FIREWEED PROPERTY

OMINECA MINING DIVISION

BRITISH COLUMBIA

1600 ZONE DIAMOND DRILLING IN 1999

ASSESSMENT REPORT

FOR

MANSFIELD MINERALS INC.

AND

CEDAR CAPITAL CORP.

ANTHONY L'ORSA, P.GEO.

26 JUNE 2000

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SUMMARY

Six diamond drill holes were drilled in the 1600 zone of the Fireweed prospect northeast of Smithers, B.C. Widespread but uneconomic amounts of silver, zinc, lead, copper and local gold were encountered, associated with rhyolite dykes in a classic turbidite sequence of the Skeena Group. The mineral occurrence is in the propylitic zone of an epigenetic hydrothermal system.

INTRODUCTION

A diamond drilling program was carried out on the GER 2 claim of the Fireweed property during October, 1999. The objective of the program was to further test the 1600 zone, where encouraging results had been obtained by diamond drilling in 1989 (Price, 1999). Six holes (FW99-1 to FW99-6) were drilled for a total of 1250.91 metres.

The contractor was Britton Brothers Diamond Drilling Ltd of Smithers, B.C., who used a BB 2500 hydraulic drill and recovered NQ core. The core is stored at Driftwood, near Smithers, by the author. Water for drilling was obtained from a small creek about 400 metres east of the drill holes. Geochemical analyses were done by Acme Analytical Laboratories Ltd of Vancouver, B.C.

LOCATION AND ACCESS

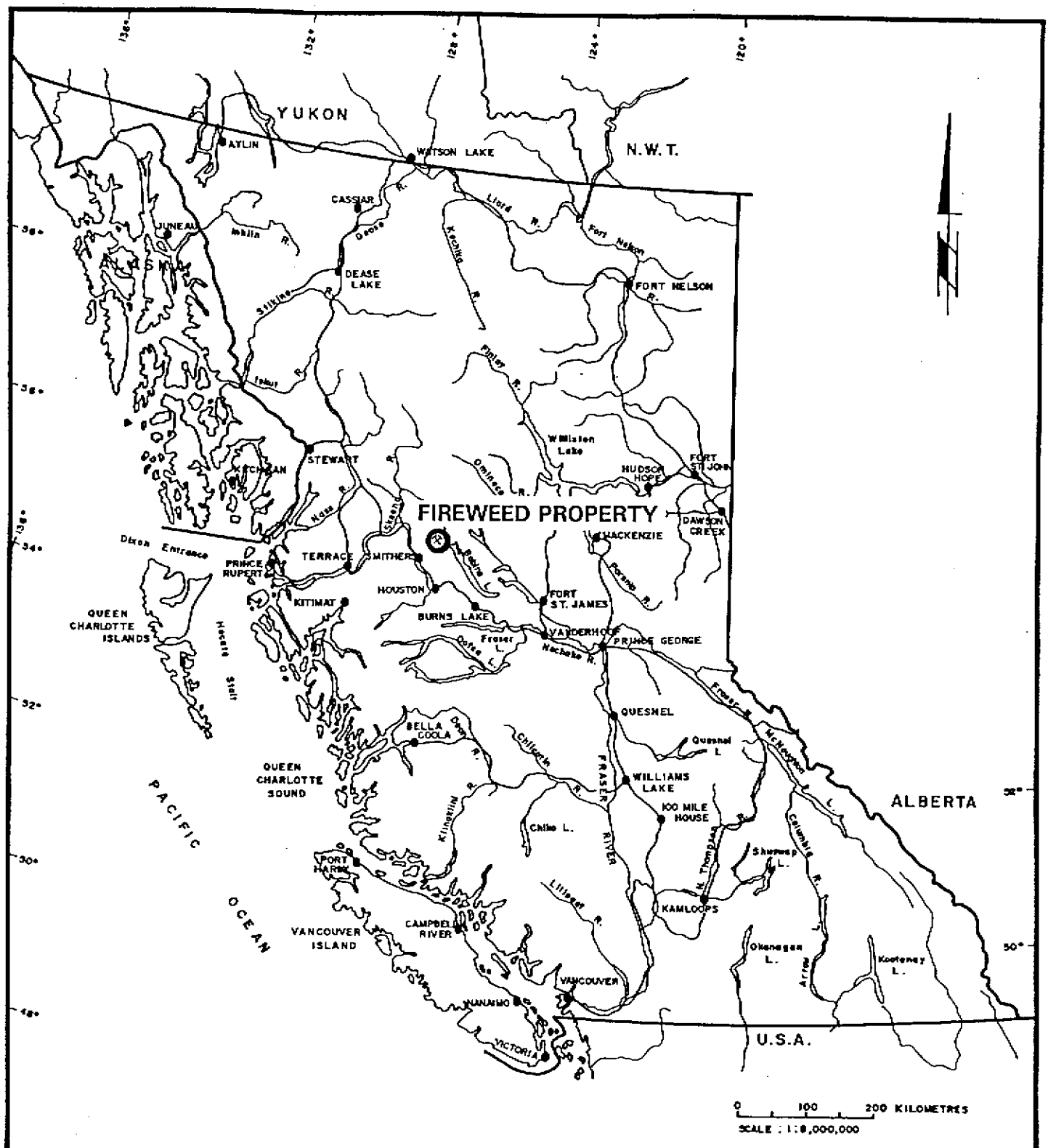
The Fireweed prospect is centred at approximately 55° 01' north latitude and 126° 26' west longitude, Map 93M/1W (93M.008), 54 km northeast of Smithers, Omineca Mining Division, Morice Forest District, British Columbia (figures 1 and 2).

Easily improved four-wheel drive access to the prospect is provided by a disused logging road that branches off the Babine Lake road at km 58, about 4 km southeast of Smithers Landing. Extensive replanted clearcuts and accompanying roads provide access within much of the claims area. The road distance from Smithers to the claims is about 64 km.

PHYSIOGRAPHY AND VEGETATION

The claims occupy part of a gentle northerly slope, interrupted by a few small hills, that drains into Babine Lake about 2 km to the north. Elevations on the claims range from about 800 m to 1000 m above sea level. The elevation of Babine Lake is about 711 m above sea level. Several small creeks on the claims can supply sufficient water for exploration purposes.

The claims are almost entirely covered by overburden constituting mostly till and a few local swamp deposits. Outcrops are rare.

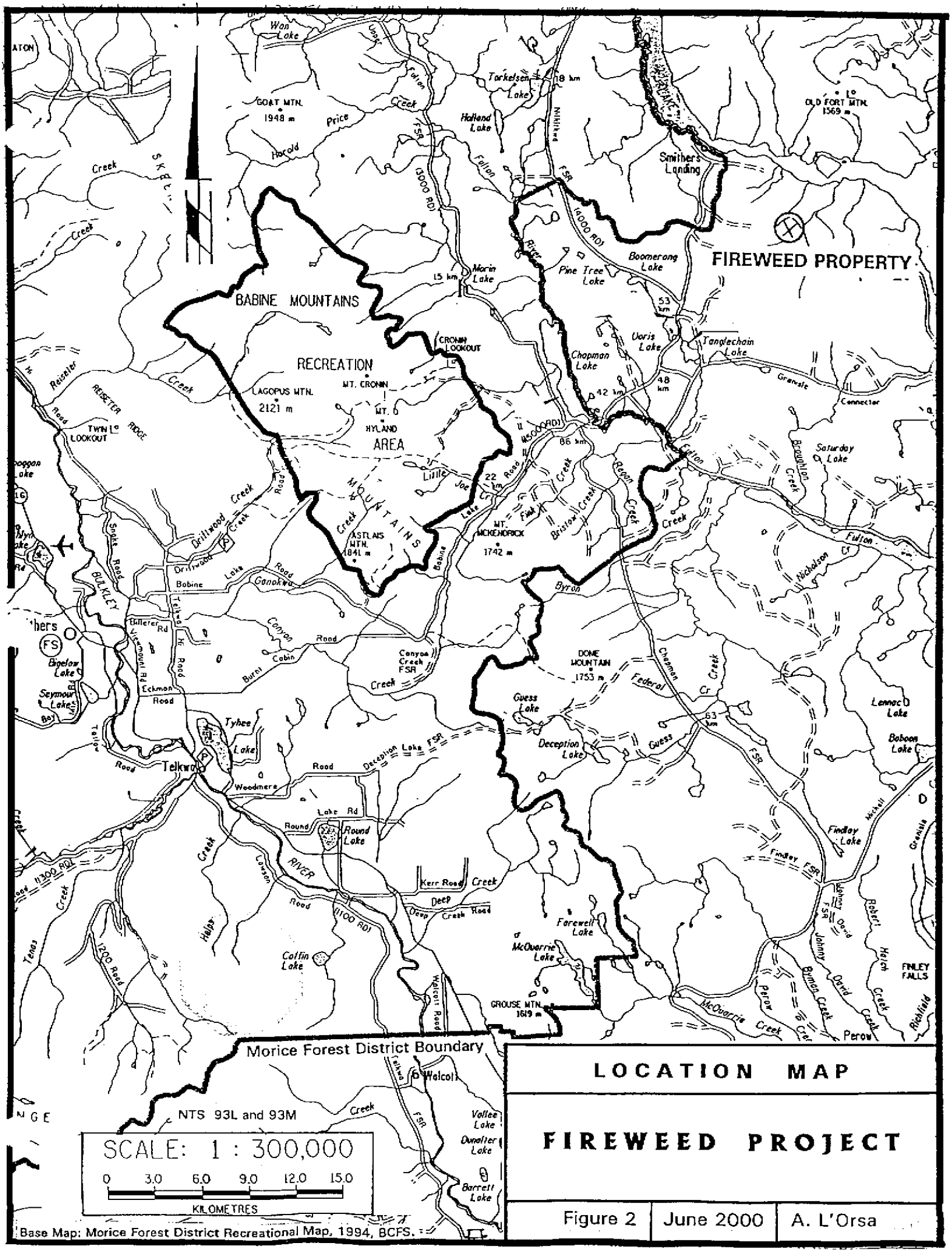


B. C. LOCATION MAP

FIREWEED PROJECT

Figure 1	June 2000	A.L'Orsa

VANCAL 11927


FIREWEED PROPERTY
BABINE MOUNTAINS RECREATION AREA
Morice Forest District Boundary
NTS 93L and 93M
SCALE: 1 : 300,000
0 3.0 6.0 9.0 12.0 15.0
KILOMETRES
Base Map: Morice Forest District Recreational Map, 1994, BCFS.
LOCATION MAP
FIREWEED PROJECT
Figure 2
June 2000
A. L'Orsa

Drill holes in the 1600 zone encountered approximately 6.25 m to 13.5 m of overburden. Much of the claims area, including the 1600 and West zones, was logged and replanted within the past twenty years. The remaining forested areas support good stands of fir, spruce and pine, and subsidiary populations of deciduous species.

CLAIMS AND OWNERSHIP

The Fireweed property comprises the following mineral claims (60 units):

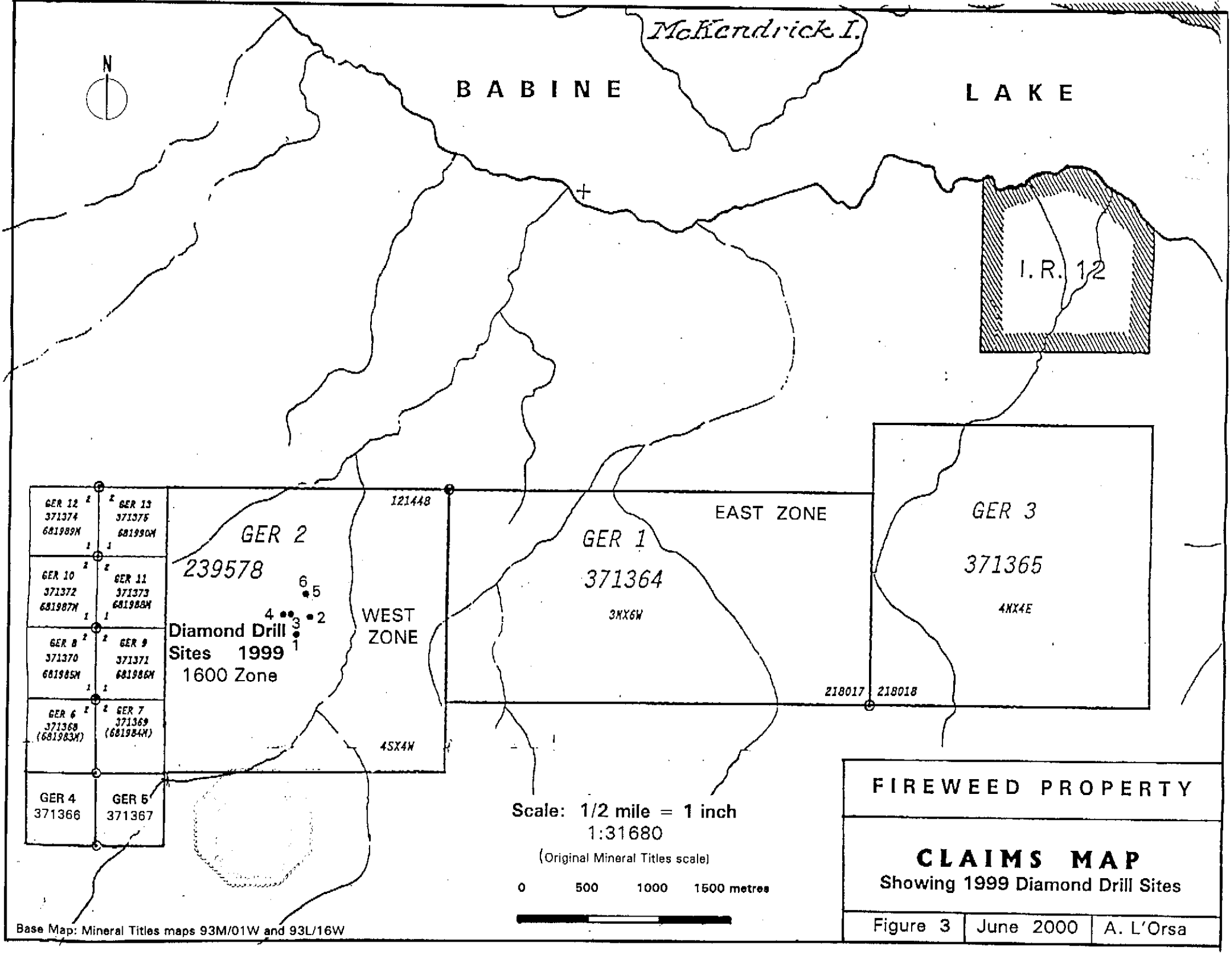
Claim	Units	Tenure	Expiry
GER 1	18	371364	20000831
GER 2	16	239578	20030810
GER 3	16	371365	20000831
GER 4	1	371366	20000901
GER 5	1	371367	20000901
GER 6	1	371368	20000901
GER 7	1	371369	20000901
GER 8	1	371370	20000901
GER 9	1	371371	20000901
GER 10	1	371372	20000901
GER 11	1	371373	20000901
GER 12	1	371374	20000901
GER 13	1	371375	20000901

Mansfield Minerals Inc., 922 - 510 West Hastings Street, Vancouver, B.C., V6B 1L8, is the recorded holder of the claims.

PREVIOUS WORK

The Fireweed property was staked in 1987 following the discovery of mineralized boulders and outcrops by John and Gordon Leask. The prospect was acquired by Canadian-United Minerals Inc. (now Mansfield Minerals Inc.) who carried out geological, geochemical and geophysical surveys, backhoe trenching and diamond drilling on the claims in the late 1980s (Holland, 1988; Price, 1999). The property was optioned by Minnova Inc. in 1990 who conducted additional geophysical surveys and did some diamond drilling (Wells, 1991).

Prior to the start of the 1999 diamond drilling, more than 17 000 m of diamond drilling had been completed in 97 holes. Geophysical work included 125 line km of induced polarization surveys and 200 line km of magnetometer surveys. In the West Zone, an indicated resource of 525,648 tonnes grading 354 g/tonne silver, 2.24% zinc and 1.35% lead had been calculated using a 171 g/tonne silver cut-off (Price, 1999).


McKendrick I.
BABINE LAKE
N
I.R. 12
GER 12 371374 681989M
GER 13 371375 681990M
GER 10 371372 681987M
GER 11 371373 681988M
GER 8 371370 681985M
GER 9 371371 681986M
GER 6 371368 (681983M)
GER 7 371369 (681984M)
GER 4 371366
GER 5 371367
GER 2
239578
121448
Diamond Drill Sites 1999
1600 Zone
WEST ZONE
4SX4W
GER 1
371364
3NX6W
EAST ZONE
GER 3
371365
4NX4E
218017
218018
Scale: 1/2 mile = 1 inch
1:31680
(Original Mineral Titles scale)
0 500 1000 1500 metres
Base Map: Mineral Titles maps 93M/01W and 93L/16W
FIREWEED PROPERTY
CLAIMS MAP
Showing 1999 Diamond Drill Sites
Figure 3 | June 2000 | A. L'Orsa

GENERAL GEOLOGY

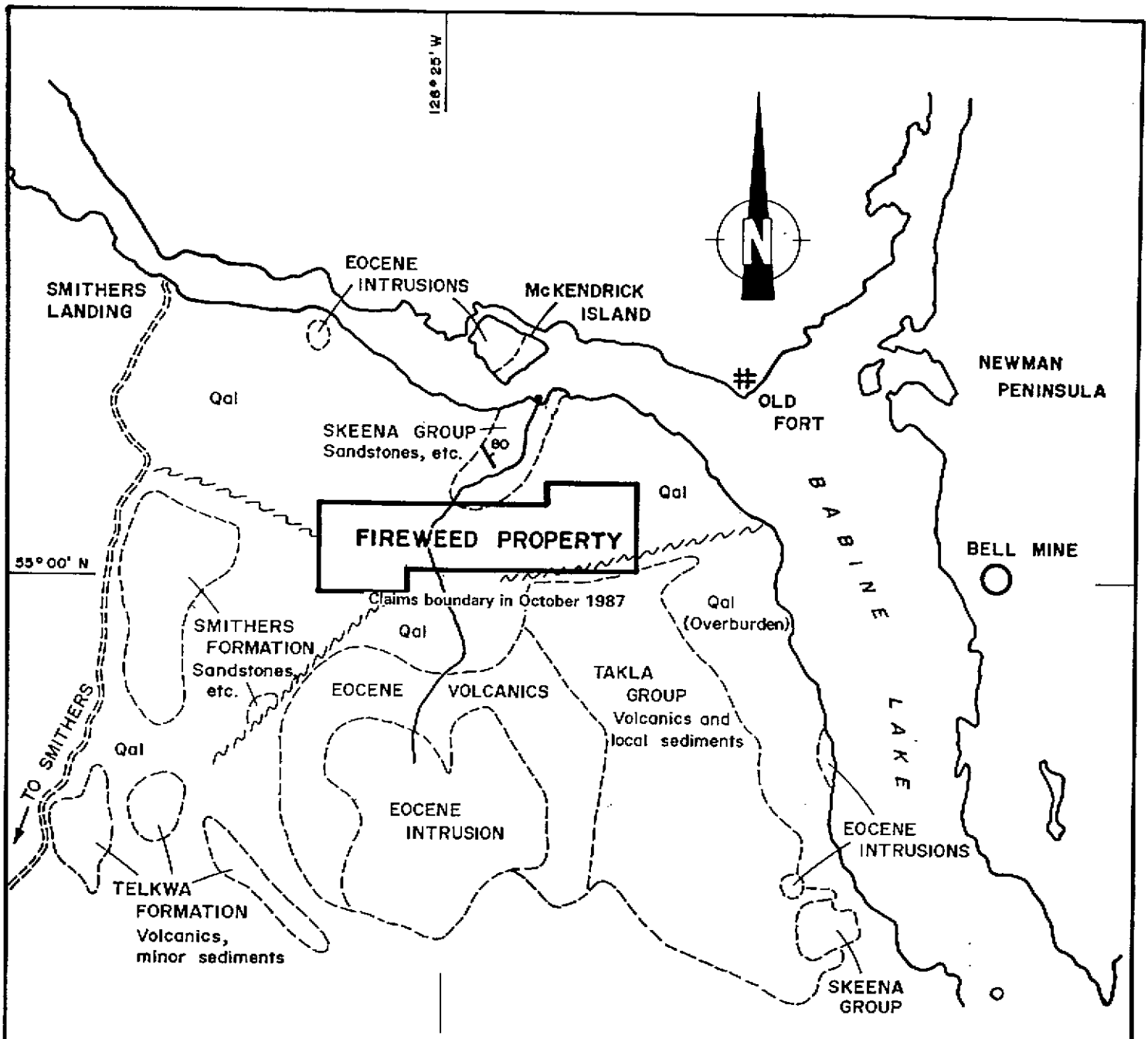
The Fireweed prospect lies within the southeastern perimeter of the Bowser Basin and on the edge of the Skeena Arch, in an area underlain mainly by epiclastic rocks assigned to the Lower Cretaceous Skeena Group that are preserved by a graben in the Babine Lake valley. Sedimentary and volcanic rocks of the Lower to Middle Jurassic Hazelton Group outcrop nearby to the southwest and northeast, and Upper Triassic Takla Group volcanics and sediments outcrop to the south and southeast. The above rocks are cut by porphyries of the Babine Lake Intrusions, and an igneous complex of Eocene age occurs just south of the claims (Richards, 1980; Bassett and Kleinspehn, 1997; Tipper, 1976; Tipper and Richards, 1976).

RESULTS OF 1999 DRILLING

Siltstones, fine-grained sandstones and mudstones are the predominant rocks encountered during drilling in the 1600 Zone. They are followed in abundance by medium to coarse-grained sandstones. These rocks are turbidites and they record a series of slump and other sedimentation events, apparently in a complex fan environment in the Bowser basin. The only fossils observed are bits of coalified wood (FW99-4). Divisions A through E(t) of the Bouma sequence appear to be represented. Very minor amounts of detrital muscovite, a key indicator of the Skeena Group, were observed under the microscope.

The sediments are cut by several sericitized, chloritized, carbonatized and, at least locally, silicified biotite feldspar porphyry dykes (and sills?) the widest of which intersected in this program has a true width of about 5.8 m (FW99-3). The results from whole rock analyses of the freshest samples available from these intrusions plot in the rhyolite field on the Zr/TiO_2-Nb/Y diagram of Winchester and Floyd (1977), and in the rhyolite field on a total alkali-silica diagram (Sabine, 1989). Intrusions similar in appearance have been identified as latite elsewhere on the property (Payne, 1988).

Generally small amounts of pyrite, sphalerite and galena are widespread in all holes. These minerals occur in both the sediments and the rhyolite as veins and disseminations. Traces of chalcopyrite were also found in all holes except FW99-6. The sulphide minerals generally are minor constituents of quartz-carbonate-$\pm$chlorite fracture fillings. However, in places, sulphide minerals occur as massive fracture fillings, including breccia fillings, accompanied by very little gangue. The carbonate minerals include ankerite (very common), and calcite (very little). There was more than one episode of fracturing and mineralization. Pyrite veins occupy fractures that cut and offset earlier pyrite veins; there are several generations of gangue,



After : Richards, T.A., 1980
Tipper, H.W., 1976

GENERAL GEOLOGY

FIREWEED PROPERTY AREA

TO ACCOMPANY A REPORT BY A. L'ORSA.

15th Oct. 1987	Drawn by E.C.	FIG. 4

and there are two generations of sphalerite. Dark sphalerite (e.g. brownish black) is cut by veinlets of light coloured sphalerite (e.g. light reddish amber). The results of geochemical analyses of mineralized sections of core are included in the drill logs and the assay certificates are in Appendix 2.

Apparently diagenetic pyrite and minor marcasite occur locally concentrated along bedding planes as lenses and disseminations. Geochemical analyses of these sections yielded poor results.

All holes intersected numerous graphitic, post-mineralization, faults. The faults commonly occur along bedding planes.

DISCUSSION

There has been some debate about the genesis of this deposit, including speculation that the Fireweed property might host a volcanogenic massive sulphide deposit. In the 1600 zone, sulphide minerals occur in the rhyolite dykes as fracture fillings and disseminations. The fact that the dykes are mineralized indicates that the hydrothermal system that produced the sulphide deposits developed in the buried parent stock of the dykes (cf. Burnham, 1979). In addition, multiple episodes of fracture filling record epigenetic mineralizing events and the mineralogy represents a propylitic assemblage. The only clearly stratabound sulphide occurrences in the 1600 zone are apparently diagenetic pyrite and marcasite, although disseminated sphalerite occurs in some sandstone beds.

The presence of small amounts of detrital muscovite in some 1600 zone sandstones confirms that the rocks belong in the Skeena Group. Richards (1980) assigned the rocks in this area to the informal "Kitsuns Creek sediments" of the Skeena Group. Although these rocks are now commonly called the "Kitsuns Creek Formation" by most workers, the name is still informal (Richards, pers. com., 2000). Meanwhile, Bassett and Kleinspehn (1997) have formally renamed the Kitsuns Creek sediments the Bulkley Canyon Formation, and that new formation includes a Kitsuns Creek Member that does not extend as far east as the Fireweed property.

CONCLUSIONS

1. Widespread but uneconomic concentrations of sulphide minerals were found during the 1999 drilling. Occurrences of potentially economic minerals are not as well developed in the areas of the 1600 zone explored to date as in the nearby West zone.

2. The dykes in the 1600 zone are rhyolites. Sulphide minerals are locally abundant within the rhyolites, indicating that the hydrothermal solutions that produced the sulphides originated in the buried parent intrusion of the dykes.

3. The mineralogy of the veins indicates that the 1600 zone is in the propylitic zone of an epigenetic hydrothermal system.

4. This is not a volcanogenic massive sulphide deposit.

5. The sedimentary rocks are classic turbidites deposited in the Bowser Basin and assigned to the Skeena Group.

REFERENCES

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STATEMENT OF COSTS

DIAMOND DRILLING:	1250.91 metres @ $58.015/metre	$72,571.70
PROJECT PLANNING AND SUPERVISION:	G. Leask 8 days @ $500/day	4,000.00
FIELD AND TRAVEL EXPENSES:	G. Leask	2,991.01
CORE LOGGING:	A. L'Orsa 17.75 days @ $350/day	6,212.50
REPORT:	A. L'Orsa	2,000.00
LABORATORY ANALYSES:	69 samples	1,816.95
VEHICLE RENTAL:	4x4 pickup, 2.5 days @ $60/day	150.00
MANAGEMENT FEE:	10% of above	8,974.21
		$98,716.37

STATEMENT OF QUALIFICATIONS

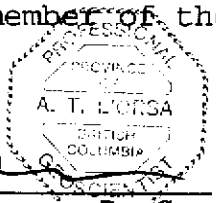
I, Anthony T. L'Orsa of Smithers, British Columbia, hereby certify that:

1. I am an independent geologist with business address at Adams Road, R.R.2, S57 C23, Smithers, B. C.

2. I am a graduate of Tulane University, New Orleans, Louisiana, U.S.A., with the degrees of Bachelor of Science (1961) and Master of Science (1964) in geology.

3. I have practised my profession in mineral exploration since 1962 in western Canada, Australia and Mexico.

4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (P. Geo. 19157), a fellow of the Geological Association of Canada, a member of the Society of Economic Geologists, a member of the Society for Geology Applied to Mineral Deposits, and an affiliate member of the Association of Exploration Geochemists.



Anthony L'Orsa, P. Geo.

APPENDIX 1

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED
HOLE NO. FW99-1 LENGTH 280.42 m
LOCATION 1600 Zone
LATITUDE 220 S DEPARTURE 1562 E
ELEVATION 904 m ± AZIMUTH NORTH DIP -48°
STARTED 15 Oct. 1999 FINISHED 19 Oct. 1999

METRES	DIP	AZIMUTH	METRES	DIP	AZIMUTH

HOLE NO. FW99-1 SHEET NO. 1 of 12
REMARKS
LOGGED BY A. L'Orsa

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	% SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	TOTAL	%	%	OZ/TON	OZ/TON
0	15.24	CASING; pulled.									
15.24	23.0	Fine-grained sandstone (fss) > siltstone (may include mudstone) abbreviated slt. Medium (med) grey. Beds ± 70° to core axis (CA); includes laminated. Pyrite, minor, in quartz veins & as very fine disseminations along bedding planes locally & on local joints. Veins. Quartz, white to clear, plus minor (mi) carbonate (carb). Faults, At ± 50° - 70° to CA. Graphitic, local gouge, General evidence of faulting throughout.	Note: All faults are post mineralization unless otherwise noted.								
23.0	25.70	Medium-grained sandstone (mss). Med. grey. Few white quartz veins, gen. < 2mm dia. & 90° - 5° to core axis, Beds ± 60° to CA. Local shears.									
25.70	30.95	Siltstone (slt) & fine ss, Minor mss. Med. grey to greyish black. Beds 0 - 80° to CA. Locally laminated. Veins. Fracture fillings of quartz, gen. < 5mm dia.									
30.95	31.30	Altered DYKE or SILL. Rhyolite? Light greenish grey. Broken & sheared. Fault contacts. top ± 80° to CA; bottom ± 30° to CA. Relict biotite sericite.									
		RECOVERY 100% unless otherwise noted. RQD generally low in fine-grained rocks.									

LANGRIDGES – TORONTO – 368-1168

FORM 1

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 2/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
31.30	40.85	SILTSTONES & very fine-grained sandstone (vfss) & fss predominate. Minor mss. Med. grey to greyish black. Same package as 25.70 - 30.95. Thinly laminated in places. Scattered quartz - carbonate (ankerite, very rare calcite) veins. Sulphides (only pyrite?) rare. Faults. Graphitic slickensides common. Fault zone 29.50 - 39 m at 20° - 90° to ca. Includes fault breccia & local gouge. Recovery. 80% from 36.57 - 39 m. 90% 39.62 - 43 m.										
40.85	42.0	COARSE SANDSTONE (css) > mss & fss. Lithic, clast range ± 0.2 - 1.5 mm. Subrounded. Med. light grey. Local fault breccia & gouge. Lower contact at 60° to core axis. Perspective, "A" division of Zamora sequence, the rest of which is in siltstones, etc., above.										
42.0	45.4	FINE SANDSTONE predominates (>) Dark grey. Pyrite lenses, e.g. 2.5 x 1.5 cm (in slt), py grains ± 0.1 mm. Quartz - carb. veins locally abundant in coarser ss. Graphitic slickensides, including bedding planes. Recovery: 70% 43 - 45.4 m.		Laminated locally								

LANGRIDGES – TORONTO – 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 3/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	% SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
45.4	49.7	COARSE SANDSTONE>. Med. light grey Few quartz-carbonate veins. Division "A" of Bouma sequence; "B" is next unit up.									
49.7	52.43	FINE-GRAINED SANDSTONE>. Dark grey. Few quartz-carb. veins. Basal contact: fault at 70° to CA.									
52.43	57.97	COARSE SANDSTONE>. Med. light grey. Grains ± 0.4-1.5 mm. Subrounded. Lithic. Fining downward. 60° to core axis. Rip-up clasts, especially near base, comprise darker grey ± FSS. Also slump balls of ± FSS. Pyrite. Locally ± 2% diss., cubic; gen. ≤ 0.5mm. Quartz-carb. veins few. ± 20° to core axis.									
57.97	83.0	FINE-GRAINED SANDSTONE to silt>. Dark to med. grey. Laminated locally. Beds ± 50° to CA. Pyrite & marcasite. Diagenetic, ± Strata-bound. Include pyrite concretions; e.g. + 5 cm x 5 cm displaying concentric rings (brassy to greyish); grain size ± 0.1 mm Includes marcasite lenses; e.g. dia. ± 6mm. Pyrite ± centre. Internal quartz veinlets. Beds bent over top. Includes angular accumulations of pyrite crystals, e.g. ± 1mm cubic. Beds locally bend around xls									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 4/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON FA Ag	ASSAYS OZ/TON FA Au
		Pyrite & marcasite, continued.									
		ASSAY. Large clusters of py cubes (≤ 6 mm) in laminated fss to slt. Very mi. calcite.	9688	3	70.10	70.60	0.5	<0.01	0.01	<0.01	0.001
		Faults. 74.40-75 m largest zone. Graphitic slickensides.									
83.0	84.65	MEDIUM-GRAINED SANDSTONE. Med. grey. Few rip-up clasts of finer sods. Few quartz-carb. veins.									
84.65	114.60	FINE-GRAINED SANDSTONE to slt >. Local mss; Med. light grey to dark grey. Thin laminations locally, Load casts at ± 109.50 m. Beds 15° - 70° to CA. Basal contact 50° to CA.									
		Sulphides. Pyrite disc. & as concretions. Local. Pyrite in veins with ± quartz-carbonate ± chlorite, rarely, sphalerite ± galena. 1st sphalerite noted in hole at 92 m in ≤ 3 mm pyrite vein at ± 40° to CA; dark brown sphalerite, cut by anhedral quartz + pyrite veinlets.									
		ASSAY Quartz-carb. stockwork ± py, dark sphal. Host: slt > . Mss lower 15 cm.	9689	3	94	95	1	0.06	1.30	0.28	0.15
		ASSAY. Quartz-carb. veins ± 0° to CA. Loc. dk sp + py chlorite at vein edges. Host. slt > mi mss.	9690	3	106.25	107.25	1	0.03	1.02	0.19	<0.001

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW 99 - 1 SHEET NO. 5/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag	ASSAYS OZ/TON Au
		continued. Faults. Evidence of post-mineral faulting throughout. Probably movement on every bedding plane. Graphitic slickensides. Strongest faults: 86.50 - 86.60, 94.40 - 95, 95 - 97.5 (discontinuous breccia), 105.10 - 105.46, 108.50, 111.50 - 114 (discont. breccia). Recovery: 80% 94 - 95 m.						Pb	Zn	FA Ag	FA Au
114.60	121.42	SANDSTONE. Csc to fss. Fining upward. Med. grey. Rip-up clasts; angular, flattish, darker, vfg; e.g. at 117 m. Slump balls. Beds 50° - 65° to CA. Sulphides. Pyrite & dark red-brown sphalerite veins ≤ ± 2 cm wide, ± 0° to CA. Mi. galena.									
		ASSAY Pyrite, dark sp, galena vein, Qz > carb, mi. width ± 2 cm, ± 0° to CA. Py diss. ± 3%.	9691	15	114.60	115.60	1	0.12	2.63	0.44	0.005
		Quartz - carbonate veins few. Gen. at low angles to CA. Recovery 75% 117.65 - 118.87									
121.42	125.40	SILTSTONE. Minor vfss. Dark grey. Sulphides. Pyrite, dark sphalerite, galena in quartz - carb - chlorite veins ± 0° - 50° to CA. Local breccia.									
		ASSAY. Pyrite, sphal. & galena in quartz - carb - clr veins & breccia. Host: Slt to vf ss	9692	2	122.0	123.0	1	0.01	0.80	0.02	<0.001

LANGRIDGES — TORONTO — 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 6/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag	ASSAYS OZ/TON Au
125.40	125.80	SANDSTONE. Med. grained. Single bed. Pyrite diss. ± 2%. Few quartz-carb-py-sphal. veinlets.									
125.80	128.06	SILTSTONE. Vfss at base, fining upward. Dark to med. grey. Top contact 65° to CA, sheared. Sulphides. Pyrite, dark red-brown sphalerite & very mi. galena breccia filling 125.80 - 126.60+. Mineralized fractures continue to 128.06 where a 1.5 cm dia. pyrite-sphalerite - quartz-carbonate vein occurs at basal contact.									
		ASSAYS. Pyrite, sphalerite, mi. galena. Hi. quartz-chl. Breccia filling — " — . Little quartz-chloritic Breccia & vein — " — . Local chl. veins ± 0.5mm	9693	30	125.80	126.30	0.5	0.22	5.29	0.57	0.016
			9694	20	126.30	126.80	0.5	0.09	2.81	0.64	0.009
			9695		126.80	127.30	0.5	0.07	1.09	0.23	0.006
128.06	137.40	SANDSTONE. Css to vfss. Fining upward, but contains several units separated by very mi. silt. Lithic; ± 10% dark lithic frags. Subrounded to angular. Beds at ± 60° to core axis. Basal contact at ± 50°, sheared. Med. to light grey. Sulphides. Pyrite, dark reddish brown sphalerite cut by orange reddish brown sphalerite. Quartz ± carb.									
		ASSAY. Py-sp veins, little quartz-carb, at 0°-40° CA Locally, vfg sphalerite at vein centre & coarse sp. outside	9696		136.40	137.40	1	0.05	5.06	0.39	0.004

DIAMOND DRILL RECORD

NAME OF PROPERTY FIRENEED

HOLE NO. FW99-1 SHEET NO. 7/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag	ASSAYS OZ/TON Au
137.40	172.60	SILTSTONE > Minor interbedded ss locally. Very thinly laminated in part. Med. to light grey. Beds 70° to core axis at 138 m. locally contorted. Sulphides. Small amounts of pyrite, Two sphalerites (dark reddish brown common, light orange brown rare & later) & galena associated with quartz - carbonate veins. Local small (≤ 3 cm) sulphide veins have little gangue.									
		ASSAY. Pyrite - sphalerite - mi. galena veins. Quartz - carb. gangue, Poikilitic galena ± 1 cm across. Fss. Post-mineral fault zone; much gouge.	9697	5	158.70	159.70	1	0.44	5.70	0.43	0.002
		Pyrite, disc. & in small lenses along bedding planes of thinly laminated sil. - vfss, 40° to CA, at base of section.									
		General evidence of faulting throughout, especially 158.70 - 161. Graphitic slickensides.									
172.60	174.34	SANDSTONE. Mss > css. Single bed. Fining upward. Med. grey. Pyrite, sphalerite & galena in: ① ± massive veins ≤ ± 2 cm dia. little quartz - carb., ± 70° to CA. ② Quartz - carbonate veins, few, at low angles to CA.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 8/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS oz/ton Ag FA	ASSAYS oz/ton Au FA
		continued.									
		ASSAY. Pyrite - sphalerite - galena veins. Very little quartz - carbonate. Local vein zoning: Py centre, galena & rare chalcopyrite at edge. ZnS v.fg interior, coarse at	9698		172.60	173.60	1	0.57	2.29	0.66	0.002
		ASSAY. Few sulphide veins. crosses lower contact, Recovery. 90% 172.21 - 174.34.	9699		173.60	174.60	1	0.02	0.53	0.03	0.002
174.34	176.66	SILTSTONE > vfss. Very thinly laminated beds at 40° to CA. Grey. Pyrite veins with dark sphalerite & little quartz - carb., scattered, ≤ 1.5 cm dia., e.g. 20° CA. Also quartz - carbonate veins with mi. pyrite & unidentified metallic grey mineral (rare); low angles.									
		ASSAY. Pyrite - quartz - chlorite veins, offset by pyrite veins Dark sphalerite - pyrite veins + mi. chlorite, ≤ 1 cm. Very fine-grained ZnS inside; coarser ZnS out. Mi chalco.	9700		175.60	176.60	1	0.02	2.57	0.19	<0.001
176.66	178.90	SANDSTONE, mss - vfss. 5? beds. Mi. silt, locally laminated. Grey. Pyrite, sphalerite (dark > light) & very mi. galena occur in a few quartz - carb. veins ≤ ± 2 cm. dia. Veins best in ss, terminate quickly upon extension into silt.									
		ASSAY. Pyrite, dark sphalerite, galena (rare ± 0.5 mm x 1s), quartz (clear to white), mi. carbonate. Pyrite massive to ± 2 mm cubic xls.	9701		178.0	179	1	0.15	0.91	0.30	0.004

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 9/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON FA Ag	ASSAYS OZ/TON FA Au
178.90	180.95	SILTSTONE > vfss. Very thinly laminated. Dark grey quartz - carbonate - pyrite veins with minor sphalerite. Weak breccia. All small & local. Basal contact fault. ASSAY. Massive pyrite in carb > quartz veins at low angles. Mi. dark sphalerite. Mi. galena. Mi. breccia.	9702		180	181	1	0.02	0.16	0.02	<0.001
180.95	181.60	SANDSTONE > mi. siltstone. Med. grey. 3? beds. Mss. Top contact ± 30° to core axis. Few quartz-carb. veins with pyrite, dark sphalerite, rare galena.									
181.60	190.12	SILTSTONE > vfss. Med. grey. Thinly laminated in part. Beds 50° to CA near top; 25° to CA near base. Few quartz - carb. veins with rare pyrite. Diss. pyrite <0.01%. Fault 181.60 - 181.85 with gouge, graphite. Minor drag folds along microfaults. 3 cm gouge, graphite, pyrite at basal contact.									
190.12	190.80	SANDSTONE, mss & fss. Top 15 cm of bed carries quartz - carb. breccia filling with local pyrite & dark ZnS.									
190.80	193.20	SILTSTONE > ss. Med. grey. Heavy sulphides 191.55 - 191.71, starting immediately below a 2 cm fss bed. Mass. pyrite, dark > light sphalerite (tiny, orange reddish brown ZnS veinlets cut dark ZnS), galena with minor quartz (including clear) - carbonate gangue.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 10/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS oz/ton Ag FA	ASSAYS oz/ton Au FA
		Continued. ASSAY. Massive, fracture filling ±6cm. Pyrite, sphalerite & galena in silt-vfss. Mi. quartz	9703		191.0	192.0	1	1.75	4.56	1.06	0.020
		ASSAY Quartz (± clear) - pyrite. dark sphalerite Fragmented by post-mineral. fault, incl. gouge.	9704		192.0	193.0	1	0.03	0.49	0.09	<0.001
		Faults. 191.20 - gouge, broken. 192. badly sheared Recovery: 85% 190.8 - 191.7									
193.20	195.66	SANDSTONE (css-vfss) > silt. Grey. Locally heavy sulphides. Quartz-carb. + sulphides fill small veins at low angles to core & loc. wk breccia.									
		ASSAY Quartz (incl. xls, e.g. 0.5mm dia.) - Carb. veins with pyrite, sphalerite (fine & coarse-grained), mi galena (± 1mm xls). Graphite common in late fault.	9705		193.0	194.0	1	0.33	3.31	0.38	0.061
		ASSAY. SS > ± 25 cm silt. Quartz-carb. veins with chlorite rims; Pyrite, dark ZnS (coarse & fine-grained) cut by mi. light reddish amber ZnS. Rarely, unidentified, tiny, metallic acicular xls (± 1mm long) growing out of vugs.	9706		194.0	195.0	1	0.21	4.99	0.41	0.031
		ASSAY. Hss. Pyrite; dark sphalerite (coarse > fine) cut by few late, light ZnS veinlets; galena (incl. a 5mm dia. fracture filling in pyrite). Little gangue in part. Quartz > carb.	9707	10	195.0	195.60	0.6	1.29	3.95	0.82	0.60
		Fault: 193.50 - 193.70, badly broken, graphitic slickensides.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-1 SHEET NO. 11/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag	ASSAYS OZ/TON Au
195.66	254.10	SILTSTONE > mass - vf ss. Mi. mudstone. Dark to med. grey. Very thinly laminated in places. Beds at 20° to CA at 203 m, 60° at 217, 30° at 231 m. Local thin ss, fining upward. Local rip-up clasts. Local convoluted or rippled tops. A few load casts. Rocks apparently represent divisions A through E of the Bouma sequence. Pyrite, sphalerite & galena occur in generally minor amounts associated with quartz-carbonate veins with local chlorite. Veins are irregularly & sparsely distributed in section. Veins are commonly 1-2 mm wide. chalcopyrite (2 mm patch) noted at 211.03 in ± 3 cm pyrite-sphalerite (dark > light)-quartz-chlorite vein. ASSAY Quartz-pyrite (mass. to ≤ 1 mm cubic x(s) - sphalerite (dark)-galena (± 1 mm x(s) - chlorite (edges) vein, ± 3 cm wide (TW) at 45° to CA, plus few 1-2 mm wide. Assayed to track vein chemistry. Whole core. Strata-bound pyrite noted at 211.65 (2 cm heavily diss. pyrite in 10 cm wide mass bed) & 251.70 (± 1.5 cm dia. concretions in vfss.) Fault evidence common, Ag. graphitic slickensides. Recovery 90% at 211.83-213.36 & 235-238.	9708		202.80	203.0	0.2	3.03	1.02	1.87	0.002

LANGRIDGES – TORONTO – 368-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-1 SHEET NO. 12/12

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
254.10	273.84	SANDSTONE > interbedded siltstone, Css - slt. Many beds, some of which are fining-upward. Some thinly laminated. "B" division of Bouma sequence predominates. Local rip-up clasts. Med. to dk grey. Beds 30° to CA at top, 40° to CA near base. White quartz - carbonate veins carry pyrite & mi. sphal. & galena, generally < 2 cm dia. Upper part of section, veins ≤ 1 cm dia & 40° to CA but ⊥ NORMAL to beds. Pyrite also occurs as diss. fine-grained cubic xls, ±2% in ss, & as clusters of xls, ± 1 cm clusters locally, in sicky rocks. Distribution of pyrite is irregular. Faults include common, graphitic, bedding plane shears & strong fault zone at 262.70 - 263.15.										
273.84	274.05	DYKE or SILL. Altered (sericite) & brecciated. Greyish yellow green. Rhyolite ? Few small pyrite, ZnS, qtz veins. Fault zone, including gouge, 273.84 - 274.75.										
274.05	280.42 EOH	SILTSTONE & vfss. Dark to med. grey. Pyrite ≤ 3 cm massive fracture filling at 274.40. Few white quartz-carb. veins, few sulphides. ASSAY. Late fault breccia & gouge, shattered white quartz vein (30 cm?). Pyrite xls gen. < 1 mm. One quartz - sphalerite vein/dyke. Graphitic slick. in sediments. Gouge - cemented white quartz fragments.	9709		274.0	274.70	0.7	0.02	0.63	0.09	0.004

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED
HOLE NO. FW99-2 LENGTH 200.25 m (657 ft)
LOCATION 1600 ZONE
LATITUDE 106 South DEPARTURE 1640 East
ELEVATION 900 m AZIMUTH North DIP -45°
STARTED 19 Oct. 1999 FINISHED 21 October 1999

METRES	DIP	AZIMUTH	METRES	DIP	AZIMUTH

HOLE NO. FW99-2 SHEET NO. 1 of 10
REMARKS

LOGGED BY A. L'Orsa

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
0	9.1	CASING. Pulled.										
9.10	9.30	SANDSTONE, Coarse (css), lithic. Med. grey.. Coarse (18 mm) pebble, well-rounded, light olive grey.										
9.30	39.90	SILTSTONE and very fine-grained sandstone (vfss) > few coarser ss beds. Thinly laminated locally. Dark grey to med. grey. Top beds at 30° to core axis (CA). Beds 40° to CA at base. Few quartz-carbonate veins with chlorite margins & minor pyrite, sphalerite & galena. Strata-bound pyrite in dark siltstone : 22-27 m, e.g. 4 cm x 4 mm lens at 22. Pyrite finely diss. in ≤ 5 mm wide zone in ss at 22.25. Fault zone; breccia & gouge ± 11-19 m. Post mineral.										
39.90	49.25	SANDSTONE. Medium-grained (mss) to fine-grained (fss). Few silt. interbeds; i.e. several beds, some fining upward. Local silt. rip-up clasts in ss. Quartz-carbonate veins ≤ 4 cm wide abundant. Mi. chlorite along vein edges. 0°-45° to CA.										

LANGRIDGES — TORONTO — 366-1168

FORM 1

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-2 SHEET NO. 2

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
		continued. Veins carry small amounts of pyrite (ave. <1% this section), sphalerite (dark reddish brown), galena (most in lower 15 cm of section, ± 1%).									
		ASSAY: Quartz - carb - chlorite veins, with locally massive pyrite - sphalerite (dark cut by light) - mi galena.	9710		40	41	1.	0.02	0.31	0.03	0.001
		ASSAY: quartz - chlorite veins form stockwork in mss. Fault at basal contact; post mineralization.	9711		42.50	43.25	0.75	0.89	0.34	0.26	0.002
43.25	51.0	SILTSTONE & mudstone(?) > few ± 1cm ± mss beds. Dark grey. Locally laminated. Small amounts of pyrite, sphalerite & galena occur in quartz - carbonate veins with chlorite edges.									
		ASSAY: Quartz - chlorite > carbonate veins with galena (± 2mm vls) > mi. sphalerite & mi. pyrite.	9712	2	47.10	47.60	0.50	0.48	0.01	0.24	<0.001
		Faults. Gouge 46 - 46.70 at low angle to CA, breccia to 47.50. Graphitic slickensides. Post-mineral.									
51.10	51.72	FAULT BRECCIA. Post. mineralization. 15° to CA. Mi. diss. pyrite. Much carbonaceous (+?) material.									
		Quartz frags. cut by carbonate veinlets. ASSAY	9713	1?	51.0	51.80	0.80	0.03	0.03	<0.01	0.001
51.72	55.65	SANDSTONE. CSS > mi. fine ss to siltstone. Fining upward. Rip-up clasts. Beds at low angles to CA, e.g. 10° near base. Quartz - carbonate veins with mi. pyrite & med. orange brown sphalerite. Pyrite diss. ≤ 5% in lower ss. Lithic, includes silt clasts.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-2 SHEET NO. 3

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
55.65	68.40	SILTSTONE > mi SS to MSS. May include some mudstone. Dark grey to grey/wh black. Local rip-up clasts in SS. Few quartz-carbonate-chlorite veins with min. pyrite & min. med. reddish-brown sphalerite (dark).									
		ASSAY. Sulphide breccia filling vn ± 10° to CA	9714		63.20	63.50	0.30	0.84	4.38	1.28	0.004
		Pyrite > dark reddish brown sphalerite > galena. Little quartz; chlorite. Width ± 4 cm? (one edge outside of core) To track metals in system.									
68.40	71.14	SANDSTONE > Med. grey. Few quartz-carbonate veins. Bedding plane fault at base 50° to CA. Gouge. Graphitic. Post-mineralization.									
71.14	109.60	SILTSTONE >. Includes mudstone, vfSS, fSS, mSS. Thinly laminated, especially in lower section. ? 99.50 - 107 appears to be mostly massive siltstone - vfSS & ± mudstone, but "ghost" structures provide evidence of slumping. Dark to med. grey. HSS 88.7 - 92 with silt rip-up clasts. Lower beds 60° to core axis. Pyrite, sphalerite, galena & chalcopyrite occur in fracture fillings with more or less									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-2 SHEET NO. 4

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag (FA)	ASSAYS OZ/TON Au (FA)
		(Continued) white quartz, carbonate (including ankerite, mi. calcite) and chlorite (at vein edges). Veins range from 0° to ± 50° to core axis. There are also local breccia fillings.									
		ASSAY. ± 5.5 cm vein at 45° to core axis. Assayed to track distribution of metals. ① White quartz & very fine-grained dark med. brown ZnS cut by ② clear quartz & lighter coloured ZnS; minor Mi. ankerite in ① above, as are galena, pyrite & chalcopyrite(?). Host: silt. & mud.	9715	30 (Vein)	99.70	99.90	0.2	0.16	12.10	2.08	0.129
		ASSAY. Stockwork of quartz-carb-chlorite veins trending parallel to core axis. Max. vein thickness ± 1 cm. Pyrite; dark, coarse ZnS; galena; very mi. chalcopyrite. Host: vfss-fss > silt. Tough-splitting; low hornfels?	9716		104.0	105.0	1	0.19	2.91	0.43	0.032
		ASSAY. Stockwork & veins of quartz & carbonate with chlorite margins. Pyrite, sphalerite (± brownish black; darkest seen here: minor lighter-coloured), minor galena & chalcopyrite, silt to fine ss.	9717		105.0	106.0	1	0.14	1.00	0.14	0.011
		ASSAY. ① Thin (gen. <0.5 mm) pyrite - dark sphalerite - chlorite veinlets; ± 1/cm, at 50° to core axis. ② Veins of quartz-carbonate with chlorite edges carry pyrite, massive to ± 2 mm cubic xls; sphalerite, dark reddish-brownish grey, vfg to coarse; galena, 1 mm xls; ± 0° to CA. Very fine-grained ss > siltstone.	9718		106.0	106.45	0.45	0.16	1.02	0.29	0.003

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-2 SHEET NO. 5

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS oz/ton Ag FA	ASSAYS oz/ton Au FA
		(continued). ASSAY Massive sulphide vein at 25° to CA. Pyrite (± 3mm cubic xls), sphalerite (blackish-brown; mi. light coloured at lower contact), galena, mi. chalcopyrite. Quartz-carbonate ± 5%.	9719	95	106.45	106.75	0.30	4.90	3.0	4.06	0.541
		ASSAY. Quartz vein with chlorite margins carry pyrite, dark coarse to fine-grained sphalerite, mi. galena & mi. chalcopyrite, in laminated fss - silt.	9720		106.75	107.50	0.75	0.23	3.40	0.54	0.030
		Pyrite also occurs as concentrations of crystals along bedding planes of vfss at 107.40-107.45, 60° to CA, ± 10% pyrite; & at 109.25-109.52m in cubic xls ± 0.3-2mm dia.									
		Post-mineralization faults are common. Note 99.17-99.50, graphitic with gouge.									
109.60	111.35	SANDSTONE. Mss. Rip-up clasts, especially upper part. Base 55° to core axis. Some fss-vfss near top, laminated & cross-laminated. Pyrite, diss., especially top of section (± 5%). Base marked by ± 2mm band heavily diss. py									
		ASSAY. Diss. pyrite in medium through very fine grained ss. Dark silt to vfss rip-up clasts (± 7%) do not carry pyrite. Pyrite in ± 1mm dia. masses to ± 0.1 mm cubic xls. Whole core assayed.	9721	5	109.60	109.70	0.1	0.04	0.06	0.07	0.002
		Quartz-carbonate breccia filling, 2cm dia. with mi. sphalerite & pyrite.									

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-2 SHEET NO. 6

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	ASSAYS
111.35	115.55	SILTSTONE > vfss. Dark grey. Several erratic, stratigraphically-controlled pyrite layers ± o.g. ≤ 5 mm in dia. & 1 massive pyrite lens 25×5 mm. Local pyrite diss. associated with black (carbonaceous?) spots in silt, clusters of marcasite xls, especially near base										
115.55	119.88	SANDSTONE. Mss to fss. Few coarser grains ≤ 1 mm. Med. grey. Beds ± 50° to core axis. Quartz-carbonate veins at low angles, ≤ 40° to CA, generally ≤ 2 mm wide & ± 10 cm apart, carry very min. sphalerite and galena. Pyrite diss.; locally + 5%										
119.88	122.40	SILTSTONE & mudstone. Dark grey. Very thinly laminated with cross-bedding in part. Marcasite nodules ≤ 4×1.5 cm.										
122.40	124.80	SANDSTONE. vfg top to mss. Not a single unit. Local vfss interbeds, ag. 2 cm diameter. Rare quartz-carbonate veins with very minor pyrite. Sedimentary breccia at base, ± 5 cm wide; clasts ≤ 3 cm. Basal beds 60° to CA. ± 1 cm fault gouge on bedding plane basal fault.										
124.80	126.15	VERY FINE-GRAINED SS & silt. Dark grey. Min. diss. pyrite. Pyrite lens 5cm×5mm at 125 m.										

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-2 SHEET NO. 7

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
126.15	129.33	SANDSTONE. Hss > fss - vfss. Mod. grey Beds 60° to core axis. Fault at base with 1.5 cm gouge.									
129.33	149.90	SILTSTONE > local interbedded SS incl. mass beds ≤ ± 35 cm wide. Dark grey. Beds at 55° to core axis. Quartz - carb. veins in sandy sections, but few sulphides. 1 speck of sphalerite at 148 m Local gouge & graphitic slickensides. Fault breccia at 148 m, 10 cm, with quartz-carbonate filling.									
149.90	150.10	FAULT GOUGE. Included quartz-carb. vein fragments.									
150.10	156.63	SANDSTONE. Generally medium-grained but includes some coarse grains. At least two units. 152.75 - 153.07 m fine to very fine-grained. Pyrite disseminated throughout; 1-2%. Few quartz-carbonate veins, including: 152 m; 4 cm quartz-carbonate breccia filling with minor disseminated galena & pyrite. 155.40 m; quartz-carbonate vein ≤ 2 cm with minor disseminated galena & sphalerite. Very minor pyrite									

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-2 SHEET NO. 8

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
156.63	182.17	SILTSTONE, Hi. ss., including mss. (≤ 20cm interbeds). Dark grey to greyish black & dark greenish grey. Beds 50-55° to core axis. Thinly laminated in places. Slump folds 181.60m. Few quartz-carbonate veins with very minor pyrite & sphalerite. Vein frequency increases at base of section to upto 12/m. Pyrite around 172m in xls (1mm-0.1mm) & an irregular 3.5x2 cm mass. Few 1mm marcasite xls. 1 cm wide mss at 181.50 contains very heavily diss. pyrite. Post-mineralization fault; gouge 161.60-161.70m. at 35° to core axis. Recovery: 60% 167.64-170.68 (mislatch).										
182.17	182.88	SANDSTONE. HSS, single bed. Slightly fining upward. Few ≤ 1.5mm lithic clasts at base. Some rip-up clasts. Med. grey. Quartz-carb. veins ≤ 2 cm with min. medium brown sphalerite, very little pyrite in veins. Pyrite diss. ± 2%. Basal contact: 55°.										
182.88	183.14	SANDSTONE, vfg. Dark grey. Pyrite ± 3% along local bedding planes, commonly in xls ≤ 2mm. Sphalerite, minor, in diss. aggregations & in bedding-parallel quartz veins. Beds at 50° to core axis.										

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-2 SHEET NO. 9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag / FA	ASSAYS OZ/TON Au / FA
183.14	189.73	SANDSTONE. Mss most abundant. Includes mi. css (185.90m) & a few fss beds. Rip-up clasts of blackish grey siltstone, some 5 cm long, 189.15 - 189.73, Mod. gray. 60° to core axis. Quartz veins abundant (locally > 20 veins/m) 185.83 - 189.73, including mi. breccia filling & stockwork. Veins irregular, ± 10° - 90° to core axis. Mi. chlorite, carbonate. Sulphides increasing. Two generations of sphalerite: ① Dark, most abundant, cut by ② light coloured. In quartz veins with pyrite & mi. galena. Dis. pyrite very rare. No correlation between dis. pyrite & sphalerite.										
		ASSAY. Sphalerite - pyrite veins 185.92 - 186.20, ≤ 2 cm wide, 40° - 70° to core axis, ≤ 3 veins/10cm. Very little quartz. ZnS in dark, massive & coarse. Mi. lighter-coloured ZnS at margins of dark ZnS. Host: mss - fss.	9722		185.80	186.30	0.5	0.04	6.12	0.25	0.007
189.73	193.37	VERY FINE-GRAINED SS, silt. & mud. > mss. Laminated locally. Beds 70° to core at 193.22 m. Breccia in lower 8 cm, from dyke/sill contact; large clasts of laminated vfss - silt in various orientat. chlorite - lined quartz veins in breccia. Graphitic slickenside at basal contact. There are no megascopic signs of thermal effects.									
		Mi. to mass. pyrite, & sphalerite (dark) in quartz - chlorite veins in bx filling. Mi. light sphalerite in quartz - carb. veins that cut above. Very mi. dis. pyrite.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99 - 2 SHEET NO. 10

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
193.37	200.25 EOH	RHYOLITE dyke or sill. Whole rock # 9684 collected at 196.20 m. Results plot in the rhyolite field (how much SiO_2 added?) on total silica diagram of Le Bas et al. (1986) & in rhyolite field in Zr/TiO_2 - Nb/Y diagram of Winchester & Floyd (1977). light greenish grey. Top 30cm slightly bleached to ± pale olive. Slightly darker than dyke intersections in FW99-4 & 6. Relict biotite, chloritized - sericitized. Late sericite (?) veinlets. Few quartz veins ≤ ± 5mm diameter; ≤ 6/m. Generally sub-parallel to core axis. clear quartz - chlorite veinlets. Veinlets with clear quartz xls surrounded by carbonate filling + chlorite. Diss. sphalerite & galena, locally ≤ 2% combined. Mi. diss. pyrite near top, cubic, ± 0.2 mm xls. In ± 40cm of core there are a few ZnS, dk., veins; (1) ± 1mm wide massive dark ZnS veins ± parallel to ca. (2) ± 3mm wide quartz - carb. veins + light ZnS + PbS(?), 65°toCA. ASSAY. Sphalerite, dark, in few veinlets parallel to ca & light coloured ZnS diss. (e.g. 1.5 x 0.8 mm, 1%). Very mi. diss. galena(?). Diss. chlorite.	alkali-									
			9723		200.11	200.25	0.14	0.06	0.65	0.09	0.001

LANGRIDGES – TORONTO – 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED
HOLE NO. FW99-3 LENGTH 200.26 m (657 ft)
LOCATION 1600 Zone
LATITUDE 086 South DEPARTURE 1506 East
ELEVATION 900 m AZIMUTH North DIP -45°
STARTED 23 Oct. 1999 FINISHED 25 October 1999

METRES	DIP	AZIMUTH	METRES	DIP	AZIMUTH

HOLE NO. 99-3 SHEET NO. 1 of 8
REMARKS

LOGGED BY A. L'Orsa

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	ASSAYS
0	9.14	CASING. Pulled.										
9.14	18.00	Till. ± 35 cm till core recovered. Two samples analysed for 32 elements (Acme) by ICP-ES. There were no anomalous results. FW99-3-1 collected from ± 11.90 m FW99-3-2 — " — 13.00 m										
13.00	69.69	SILTSTONE & very fine-grained sandstone (vfss) & minor amounts of fine-grained ss (fss) & medium-grained ss (mss). Med. grey to greyish black. Thinly laminated, locally. Massive silt & mudstone locally. Slump balls in places. Beds at 45° to core axis (CA) at 15 m, 50° at 42 m, (min. fault gouge at 42.60 m) 18° at 47 m, & 10° at 64 m. Quartz &/or carbonate veins small & irregularly distributed; 1 5/m in places; 0°-30° to CA common, but some to 80°. These veins carry generally small amounts of pyrite, sphalerite & galena. Local weak stockworks & breccia fillings. Pyrite & marcasite diss. & concretions in places in fine-grained sediments.										

LANGRIDGES – TORONTO – 366-1168

FORM 1

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-3 SHEET NO. 2

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag(FA)	ASSAYS OZ/TON Au(FA)
		(continued) ASSAY. Carbonate (ankerite? & moderate calcite) veins with dark sphalerite, pyrite, min. galena in laminated vfss & siltstone, Hi. breccia.	9724		13.30	13.80	0.5	0.34	2.11	0.50	0.016
		ASSAY. ± 2 cm wide pyrite - galena vein with white to clear quartz & chlorite edges. Finest-grained galena noted in 1999 DDH, ± 0.2 mm xls. Also min. sphalerite - pyrite fracture fillings. Host; dark grey silt., with a few pyrite & marcasite concretions.	9725		18.00	18.29	0.29	1.42	0.65	0.88	0.005
		Post-mineralization faults are common, especially 24 - 25 m, 28.90 - 32.50 m (30 cm gouge at 29). Graphitic slickensides locally. Recovery ± 100% unless noted.									
67.69	69.79	FAULT GOUGE. Few breccia clasts of ss + quartz veins. All described faults are post-mineralization.									
69.79	80.90	SANDSTONE, Mss & fss. Hi. silt. Red. grey. Beds 20° to CA at 71.50 m; 35° at 80.70 m. Rip-up clasts.									
		Veins of white quartz & carbonate very scattered, 45° - 20° to core axis. Local stockworks. Few specks of sphalerite in stockwork 78.60 - 78.90 m. Pyrite diss. throughout, especially in mss where pyrite may reach 50% in places (e.g. some beds in 69.62 - 76.55 range). Includes pyrite cubes ≤ ± 1.5 mm. Bedding plane faults with graphite.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-3 SHEET NO. 3

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
80.90	92.56	SILTSTONE. Minor vfss & fss. locally laminated. Central section ± massive siltst & mudstone. Silt. rip-up clasts in fss. Generally dark grey. Beds 30° to CA at 92.30 quartz - carb. veins rare; < 1/m Pyrite ① Rare diss. concentrations. ② With quartz - carb., to almost massive. ③ Massive pyrite with dark sphalerite & galena; 4 cm wide vein in fss. mss. ASSAY. Vein above. May be larger, core ground (60% recovery). Mod. calcite. Recovery: 89.30 - 91.44 = 60%	9726	90	91.39	91.44	0.05	0.45	1.53	0.60	0.010
92.56	94.53	RHYOLITE dyke or sill. Light olive grey. Sericite alteration. Relict 1 - 2 mm feldspars. Diss. sphalerite & galena ± 1% in places. ASSAY Vein. 5 cm wide; 50° to CA. Massive pyrite > coarse, dark sphalerite. Mi. galena. Quartz, mi. calcite. Very fine-grained diss. pyrite. Lite carbonate vein with a few veins.	9727		93.35	93.45	0.1	0.43	11.44	0.67	0.064
94.53	101.26	SILTSTONE & VFSS. Dark to med. grey. Includes indistinct slump breccia. Mi. diss. pyrite. Mi. pyrite fracture filling with a little galena & sphalerite. Minor shearing.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-3 SHEET NO. 4

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
101.26	112.16	RHYOLITE dyke or sill, whole rock analysis #9685. More details in log FW99-2, p. 10. Light olive grey. Sericitized plagioclase (?), 1-2.5 mm in length. Chloritized - sericitized biotite. Late carbonate(?) alteration. Few siltstone xenoliths within 2 cm of top contact, which is at 32° to core axis.	(103.	63 NM)				Pb	Zn	Ag FA	Au FA
		Quartz - pyrite - sphalerite - galena in small veins. Disseminated pyrite, sphalerite & galena ≤ 3%.									
		ASSAY. Whole core. 1 cm pyrite - sphalerite > galena vein at 25° to CA. 2 cm ankerite vein. Disseminated, light coloured sphalerite, minor	9728		101.55	101.65	0.1	0.65	5.62	0.71	0.013
		ASSAY. Whole core. Disseminated pyrite, dark $ZnS_{(?)}$ grey metallic (galena?). No veins. Disseminations accompanied by increased amounts of clear quartz grains in host. Generally, quartz rarely seen.	9729	3	107.00	107.50	0.5	0.16	0.40	0.08	<0.001
		ASSAY. Whole core. Diss. pyrite, dark sphalerite ± 3%. ± 2 cm veins, irregular, for ± 20 cm. Dark sphalerite, coarse > very fine-grained, + quartz - carb., cut by quartz - carb. veinlets. Mi. light ZnS, mi. chalcopyrite.	9730		107.50	108.0	0.5	0.14	8.69	0.42	0.029
		ASSAY Dark sphalerite > pyrite > mi. galena & chalcopyrite. Chalco. & galena increasing toward base. Veins ± parallel to core; deceptively high assay. Veins ± 5 mm dia., commonly paired. ± 4 cm above assayed section, veins faulted out.	9731		111.0	112.0	1	0.17	6.83	0.72	0.019
		Basal contact 55° to CA, no obvious contact alteration except that dyke is softer at contact.									

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-3 SHEET NO. 5

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
112.16	121.15	SILTSTONE and VFSS > mi. MSS & CSS. Thinly laminated in places. Beds 20° to CA at 113.50 Med. grey to greyish black. Sulphides reduced below dyke, & very sparse below 113 m. Sphalerite (dark > light), pyrite & mi. galena in disseminations & quartz-carb. veins (≤ 3-4mm dia. & ± 45° to CA) widely spaced (to ∠ 1/m) to end of section.									
		ASSAY. contact between dyke & underlying sediments. Dyke section: lamy sulphide veins with dark ZnS, pyrite, mi. chalcopyrite & mi. quartz; cut by carbonate > quartz veins. Sedi: mss-css, local laminations; quartz-carb veins with light ZnS, mi. galena, pyrite. Mi. diss. pyrite in ss. Clear quartz xls, ≤ 4mm long, in veins, surrounded by carbonate. Graphitic slickensides in sedi.	9732		112.0	112.50	0.5	0.07	0.52	0.08	<0.001
		Bedding plane faults, & others, with graphitic slick.									
121.15	122.05	SANDSTONE, mss. Med. grey. Small amounts of diss. sphalerite & galena & a little sphalerite, galena & pyrite in quartz veinlets (± 50° to CA) & small stockworks. Fault with 3 cm gouge plus breccia at base; 35° to CA.									
122.05	153.0	SILTSTONE >. Med. to dark grey. Few quartz-chl.-± carb. veins ≤ 1 cm wide, local stockworks, with mi. dark > light ZnS, galena & pyrite. Veins sub-parallel to 60° to CA. Beds at base 35° to core axis.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIRENEED

HOLE NO. FW99-3 SHEET NO. 6

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
133.0	134.20	SANDSTONE, mss to css, fining upward. Lithic. Well-rounded to angular. Massive sphalerite in 3 mm vein + quartz-carb. at 50° to CA. Very mi sulphides elsewhere. Beds 30° to CA. Base: Distinct, 4 cm bed of very coarse lithic ss with lithic pebbles ≤ 8 mm dia + sparse diss. + veinlets of dark ZnS + galena.										
134.20	159.70	SILTSTONE > few gen. thin ss (≤ mss) beds. Med. to dark grey. Very thinly laminated in places. Bedding 20° to CA at 151.50 m; 30° to CA at 158.50 m. Pyrite, sphalerite, galena + chalcopyrite occur in fracture fillings, ± quartz-carb.-chlorite,										
		ASSAY. Pyrite, dark sphalerite, galena + chalcopyrite in veins + breccia filling with little gangue of ± clear quartz-carb.-chlorite (edges). Lam. silt to mss.	9733	5?	140.0	141.0	1	0.23	2.90	0.81	0.009	
		ASSAY. Pyrite, dark-colored sphalerite, galena + chalcopyrite in vein + breccia fillings. Little gangue (quartz-carbonate-chlorite). Thin event cut by carb>quartz veins with min. pale sphalerite. Mixed bx with clasts of silt., fss mass. to lam. No rock flour; not hydrothermal.	9734	40	141.0	141.25	0.25	0.62	4.17	1.62	0.017	
		ASSAY. Two vein sets. ① ± clear to white quartz > ankerite, chl; dark ZnS, min. pyrite, Local PbS. Gen. < 1 mm dia. Cut by ② calcite-ankerite>quartz veins with pyrite, pale ZnS + galena. Quartz clear to grey. Movement between ① + ②, i.e. ① offset by veins of type ②.	9735		141.25	141.50	0.25	0.05	0.07	0.03	0.001	

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW 99-3 SHEET NO. 7

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
159.70	160.30	FAULT ZONE. Post-mineralization. Includes fault breccia, graphitic slickensides, ± 3 cm of gouge immediately above dyke contact,									
160.30	162.22	RHYOLITE dyke or sill. Light olive grey. Sericite. Mi. chlorite after biotite? Pyrite, diss. xls gen. < 1mm, ≤ 2%. Quartz-carb. veins ≤ 1 cm, cut by faults. Sheared.									
162.22	163.90	SANDSTONE. Mss. med. grey, Beds 35° to cA. Few quartz-carb. veins ≤ 5 mm dia., 45°-0° to cA. Noticed no sulphides. Bedding plane faults, graphitic.									
163.90	173.48	SILTSTONE > mi. fss - mss. Dark grey. Beds 55° to core axis near base. Few quartz-carb. - ± chlorite veins with very mi. pyrite. Fault zone, post-min., 163.90 - 166.30; local gouge; abundant graphite; RQD of 0. Recovery: 169.2 - 171.6 m = 87%.									
173.48	175.12	SANDSTONE, ≤ css > mi. siltstone, Med. grey> Two fining upward beds, ss - silt, upper unit, 173.48 - 174.44, contains mi. strata-bound pyrite ag. 1.5 cm mss with ± 15% diss. pyrite. Load casts? Bioturbated? (near top). Thinly laminated, cross-bedded siltstone near top. Siltstone rip-ups with diss. pyrite in both units. Local diss. pyrite ≤ 3%, both.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-3 SHEET NO. 8

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	ASSAYS
175.12	186.85	SILTSTONE > fgs - mss. Dark to med. grey. Very thinly laminated (≈ 0.1 mm thick!) locally. Beds at 60° to CA at 181.50 m. Local rip-up clasts in ss, e.g. 2 cm long. Very min. pyrite > sphalerite & galena in quartz - carb. veins & stockwork. Loc. chl. edges.										
186.85	189.30	SANDSTONE >. Med. grey. Lower beds 55° to CA. Very minor diss. pyrite, sphalerite & galena in thin quartz - carb. veinlets. Local stockwork in lower 30 cm of section; quartz - carb. + min pyrite. Bedding plane slickensides. Silt. rip-ups.										
189.30	198.10	SILTSTONE > ss, including mss. Dark to med grey. Laminated in some sections. A few quartz > carbonate, pyrite veinlets with chlorite edges. Several late faults; mainly 196.20 - 198.0 m, much broken rock (RQD = 0), 2.5 cm gouge (198), 55° - 40° (top) to core axis.										
198.10	200.26 EOH	SANDSTONE > single silt bed. Med. grey. Two fining upward units with css at base & mss at top. Top contact 30° to core axis. Quartz, carbonate veins present. Very min. sphalerite disseminated in a quartz vein at 199 m.										

LANGRIDGES — TORONTO — 368-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED
HOLE NO. FW99-4 LENGTH 249.94 (820 ft)
LOCATION 1600 Zone
LATITUDE 090 South DEPARTURE 1471 East
ELEVATION 900m AZIMUTH North DIP -45°
STARTED 21 Oct. 1999 FINISHED 23 October 1999

METRES	DIP	AZIMUTH	METRES	DIP	AZIMUTH

HOLE NO. FW99-4 SHEET NO. 1
REMARKS

LOGGED BY A. L'Orsa

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
0	15.24	CASING. Pulled.									
15.24	27.62	SANDSTONE > Medium-grained sandstone (mss) > fine-grained (fss) & very fine-grained (vfss) ss. Medium to dark grey. Beds 40° to core axis (CA) at 19 m. Top 30cm brecciated with white quartz filling, cut by clear quartz veinlets. White quartz veins common in coarser ss, ≤ ± 30/metre, & at low angles to 90° to CA. Pyrite disseminated (diss) in mss, ≤ 5%; grain size generally ≤ 1 mm. Several veins ± mass. pyrite ≤ 3 mm diameter, 19m & higher. Bedding plane faults with graphitic slickensides common. All faults described here are post-mineralization. Pre-mineralization faults are described as veins, etc. Recovery ± 100% unless otherwise noted.						Pb	Zn	Ag FA	Au FA
27.62	36.30	SILTSTONE > vfss, fss, mud. Dark grey, but lightens to med. dark grey near dyke, below. Pyrite & marcasite in strata-bound bands. ASSAY. Strata-bound pyrite & marcasite. Few carbonate-quartz veins with very min. sphalerite. Local laminations. Graphitic slickensides.	9736	3	30.0	31.0	1	0.01	0.06	0.05	<0.001

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-4 SHEET NO. 2

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
36.30	41.45	RHYOLITE dyke or sill. whole rock analysis #9686 collected at 39.62 m. This is the most rhyolitic of the 4 dyke samples. Zr/TiO_2 vs Nb/Y plots ± on the rhyodacite/rhyolite boundary. High SiO_2 (how much added?) pushes TAS plot into the rhyolite field. See log of FW99-2, p. 10, for more details. Light olive grey. Sericitized feldspars ± 1-2 mm (≤3mm) in length. Chloritized mafics (prob. biotite) locally. Top contact faulted & broken. Lower contact ± 60° to CA, fine-grained groundmass, i.e. intrusive. Dis. pyrite, cubic, xls ≤ 1.5 mm; upper 2%, lower 1%. Small veins, quartz > carb. at low angles to 45° to c.a.										
41.45	42.40	SANDSTONE, mass. Med. grey. Beds at 45° to ca 1 metre below dyke contact. No obvious alteration in ss at contact. No pyrite? Few ± 1mm quartz-carb. veins.										
42.40	46.87	SILTSTONE & VFSS > mi. mass. Dark grey. Beds 45° to core axis. Pyrite ① Locally bedding-controlled e.g. 42.90 where 4cm-wide mass contains ± 1cm mass pyrite. Pyrite grain size ± 0.1-0.3 mm. ② Hl. pyrite in quartz-carbonate veinlets. Fault gouge 43.70-43.90										

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW 99-4 SHEET NO. 3

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
46.87	49.03	SANDSTONE> Mss > finer-grained to silt. At least 4 beds. Local very thin laminations in fine-grained sections. Med. grey. Beds at 50° to CA. Pyrite: ① mi. diss. ② mi. in bed-controlled lenses. Quartz-carb. veins ≤ 5mm dia. with mi. diss. galena & dark sphalerite.										
49.03	60.65	SILTSTONE> Mi. vfss & fss. Dark grey. Beds 35° to CA. Local coalified wood fragments, e.g. 58.50 m. Thinly laminated. Rare quartz-carb. veins, ≤ 6mm dia., e.g. 50° to CA. Graphitic, bedding plane faults common; local gouge.										
60.65	62.40	SANDSTONE predominates. Mss > fss to silt. Med. grey. Local very thin laminations. Beds 35° to CA. Rip-up clasts near base. Pyrite diss. locally, < 0.5%. Quartz-carb. veins gen. ≤ 5 mm dia, with mi. diss. dark sphalerite (rarely light ZnS) & one spot of galena. Basal contact in a 35° to CA fault.										
62.40	100.0	SILTSTONE and vfss, mi. mud, & fss. Dark grey to med. grey (silt & mud darker than ss, as always). Sandier near top. Beds: 20° to CA at 65m, 40° at 71.50 m & 0° ± 92-100 m (& few pebbles ≤ 5mm at fss-vfss contact). Very mi. pyrite in few quartz-carb. veins, sub-parallel to 80° to CA. Very mi. ZnS in lower beds replacing fossilized wood frags.? Bedding plane faults, graphitic, local gouge. Also fault at 65° to CA, gouge & breccia, 79.30-79.75 m.										

LANGRIDGES – TORONTO – 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-4 SHEET NO. 4

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
100.0	101.0	SANDSTONE, mass. Med. grey. Pyrite, ± 1% dis. locally. White quartz veins common. Quartz vein stockwork with mi chl., 100.80 - 101.									
101.0	102.11	SILTSTONE, dark med. grey. Quartz - carb. veins. Pyrite: very minor, disseminated.									
102.11	103.65	SANDSTONE. Single massive bed of mass. Med. grey. Quartz - carb. veins, no chl.?, includes 10 cm quartz stockwork. Pyrite minor, disseminated.									
103.65	134.0	SILTSTONE & vfss > fss & mass, Dark to med. grey. Beds 0° at 105 & 120; mm & 30° to CA at 134m, Quartz - carbonate - chlorite veins with mi. sphalerite & galena. Local quartz xls surrounded by carb.									
		ASSAY.. Pyrite > sphalerite (dark, few patches of light), galena in fracture fillings (incl. 4cm bx at 45° to CA) with little quartz > mi carb (incl. mod. $CaCO_3$). Chlorite more abundant than in FW99-3, & found within veins as well as chl. Siltstone hackly & tough to split. Host: slt & vfss.	9737	5	122.50	123.0	0.5	0.13	1.42	0.13	0.001
		ASSAY. Pyrite (incl. xls ≤ 2mm), sphalerite, galena (rare) in quartz - carb. - chl. veins & stockwork, Host: mass > vfss. Pale ZnS commonly around margins of dark ZnS. Chlorite less than in 9737; ± "average".	9738	3	132.0	133.0	1	0.10	1.12	0.15	0.002
		Graphitic bedding plane faults common. Recovery: 90%. 127.10 - 130.50 m.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-4 SHEET NO. 5

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	ASSAYS
134.0	140.05	SANDSTONE > silt. At least 4 units, Med. grey. Lower unit: ± 75 cm thick, fining upward from css with an abrupt transition to silt; silt. rip-up clasts in lower half; coalified fragments. P_4, < 1% diss. in coarse ss. Small amounts of pyrite, sphalerite & galena in quartz-carbonate veins, veins generally ≤ 2cm wide, # < 1/metre. Some at 45° to CA. Local slickensides. Basal beds at 25° to CA.											
140.05	159.40	SILTSTONE > mud., vfss - mss. Dark grey. Very thinly laminated, lowest metre. Quartz-carbonate - ± chlorite veins carry mi. pyrite, sphalerite & galena. Veins common ≤ 1cm dia. Some veins are folded & some brecciated. Fault zones: 140.20 - 141.25. Much graphite. At least 2 directions of slickensides, 60° to CA 158 m: 5 mm of gouge at 20° to CA. Recovery: 90% 149.35 - 151.18. Low RQD.											
159.40	160.20	SANDSTONE, mss. Med. grey. Quartz-carb. veins may average 6/10cm, & carry mi. dark sphalerite & pyrite. Fault contacts. Generally fractured.											
160.20	160.80	SILTSTONE, some mud. (?). Dark grey. Very mi. pyrite & galena & sphalerite in quartz-carbonate veins with minor chlorite. Fault contacts.											

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-4 SHEET NO. 6

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
160.80	165.60	SANDSTONE. Mss>. Mi. thinly laminated vfss. Med. to dark grey. Few dark silt. rip-up clasts, chaotic locally. Beds at 30° to core axis. Two generations of quartz-carb. veins, ± normal to each other. Dominant at 45° to CA. Both carry mi. pyrite, galena.										
165.60	178.45	SILTSTONE (& ± mudstone) & vfss, Mi. mass. Dark to med. grey. Beds 30° to CA at 170.90 m. Quartz-carb. veins average ± 1/metre. Fault gouge, 5 mm dia., at 30° to CA, 174 m. Few core fragments.										
178.45	180.0	SANDSTONE. Mss> fss, vfss. Several units. Med. dark grey. Quartz-carbonate veins ≤ 15mm dia. at ± 45° to CA. Very mi. ± phalerite & pyrite. No obvious diss. pyrite. General evidence of faulting. Mi. gouge 178.85. Lower contact is a bedding plane fault at 50° to core axis.										
180.00	222.50	SILTSTONE & vfss > fss & local mass. Dark to med. grey. Thinly laminated locally. Slump balls of fss in vfss at 204. Beds 40° to CA at 185.20 m, 45° at 196 & 210.35 m. Pyrite: very minor diss. Quartz-carbonate veins are few (± 2/m?), sub-parallel to ± 45° to CA. More calcite here than usual (generally very little). Very mi. dark sphalerite in quartz-carb. veins, plus mi. pyrite, locally massive. Small, local fault, incl. bedding plane. Graphitic. Fewer faults than up-hole.										

Recovery: 90% 188 - 191 & 200.4 - 204 m

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-4 SHEET NO. 7

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag FA	ASSAYS OZ/TON Au FA
222.50	227.50	SANDSTONE. Mss > + 1 cm of dark silt with plant fossils? Med grey > dark. Few silt. rip-up clasts at 226.90, slightly imbricated. Beds 45° to CA at top contact; 55° to CA at 226.90. Few quartz-carb. veins. Pyrite, minor: diss. & in chlorite-lined quartz-carbonate veins in siltstone. Mi. dark sphalerite in in wk quartz veins at 226.90.									
227.50	249.94 EOH	SILTSTONE, vfss & fss. Very mi. mca. Dark to med. grey. Thinly laminated in part. Local probable plant fossils; slump balls. Lower section carries a couple of fss lenses in vfss & silt. Beds 50° to core axis at 232.40, 55° at 247.35. Quartz-carb. veins with chlorite edges. Mi. calcite (i.e. less than 180-228 above). Veins are small (few mm) & scattered (e.g. ± 3-6/m). Mi. pyrite in veins, & very mi. sphalerite.									
		ASSAY. Quartz-carb. veins with pyrite & dark zns.	9739		233.80	234.50	0.7	0.01	0.27	0.15	<0.001
		② Later quartz-carb. veinlets (e.g. < 1 mm) with light ZnS cut above. Locally, chlorite occupies x-fracture in carb.> quartz vein. Mi. galena & chlorite in ① above. Host: silty fss.									
		ASSAY. Quartz-carb. (calcite mod. abundant) veins with mi. pyrite & sphalerite; local chlorite. Also breccia. Host: mss-vfss. Graphitic slickensides.	9740		246.0	246.25	0.25	0.02	0.04	0.65	<0.001
		Graphitic bedding plane faults common. Probably movement on every bedding plane: Note 1 cm gouge at 231.25; Mi. gouge 233; 10 cm gouge & bx at 234 m.									

LANGRIDGES — TORONTO — 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED
HOLE NO. FW99-5 LENGTH 249.9 m (820 ft)
LOCATION 1600 ZONE
LATITUDE 080 North DEPARTURE 1612 East
ELEVATION 891 m AZIMUTH 185° DIP -45°
STARTED 25 October '99 FINISHED 27 October 1999

METRES	DIP	AZIMUTH	METRES	DIP	AZIMUTH

HOLE NO. _____ SHEET NO. 1/9
REMARKS _____

LOGGED BY A. L'Orsa

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	ASSAYS %
										FA	FA	
0	18.10	CASING to 15.24 m. Pulled. Boulders to 18.10 m										
18.10	23.25	SANDSTONE predominates. Very fine-grained (Vfss) to medium-grained (mss). Minor (mi) siltstone (slt). Dark to med. grey. Beds at ± 20° to core axis. Laminated locally. Pyrite generally abundant (exceeds 50% locally). Diss., cubic, ± 0.10 mm in diameter, in mss. Coarser (± 1mm xls common) in Vfss, with xl clusters & bedding-controlled concentrations. White quartz, ± ankerite veins, local & mi. ≤ 1.5 cm. ± 25° to core axis. Mi dark ZnS, PbS, to S_2.										
								Pb	Zn	Ag	Au	Fe
		ASSAY. Strata-bound pyrite in mss-slt, incl. lam.	9741	15	18.30	18.80	0.50	<0.01	0.02	0.03	<0.001	6.66
		Diss. cubic xls, generally ≤ 1mm dia. Local xl clusters & masses ≤ ± 2 x 2 cm										
		Recovery: 100%										
		Faults: Post-mineralization faults are very common. All are post-mineralization unless otherwise noted.										

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW 99-5 SHEET NO. 2/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPH IDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
23.25	66.80	SILTSTONE > vfss, mud. Dark to med. grey. Beds ± 35° - 20° to core axis. Massive to thin. Pyrite. Minor & local. Small lenses (e.g. 1cm). Disc. Marcasite. Local disc., e.g. 27m Quartz (white) - ankerite veins. Scattered. Rare to 19m (≤ 7/metre). Almost none 49 - 66.80. e.g. 32° - 0° to core axis. Carry mi. pyrite, rare sphalerite. Galena? (1 speck). Also carries unidentified olive yellow carbonate. Faults ∠ ± 20° to core axis, especially at 39.62, 27.53, 54.25 - 54.75 (mostly gouge), 61.60 - 64.80 (RQD=0) & 65.50 - 66.80 (basal contact). Recovery ± 100%; except 90% 62.18 - 62.01; 85% 60.14 - 64.01									
66.80	75.60	SANDSTONE >. vfss > mss. Minor slt. Med. grey. Beds ± 0 - 15° to core axis. Veins of white quartz + carbonates, with chlorite at edges generally. Low angles to core, generally, mi. pyrite. Local sphalerite? Faults. Graphitic. 66.80 - 69.30 zone of bx, gouge, & quartz stockworks.									

LANGRIDGES — TORONTO — 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY: FIREWEED

HOLE NO. FW99-5 SHEET NO. 3/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
75.60	96.85	SILTSTONE >. Hi. ss incl. mss. Dark grey. Laminated (< 1mm beds common) sections. Few ss clasts. Beds 20-25° to core at 92.50 m. White quartz-carbonate veins, generally 1/m +, i.e. few. Dia. gen. < 1cm. Local breccia fillings & stockworks. Local quartz xls (± 1-3 mm dia.) surrounded by vein filling. ZnS very minor & local, e.g. ± 78.50 m. Pyrite. Minor diss. locally. ± 3% diss. in ± 4cm mss at 86.25. ≤± massive 1cm at 88m. Faults. Few, small. Vague signs of silt slumping near base.									
96.85	108.20	SANDSTONE >. Mostly mss; range css to silt. 3 main units, one of which exhibits reverse graded bedding (fining down hole). Few rip-up clasts. Beds at low angles, e.g. 12°. Med. grey. quartz-carbonate veins, gen. < 1cm dia., ≤ ± 2cm. Gen. cut core at 45° or lower. Mi. pyrite, ZnS, PbS. Pyrite. Also mi. diss., diagenetic, ≤ 15% locally. Cubic. structure. X-beds in thinly laminated fss at 106.65 3x, 1.5 cm wide, 15° to core axis, at 107m. Quartz-carb. gangue with mi. PbS, ZnS, FeS_2. Fault zone 106.70 - 106.70 m.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-5 SHEET NO. 4/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
108.20	138.50	SILTSTONE & VFSS >. Minor mss, mud?, css. Few silt rip-up clasts in ss. Dark grey to med. grey. Beds at low angles to core axis; e.g. 15° at 110 m. Laminated locally. Local cross-bedding. Quartz-carbonate veins, locally with chlorite edges. Vuggy in places (vug avg. 4×1 mm). Minor diss. pyrite. Frequency range: < 1/metre to + 25/metre near fault at 123.44 m. Pyrite also locally diss. in ss. Fault Zone: 123.44 - 125.0 m. Includes gouge & gouge cemented bx. Graphitic slickensides. Recovery = 100%										
138.50	142.20	FAULT ZONE. Slt, ss & quartz-carbonate vein frags. & gouge. Post mineralization. At least two directions of slickensides. Ten cm mss unbroken. Recovery = 100%.									
142.20	148.44	SANDSTONE. css-mss. Lithic ss, as are others. Sphericity high to low. Angular to sub-rounded. Medium grey. Beds 60° to core axis at 148 m. Quartz-carbonate veins common 142.20 - 144 m. Below 144 average ± 6/metre. Mi FeS_2, ZnS, PbS.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWATER

HOLE NO. FW99-5 SHEET NO. 5/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
		Sandstone (continued).								FA	FA
		Pyrite diss. in ss, locally ≤ 3%.									
		Recovery ± 100%									
		ASSAY. Mss-css with quartz-carb. veins carrying						Pb	Zn	Ag	Au
		mi. Pyrite & sphalerite. $CaCO_3$ mod. abundant in some veins	9742	8	142.20	143.20	1	0.02	0.05	0.05	0.001
148.44	171.06	SILTSTONE > local fss, mss. Fissile locally.									
		Dark to med. grey. Beds 60° to core axis at									
		149.40 m; 35° to CA at 156 m. Laminated loc.									
		Quartz-carbonate veins, with chlorite edges.									
		Low (0°) to 80° angles to CA. Local stockworks									
		locally carry sphalerite, disseminated, & pyrite.									
		Distribution: rare to heavy (especially above 157m)									
		Sulphide veins, ± 160 - 163.20 m									
		Generally ≤ 1 cm veins with pyrite, dark yellowish brown									
		sphalerite, very mi. chalcopyrite. Little quartz-carb. gangue.									
		Two generations of sulphide veins.									
		ASSAY. Includes FeS_2-ZnS veins ≤ ± 1 cm dia.	9743	30	161.0	162.0	1	0.03	2.39	0.40	0.032
		FeS_2 occupies vein centres, ZnS outside.									
		ASSAY. FeS_2 veins with masses of dark ZnS.	9744	20	162.0	163.0	1	0.03	0.98	0.57	0.147
		Mi. light reddish, yellowish red ZnS in quartz-carb. veins.									
		Veins also carry an unidentified white powdery mineral									

LANGRIDGES — TORONTO — 366-1168

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-5 SHEET NO. 6/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON
		Siltstone (continued). Pyrite ↓, rarely, sphalerite in mi. dis. locally. Evidence of faulting throughout section; e.g. 60° to core axis at 152 m, 10° to CA at 170m. Slickensides common on bedding planes. Recovery ± 100%									
171.06	181.23	SANDSTONE. Mss to vfss ∅ minor slt. Medium grey. Beds 35° to core axis at 179m; ±10cm to very thinly laminated. (< 1mm). Few quartz-carbonate veins, generally at core at 45° to 80°, + mi Pyrite & sphalerite. Pyrite, minor, disseminated. Recovery ≥ 100%.									
181.23	184.04	SILTSTONE to vfss ∅ mi. mudstone? Includes very thinly laminated beds, 25° to core axis. Dark to med. grey. Very few quartz-carb. veins ≤ 1.5mm dia. Pyrite concretion 2cm x 6mm, parallel to bedding. Recovery 100%									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-5 SHEET NO. 7/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag	ASSAYS OZ/TON Au
184.04	211.33	SANDSTONE, MSS > fSS, vfSS, Local silt. Med. grey. Locally thinly laminated. Beds at low angles to core axis, e.g. 20° at 204.60 m. Rip-up clasts (fSS in MSS) at ± 204.70 m, below lamination. Quartz-carbonate veins ave. > 10/metre in SS, generally < 1 cm diameter, cut core at 15° or more. Minor dark sphalerite; less light coloured sphal.								FA	FA
		ASSAY Quartz-carb. veins, Dark & light sphalerite FeN acicular, ± bronze coloured, breakable, X1S ± 0.5 mm long, very mi. galena.	9745	13	200	201	1	0.03	1.79	0.09	<0.001
		Strata-bound pyrite at 203.5 m, ± 5 cm of ± 50% Py, disseminated.									
		ASSAY Diss. pyrite gen. < 3% except ± 50% above. Pyrite grains ± ≤ 0.5 mm dia. very mi. sphalerite in quartz-carb. veins.	9746	15	203	204	1	0.01	0.14	0.05	0.005
		Several mi. faults at 45° or less to core axis. Recovery ± 100%.									
211.33	219.40	SILTSTONE > vfSS. Thinly laminated locally. Dark grey. Beds 15° at 219 m (thinly laminated). Quartz-carbonate veins rare. Pyrite in local concretions, & diss. in beds. Fault contact with underlying MSS, at 20°. Recy 100%, except 95% 212.44-214.27 m.									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-5 SHEET NO. 8/9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS OZ/TON Ag	ASSAYS OZ/TON Au
219.40	223.40	SANDSTONE. MSS, medium grey. Thick beds. Quartz-carbonate veins common. Sulphides rare. Pyrite, diss., ≤ 3%. Fault breccia 222.87-223.40, quartz > carb. fill. Basal contact: fault at 30° to core axis. Recovery: 100%, except 85% 219.45-221 m.						Pb	Zn	Ag	Au
223.40	242.50	SILTSTONE and vfss. Med. to dark grey. Includes very thinly laminated beds (eg. 234 m), slump balls? Beds generally 15°; range to 0° to ca. Quartz-carb. veins gen. < 1 mm dia., ave. < 1/m. Strata-bound pyrite in thinly laminated beds. Beds of diagenetic pyrite as thin as 1 mm, tend to be lensy. Massive to diss. Includes cubic xls ≤ ± 0.3 mm, but average ± 0.1 mm. Hint of post-pyrite soft sediment deformation.									
		ASSAY. Pyrite. Minor marcasite, vfss-fss. Moderate amounts of calcite. Laminated	9747	25	228.10	228.60	0.5	0.02	0.02	0.05	0.004
		ASSAY. Pyrite, diss. to mass. Py concretions. Not lam. vfss host.	9748	15	230.50	231.0	0.5	0.01	0.02	0.05	<0.001
		Fault zone in analyzing ss extends to 224.60 m. Basal contact a fault at 15° to core axis									

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-5 SHEET NO. 9 of 9

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS %	ASSAYS %	ASSAYS OZ/TON	ASSAYS OZ/TON	
242.50	247.30	SANDSTONE. Mss > finer-grained ss & slt, Includes at least 4 ss units (one only ± 2cm). Mod. grey. Quartz-carbonate veins common in mss, & locally exceed 10/metre. They carry few or no sulphides. Pyrite. Very minor, diss., << 1%. Beds are at low angles to core axis. Basal contact 35°, with graphitic slickensides. Recovery ± 100%										
247.30	249.90	SILTSTONE. Medium dark grey. Quartz-carbonate veins rarely exceed 1 mm, irregularly distributed. Locally + 10/metre. Minor chlorite at vein edges. Pyrite. Rare. Diss. in quartz-carb. veins. Pyrite veinlet near end of hole; massive, ± 1mm wide.										
		EOH										

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED
HOLE NO. FW99-6 LENGTH 70.10 m (230 ft)
LOCATION 1600 ZONE
LATITUDE 080 North DEPARTURE 1612 East
ELEVATION 891 m ± AZIMUTH 005° DIP −45°
STARTED 27 Oct. 1999 FINISHED 27 October 1999

METRES	DIP	AZIMUTH	METRES	DIP	AZIMUTH

HOLE NO. FW99-6 SHEET NO. 1 of 2
REMARKS
LOGGED BY A. L'Orsa

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	% SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	TOTAL	% Pb	% Zn	OZ/TON FA Ag	OZ/TON FA Au
0	19.80	CASING. Pulled.									
19.80	20.70	SILTSTONE to fss. Thinly laminated. Dk grey. 1 mss clast in vfss, 1.2 x 3 mm, parallel to beds. Beds 40° to core axis. Local mi. cross beds. No quartz-carbonate veins									
20.70	28.78	ALTERED DYKE or SILL. Rhyolite? Feldspar porphyry. Light olive grey colour. Altered feldspar phenocrysts ± 1 to 2 mm in length comprise ≤ 15% of rock. Biotite, sericitized, ? 1 mm in dia. Few. Generally sericitized. Top ~~contact~~ broken. Sample 9687 whole rock ICP analysis, whole rock trace elements etc. Quartz-carbonate veins with few sulphides; ≤ 1 cm wide. Frequency generally ~ 1/10 cm. 50°-10° to core. Mi. diss. pyrite. Sphalerite, dark reddish brown, cut by mi. veinlets of lighter (moderate) reddish brown sphalerite.									
		ASSAY veins; calcite > quartz, dark & light sphalerite	9749	4	21.00	21.50	0.5	0.11	0.58	0.08	<0.001
		Flow banding at 40° to core axis for ? 30 cm above basal contact, chilled margin at base. Few small vugs ≤ 6x6 mm + mi. calcite.									

LANGRIDGES – TORONTO – 366-1168

FORM 1

DIAMOND DRILL RECORD

NAME OF PROPERTY FIREWEED

HOLE NO. FW99-6 SHEET NO. 2 of 2

METRES FROM	METRES TO	DESCRIPTION	SAMPLE NO.	SAMPLE % SULPHIDES	SAMPLE METRES FROM	SAMPLE METRES TO	SAMPLE METRES TOTAL	ASSAYS % Pb	ASSAYS % Zn	ASSAYS oz/ton Ag	ASSAYS oz/ton Au
28.78	70.10 EOH	SILTSTONE and VERY FINE-GRAINED SS > fSS to CSS. Dark grey > med. grey. Laminated locally. Quartz-carbonate veins. No increase in veins below rhyodacite. Almost no veins until 30.50 m. Veins ≤ ± 1 cm dia. Average ± 1mm dia. Local weak stockworks. chlorite vein in silt. Veins mostly hosted by ss units & die out in siltstone. Incl. 0° - 50° to CA. Sulphides local & minor; Sphalerite, galena & pyrite.									
		ASSAY. quartz-carbonate veins with mi. diss. dark sphalerite, pyrite & galena. Host in laminated vfSS - fSS. Mod. amounts of calcite.	9750	12	33.0	33.50	0.5	0.01	0.01	<0.01	<0.001
		Beds range from 60° to core axis near top of section to 35° at 63 m. Faults throughout section. Low RQD, Graphitic. Graphitic slickensides common on bedding planes. Gouge: 2 cm at 30.50 m, 4 cm at 35 m, 7 cm at 46 m. Major fault zones: 63.30-64.74. 68.50 - 70.10 (EOH). Faults above are post-mineralization. Recovery ±100% in hole exc. at 70% 36.57 - 39.62 m									

LANGRIDGES – TORONTO – 366-1168

APPENDIX 2

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

ASSAY CERTIFICATE

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904724 Page 1

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	Mo %	Cu %	Pb %	Zn %	Ag** oz/t	Ni %	Co %	Mn %	Fe %	As %	U %	Th %	Cd %	Sb %	Bi %	Au** oz/t
R 9688	<.001	.007	<.01	.01	<.01	.010	.003	.03	6.55	<.01	<.01	<.01	<.001	.001	<.01	.001
R 9689	<.001	.022	.06	1.30	.28	.012	.003	.86	8.73	.04	<.01	<.01	.007	.003	<.01	.015
R 9690	<.001	.022	.03	1.02	.19	.021	.003	.22	6.31	.01	<.01	<.01	.005	<.001	<.01	<.001
R 9691	<.001	.048	.12	2.63	.44	.017	.004	.26	8.40	.02	<.01	<.01	.012	.004	<.01	.005
R 9692	<.001	.005	.01	.80	.02	.014	.003	.38	7.74	<.01	<.01	<.01	.003	<.001	<.01	<.001
R 9693	<.001	.088	.22	5.29	.57	.011	.005	.36	15.04	.02	<.01	<.01	.025	<.001	<.01	.016
R 9694	<.001	.065	.09	2.81	.64	.010	.004	.35	14.28	.02	<.01	<.01	.014	<.001	<.01	.009
R 9695	<.001	.035	.07	1.09	.23	.015	.004	.25	9.87	.02	<.01	<.01	.005	<.001	<.01	.006
R 9696	<.001	.053	.05	5.06	.39	.011	.005	.72	13.24	.02	<.01	<.01	.024	<.001	<.01	.004
R 9697	<.001	.052	.44	5.70	.43	.011	.004	.50	7.83	<.01	<.01	<.01	.027	<.001	<.01	.002
R 9698	<.001	.075	.57	2.29	.66	.011	.003	.25	8.56	.01	<.01	<.01	.011	.001	<.01	.002
R 9699	<.001	.010	.02	.53	.03	.011	.002	.25	6.53	.01	<.01	<.01	.002	<.001	<.01	.002
R 9700	<.001	.032	.02	2.21	.18	.012	.003	.22	7.67	.01	<.01	<.01	.013	.001	<.01	<.001
RE R 9700	<.001	.033	.02	2.21	.16	.013	.003	.23	7.68	.01	<.01	<.01	.013	<.001	<.01	<.001
RRE R 9700	<.001	.035	.02	2.57	.19	.012	.003	.23	8.05	.01	<.01	<.01	.015	<.001	<.01	<.001
R 9701	<.001	.010	.15	.91	.30	.013	.003	.25	7.41	.01	<.01	<.01	.005	.001	<.01	.004
R 9702	<.001	.008	.02	.16	.02	.009	.002	.22	5.67	.01	<.01	<.01	.001	<.001	<.01	<.001
R 9703	<.001	.123	1.75	4.56	1.06	.011	.004	.38	10.27	.01	<.01	<.01	.021	.003	<.01	.020
R 9704	<.001	.011	.03	.49	.09	.011	.002	.25	6.75	<.01	<.01	<.01	.002	<.001	<.01	<.001
R 9705	<.001	.040	.33	3.31	.38	.012	.004	.27	8.86	.02	<.01	<.01	.015	.001	<.01	.061
R 9706	<.001	.047	.21	4.99	.41	.015	.004	.28	9.69	.01	<.01	<.01	.023	.001	<.01	.031
R 9707	<.001	.040	1.29	3.95	.82	.010	.005	.23	11.76	.05	<.01	<.01	.018	.002	<.01	.060
R 9708	.001	.008	3.03	1.02	1.87	.013	.002	.33	7.09	.01	<.01	<.01	.004	.007	<.01	.002
R 9709	<.001	.014	.02	.63	.09	.011	.003	.23	6.55	.01	<.01	<.01	.003	<.001	<.01	.004
R 9710	<.001	.003	.02	.31	.03	.015	.002	.26	6.49	<.01	<.01	<.01	.001	<.001	<.01	.001
R 9711	<.001	.007	.89	.34	.26	.005	.001	.36	6.63	<.01	<.01	<.01	.002	<.001	<.01	.002
R 9712	<.001	.001	.48	.01	.24	.006	.001	.38	7.40	<.01	<.01	<.01	<.001	.001	<.01	<.001
RE R 9712	<.001	<.001	.47	.01	.18	.007	.001	.38	7.30	<.01	<.01	<.01	<.001	.001	<.01	.003
RRE R 9712	<.001	<.001	.47	.01	.18	.008	.001	.39	7.38	<.01	<.01	<.01	<.001	<.001	<.01	<.001
R 9713	<.001	.001	.03	.03	<.01	.007	.001	.44	8.24	.01	<.01	<.01	<.001	<.001	<.01	.001
R 9714	<.001	.070	.84	4.38	1.28	.015	.007	.30	12.19	.02	<.01	<.01	.022	.002	<.01	.004
R 9715	<.001	.251	.16	12.10	2.08	.007	.005	2.79	9.56	.01	<.01	<.01	.074	.003	<.01	.129
R 9716	<.001	.060	.19	2.91	.43	.011	.003	.38	10.83	.01	<.01	<.01	.014	.001	<.01	.032
R 9717	<.001	.039	.14	1.00	.14	.008	.002	.26	7.03	<.01	<.01	<.01	.005	.001	<.01	.011
STANDARD R-1/AU-1	.088	.819	1.27	2.14	2.99	.023	.025	.08	6.52	.97	.01	.01	.042	.148	.02	.096

GROUP 7 - MULTI ELEMENT ASSAY - 1.00 GM SAMPLE, AQUA - REGIA DIGESTION TO 100 MLS, ANALYSIS BY ICP-ES.
AG** & AU** BY FIRE ASSAY FROM 1.A.T. SAMPLE.
- SAMPLE TYPE: CORE Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Dec 23/99 **SIGNED BY** ..... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

SAMPLE#	Mo %	Cu %	Pb %	Zn %	Ag** oz/t	Ni %	Co %	Mn %	Fe %	As %	U %	Th %	Cd %	Sb %	Bi %	Au** oz/t
R 9718	<.001	.087	.16	1.02	.29	.011	.002	.27	8.32	<.01	<.01	<.01	.005	<.001	<.01	.003
R 9719	<.001	.118	4.90	3.00	4.06	.005	.006	.30	40.58	.28	<.01	<.01	.017	.016	<.01	.541
R 9720	.001	.072	.23	3.40	.54	.010	.004	.40	12.05	.02	<.01	<.01	.016	.001	<.01	.030
R 9721	<.001	.004	.04	.06	.07	.010	.002	.70	5.50	.01	<.01	<.01	<.001	.001	<.01	.002
R 9722	<.001	.060	.04	6.12	.25	.019	.005	.22	11.21	.02	<.01	<.01	.029	.001	<.01	.007
R 9723	.001	.004	.06	.65	.09	.001	<.001	.18	3.63	<.01	<.01	<.01	.003	<.001	<.01	.001
R 9724	<.001	.146	.34	2.11	.50	.011	.003	4.02	6.64	<.01	<.01	<.01	.009	<.001	<.01	.016
R 9725	<.001	.031	1.42	.65	.88	.012	.003	.31	7.10	.01	<.01	<.01	.002	.002	<.01	.005
R 9726	<.001	.049	.45	1.53	.60	.010	.005	1.76	43.59	.02	<.01	<.01	.007	.003	<.01	.010
R 9727	<.001	.167	.43	11.44	.67	.002	.004	1.01	25.33	.03	<.01	<.01	.065	.001	<.01	.064
R 9728	<.001	.027	.65	5.62	.71	.002	.001	.28	8.60	.01	<.01	<.01	.025	.001	<.01	.013
R 9729	.001	.003	.16	.40	.08	<.001	<.001	.15	3.13	<.01	<.01	<.01	.002	.001	<.01	<.001
R 9730	.001	.060	.14	8.69	.42	.001	.003	.31	12.16	<.01	<.01	<.01	.041	.002	<.01	.029
RE R 9730	<.001	.059	.14	8.57	.50	.002	.002	.31	11.44	<.01	<.01	<.01	.040	.002	<.01	.032
RRE R 9730	<.001	.061	.15	8.46	.44	.003	.002	.30	11.77	<.01	<.01	<.01	.041	.003	<.01	.028
R 9731	.001	.104	.17	6.83	.72	.002	.002	.36	7.95	<.01	<.01	<.01	.034	.001	<.01	.019
R 9732	<.001	.010	.07	.52	.08	.006	.002	.55	5.87	<.01	<.01	<.01	.003	<.001	<.01	<.001
R 9733	<.001	.105	.23	2.90	.81	.012	.005	.36	13.58	.01	<.01	<.01	.014	<.001	<.01	.009
R 9734	<.001	.232	.62	4.17	1.62	.006	.007	2.16	25.06	.02	<.01	<.01	.021	<.001	.01	.017
R 9735	<.001	.002	.05	.07	.03	.008	.001	.76	6.17	<.01	<.01	<.01	<.001	<.001	<.01	.001
R 9736	<.001	.008	.01	.06	.05	.015	.004	.40	5.21	<.01	<.01	<.01	<.001	.001	<.01	<.001
R 9737	<.001	.011	.13	1.42	.13	.011	.004	.24	7.87	.01	<.01	<.01	.006	.001	<.01	.001
R 9738	<.001	.007	.10	1.12	.15	.010	.002	.30	8.36	.01	<.01	<.01	.005	.001	<.01	.002
R 9739	<.001	.009	.01	.27	<.01	.013	.003	.20	6.12	<.01	<.01	<.01	.001	.001	<.01	<.001
R 9740	<.001	.004	.02	.04	.05	.011	.003	.37	6.87	<.01	<.01	<.01	<.001	<.001	<.01	<.001
R 9741	.001	.006	<.01	.02	.03	.014	.003	.05	6.66	.01	<.01	<.01	<.001	.001	<.01	<.001
R 9742	<.001	.001	.02	.05	.05	.006	.001	5.98	3.79	.01	<.01	<.01	<.001	.002	<.01	.001
RE R 9742	<.001	.001	.02	.05	.03	.006	.001	6.06	3.84	.02	<.01	<.01	<.001	.002	<.01	.001
RRE R 9742	<.001	.001	.02	.03	.04	.006	.001	5.91	3.71	.01	<.01	<.01	<.001	.001	<.01	.001
R 9743	<.001	.156	.03	2.39	.40	.018	.004	.32	13.17	.02	<.01	<.01	.013	.001	<.01	.032
R 9744	<.001	.027	.03	.98	.57	.018	.003	.30	8.76	<.01	<.01	<.01	.005	.001	<.01	.147
R 9745	<.001	.009	.03	1.79	.09	.010	.003	.35	6.29	.01	<.01	<.01	.009	.001	<.01	<.001
R 9746	<.001	.003	.01	.14	.05	.009	.003	.24	7.18	.05	<.01	<.01	.001	.002	<.01	.005
R 9747	<.001	.008	.02	.02	.05	.014	.004	.17	12.72	.06	<.01	<.01	<.001	.004	<.01	.004
R 9748	.001	.009	.01	.02	.04	.012	.004	.13	7.41	.01	<.01	<.01	<.001	.001	<.01	<.001
STANDARD R-1/AU-1	.088	.829	1.32	2.24	3.01	.023	.024	.08	6.59	.96	.01	.01	.043	.150	.03	.096

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA

SAMPLE#	Mo %	Cu %	Pb %	Zn %	Ag** oz/t	Ni %	Co %	Mn %	Fe %	As %	U %	Th %	Cd %	Sb %	Bi %	Au** oz/t
R 9749	.001	.006	.11	.58	.08	<.001	<.001	.66	1.56	<.01	<.01	<.01	.002	<.001	<.01	<.001
R 9750	<.001	.005	.01	.01	<.01	.011	.003	.36	5.80	<.01	<.01	<.01	<.001	<.001	<.01	.003
RE R 9750	<.001	.005	.01	.01	.01	.011	.002	.36	5.78	<.01	<.01	<.01	<.001	<.001	<.01	<.001
STANDARD R-1/AU-1	.087	.831	1.33	2.27	2.92	.026	.025	.08	6.57	.95	.01	.01	.045	.157	.03	.096

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data A FA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

WHOLE ROCK ICP ANALYSIS

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904725

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Ni ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	TOT/C %	TOT/S %	SUM %
R 9684	74.03	12.24	6.06	.60	.10	.10	2.22	.17	.04	.26	.005	412	<20	<10	171	17	11	2	4.1	.40	.02	100.00
R 9685	76.41	12.83	3.12	.29	.10	.10	2.70	.17	.01	.13	.003	592	<20	<10	176	18	17	2	3.8	.44	.05	99.76
R 9686	74.71	13.59	.84	.88	1.65	.12	2.84	.18	<.01	.18	<.001	728	<20	31	184	19	13	2	4.9	.65	.09	100.01
R 9687	73.23	12.99	1.53	.23	2.87	.23	3.04	.17	.02	.43	<.001	780	<20	43	169	19	12	2	5.0	.82	.04	99.86
RE R 9687	73.48	12.93	1.49	.23	2.81	.24	2.98	.17	.02	.43	.001	769	20	43	174	18	12	2	5.1	.82	.04	100.00
STANDARD SO-15/CSB	49.75	12.78	7.12	7.14	5.78	2.40	1.89	1.64	2.67	1.37	1.040	1866	62	393	1003	23	28	12	5.9	2.42	5.32	99.89

GROUP 4A - 0.200 GM SAMPLE BY LIBO2 FUSION, ANALYSIS BY ICP-ES. LOI BY LOSS ON IGNITION.
TOTAL C & S BY LECO. (NOT INCLUDED IN THE SUM)
- SAMPLE TYPE: CORE Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Jan 4/2000 **SIGNED BY.....** D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data 1 FA ___

ACME ANALYTICAL LABORATORIES LTD. (ISO 9002 Accredited Co.) 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904725 (a)

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	Co ppm	Cs ppm	Ga ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Sr ppm	Ta ppm	Th ppm	Tl ppm	U ppm	V ppm	W ppm	Zr ppm	Y ppm	La ppm	Ce ppm	Pr ppm	Nd ppm	Sm ppm	Eu ppm	Gd ppm	Tb ppm	Dy ppm	Ho ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm
R 9684	1.0	1.2	11.8	3.7	10.49	70.30	8.9	7.0	1.0	6.5	.5	3.4	<5	4.1	158.3	17.5	17.5	32.8	3.70	12.4	2.2	.48	2.51	.37	2.51	.59	1.65	.27	2.01	.33
R 9685	.5	1.5	11.4	3.8	10.50	77.80	5.7	7.6	1.0	6.8	.5	3.6	<5	3.2	157.9	17.7	25.0	43.6	4.84	15.4	2.7	.51	2.77	.39	2.41	.57	1.68	.29	1.89	.34
R 9686	.8	2.0	12.4	3.9	11.16	81.05	4.8	29.2	1.0	7.1	.5	3.7	<5	2.6	169.6	18.4	23.6	42.5	4.74	15.3	2.7	.46	2.81	.39	2.50	.61	1.76	.31	2.12	.35
R 9687	.8	1.2	11.0	3.4	9.63	81.98	4.0	38.2	.9	6.2	.4	3.4	<5	2.2	142.2	17.0	21.5	38.6	4.22	13.9	2.4	.44	2.55	.35	2.42	.55	1.64	.28	1.89	.31
5 RE R 9687	.8	1.4	12.6	4.1	11.05	93.69	4.7	41.0	1.0	7.1	.5	3.8	<5	2.7	170.4	19.5	24.3	43.3	4.65	15.3	2.7	.49	2.76	.39	2.66	.64	1.80	.32	2.16	.36
STANDARD SO-15	20.6	2.3	15.1	23.0	26.50	67.00	15.3	397.0	1.2	23.6	.6	21.0	150	19.3	1038.0	23.7	29.0	56.5	6.37	23.0	4.3	.94	4.38	.58	3.59	.84	2.22	.37	2.48	.41

GROUP 4B - REE - LiBO2 FUSION, ICP/MS FINISHED.
- SAMPLE TYPE: CORE

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Jan 4/2000 **SIGNED BY.** D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. (ISO 9002 Accredited Co.) 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904725

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppb	Se ppm	Te ppm	Ga ppm	S %
R 9684	6.34	2.79	10.10	69.5	<2	4.7	1.2	2023	4.10	1.2	.4	1.1	1.8	3.5	.19	.26	.03	<2	.06	.010	15.6	13.3	.33	81.7	.001	1	1.50	.016	.33	3.2	.14	10	.2	<.02	4.1	<.01
R 9685	5.20	4.61	360.08	1184.3	538	2.5	.5	894	1.85	<.1	.5	<.2	2.5	4.0	5.30	.53	.09	<2	.06	.010	18.5	7.5	.11	103.7	.001	2	.57	.016	.34	2.5	.17	109	.2	<.02	1.3	.07
R 9686	5.78	3.48	14.09	129.9	25	3.8	.7	1367	.43	.9	.4	<.2	2.7	14.5	.51	.33	.02	<2	1.14	.010	14.7	7.6	.46	72.5	<.001	2	.33	.025	.22	2.2	.11	23	.3	<.02	.7	.05
R 9687	4.61	7.07	92.67	223.8	109	2.4	.8	3176	.67	<.1	.5	.3	2.1	34.1	.68	.34	.03	<2	1.98	.011	16.9	5.4	.08	90.8	<.001	2	.31	.007	.30	2.1	.13	41	.3	<.02	.7	.03
RE R 9687	4.70	6.59	87.44	217.4	108	2.3	.7	3078	.65	<.1	.5	.4	2.0	32.8	.67	.33	.03	<2	1.93	.010	17.0	5.2	.07	86.9	<.001	1	.31	.007	.29	2.0	.12	39	.3	<.02	.7	.02
STANDARD DS2	15.26	137.84	35.26	171.1	251	39.2	13.6	838	3.41	63.7	24.8	226.4	3.8	31.0	11.23	10.23	11.09	87	.57	.090	17.6	180.9	.65	163.1	.118	2	1.88	.036	.17	8.1	2.08	260	2.8	1.87	6.4	.01

GROUP 1F15 - 15.00 GM SAMPLE, 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 300 ML, ANALYSIS BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: CORE Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Jan 4/2000 **SIGNED BY.** D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904725 (b)

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	As ppm	Cd ppm	Sb ppm	Bi ppm
R 9684	7	<1	8	62	4	<2	<.2	2.2	<.5
R 9685	6	3	421	1102	3	<2	6.2	1.2	<.5
R 9686	6	3	15	127	4	<2	.5	<.5	<.5
R 9687	5	6	102	203	2	<2	.7	<.5	<.5
RE R 9687	5	6	101	201	2	<2	.7	<.5	<.5
STANDARD C3	26	59	32	148	33	57	25.1	16.1	22.5
STANDARD G-2	2	1	3	45	8	<2	<.2	<.5	<.5

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Jan 4/2000 **SIGNED BY.** C. Leong D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904725

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	Be ppm	Li ppm	B* ppm
R 9684	1	17	26
R 9685	2	18	6
R 9686	2	8	10
R 9687	2	9	8
RE R 9687	2	8	14

GROUP 1E - 0.25 GM SAMPLE DIGESTED WITH HCLO4-HNO3-HCL-HF TO 10 ML. B* BY FUSION, ANALYSIS BY ICP.
- SAMPLE TYPE: CORE Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Jan 4/2000 **SIGNED BY.** C. Leong D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. (ISO 9002 Accredited Co.)
852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Mansfield Minerals Inc. PROJECT FIREWEED File # 9904726

922 - 510 W. Hastings St., Vancouver BC V6B 1L8 Submitted by: A. L'Orsa

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppm
FW99-3-1	<1	39	7	85	<.3	39	17	718	3.53	11	<8	<2	<2	76	.2	<3	<3	53	1.15	.069	7	22	.68	201	.02	<3	1.56	.03	.11	<2	<5	<1
FW99-3-2	<1	40	8	83	<.3	38	16	688	3.46	10	<8	<2	<2	72	.2	<3	<3	51	1.05	.066	6	22	.64	183	.02	<3	1.52	.03	.11	<2	<5	<1
RE FW99-3-2	<1	40	8	86	<.3	38	16	703	3.52	11	<8	<2	<2	74	.3	<3	<3	53	1.07	.068	6	22	.65	180	.02	<3	1.59	.03	.12	<2	<5	<1

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: SOIL Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: DEC 8 1999 **DATE REPORT MAILED:** Dec 23/99 **SIGNED BY** .....D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA