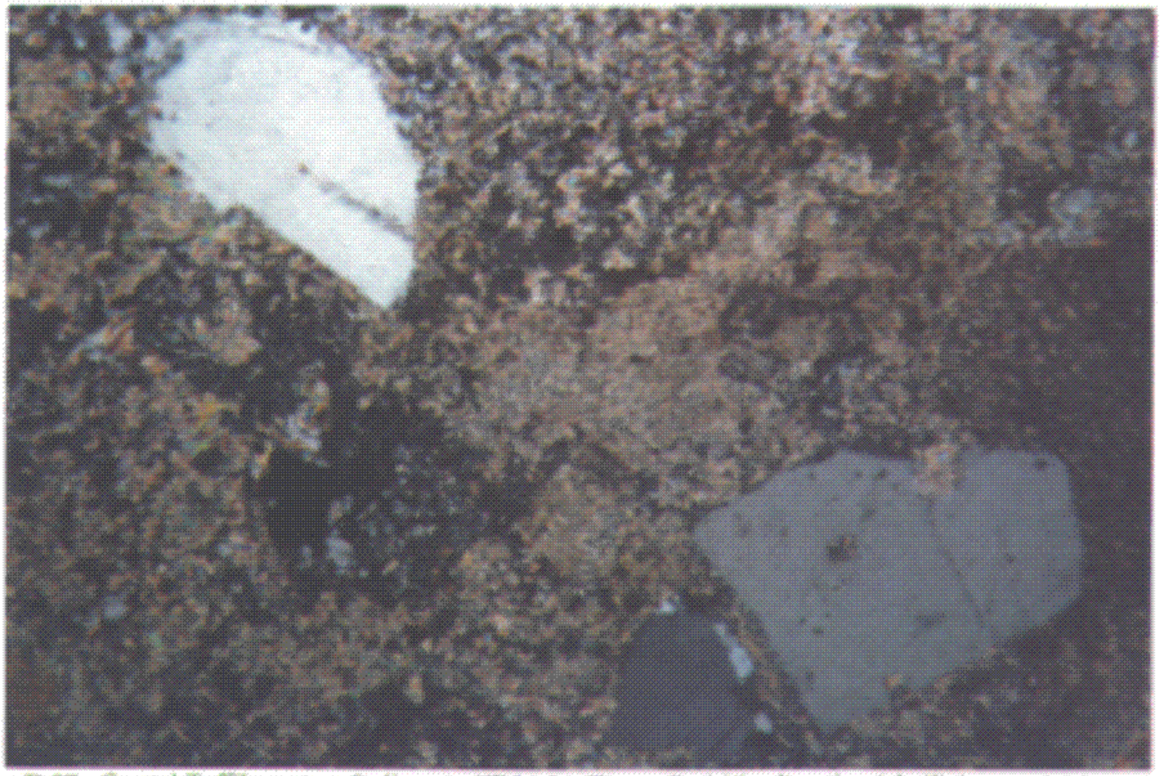
SAMPLE NO	PHENOCRYST CONTENT					MODAL MINERALOGY (ESTIMATED%)													ALTERATION TYPE
	Qz	Pl	F	KF	Bi	Veining	Qz	Pl	KF	F	Ser	Chl	Cb	Bi	Ep	Cpy	Py	Mgt	
R.01	Hornfels						42			1	2	32			4	1	12	5	Propylitic?/Sil
R.03	6		20		3		42			22	17	3	8		Tr	Tr	3		Phyllic
R.04A	7		32		2		42			25	15	3	7			Tr	3		M. Phyllic
R.06	1		20	2	3		17		6	40	11	Tr	15		Tr		6		M. Phyllic/Potassic
R.07	Hornfels					3-4	17			8	40	13	1	2			9		S.Phyllic (Propylitic)
R.08	6		33		4		40			23	18	2	11			Tr	3		M. Phyllic
R.09	2	30			4		40	32	11		4		7				2		Weak
R.10	4		10			Xenoliths >10%	35	10	7	25	6	2	7			Tr	8		W.Phyllic/ (Propylitic)
R..11	2		27		4		40	8	5		11	2	14	1			3		W/M Phyllic
R.12	5		30		2		42			33	11		8				4		M. Phyllic
R.13	6						50			15	23		12				3		S.Phyllic
R.14	8		11		1		55			20	8	8	7				3		W.Phyllic/ (Propylitic)
R.16	8		11		1	15	45			6	18	2	6	1		2	7		M/S Phyllic

Qz =quartz; Pl =plagioclase; F = feldspar (undetermined); KF = K.feldspar; Ser = sericite, Chl = chlorite; Cb = carbonate; Bi = biotite

Scale for Photomicrographs

Scale 1mm.

PLATE 1. PHOTOMICROGRAPHS: HORNFELS



Above R.07: Crystal Tuff/Immature Sediment. CP Light. Strong Sericitic alteration (phyllic) overprint in matrix to quartz fragments. **Below:** CP Light. Quartz-pyrite vein with wallrock biotite (yellow) alteration overprinting quartz-sericite.

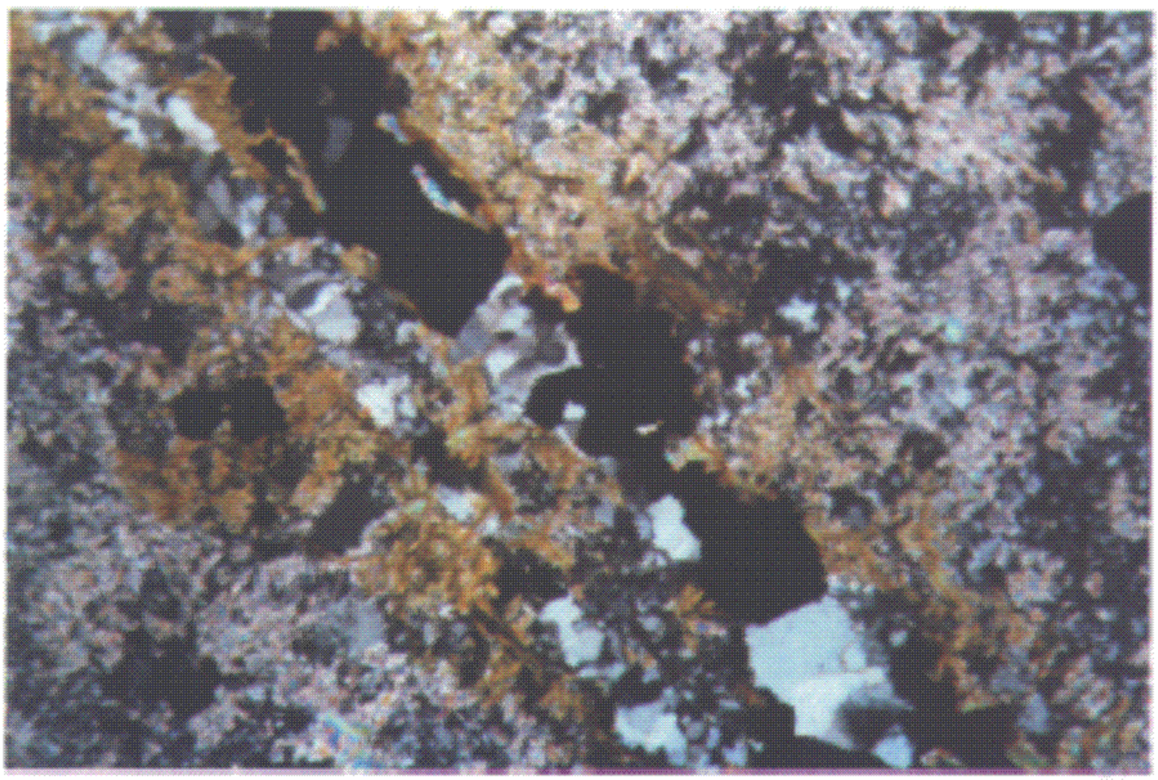
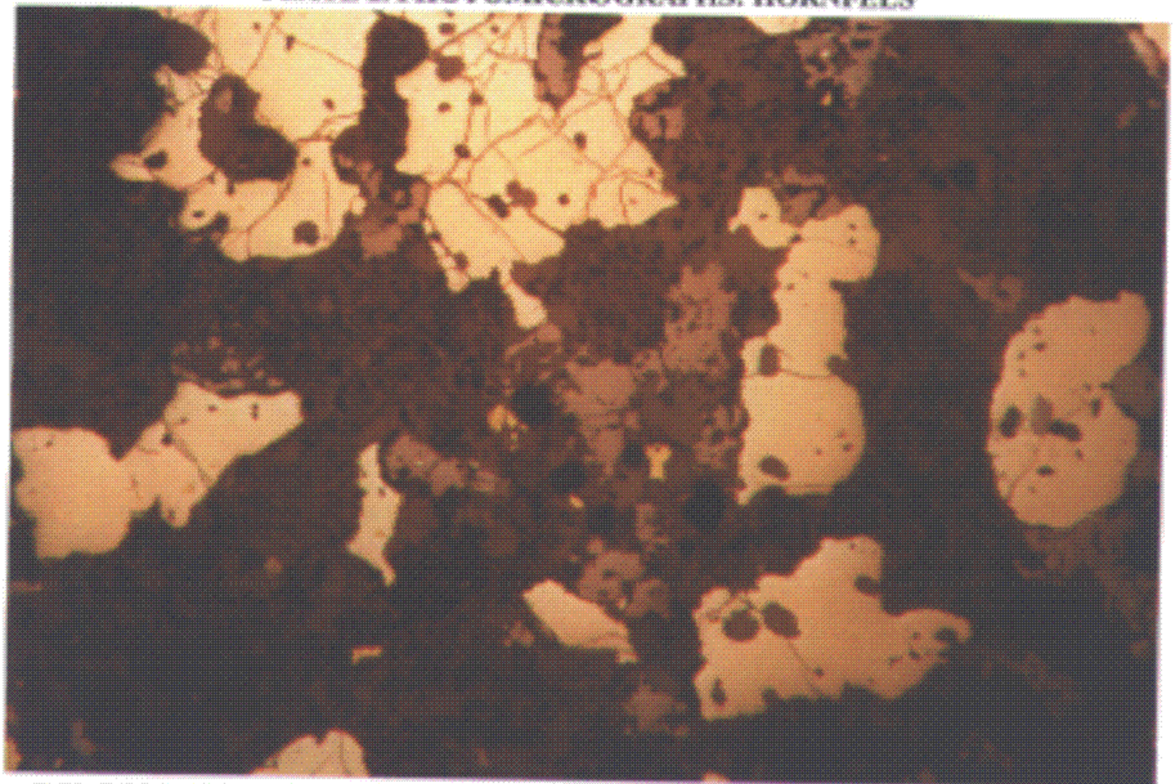


PLATE 2. PHOTOMICROGRAPHS: HORNFELS



Above: R.01, R Light. Magnetic Hornfels. Coarser anhedral and fractured pyrite (bronze) in a disseminated grain cluster with finer anhedral magnetite (grey) and chalcopyrite (gold). **Below:** R.10, CP Light. Xenlolithic intrusive Fine grained sedimentary (lower left) and volcanic (lower centre) xenoliths in fine grained porphyritic intrusive.

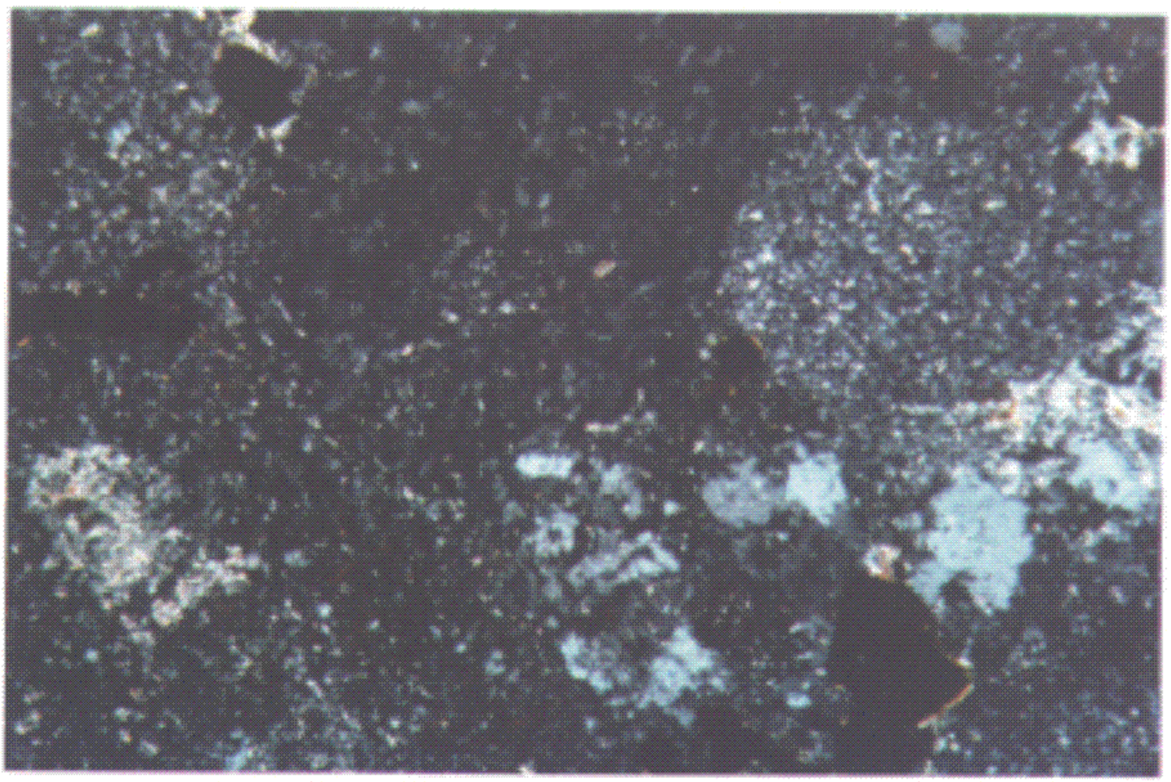
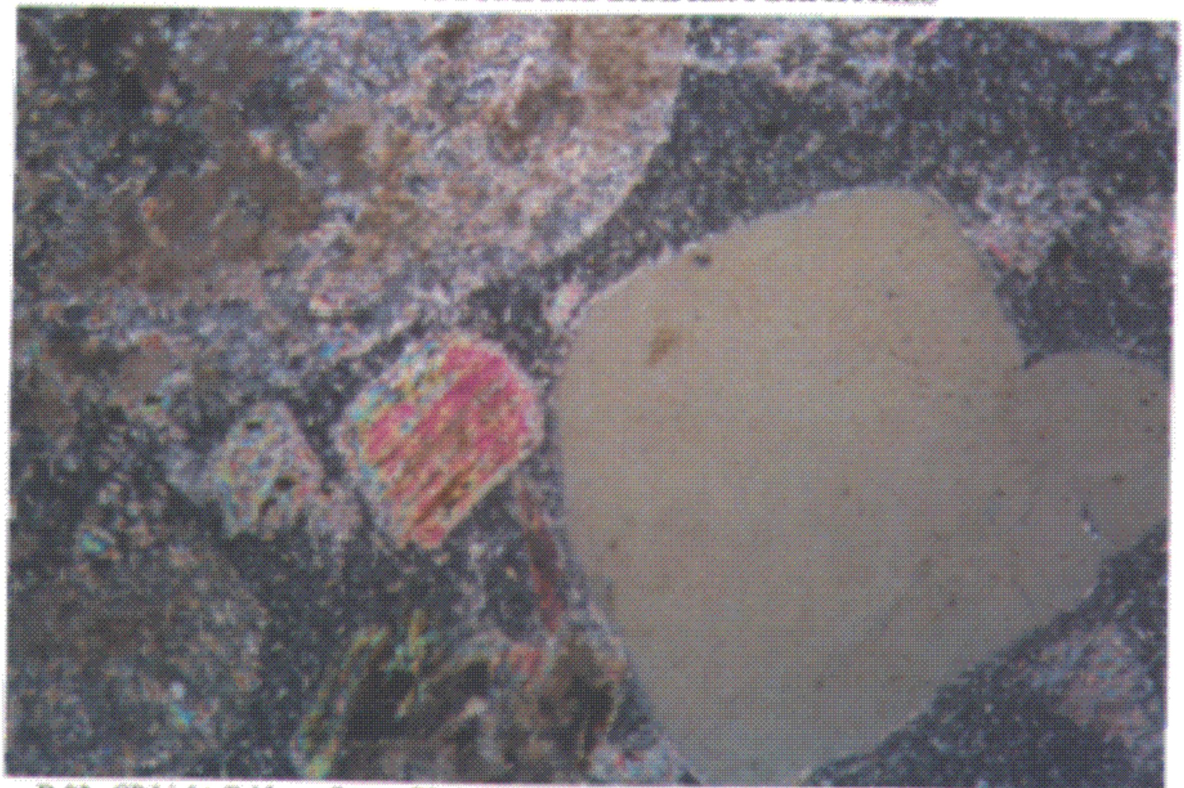


PLATE 3. PHOTOMICROGRAPHS: PORPHYRIES



Above: R.03. CP Light. Feldspar-Quartz-Biotite Porphyry. Subhedral quartz right, sericite altered plagioclase top left and altered biotite microphenocryst centre. Fine grained-aphanitic quartz, feldspar, sericite, patchy carbonate.
Below: R.09. CP Light. Altered plagioclase (left), biotite (top right), porphyry. Biotite groundmass is chlorite, carbonate withfine acicular rutile. Fine grained quartz, plagioclase, K.feldspar, sericite, carbonate groundmass.

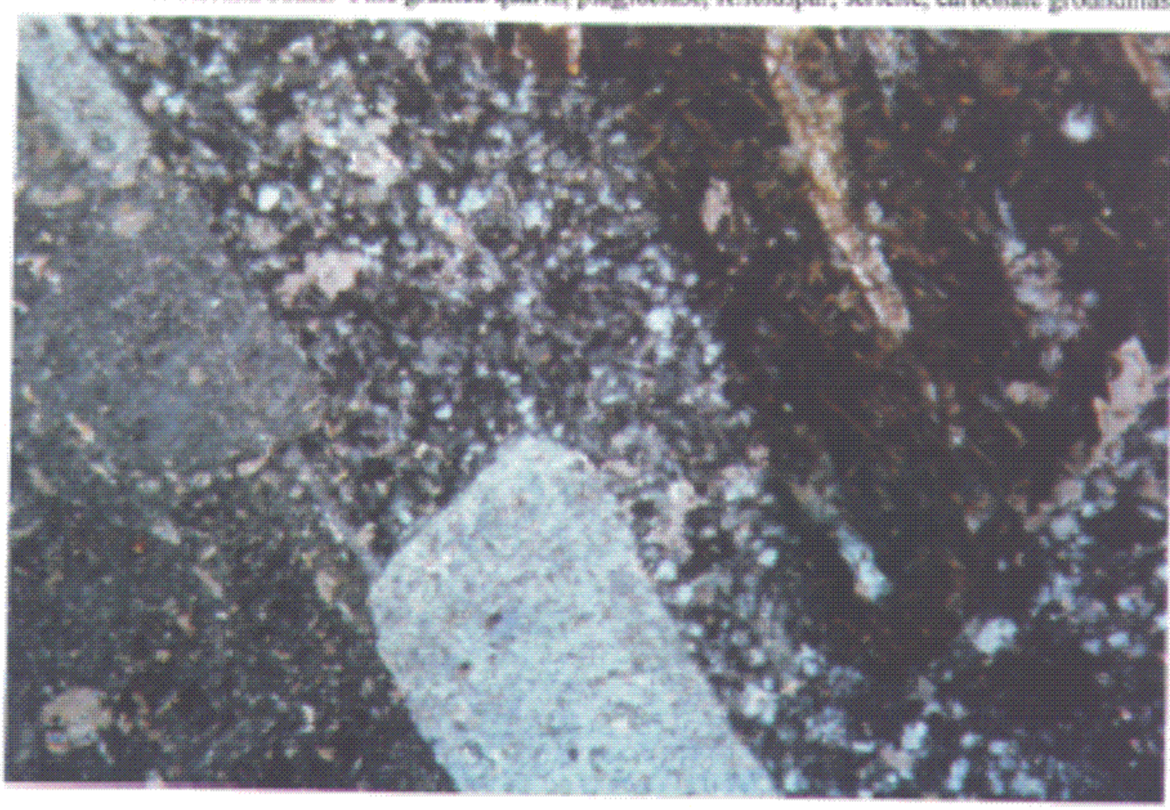
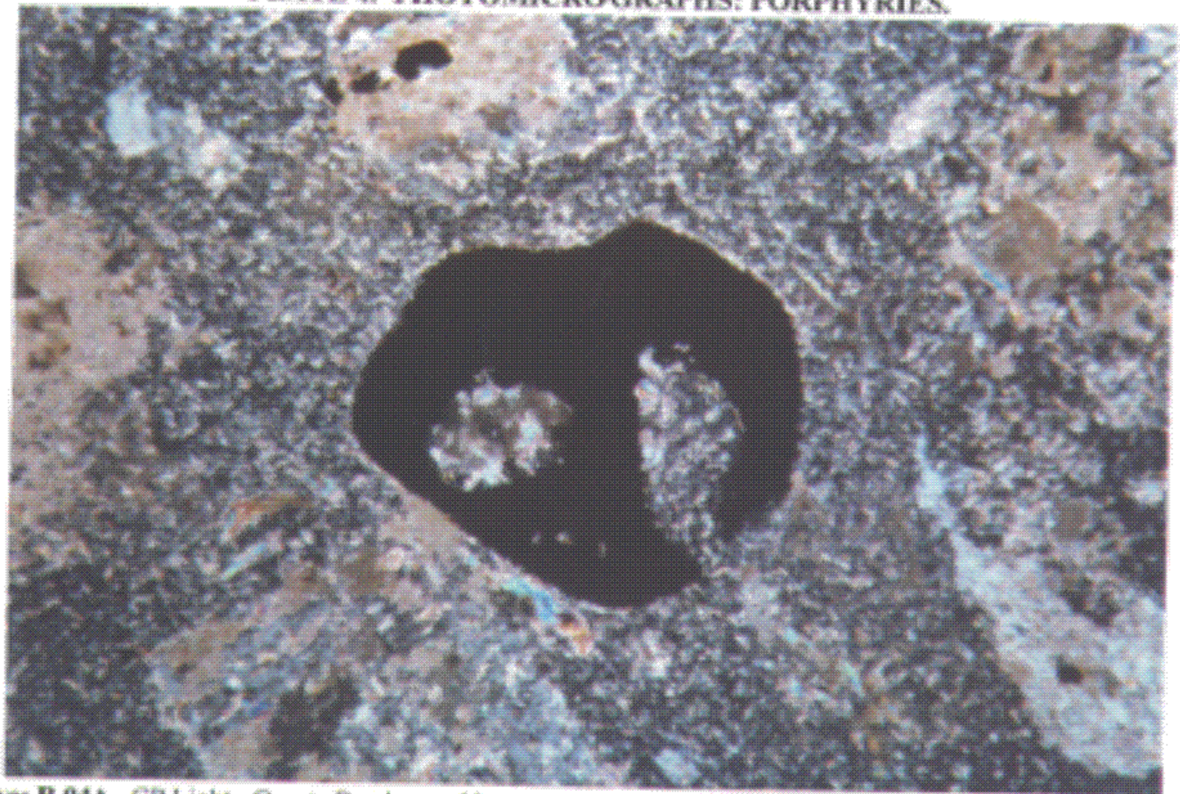


PLATE 4. PHOTOMICROGRAPHS: PORPHYRIES.



Above: R.04A. CP Light. Quartz Porphyry with corroded phenocryst (centre). Note feldspar phenocrysts pseudomorphed by fine sericite-carbonate. Fine grained aphanitic groundmass with quartz, feldspar, sericite, patchy carbonate. **Below: R.06.** CP Light. Euhedral weakly fractured K.feldspar phenocrysts in fine grained sericite carbonate altered groundmass.

PLATE 5. PHOTOMICROGRAPHS: PORPHYRIES, ALTERATION AND MINERALIZATION

Above: R.16. CP.Light. Moderate to strong sericite (carbonate) phyllic alteration overprinting phenocrysts and groundmass. **Below: R.11.** CP.Light. Pervasive carbonate>sericite alteration overprint. Fine carbonate veinlet and altered mica microphenocryst centre.

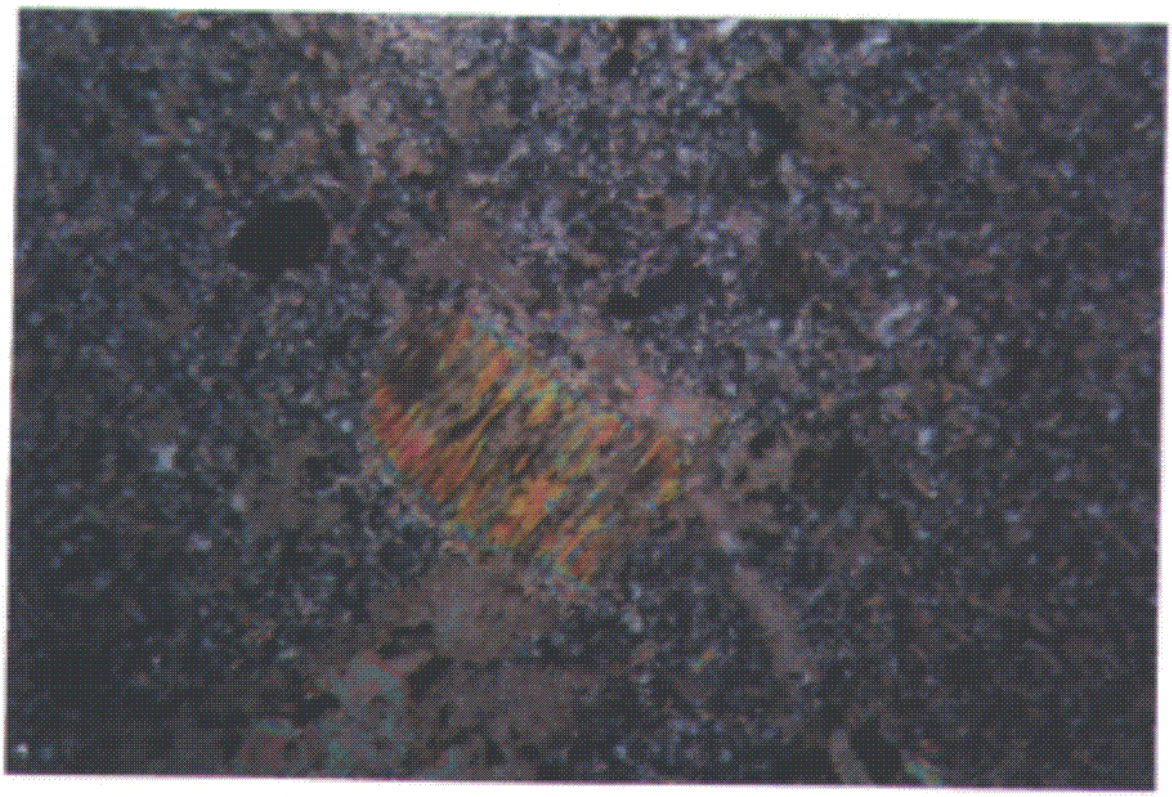
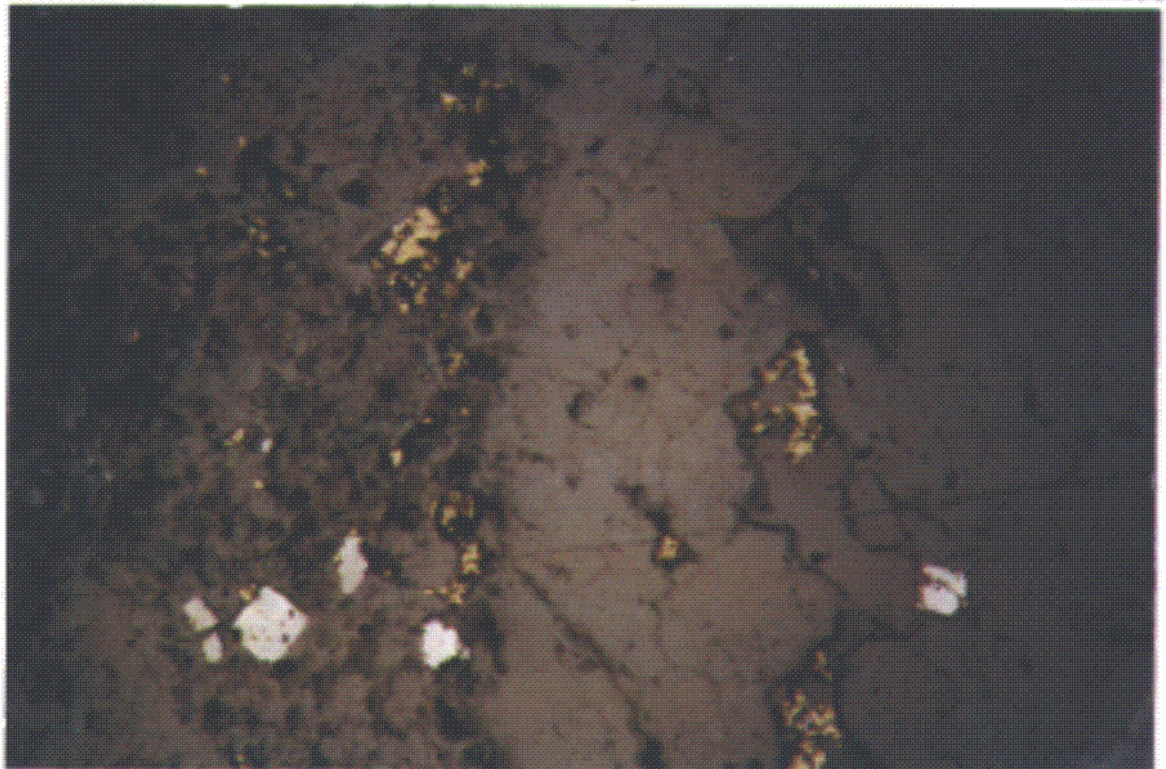
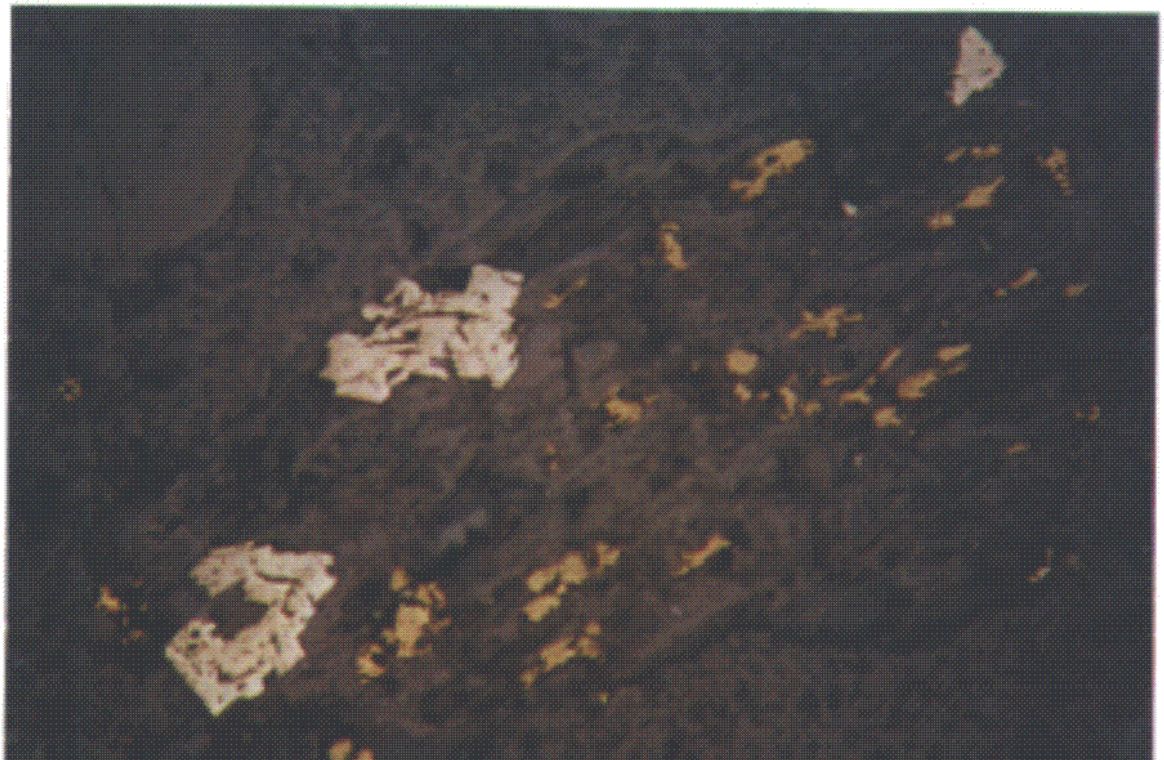


PLATE 6. PHOTOMICROGRAPHS: PORPHYRIES, ALTERATION AND MINERALIZATION



R.16. Strong phyllic altered porphyry with quartz veinlet stockwork and copper mineralization. **Above:** R. light. Quartz vein with fine chalcopyrite (yellow) and pyrite (bronze) right. Stronger chalcopyrite with cubic pyrite in altered wallrocks to left. **Below:** R. Light. Subhedral pyrite and fine chalcopyrite trails (yellow) in altered biotite phenocryst (sericite-carbonate).



3.0 LITHOGEOCHEMISTRY

3.1 Whole Rock

Seven porphyry samples were chosen for ICP whole rock analysis prior to petrographic examination. Small massive samples with no visible veining or xenoliths were picked and submitted by the author for analysis. After petrographic examination it was clearly apparent that all of the samples were 'altered'. Sample R.10 was more xenolithic (mixed) then indicated in hand specimen and therefore of limited use. Care also has to be taken with the chemical data for the other samples because they contain variable proportions of feldspar, quartz and biotite phenocrysts. This is a problem as the observed chemical variations may be due to crystal fractionation rather than hydrothermal alteration.

The whole rock data was plotted on several discrimination diagrams available with the NEWPET program (Memorial University). The symbols used on plots are shown on the certificate of analyses in Appendix B. On a normative QPA diagram by LeMaitre (1989) Figure 5, six of the seven porphyry samples plot within the granodiorite field 4. Sample R.06 which is probably potassic altered plots in the monzo-granite field 3b. Unaltered samples from Bulkley intrusions that have associated copper (Mo) deposits (Carter, 1967) also plot within the granodiorite field but at lower silica (quartz) levels. Using Debon and LeFort (1983) discrimination diagrams the porphyry samples again plot largely within the granodiorite field with R.06 as granite (Figure 6). On Figure 7 (Debon & LeFort 1983, Fig.2b) the samples are peraluminous with biotite>muscovite (field 11) or biotite (field 111). No samples fall into the metaluminous hornblende bearing field IV. The isolated position of sample R.06 can be related to alteration rather than magma chemistry.

A number of tests were made with less mobile element plots and ratios. An oxide TiO_2-Al_2O_3 diagram Figure 8 confirmed the porphyry samples to be a cogenetic (comagmatic) suite.

SiO_2 and Al_2O_3/TiO_2 ratio diagram Figure 9 produced a sharp linear trend for the suite suggesting limited silica alteration. This is interesting as phyllic alteration should involve some silica transport? Ratio plots using combinations of immobiles with mobiles (Na, K) suggest addition of K_2O (potassic alteration) in samples R.06 and 11, and probable Na_2O depletion in R.06. This is consistent with petrographic observations.

3.2 Multi-element Data, Alteration and Mineralization

A summary of sample alteration and mineralization occurs in Table 4 with Cu, Mo, Zn and Ag values (ppm) from ICP multi-element analyses (Appendix B). No gold analyses were made on samples from this suite. Some observations regarding relationships follow.

a) *Hornfels*

All of the hornfels samples were taken from the northwest trench area (Figure 4) which produced the highest copper (Mo, Ag) intervals from previous sampling and drilling, in particular trench #4.

Chloritic hornfels sample R.01 with propylitic alteration returned the highest copper values (in hornfels) at 1529 ppm with low Mo, Zn, Ag and As. The copper mineralization in the sample was fine disseminated chalcopyrite (no veining observed).

Phyllic-siliceous altered hornfels samples from the same area returned lower copper values. These in hand specimen contained sparse fine chalcopyrite. Samples R.02a, 07 and 15 did contain fine quartz-pyrite, pyrite veinlets with associated biotite alteration in R.07. The latter probably represents an early vein event and did not return any significant Cu, Mo values. Sample R.07 from trench #4 with vuggy quartz veining (late) with probable fine sphalerite returned 668 ppm Cu, 370 ppm Mo, 2335 ppm Zn, 8 g/t Ag and 220 ppm As. This is interesting as it indicates late (porphyry) stage polymetallic veining in the hornfels-porphyry contact areas.

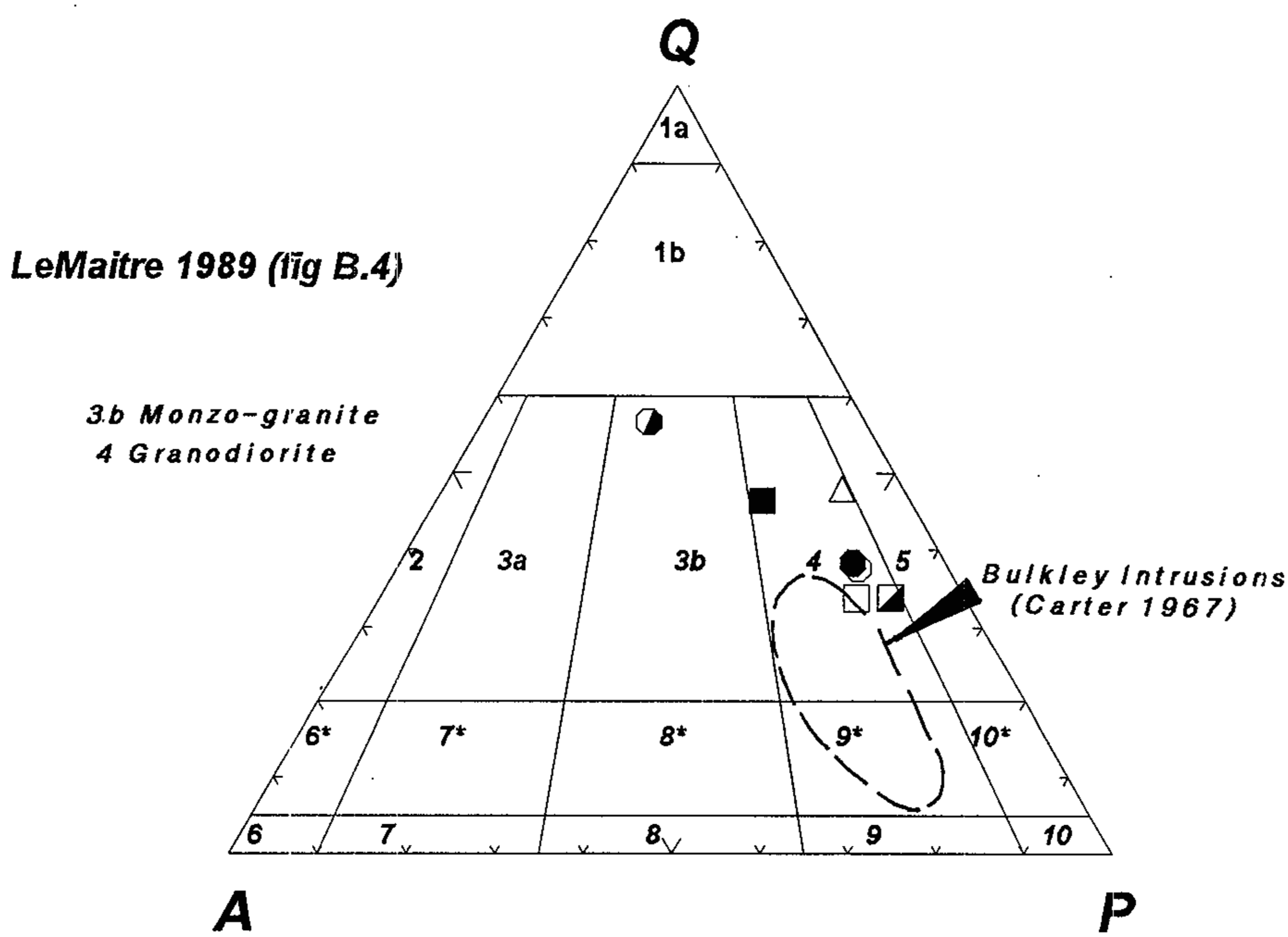
b) *Porphyritic Intrusives.*

Petrographic examination indicated strong phyllic alteration in porphyry samples taken from the Trench # 2 to 6 area (Figure 4), coincident with the stronger known Cu (Mo) mineralization. This phyllic alteration probably overprints earlier potassic alteration in sample R.06. Most of the samples from this western trench area returned relatively low copper (Mo) values, less than 500 ppm. Many of these however contained no visible veining. Minor fine disseminated chalcopyrite mineralization in R.04A returned 995 ppmCu, 0.6ppm Ag, low As, Zn and Mo. Quartz-pyrite veined, moderate to strong phyllic altered (adjacent) samples R.05 and 0.6 returned elevated copper values with associated Zn and Mo (low Ag). Nearby sample R.16 with strong phyllic alteration contained quartz-pyrite veinlet stockworks with fine vein related and disseminated wallrock chalcopyrite. This sample returned the highest copper value at 1796 ppm, 0.8 ppm Ag, elevated zinc and low Mo.

A limited number of porphyry samples taken from the central and eastern trench area (R.09, 10, 11, 12 13 and 14, Figure 4) are generally less strongly altered. Samples R.09, 10 and 14, and borderline propylitic. These samples returned low copper values, the highest 479 ppm in R.10 taken from a contact area near hornfels. Moderate to strong phyllic alteration at the north end of trench #10 did not contain any veining and returned low values. A less altered sample R.11 further to the south returned 797 ppm Zn, low Cu and Mo.

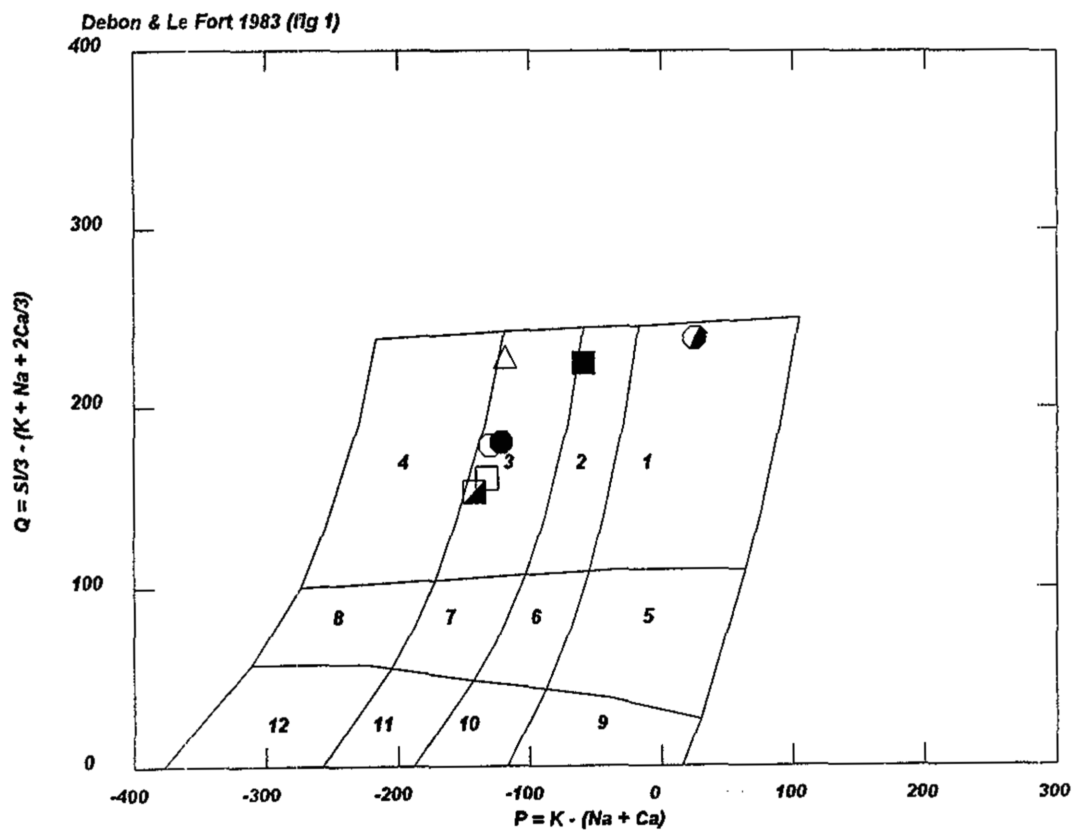
TABLE 4: ALTERATION AND MINERALIZATION

SAMPLE NO.	VEINING	DISSEM. SULFIDES	MAIN ALTERATION	Cu ppm	Mo ppm	Zn ppm	Ag ppm
(A) HORNFELS							
R.01		Py, Cpy	Propylitic	1529	13	92	<0.2
R.02		Py	Phyllic	34	4	291	<0.2
R.02A	Qtz-Py, Py	Py	Phyllic	53	14	177	<0.2
R.07	Qtz-Py-Biot	Py	Phyllic	12	7	15	<0.2
R.15	Qtz-Py-(sphal)	Py	Phyllic	668	370	2335	8.0
(B) PORPHYRIES							
R.03		Py, Cpy	Phyllic	47	2	62	<0.2
R.04		Py	Phyllic	439	40	31	0.8
R.04A		Py, Cpy	Phyllic	995	24	72	0.6
R.05	Py-Qtz	Py	Phyllic	306	250	343	<0.2
R.06	Py	Py, Cpy	Phyllic	116	7	120	<0.2
R.08		Py, Cpy	Phyllic	35	4	150	<0.2
R.09		Py	Weak	24	3	48	<0.2
R.10		Py, Cpy	Phyllic, Propylitic	479	9	42	<0.2
R.11		Py	Phyllic	73	4	797	<0.2
R.12		Py, Cpy	Phyllic	6	3	60	<0.2
R.13	Qtz-Py	Py, Cpy	Phyllic	8	79	51	<0.2
R.14		Py, Cpy	Phyllic, Propylitic	54	18	85	<0.2
R.16	1) Qtz-Py-Cpy-Ser-Carb 2) Py-Cpy	Py, Cpy	Phyllic	1796	46	208	0.8



FRENCH PORPHYRY SAMPLES : QPA DIAGRAM

Figure 5



3 Granodiorite
2 Adamellite
1 Granite

Figure 6. French Porphyry Samples: PQ.Diagram.

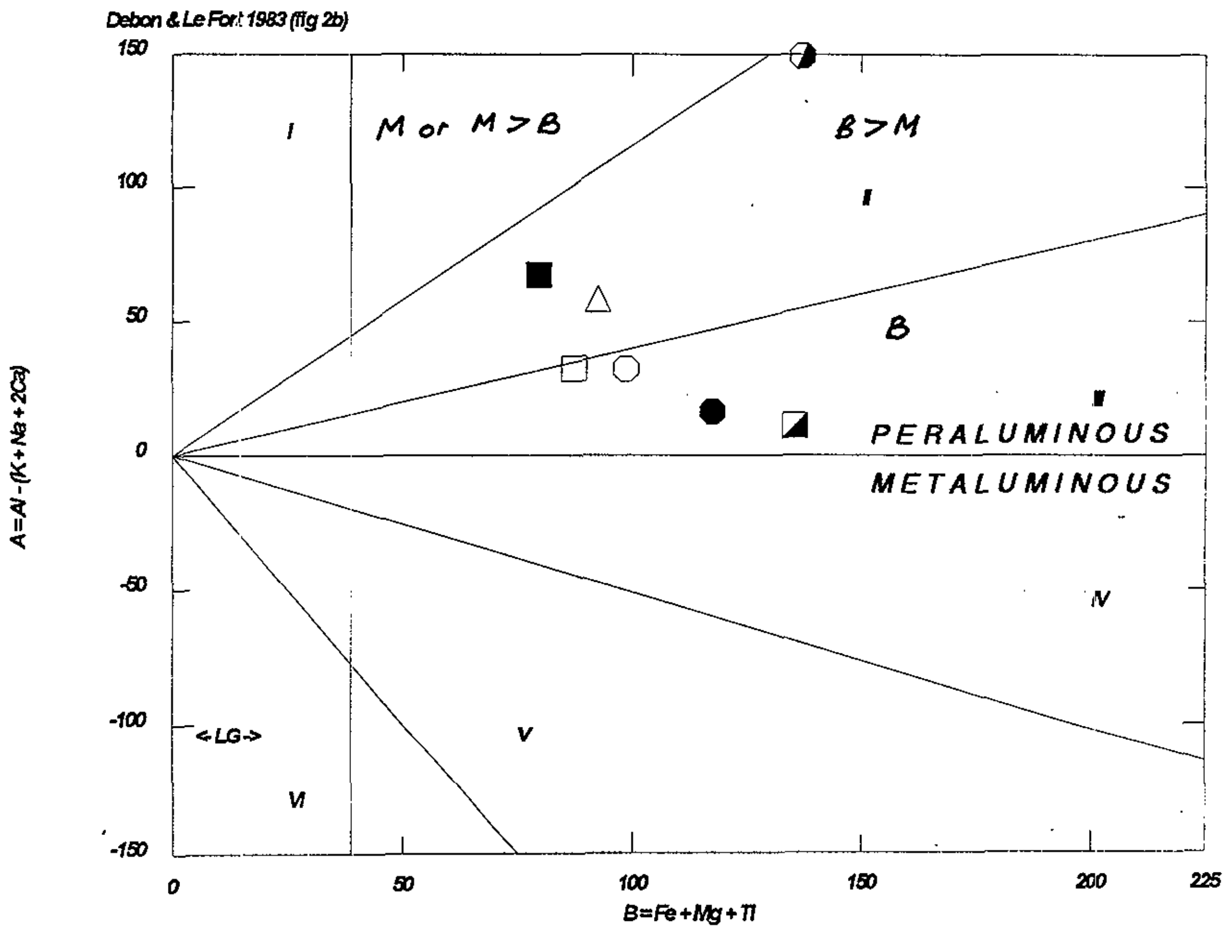


Figure 7. French Porphyry Samples: Magma Series.

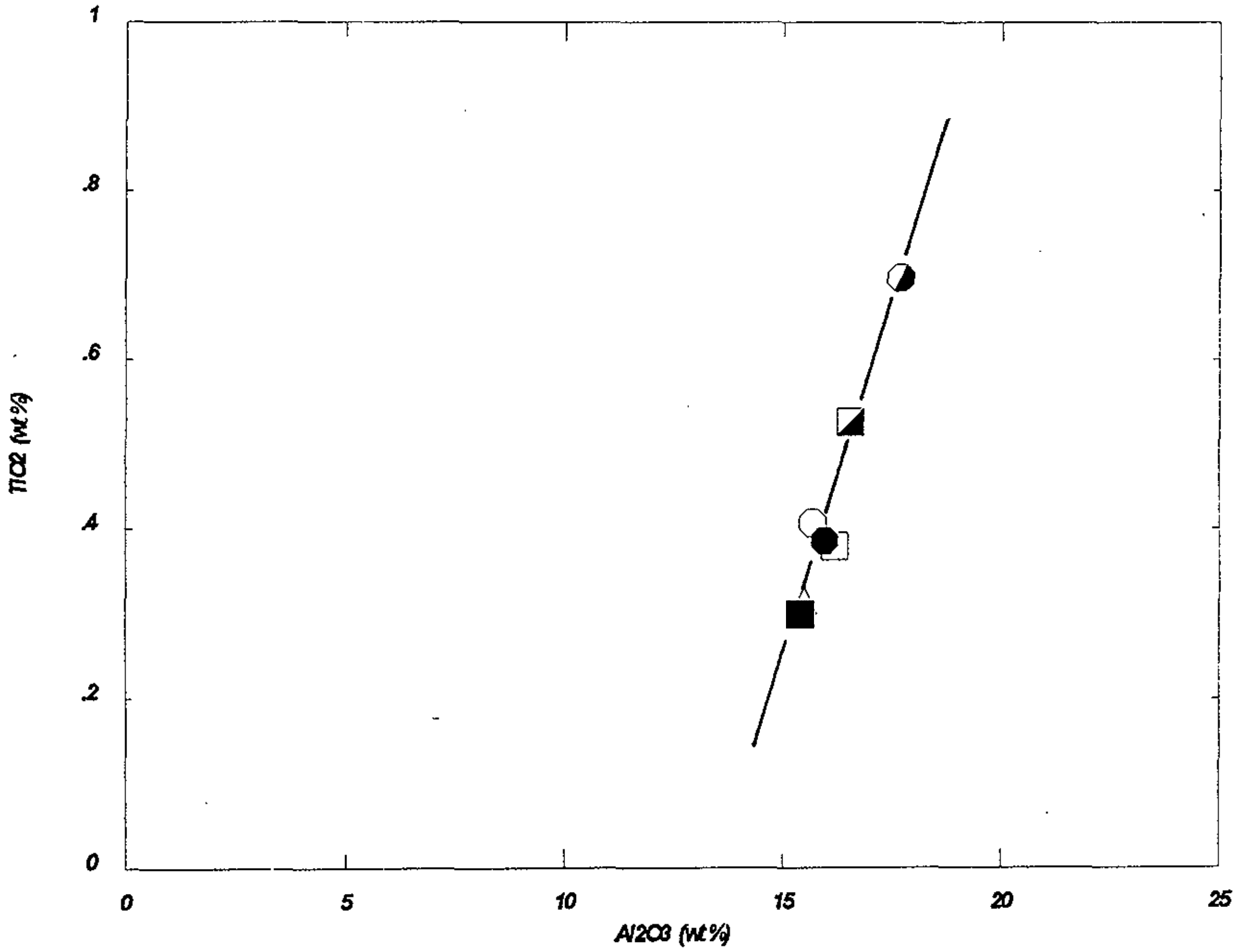


Figure 8. French Porphyry Samples: Cogenetic Test Al_2O_3 vs TiO_2.

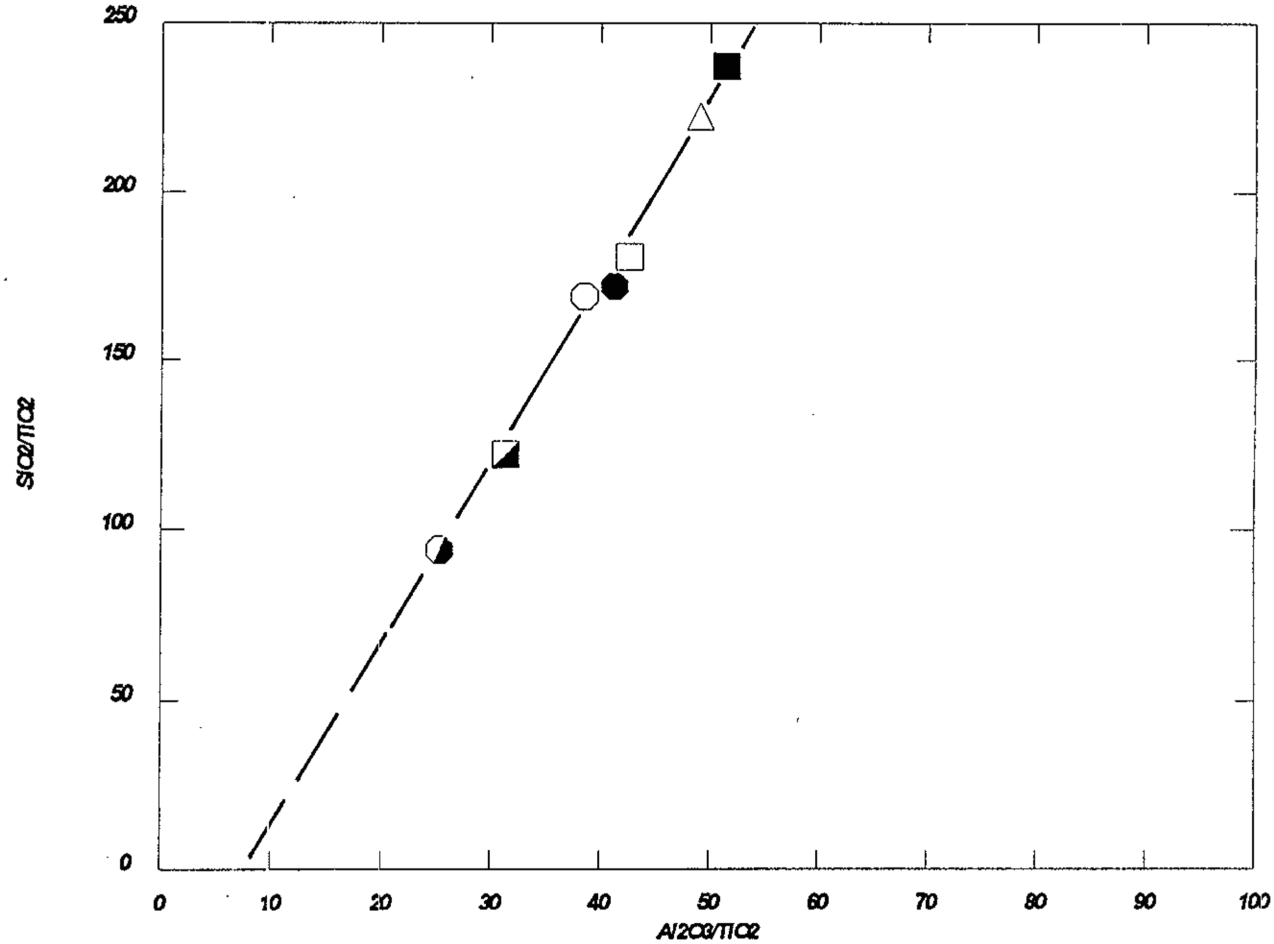


Figure 9. French Porphyry Samples: Al_2O_3/ TiO_2 vs SiO_2/ TiO_2.

4.0 COMPARISONS AND CONCLUSIONS

4.1 Brief Comparisons with Bulkley Suite Deposits

Bulkley suite intrusions host a large number of copper and molybdenum deposits in a northerly trending belt west of Babine Lake (Figure 3). One of these is the producing Huckleberry deposit near Ootsa Lake with in situ reserves: Main Zone - 53.7 MT @ 0.445% Cu, 0.013% Mo (0.06 g/t Au); East Zone - 108.4 MT @ 0.484% Cu, 0.014% Mo (0.055 g/t Au) (Jackson et al 1995).

Petrographically the French Porphyry samples are fairly typical Bulkley type rocks with plagioclase and quartz phenocrysts and lesser biotite within a fine grained to aphanitic groundmass of quartz, plagioclase and K.feldspar. Mineralogically these classify as quartz monzonites to granodiorites.

Whole-rock geochemical data from Bulkley suite rocks (Carter, 1976) are similar to that for the French porphyry with indicated granodiorite to quartz-monzonite compositions. The chemical and petrographic similarities between the French Porphyry and Bulkley suite are pronounced. Bulkley intrusives in the belt are characterized by the following:

1. Oval and elongate stocks 0.5 to 3 kilometres dia.
2. Forceful emplacement (breccias) common.
3. Located commonly along N to NW striking faults.
4. Hypabyssal granodiorite to quartz monzonite.
5. Pyritic haloes restricted to hornfels zone.
6. Peripheral veins with Ag, Pb and Zn.
7. Multiple intrusions common.
8. Biotite hornfels for hundreds of metres, higher grade contact zones.

9. Well developed alteration zones, inner silicification (intrusive), outward potassic, phyllic-argillic-propylitic.
10. Mineralization is commonly located near the intrusive contact with hornfels.

4.2 Conclusions

Petrographic and lithogeochemical study of a limited number of selected samples from the trench area at French Peak indicates that the intrusives associated with copper (Ag, Mo) mineralization are 'Bulkley type' porphyritic quartz monzonities-granodiorites. The geological setting has many similarities with that outlined in the previous section, points 1 to 10.

It is a high level porphyry (stockwork) system with texturally destructive phyllic alteration that is superimposed on the contact area between potassium silicate and propylitic alteration zones. In the northwest trench area the propylitic zone is in the hornfels.

Veinlet stockwork related sulfide mineralization is clearly evident in the northwest area. Several stages of veining are probable with early Cu-Ag and later (and/or more distal) polymetallic Cu, Mo, Ag, Zn, As.

Based on available exploration data this porphyry system has not been adequately drill tested; only 6 holes were drilled in 1971 by Silver Standard (R. Day, pers. comm.).

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Wells, R.C. Personal Files.

6.0 STATEMENT OF QUALIFICATIONS

I, Ronald C. Wells, of the City of Kamloops, British Columbia, hereby certify that:

1. I am a Fellow of the Geological Association of Canada

2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.

3. I am a graduate of the University of Wales, U.K. with a B.Sc. Hons. in Geology (1974), did post graduate (M. Sc.) studies at Laurentian University, Sudbury, Ontario (1976-77) in Economic Geology.

4. I am presently employed as Consulting Geologist and President of Kamloops Geological Services Ltd., Kamloops, B.C.

5. I have practised continuously as a geologist for the last 20 years throughout Canada, USA and Latin America and have past experience and employment as a geologist in Europe.

6. Ten of these years were in the capacity of Regional Geologist for Lacana Mining Corp., then Corona Corporation in both N. Ontario / Quebec and S. British Columbia.

7. The author conducted a petrological study on samples from the French Porphyry project during August 2000 for Robin Day.

8. The author has no interests in the properties held by Robin Day, nor does he expect any.

R.C. Wells, P.Geo., FGAC

APPENDIX A

PETROGRAPHY

R. C. Wells, P.Geo., FGAC. Kamloops Geological Services Ltd.

1. **SAMPLE NO:** R.01

2. **LOCATION:** South end of Trench #1

3. **HAND SPECIMEN**

White-grey and greenish banded, fine grained, moderately magnetic hornfels. Felsic quartz rich bands predominate. Much of the 15% fine-medium grained disseminated pyrite in this sample occurs in chloritic bands and patches. Non carbonated. Patchy weak oxidation.

4. **THIN SECTION**

a) Mineralogy: Modal (estimated %)

Quartz	40-45	Pyrite	10-15
Chlorite	30-35	Magnetite	4-6
Epidote	4-5	Chalcopyrite	1
Sericite	1-2		
Feldspar	1		

b) Textures

Patchy fine quartz (0.03-0.1mm) and chlorite (light green) dominate. The quartz forms variably recrystallized anhedral mosaics. Chloritic patches contain the majority of the pyrite, magnetite, chalcopyrite and epidote. Pyrite forms anhedral disseminated grains and aggregates up to 2mm; fractured grains are quite common, so are silicate inclusions. Disseminated 0.02 to 0.2mm anhedral magnetite and chalcopyrite, some form aggregates with pyrite. Yellow pleochroic anhedral epidote up to 0.2mm forms small mosaics commonly proximal to pyrite clusters. Minor fine sericite occurs in quartz rich bands, some possibly pseudomorphing earlier feldspars (with chlorite).

c) Other Comments

This is a fine grained siliceous-chloritic hornfels with significant amounts of disseminated pyrite. A sedimentary protolith is probable, thermal metamorphism has however masked earlier textures. No obvious veining was observed, however pre-metamorphic brecciation of the protolith is probable.

1. **SAMPLE NO:** R.03

2. **LOCATION:** Trench#2

3. **HAND SPECIMEN**

Leucocratic Feldspar-Quartz Porphyry. Phenocrysts are 1-5mm., moderately crowded. Fine grained siliceous-sericitic groundmass with patchy weak carbonate reaction. Non magnetic, 2-3% fine to fine/medium disseminated pyrite. Weak patchy oxidation mainly in pyritic and chloritic areas.

4. **THIN SECTION**

a) Mineralogy:

Phenocrysts: Quartz 5-7%; Altered Feldspars 20%; Altered Biotite 2-3%

Modal Mineralogy (estimated %)

Quartz	40-45	Ti oxides/ rutile	Tr-1
Remnant feldspar	20-25	Pyrite	3-4
Sericite	15-20	Chalcopyrite	Tr.
Carbonate	7-10		
Chlorite	2-3		
Epidote	Tr		

b) Textures

Clear anhedral to bipyramidal quartz phenocrysts up to to 3mm. Tabular to irregular shaped feldspar phenocrysts 1-3mm pseudomorphed by strong sericite-carbonate alteration. Biotite microphenocrysts are commonly tabular up to 1mm and replaced by chlorite, sericite carbonate with fine rutile trails. Very fine grained groundmass mosaics less than 0.02mm feature mainly quartz, sericite, some feldspar (including K. feldspar). Anhedral pyrite forms isolated anhedral grains and aggregates to 1mm with sparse fine chalcopyrite.

c) Other Comments

Alteration in this Quartz-Feldspar-Biotite porphyry is strongest in feldspar (plagioclase) and biotite phenocrysts, mainly sericite-carbonate, local chlorite. The fine groundmass is less altered, however sericite has replaced most feldspars. This is phyllic alteration-sericite, carbonate, pyrite (quartz).

1. **SAMPLE NO.** R. 04A

2. **LOCATION:** South end of Trench 3#

3. **HAND SPECIMEN**

Leucocratic, weakly oxidized, Feldspar-Quartz Porphyry. Phenocrysts 1-5mm., moderately crowded. Fine grained-aphanitic groundmass with weak patchy carbonate. 3 to 4% fine disseminated pyrite, local weak malchite stain. Some feldspar phenocrysts display weak pink coloration, possibly due to fine hematite inclusions. However, some do take a weak K.feldspar stain.

4. **THIN SECTION**

a) Mineralogy:

Phenocrysts: Altered Feldspars 30-35%, Quartz 5-8%, Altered Biotite 1-2%.

Modal Mineralogy	**(estimated %)**		
Quartz	40-45	Pyrite	2-3
Remnant feldspar (mainly plagioclase, 2-5% K.feldspar)	25	Chalcopyrite	Tr
Sericite	15	Ti oxides/ rutile	1
Carbonate	7	Fe oxides	1-2
Chlorite	2-3		

b) Textures

Both tabular plagioclase and K.feldspar phenocrysts appear to be present and display sericite and or carbonate alteration with local chlorite. Tabular biotite microphenocrysts 0.5 to 1mm (one 2mm) are altered to carbonate-sericite-chlorite with trails of Ti oxides and patchy oxidation. Quartz phenocrysts to 3mm are subhedral, locally corroded along contacts. The groundmass is very fine grained-aphanitic, less than 0.02mm, mainly quartz, sericite and remnant feldspars, including K.feldspar. Anhedral pyrite aggregates to 1mm disseminated throughout. Very fine, dusty hematite inclusions occur in some altered feldspar phenocrysts.

c) Other Comments

This sample is quite similar to R.03 with stronger alteration in the feldspar and biotite phenocrysts. An aphanitic groundmass containing quartz, sericite, remnant feldspar. The alteration is phyllic and minor amounts of chalcopyrite occur with the pyrite. This alteration is probably responsible for the local corrosion of quartz phenocrysts. No veining is evident in the thin section, chalcopyrite is rare and very fine grained.

1. **SAMPLE NO.** R.06

2. **LOCATION:** Middle Trench #5

3. **HAND SPECIMEN**

Leucocratic Feldspar Porphyry. Fine grained felsic groundmass. Tabular feldspar phenocrysts to 6mm are commonly carbonate altered. Some are probably K. feldspar. Sparse sub millimetre quartz phenocrysts. 5-7% fine grained disseminated pyrite throughout, local fine fracture veinlets (not in ICP. Samples). Staining indicates some K. feldspar in the fine grained groundmass as well as phenocrysts (rims!)

4. **THIN SECTION**

a) Mineralogy:

Phenocrysts: Altered Feldspar 20%, Altered Biotite 2-3%, K. Feldspar 1-2%, Quartz 1%

Modal Mineralogy (estimated %)

Quartz	15-20	Carbonate	15%
Remnant Feldspar		Epidote	Tr
(Plagioclase/K. Feldspar)	40	Chlorite	Tr
K. Feldspar	5-7	Pyrite	5-7
Sericite	10-12	Ti oxides/rutile	1-1.5

b) Textures

Tabular feldspar and smaller (to 2mm) biotite phenocrysts are strongly altered to carbonate, sericite, minor chlorite. Local euhedral, weakly fractured, fresh orthoclase phenocrysts to 1.5mm. Rare sub-rounded quartz phenocrysts up to 0.8mm. The groundmass is fine grained 0.01 to 0.1mm consisting of anhedral mosaics, predominantly quartz, feldspar, carbonate and fine sericite. Pyrite forms clusters of disseminated anhedral to subhedral grains 0.1 to 0.4mm, local aggregates. Minor fine chalcopyrite. Fine rutile, Ti -oxides also form small clusters of disseminated grains.

c) Other Comments

The original composition of altered feldspar phenocrysts appears to have been plagioclase, possibly albitic? Many appear to have zoning, possibly with K. feldspar rims? Fairly fresh orthoclase phenocrysts are weakly fractured and euhedral. There is a significant amount of carbonate in this sample which doesn't react strongly with HCL and may be ankeritic. Fairly strong alteration is apparent in the groundmass with possibly some secondary K.feldspar accompanying sericite and carbonate. The alteration is phyllic but may have an element of potassic. No veining was observed in thin section.

R. C. Wells, P.Geo., FGAC. Kamloops Geological Services Ltd.

1. **SAMPLE NO.** R.07

2. **LOCATION:** North end of Trench #6

3. **HAND SPECIMEN:**

White and green banded hornfels with 2-5mm chloritic bands containing grained fine disseminated and pyrite aggregates interspersed with broader felsic bands to 1cm. The latter have minor amounts of fine pyrite and are quite sericitic? Non carbonated and non magnetic throughout. Local 1-2mm high angle (to bonding) cross-cutting pyritic veinlets.

4. **THIN SECTION**

a) Mineralogy: Modal (estimated %)

Sericite	40	Pyrite	7-10
Quartz	15-20	Fine Fe-Ti oxides	2
Feldspar	7-10	Quartz veining	3-4
Chlorite	10-15	Wallrock biotite	1-2
Carbonate	Tr-1		

b) Textures

Primary textures in this sample are partially overprinted by patchy moderate to strong sericite and chlorite alteration - the two band types in hand specimen. The protolith appears to have been bedded with fine and medium grained millimetre scale beds. The latter are poorly sorted with subangular quartz fragments up to 0.8mm. In chloritic areas there are locally ghosts of volcanic fragments up to several millimetres in length. Finer grained beds are more strongly sericitic altered. Pyrite is disseminated throughout as subhedral to local cubic grains 0.1 to 0.4mm. One 0.5 to 0.7mm wide vein crosses banding at a high angle (80^0). With pyrite predominant as semi-continuous aggregates, local quartz sections. The vein has associated alteration in the wallrocks for up to 0.5mm width featuring very fine to 0.3mm grains and books of light yellowish brown biotite (local rosettes).

c) Other Comments

The most probable protolith to this highly altered sample appears to be fine bedded crystal-lithic tuff. Alteration is predominantly sericite-pyrite plus or minus chlorite with magnetite absent. The pyrite vein appears to be fairly early as it features some recrystallization and displacement concordant with banding in the country rocks. A light coloured (weak pleochroic) biotite alteration in vein selvages is oxidized and may in part overprint earlier chlorite.

1. **SAMPLE NO.** R.08

2. **LOCATION:** South end of Trench #6

3. **HAND SPECIMEN**

Leucocratic Feldspar Quartz Porphyry with altered biotite? microphenocrysts. Tabular feldspars to 6mm, local subrounded quartz-phenocrysts to 6mm, chloritized biotite. Non magnetic. Patchy pervasive carbonate and sericite. Local aggregates of fine to coarse grained pyrite with oxidized rims.

4. **THIN SECTION**

a) Mineralogy:

Phenocrysts: Quartz 5-6%, Altered Feldspar 30-35%, Altered Biotite 4-5%

Modal Mineralogy (estimated %)

Quartz	40	Pyrite	2-3
Remnant feldspar (Plagioclase & K.feldspar)	20-25	Chalcopyrite	Tr
Sericite	15-20	Rutile	1
Carbonate	10-12	Fe-Ti oxides	Tr-1
Chlorite	2-3		

b) Textures

Large quartz phenocrysts 1 to 5mm display sub-hedral to weakly corroded forms, some are weakly fractured. Tabular feldspar phenocrysts 1 to 6mm display strong, patchy alteration to sericite, carbonate and local chlorite up to 0.2mm grain size. Most of these phenocrysts appear to have original plagioclase composition. Tabular biotite 1 to 2mm is also patchy altered to chlorite, carbonate, minor sericite. Avicular brown rutile needles are abundant in some of these. The groundmass consists of fine grained anhedral mosaics 0.01 to 0.05 grain size with quartz, sericite, plagioclase, K.feldspar?, minor carbonate. Pyrite forms irregular shaped anhedral (fine) grain aggregates 0.5 to 3mm which commonly have carbonate grain 'halos'.

c) Other Comments

This feldspar-quartz-biotite porphyry displays moderate phyllic alteration with sericite-pyrite, minor chlorite and significant amounts of carbonate. Alteration is semi-pervasive and no veining was observed. Groundmass alteration is responsible for some corrosion along the margins of quartz phenocrysts.

1. **SAMPLE NO.** R.09

2. **LOCATION:** South central Trench #8

3. **HAND SPECIMEN**

Leucocratic, crowded plagioclase porphyry, locally greenish through sericite alteration. Tabular feldspars to 5mm, local subrounded quartz eyes to 4mm and chloritized biotic books. Fine grained siliceous-K.feldspar groundmass (through staining). 3 to 4% fine, local medium grained disseminated pyrite. Pervasive weak to moderate carbonate.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Plagioclase 30%, Altered Biotite 4%, Quartz 2%.

Modal Mineralogy (estimated %)

Quartz	40	Pyrite	2
Plagioclase	30-35	Rutile	0.5-1
K. Feldspar	10-12	Fe-Ti Oxides	Tr
Sericite	5-6		
Carbonate	5-8		

b) Textures

This is a less altered sample with tabular feldspar phenocrysts to 4mm consisting of plagioclase with albite to andesine compositions. Some are zoned with probable K.feldspar rims. Weak sericite-carbonate alteration. Quartz phenocrysts 1 to 3mm have subhedral to corroded forms with local fracturing. 1 to 2mm tabular biotite is largely altered to chlorite and carbonate with common fine acicular brown rutile. The groundmass is fine grained 0.02 to 0.2mm anhedral mosaics with quartz, K.feldspar, plagioclase, sericite flakes and patchy carbonate. 0.05 to 0.3mm anhedral to subhedral pyrite grains and aggregates form distinct clusters of dissemianted grains. No veining was observed.

c) Other Comments

This weakly altered plagioclase-biotite-quartz porphyry has quartz-monzonite to granite composition. Primary mineralogy consists of plagioclase, quartz and biotite phenocrysts in a quartz, K.feldspar and plagioclase groundmass.

1. **SAMPLE NO.** R.10

2. **LOCATION:** South end of Trench #9

3. **HAND SPECIMEN**

Pinkish grey, leucocratic fine to medium grained with crude tabular feldspar to 3mm, sparse quartz microphenocrysts to 2mm. Local subrounded felsic xenoliths to 2cm, non mineralized. Host rock has fine groundmass consisting of quartz-sericite-K.feldspar. Non magnetic with weak pervasive carbonate. No obvious veining. 5 to 7% sulfides mainly pyrite in small aggregates with fine chalcopyrite.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Altered feldspar 10%, Quartz 3-5%, Altered xenoliths >10%.

Modal Mineralogy (estimated %)

Quartz	35	Carbonate	6-8
Plagioclase	10	Chlorite	2
K.feldspar	7	Pyrite	8
Remnant feldspar	25	Chalcopyrite	Tr
Sericite	5-7	Fe-Ti oxides	1

b) Textures

This sample is a mixture of quartz-feldspar porphyry and quartzo-feldspathic, altered/assimilated xenoliths. Some of the fine feldspar phyric xenoliths appear volcanic. Contacts are often vague through assimilation. Quartz forms irregular, locally fractured and corroded microphenocrysts up to 1mm. Feldspar phenocrysts commonly less than 2mm are often overprinted by carbonate, sericite, local chlorite. Some relict plagioclase (twinned) is evident. Fine grained recrystallized rock fragments are composed largely of quartz and fine feldspar laths 0.01 to 0.1mm grainn size. The aphanitic groundmass/matrix has K.feldspar, sericite and carbonate. Small clusters of very fine grained Fe-Ti oxides occur throughout. Pyrite occurs as clusters of disseminated anhedral grains and aggregates 0.2 to 1mm size. Coarser carbonate to 0.6mm often surrounds the pyrite. Chalcopyrite occurs as isolated anhedral grains up to 0.05mm in pyritic areas.

c) Other Comments

This is a xenolithic, finer quartz-feldspar porphyry with significant amounts of disseminated pyrite. Assimilation and weak phyllic alteration masks original textures. This probably represents a border or roof area to the intrusive body. No veining was observed.

1. **SAMPLE NO.** R.11

2. **LOCATION:** South central Trench #10

3. **HAND SPECIMEN**

Leucocratic Feldspar Porphyry with moderately crowded tabular feldspar phenocrysts up to 1cm, some showing weak alignment. Local altered biotite phenocrysts to 5mm. Weak carbonated throughout, fine grained quartz-sericite groundmass. K.feldspar rims to phenocrysts. Non magnetic. 3 to 5% fine-medium grained disseminated pyrite, sparse chalcopyrite.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Feldspars (plagioclase and K.feldspar) 25-30% altered

Modal Mineralogy (estimated %)

Quartz	40	Carbonate	12-15
Plagioclase	5-10	Chlorite	1-2
K. feldspar	5	Sphalerite	Tr
Remnant Feldspar (undefined)	15-20	Pyrite	2-3
		Rutile, Ti oxides	1
Remnant Biotite	1		
Sericite	10-12		

b) Textures

Subrounded to embayed quartz phenocrysts 1-2mm, weak corroded rims. Tabular feldspar phenocrysts 1 to 5mm are variably altered to sericite and carbonate. Some are zoned with more potassic rims and plagioclase twinned cores. Biotite phenocrysts 1 to 5mm are tabular and strongly altered to carbonate, chlorite with common acicular brown rutile. The groundmass is fine grained 0.01 to 0.04 mm quartz, plagioclase, sericite and carbonate with clusters of fine Fe-Ti oxides. In places the groundmass is hard to distinguish from altered smaller feldspar phenocrysts. Fine grained disseminated anhedral to subhedral pyrite predominantly 0.1 to 0.2mm with local aggregates and clusters. No chalcopyrite observed. Rare very fine sphalerite is locally appended to pyrite or occurs as isolated grains less than 0.2mm.

c) Other Comments

This feldspar, biotite, quartz porphyry displays weak to moderate phyllic alteration with more carbonate than sericite. No veining was observed and trace fine sphalerite occurs in pyritic areas.

1. **SAMPLE NO.** R.12

2. **LOCATION:** North end of Trench #10

3. **HAND SPECIMEN**

Leucocratic, crowded Feldspar-Quartz Porphyry, sparse mafics. Tabular to angular feldspar phenocrysts (plagioclase) to 5mm, fewer subrounded quartz to 4mm. Weak pervasive carbonate throughout. Fine grained quartz-sericite-K.feldspar? groundmass. 3 to 5% fine-medium grained disseminated pyrite, sparse chalcopyrite. No obvious veining.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Altered Feldspars 30%, Quartz 5-6%, Mica (biotite) 1-2%.

Modal Mineralogy (estimated %)

Quartz	40-45	Pyrite	3-4
Remnant Feldspar (K.feldspar, plagioclase)	30-35	Ti oxides, rutile	1
Sericite	10-12		
Carbonate	7-8		

b) Textures

The feldspar phenocrysts, many of which are plagioclase display variable alteration to sericite, carbonate. Some remnant tabular forms remain. Quartz phenocrysts 0.5 to 3mm are euhedral to embayed and weakly corroded. Original tabular mica phenocrysts 0.5 to 2mm are strongly sericitized with patchy carbonate and very fine stubby rutile, no needles. The groundmass features fine grained 0.01 to 0.05mm anhedral grain mosaics with quartz, feldspar, sericite and carbonate. Pyrite forms disseminated 0.2 to 1.2mm anhedral grains with local silicate inclusions.

c) Other Comments

This feldspar, quartz, mica (biotite)porphyry features moderate phyllic alteration with sericite exceeding carbonate. It is very difficult to distinguish K.feldspar in this sample due to alteration and grain size. No veining or chalcopyrite were observed.

1. **SAMPLE NO.** R.13

2. **LOCATION:** Far north end of Trench #10

3. **HAND SPECIMEN**

Highly oxidized, predominantly fine grained with local subrounded quartz phenocrysts to 2mm (Quartz-Porphyry) groundmass displays significant amounts of fine K.feldspar (staining) with local siliceous patches to 1cm. Local quartz veinlets up 8mm wide, some are vuggy, minor stockworks. 5% fine disseminated and some fracture fill pyrite, local Cpy. Non magnetic.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Quartz 5-7%

Modal Mineralogy (estimated %)

Quartz	50	Fe-Ti oxides	Tr-1
Remant feldspar (plagioclase & K.feldspar)	15		
Sericite	20-25		
Carbonate	12		
Pyrite	2-3		

b) Textures

Numerous 0.3 to 2mm angular to corroded quartz phenocrysts commonly corroded. Some composite up to 4mm. Strong sericite-carbonate alteration which is patchy pervasive masking original textures. The groundmass is very fine grained 0.01 to 0.03mm composed of quartz, feldspars with variable sericite-carbonate overprint. Most of the sericite and carbonate in this sample is fine grained, less than 0.2mm. Very fine grained Fe-Ti oxides form small clusters of disseminated grains. Pyrite is anhedral 0.2 to 0.8mm with local larger aggregates. Disseminated grains are highly embayed with numerous silicate inclusions. Grains often form clusters. One two phase quartz vein 3mm wide has sharp contacts. Peripheral recrystallized quartz is cut by later central polygonal quartz with minor anhedral pyrite up to 0.3mm grain size. Some fragments of early recrystallized quartz veining up to 2mm long were observed in the host.

c) Other Comments

This is a siliceous quartz porphyry with strong sericite-carbonate-quartz (phyllic) alteration. Two generations of quartz veining are evident, the later with pyrite. There is no strong evidence for vein related wallrock alteration or sulfides.

1. **SAMPLE NO.** R.14

2. **LOCATION:** North end of Trench #11

3. **HAND SPECIMEN**

Leucocratic Feldspar-Quartz Porphyry. Moderately crowded with tabular to angular feldspars to 4mm and larger subrounded quartz phenocrysts to 5mm. Sparse mafics. Fine grained quartz-sericite groundmass, weak pervasive carbonate. Patchy fine disseminated pyrite commonly in clusters, aggregates 4-5%, sparse chalcopyrite. Non magnetic.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Quartz 7-10%, Altered Feldspar 10-12%, Altered Mica (biotite?) 1%

Modal Mineralogy (estimated %)

Quartz	55	Pyrite	2-3
Feldspar (plagioclase & K. feldspar)	20	Fine dusty opaques-oxides	2-3
Sericite	5-9		
Carbonate	6-9		
Chlorite	7-10		

b) Textures

Coarse, clear often subrounded quartz phenocrysts 2 to 5mm with some smaller, sub millimetre, angular microphenocrysts. Crude tabular feldspars to 3mm are strongly overprinted by carbonate, chlorite bleached sericite. Altered mica lathes to 2mm are largely altered to bleached chlorite/sericite with fine Fe-Ti oxides, no needles. The groundmass is very fine grained 0.01 to 0.04mm mainly quartz, indistinguishable feldspar, minor fine sericite and carbonate. Very fine dusty opaques, oxides are disseminated throughout and commonly patchy. Pyrite forms 0.2 to 1mm anhedral grains with local silicate inclusions.

c) Other Comments

This is fresher feldspar-quartz (biotite) porphyry which is quite siliceous. The alteration is borderline propylitic-phyllic. Much of the earlier chlorite is bleached by sericite alteration indicating a phyllic overprint on earlier propylitic alteration.

1. **SAMPLE NO.** R.16

2. **LOCATION:** North central Trench #4.

3. **HAND SPECIMEN**

Leucocratic crowded porphyry with large quartz phenocrysts to 6mm, finer more abundant and angular feldspars to 4mm, minor altered biotite? microphenocrysts. Fine grained groundmass with sericite-K.feldspar. Numerous linear quartz veinlets up to 5mm wide with associated pyrite, chalcopyrite, bornite? also fine disseminated pyrite > chalcopyrite. Total sulfides 5-7%. Local malachite staining on surfaces. Non magnetic, weak pervasive carbonate.

4. **THIN SECTION**

a) Mineralogy

Phenocrysts: Quartz 7-8%, Altered Feldspar 10-12%, Altered Biotite 1%

Modal Mineralogy (estimated %)

Quartz	45	Pyrite	5-7
Remnant feldspars	5-7	Chalcopyrite	1-2
Remnant biotite	<1	Fe-Ti oxides	1-2
Sericite	15-17		
Carbonate	5-7		
Chlorite	1-2		
Vein	15 (85% Qtz, 10% Py, 1% Cpy, 2% Ser., 2% carb.)		

b) Textures

Quartz phenocrysts are predominantly coarse 2 to 5mm with subrounded to high embayed forms, locally fractured with fine 0.6 to 0.2mm wide pyrite, chalcopyrite (carbonate, sericite) veinlets. Tabular feldspar (plagioclase?) phenocrysts to 2mm are pseudomorphed by fine sericite > carbonate, local chlorite. Rare remnant biotite phenocrysts to 1mm long are also strongly altered to sericite, carbonate with much fine rutile often in trails. The fine groundmass 0.01 to 0.04mm consists of anhedral, even grained mosaics of quartz, feldspars, sericite and minor carbonate. There is much K.feldspar variably altered to fine sericite.

Several linear quartz veins up to 5mm wide cut the porphyry and define a vein stockwork. These have polygonal to sutured quartz with fairly sharp wallrock contacts and local narrow sericite-carbonate selvages. Narrow central fractures in these veins contain fine carbonate, sericite, millimetre scale anhedral pyrite aggregates and anhedral chalcopyrite up to 0.2mm. Local coarse subhedral pyrite grains and aggregates up to 1mm grain size occur at wallrock contacts. Disseminated fine to medium grained pyrite, local aggregates occur throughout the porphyry. The chalcopyrite is anhedral, fine disseminated, rarely >0.3mm grain size. Significant amounts of fine chalcopyrite occur in altered biotite with coarser subhedral pyrite also in fractures cutting quartz phenocrysts. No magnetite was observed.

R. C. Wells, P.Geo., FGAC. Kamloops Geological Services Ltd.

c) **Other Comments**

This quartz-feldspar porphyry has a quartz-pyrite-chalcopyrite vein stockwork with disseminated pyrite and finer chalcopyrite in the host. The vein selvages have sericite-carbonate alteration with pyrite and local chalcopyrite. The overall alteration can be described a moderate to strong phyllic. This sample was visually the most copper mineralized of the suite.

APPENDIX B

LITHOGEOCHEMISTRY

Eco-Tech LABORATORIES LTD.

ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 Dallas Drive, Kamloops, B.C. V2C 6T4
Phone (250) 573-5700 Fax (250) 573-4557
email: ecotech@direct.ca

CERTIFICATE OF ANALYSIS AK 2000-173

KAMLOOPS GEOLOGICAL SERVICES LTD.
910 HEATHERTON COURT
KAMLOOPS, B.C.
V1S 1P5

24-Jul-00

ATTENTION: RON WELLS

No. of samples received: 18
Sample type: Rock
Project #:FP-RD
Shipment #: None Given
Samples submitted by: Ron Wells

Note: Values expressed in percent

Plot Symbol	ET #.	Tag #	BaO	P205	SiO2	MnO	Fe203	MgO	Al203	CaO	TiO2	Na2O	K20	L.O.I.
○	6	R.04A	0.13	0.23	65.84	0.05	4.28	1.46	15.04	2.93	0.39	3.59	2.06	4.00
◕	8	R.06	0.05	0.25	61.06	0.16	6.47	1.57	16.51	2.87	0.65	0.11	3.70	6.59
●	10	R.08	0.11	0.21	63.57	0.12	5.51	1.56	15.27	4.34	0.37	2.60	2.13	4.20
□	11	R.09	0.10	0.30	66.85	0.04	3.54	1.46	15.78	2.65	0.37	4.11	2.39	2.40
◧	12	R.10	0.05	0.30	61.03	0.18	5.79	2.01	15.70	4.35	0.50	3.09	2.00	5.00
■	13	R.11	0.09	0.12	68.88	0.05	3.47	1.21	14.92	2.62	0.29	2.24	2.92	3.20
△	16	R.14	0.52	0.20	66.77	0.05	4.57	1.09	14.73	3.36	0.30	2.58	1.44	4.40

QC DATA:

		BaO	P205	SiO2	MnO	Fe203	MgO	Al203	CaO	TiO2	Na2O	K20	L.O.I.
Repeat:													
16	R.14	0.19	0.22	66.14	0.05	4.12	1.39	14.91	2.84	0.37	3.51	2.16	4.00
Standard:													
Mrg-1		0.03	0.41	59.19	0.32	7.02	2.69	11.85	8.08	0.14	4.18	4.26	1.84
Sy-2		-0.02	0.08	38.78	0.17	17.85	13.30	8.39	14.69	3.71	0.78	0.02	2.22

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

df/wr150
XLS/00Kam. Geological

31-Jul-00

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2000-173

KAMLOOPS GEOLOGICAL SERVICES LTD.
910 HEATHERTON COURT
KAMLOOPS, B.C.
V1S 1P5

ATTENTION: RON WELLS

No. of samples received: 18
Sample type: Rock
Project #: FP-RD
Shipment #: None Given
Samples submitted by: Ron Wells

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	R.01	<0.2	2.88	<5	25	<5	1.79	20	70	41	1529	>10	<10	1.30	980	13	0.04	22	8590	<2	<5	20	4	0.02	<10	96	<10	17	92
2	R.02	<0.2	1.06	<5	35	<5	0.07	2	12	15	34	3.44	<10	0.49	308	4	0.01	6	450	12	<5	<20	<1	<0.01	<10	16	<10	<1	291
3	R.02A	<0.2	0.20	10	10	20	0.05	2	36	64	53	>10	<10	<0.01	28	14	<0.01	3	70	30	<5	40	<1	<0.01	20	3	<10	<1	177
4	R.03	<0.2	0.44	20	50	<5	1.37	1	6	61	47	1.56	<10	0.29	603	2	0.03	7	900	4	<5	<20	9	<0.01	<10	10	<10	8	62
5	R.04	0.8	0.40	<5	30	<5	0.09	3	6	38	439	3.33	<10	0.01	27	40	<0.01	8	770	26	<5	<20	<1	<0.01	<10	5	<10	<1	31
6	R.04A	0.6	0.38	10	10	<5	1.68	<1	12	23	995	2.66	<10	0.49	355	24	0.02	6	930	14	<5	<20	62	<0.01	<10	12	<10	5	72
7	R.05	<0.2	0.51	10	185	<5	1.07	3	3	24	306	1.41	20	0.14	277	250	<0.01	5	790	6	<5	<20	55	<0.01	<10	16	<10	11	343
8	R.06	<0.2	0.63	45	35	<5	1.97	1	22	11	116	4.30	<10	0.55	1242	7	<0.01	12	1230	8	<5	<20	18	<0.01	<10	29	<10	6	120
9	R.07	<0.2	0.96	<5	15	<5	0.12	<1	10	20	12	5.05	<10	0.27	275	7	0.02	8	660	<2	<5	<20	<1	<0.01	<10	12	<10	<1	15
10	R.08	<0.2	0.88	10	60	<5	3.15	<1	10	32	35	3.63	<10	0.74	899	4	0.03	8	1020	20	5	<20	116	<0.01	<10	30	<10	<1	150
11	R.09	<0.2	1.09	<5	75	<5	1.32	<1	10	38	24	2.30	<10	0.76	322	3	0.04	7	960	10	5	<20	22	<0.01	<10	33	<10	1	48
12	R.10	<0.2	1.44	<5	20	<5	2.24	1	14	51	479	5.26	<10	0.28	470	9	0.16	10	1020	6	<5	<20	69	<0.01	<10	18	<10	11	42
13	R.11	<0.2	1.30	15	90	<5	2.93	6	13	26	73	3.59	<10	1.07	1478	4	0.02	10	1300	14	10	<20	201	<0.01	<10	50	<10	2	797
14	R.12	<0.2	0.45	<5	50	<5	1.89	<1	5	42	6	2.07	<10	0.36	341	3	0.03	3	690	24	<5	<20	11	<0.01	<10	5	<10	7	60
15	R.13	0.2	0.33	<5	25	<5	0.04	<1	5	49	8	2.40	<10	0.03	30	79	<0.01	2	50	14	<5	<20	<1	<0.01	<10	2	<10	<1	51
16	R.14	0.2	0.48	40	<5	<5	2.28	1	4	26	54	2.92	<10	0.45	386	18	0.04	3	620	32	10	<20	54	<0.01	<10	4	<10	2	85
17	R.15	8.0	0.30	220	<5	<5	0.07	12	17	48	668	>10	<10	<0.01	25	370	<0.01	7	140	416	<5	40	<1	<0.01	20	7	<10	<1	2335
18	R.16	0.8	0.38	35	45	<5	2.65	2	12	46	1796	2.77	<10	0.59	520	46	<0.01	7	1010	8	5	<20	26	<0.01	<10	7	<10	3	208

QC/DATA:

Resplit:

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	R.01	<0.2	2.97	<5	25	<5	1.94	1	76	47	1565	>10	<10	1.32	1026	18	0.04	17	9350	14	<5	60	3	0.01	<10	101	<10	21	86

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
Repeat:																													
1	R.01	<0.2	2.94	<5	25	<5	1.84	1	73	42	1573	>10	<10	1.33	996	15	0.04	20	9000	6	<5	60	2	0.01	<10	98	<10	20	90
10	R.08	<0.2	0.85	10	65	<5	3.17	<1	9	33	37	3.54	<10	0.73	900	6	0.03	8	970	22	5	<20	114	<0.01	<10	30	<10	<1	159
Standard:																													
GEO'00		1.0	1.79	55	140	<5	1.70	<1	20	64	86	3.67	<10	0.93	712	<1	0.02	26	900	22	15	<20	46	0.11	<10	78	<10	<1	72

df/168f
XLS/00Kam. Geological
FAX: 372-1012

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

31-Jul-00

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS AK 2000-173

KAMLOOPS GEOLOGICAL SERVICES LTD.
910 HEATHERTON COURT
KAMLOOPS, B.C.
V1S 1P5

ATTENTION: RON WELLS

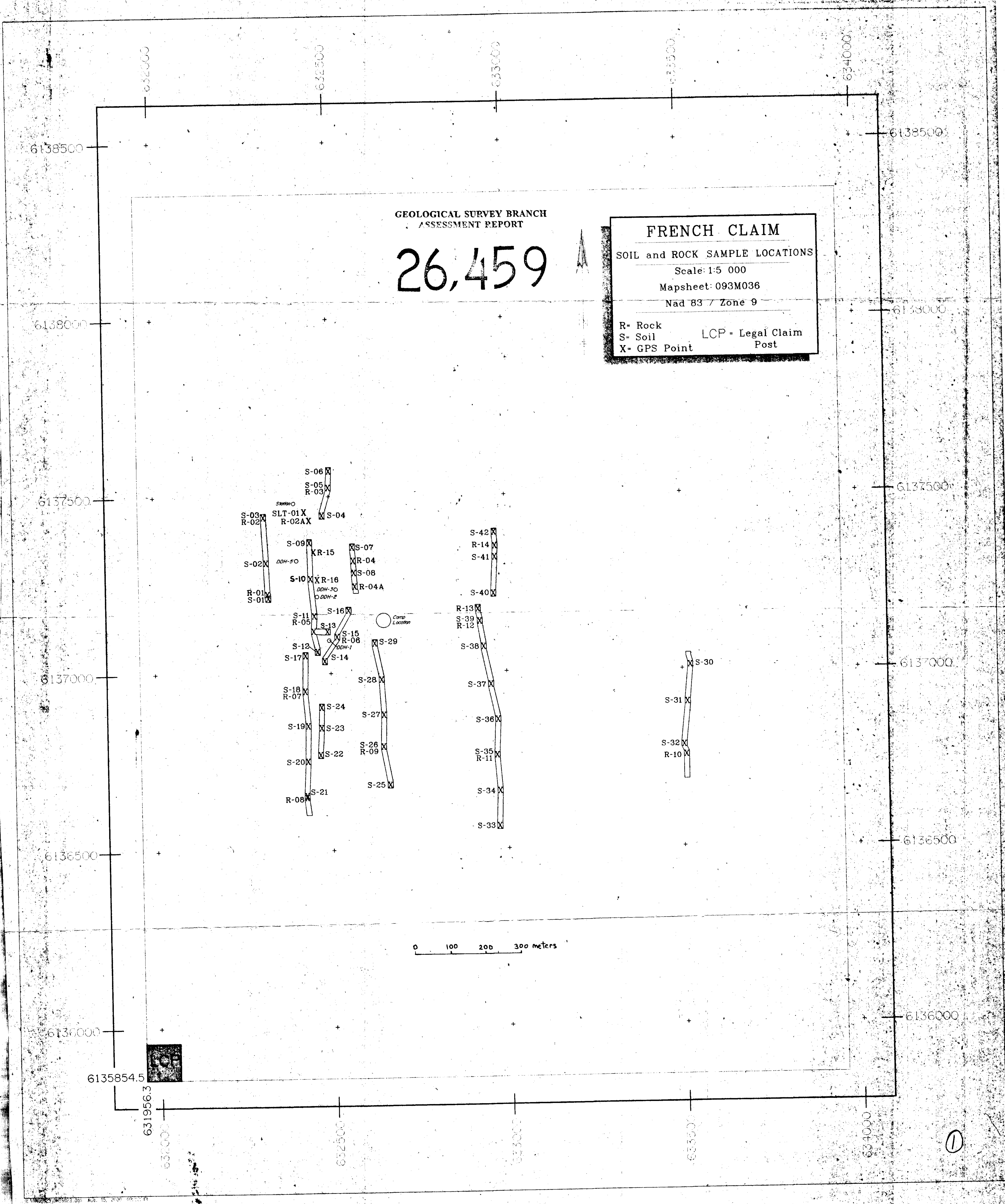
No. of samples received: 18
Sample type: Rock
Project #: FP-RD
Shipment #: None Given
Samples submitted by: Ron Wells

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	R.01	<0.2	2.88	<5	25	<5	1.79	20	70	41	1529	>10	<10	1.30	980	13	0.04	22	8590	<2	<5	20	4	0.02	<10	96	<10	17	92
2	R.02	<0.2	1.06	<5	35	<5	0.07	2	12	15	34	3.44	<10	0.49	308	4	0.01	6	450	12	<5	<20	<1	<0.01	<10	16	<10	<1	291
3	R.02A	<0.2	0.20	10	10	20	0.05	2	36	64	53	>10	<10	<0.01	28	14	<0.01	3	70	30	<5	40	<1	<0.01	20	3	<10	<1	177
4	R.03	<0.2	0.44	20	50	<5	1.37	1	6	61	47	1.56	<10	0.29	603	2	0.03	7	900	4	<5	<20	9	<0.01	<10	10	<10	8	62
5	R.04	0.8	0.40	<5	30	<5	0.09	3	6	38	439	3.33	<10	0.01	27	40	<0.01	8	770	26	<5	<20	<1	<0.01	<10	5	<10	<1	31
6	R.04A	0.6	0.38	10	10	<5	1.68	<1	12	23	995	2.66	<10	0.49	355	24	0.02	6	930	14	<5	<20	62	<0.01	<10	12	<10	5	72
7	R.05	<0.2	0.51	10	185	<5	1.07	3	3	24	306	1.41	20	0.14	277	250	<0.01	5	790	6	<5	<20	55	<0.01	<10	16	<10	11	343
8	R.06	<0.2	0.63	45	35	<5	1.97	1	22	11	116	4.30	<10	0.55	1242	7	<0.01	12	1230	8	<5	<20	18	<0.01	<10	29	<10	6	120
9	R.07	<0.2	0.96	<5	15	<5	0.12	<1	10	20	12	5.05	<10	0.27	275	7	0.02	8	660	<2	<5	<20	<1	<0.01	<10	12	<10	<1	15
10	R.08	<0.2	0.88	10	60	<5	3.15	<1	10	32	35	3.63	<10	0.74	899	4	0.03	8	1020	20	5	<20	116	<0.01	<10	30	<10	<1	150
11	R.09	<0.2	1.09	<5	75	<5	1.32	<1	10	38	24	2.30	<10	0.76	322	3	0.04	7	960	10	5	<20	22	<0.01	<10	33	<10	1	48
12	R.10	<0.2	1.44	<5	20	<5	2.24	1	14	51	479	5.26	<10	0.28	470	9	0.16	10	1020	6	<5	<20	69	<0.01	<10	18	<10	11	42
13	R.11	<0.2	1.30	15	90	<5	2.93	6	13	26	73	3.59	<10	1.07	1478	4	0.02	10	1300	14	10	<20	201	<0.01	<10	50	<10	2	797
14	R.12	<0.2	0.45	<5	50	<5	1.89	<1	5	42	6	2.07	<10	0.36	341	3	0.03	3	690	24	<5	<20	11	<0.01	<10	5	<10	7	60
15	R.13	0.2	0.33	<5	25	<5	0.04	<1	5	49	8	2.40	<10	0.03	30	79	<0.01	2	50	14	<5	<20	<1	<0.01	<10	2	<10	<1	51
16	R.14	0.2	0.48	40	<5	<5	2.28	1	4	26	54	2.92	<10	0.45	386	18	0.04	3	620	32	10	<20	54	<0.01	<10	4	<10	2	85
17	R.15	8.0	0.30	220	<5	<5	0.07	12	17	48	668	>10	<10	<0.01	25	370	<0.01	7	140	416	<5	40	<1	<0.01	20	7	<10	<1	2335
18	R.16	0.8	0.38	35	45	<5	2.65	2	12	46	1796	2.77	<10	0.59	520	46	<0.01	7	1010	8	5	<20	26	<0.01	<10	7	<10	3	208

QC/DATA:
Resplit:

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	R.01	<0.2	2.97	<5	25	<5	1.94	1	76	47	1565	>10	<10	1.32	1026	18	0.04	17	9350	14	<5	60	3	0.01	<10	101	<10	21	86



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
26,459
FRENCH CLAIM
SOIL and ROCK SAMPLE LOCATIONS
Scale: 1:5 000
Mapsheet: 093M036
Nad 83 / Zone 9
R- Rock
S- Soil
X- GPS Point
LCP = Legal Claim Post
LCP
6135854.5
631956.3
6138500
6138000
6137500
6137000
6136500
6136000
632000
632500
633000
633500
634000
0 100 200 300 meters
Camp Location
Station
SLT-01 X
R-02AX
S-01
S-02
S-03
S-04
S-05
S-06
S-07
S-08
S-09
S-10
S-11
S-12
S-13
S-14
S-15
S-16
S-17
S-18
S-19
S-20
S-21
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S-40
S-41
S-42
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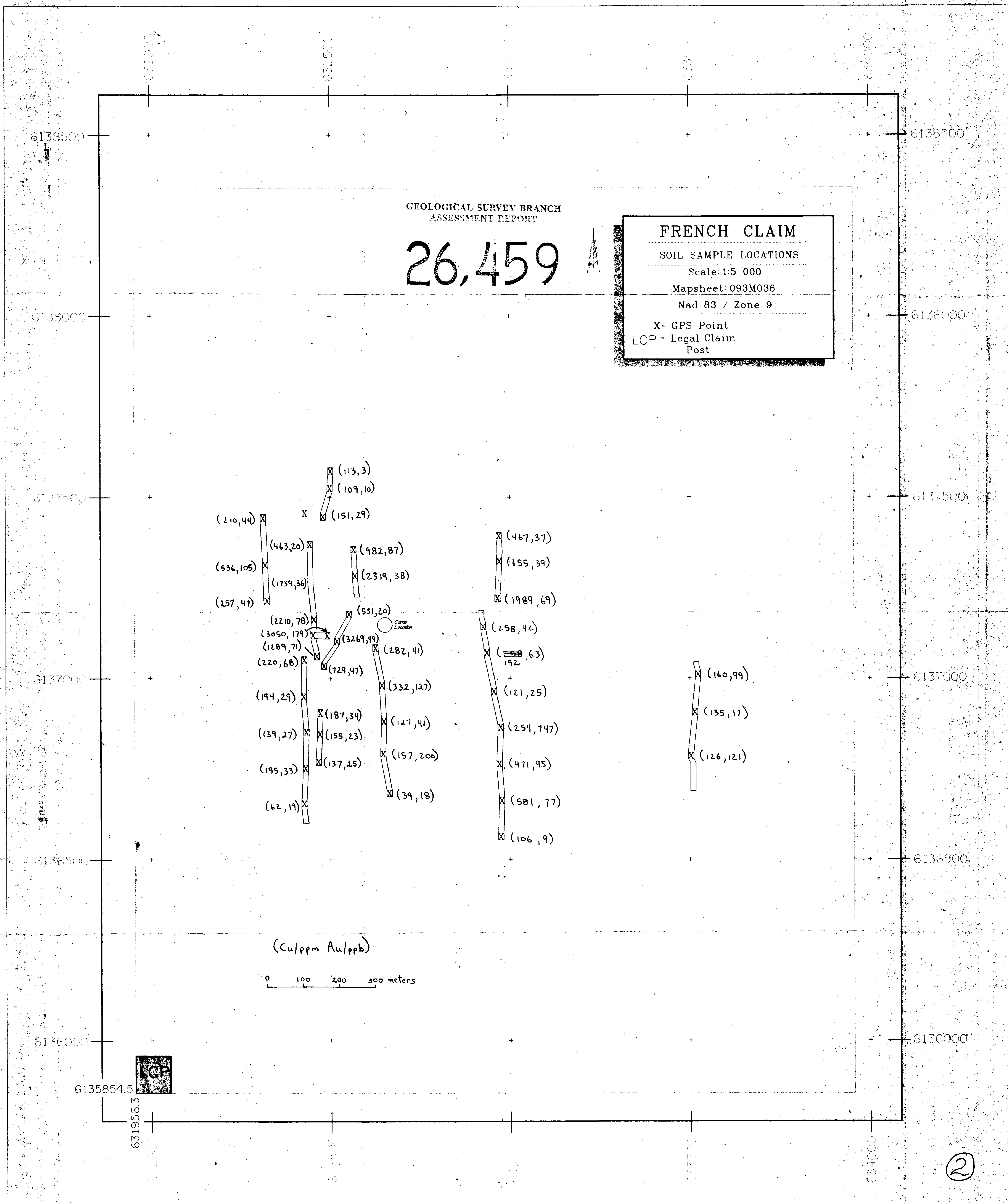
R-02
R-03
R-04
R-04A
R-05
R-06
R-07
R-08
R-09
R-10
R-11
R-12
R-13
R-14
R-15
R-16
DDH-1
DDH-2
DDH-3
DDH-5
1


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
26,459
FRENCH CLAIM
SOIL SAMPLE LOCATIONS
Scale: 1:5 000
Mapsheet: 093M036
Nad 83 / Zone 9
X= GPS Point
LCP = Legal Claim Post
6138500
6138000
6137500
6137000
6136500
6136000
6135854.5
631956.3
634000
LCP
(113,3)
(109,10)
(151,29)
(210,44)
(463,20)
(982,87)
(536,105)
(1739,36)
(2319,38)
(257,47)
(2210,78)
(3050,179)
(1289,71)
(551,20)
Camp Location
(3269,49)
(282,41)
(220,68)
(729,47)
(194,29)
(332,127)
(187,34)
(139,27)
(155,23)
(127,41)
(195,33)
(137,25)
(157,200)
(62,19)
(39,18)
(467,37)
(655,39)
(1989,69)
(258,42)
(192,63)
(121,25)
(254,747)
(471,95)
(581,77)
(106,9)
(160,99)
(135,17)
(126,121)
(Cu/ppm Au/ppb)
0 100 200 300 meters
2