SUB-RECORDER RECEIVED

JUN 1 8 1998

# GEOPHYSICAL REPORT ON THE McDAME PROPERTY

TDG 1 - 6 Claims

**Liard Mining Division** 

Cassiar Area, British Columbia 59°17' N latitude, 129°24' W longitude NTS 104P/6W

for

KRL Resources Corp.

R. Chow June 10, 1998 25,545

GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

# **TABLE OF CONTENTS**

Page

_	
NTRODUCTION	1
Location and Access	
Topography and Climate	1
Property Status	4
Property History	4
Summary of Work	5
REGIONAL GEOLOGY	6
PROPERTY GEOLOGY & MINERALIZATION	
McDame Creek Canyon Mineral Zones	
Other Showings Surrounding the Property	
GROUND GEOPHYSICS	13
DISCUSSION / CONCLUSIONS	14
REFERENCES	15
STATEMENT OF QUALIFICATIONS	16
LIST OF ILLUSTRATIONS	
	Page
<u> </u>	

FIGURE 1: Location Map 2

FIGURE 2: Claim Map 3

FIGURE 3: Regional Geology 7

FIGURE 4: Property Geology - McDame Creek Mineral Zones 9

FIGURE 5: Total Field Magnetic Survey - Data and Profiles pocket

FIGURE 6: Total Field Magnetic Survery - Contours pocket

**Figures** 

**Tables** 

#### INTRODUCTION

During the period of March 9-11, 1998, a ground magnetics survey was conducted by KRL Resources Corp. on claims in the McDame Property near Cassiar, British Columbia. The purpose of this survey was to locate possible extensions of the silver-lead-zinc mineral zones at McDame Creek, which have been partially outlined by previous operators through diamond drilling and trenching.

#### **Location and Access**

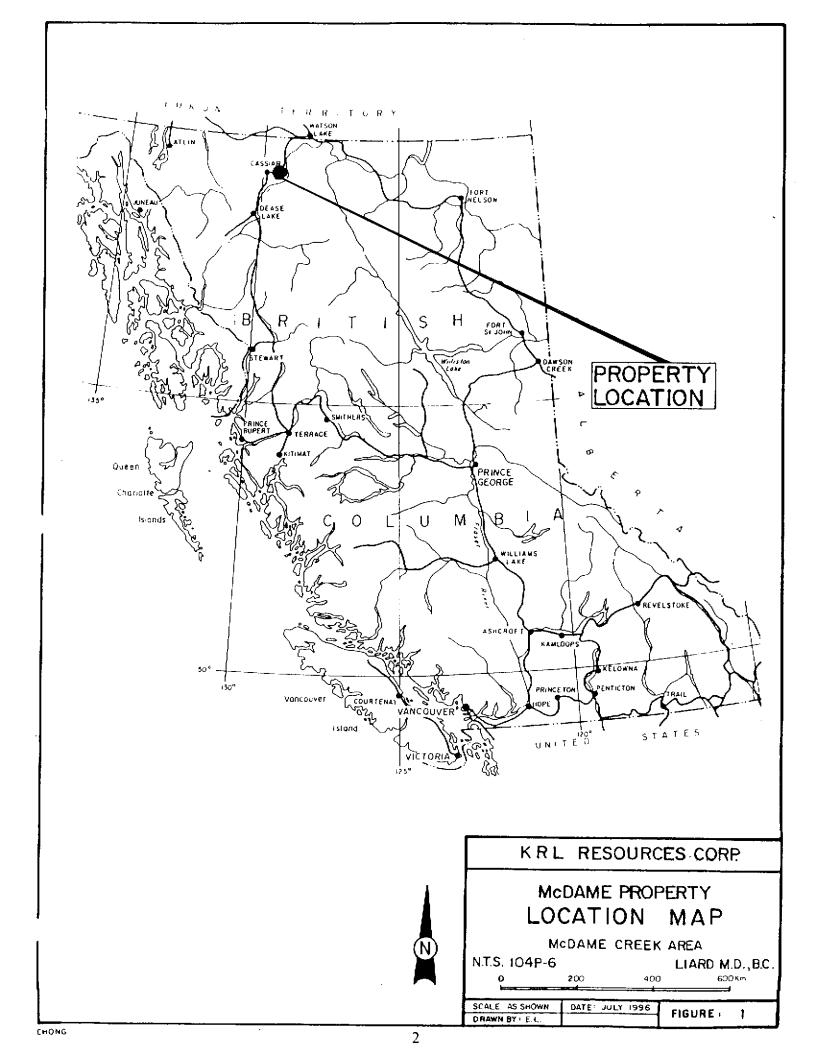
The McDame Property is located in the Cassiar Mountains of northwestern British Columbia [Figure 1]. The claims straddle McDame Creek and Highway 37 (Stewart-Cassiar Highway) about 25.2 kilometres east of the village of Cassiar and 90 kilometres south of the Yukon boundary. The claims are in the Liard Mining Division on NTS mapsheet 104P/6W, centred at 59°17' N latitude and 129°24' W longitude.

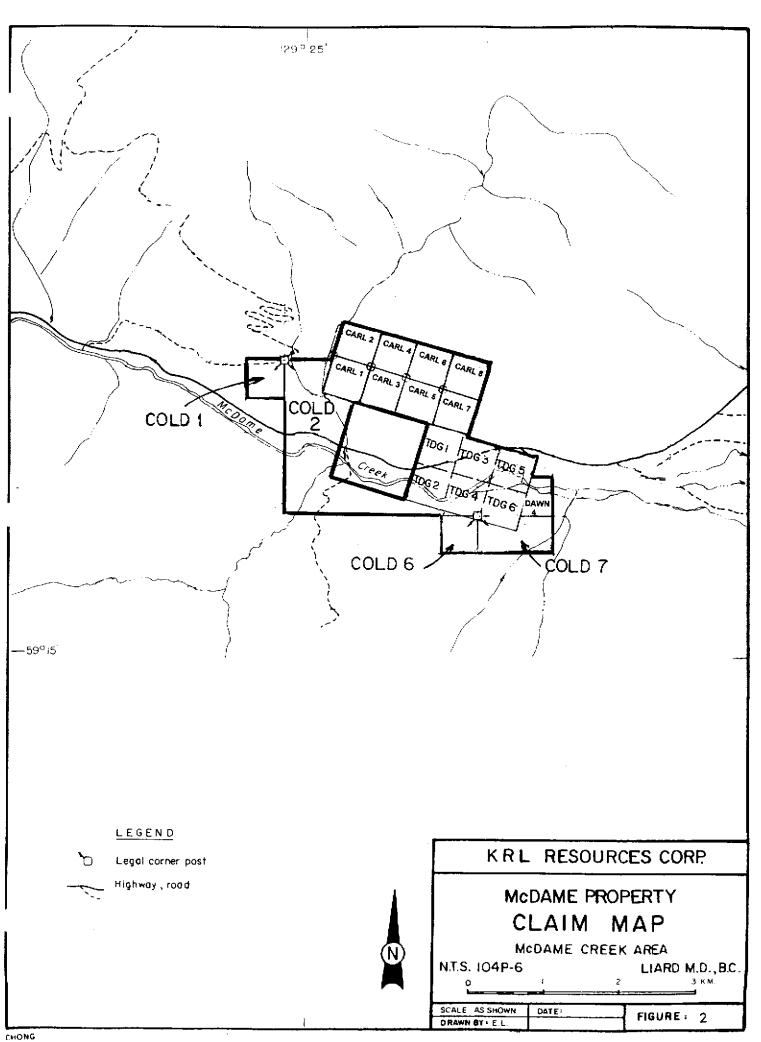
Road access to the claims is available by Highway 37 which passes across the centre of the property. Two exploration roads have been constructed in the past which switch back up the north and south hillsides. Neither is presently accessible to vehicles.

# **Topography and Climate**

Elevations on the property range from about 760 m ASL in the McDame Creek Valley to 945 m ASL on the north boundary. The valley is U-shaped and about 2.0 kilometres broad at the east end, while the west end is very narrow. There are no bridges across McDame Creek but it can be forded at least at low water. Vegetation consists of mostly lodgepole pine, aspen, and spruce.

The area has a northern interior type climate with cold winters and short pleasant summers. Temperatures range from about -50° in the winter to +21° C in the summer. Precipitation is somewhat higher than normal for the interior, with about 50-75 cm annually. Field work is most ideally conducted between June and September.





# **Property Status**

The property consists of 19 claims totalling 39 claim units, covering an area of about 675 hectares (1,668 acres) in the Liard Mining Division.

**Table 1: McDame Property Claims** 

CLAIM NAME	TENURE NUMBER	RECORD DATE	Units	EXPIRY DATE	TAG Number	CLAIM OWNER
COLD 1	344501	March 12, 1996	1	March 12, 1999	215181	Jim Donaldson
COLD 2	344502	March 12, 1996	20	March 12, 1999	215182	Jim Donaldson
COLD 6	344506	March 14, 1996	1	March 14, 1999	215188	Jim Donaldson
COLD 7	344507	March 14, 1996	2	March 14, 1999	215187	Jim Donaldson
DAWN 4	344219	March 12, 1996	1	March 12, 1999	635404 M	Timothy Young
CARLI	355278	April 24, 1997	1	April 24, 1999	674365 M	G.W. Millen
CARL 2	355279	April 24, 1997	1	April 24, 1999	674366 M	G.W. Millen
CARL 3	355280	April 24, 1997	1	April 24, 1999	674367 M	G.W. Millen
CARL 4	355281	April 24, 1997	1	April 24, 1999	674368 M	G.W. Millen
CARL 5	355282	April 24, 1997	1	April 24, 1999	674369 M	G.W. Millen
CARL 6	355283	April 24, 1997	ī	April 24, 1999	674370 M	G.W. Millen
CARL 7	355284	April 24, 1997	1	April 24, 1999	674371 M	G.W. Millen
CARL 8	355285	April 24, 1997	1	April 24, 1999	674372 M	G.W. Millen
TDG 1	348037	July 10, 1996	1	July 10, 1999	635421 M	Timothy Young
TDG 2	348038	July 10, 1996	1	July 10, 1999	635422 M	Timothy Young
TDG 3	348039	July 11, 1996	1	July 11, 1999	635423 M	Timothy Young
TDG 4	348040	July 11, 1996	1	July 11, 1999	635424 M	Timothy Young
TDG 5	348041	July 11, 1996	1	July 11, 1999	635425 M	Timothy Young
TDG 6	348042	July 11, 1996	1	July 11, 1999	635426 M	Timothy Young

# **Property History**

The earliest record of exploration on the property was in McDame Creek, where placer gold has been extracted since 1874. The area presently known as the Caribou Zone was explored by nine metres of adits in 1901, and is now covered by the TDG claims. A brief chronology of more recent exploration work is summarized below from Hall (1984), Watkins (1981), and Sevensma (1969):

1955-56: Cominco optioned claims covering the Joe Reed Vein and drilled 5 holes totalling 455 metres.

1963-65: Venture Mining Ltd. optioned claims around the Caribou Zone and conducted diamond drilling (1800 m), geological mapping, linecutting, an EM survey and trenching. Reserves were estimated at 40,000 tons grading 8.64 oz/ton Ag, 3.65% Pb, 2.97% Zn and 0.35% Cu.

Brettland Mines Ltd. and Glen Copper Mines Ltd. optioned claims around the Joe Reed and performed geological, geochemical, magnetic and IP surveys. Fawn Bay Development Co. Ltd. performed mapping, soil sampling, road construction, limited bulldozer trenching, and 5 exploratory drill holes around the Ram showing.

1970: Pacific Petroleum Ltd. optioned the property around the Joe Reed and drilled 13 holes totalling 1075 metres.

1971: Brettland and Glen Copper drilled 6 holes totalling 735 metres around the Joe Reed.

1978: Canadian Superior optioned the Joe Reed claims and performed a bedrock geochemical survey and drilled 3 holes totalling 153 metres.

1979-80: Colony Pacific Explorations Ltd. acquired the Bad Bear 1 claim through staking (now covered by the TDG claims). A limited program of soil sampling and geophysics (magnetometer and VLF) was carried out.

Canadian Superior drilled 4 holes totalling 406 metres. Geological mapping was performed around the Mt. Reed granite porphyry stock and 7 holes were drilled totalling 863 metres.

1981: Canadian Superior constructed access roads, and drilled 18 holes totalling 2,668 metres. Geological mapping of skarn mineralization marginal to the Mt. Reed stock and mapping in the area of Mt. Reed was performed.

1984: Colony Pacific conducted a program of geochemical sampling on the Bad Bear 1 & 2 claims consisting of 71 soil, 3 silt and 11 rock chip samples. The Bad Bear 3 claim was subsequently staked to cover the possible extension of the McDame Creek Fault.

1996: KRL Resources Corp. conducts a high sensitivity airborne magnetic and VLF-EM survey over the property.

#### Summary of Work

Work conducted on the property in 1998 by KRL Resources Corp. consisted of 9,500 m of flagged gridline establishment and a ground magnetics survey totalling 9,500 m on the TDG 1 to 6 claims.

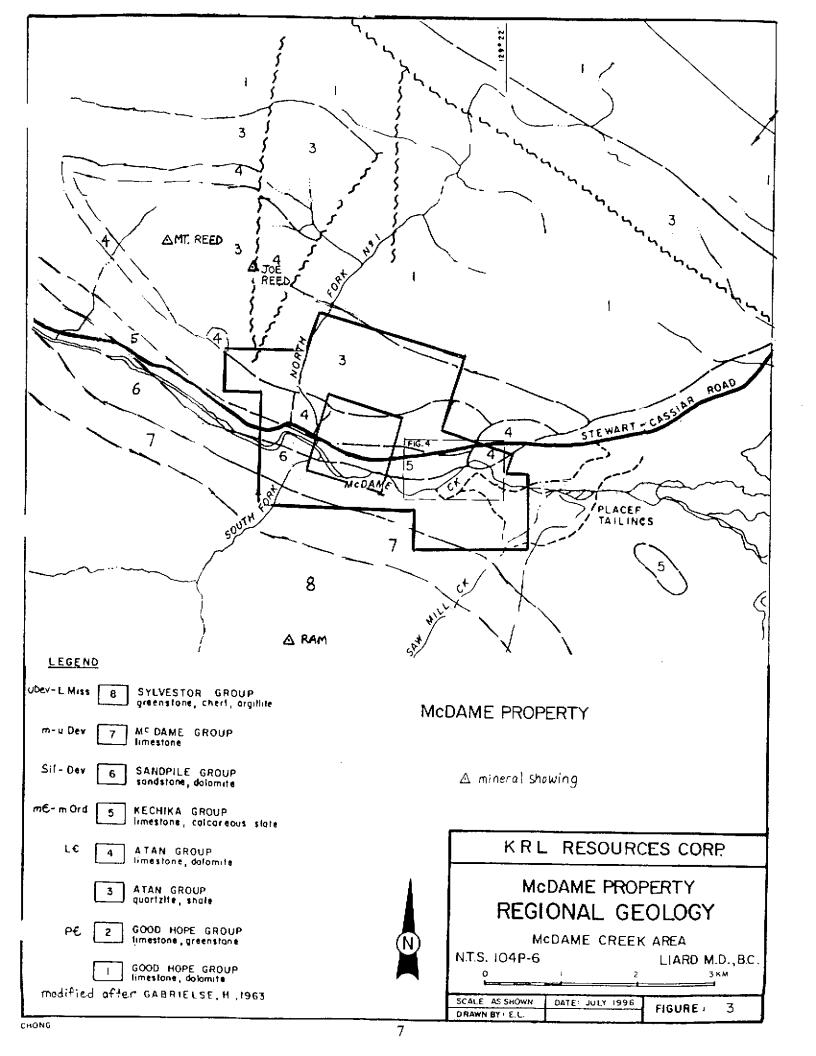
#### REGIONAL GEOLOGY

Regional mapping of the McDame map area by H. Gabrielse (1963) identified predominantly Proterozoic to Mississippian age stratified rocks of marine origin. This assemblage has been folded, faulted and intruded by Mesozoic granitic rocks.

Six major lithologic groups are recognized in the general claim area:

- (1) Proterozoic Good Hope Group: Comprises a thick sequence of interbedded limestone, dolomite, slate, shale, siltstone, and quartzite. Characterized by distinctive weathering and colour of the calcareous and argillaceous beds.
- (2) Lower Cambrian Atan Group: Conformably overlies the Good Hope Group. Consists of an upper unit of limestone and dolomite and a lower unit of quartzite, shale, and slate.
- (3) Mid Cambrian Mid Ordovician Kechika Group: Conformably overlies the Atan Group. Consists of a highly folded and cleaved assemblage of thin-bedded shale, slate, calcareous phyllite, phyllite, limestone, and limestone conglomerate.
- (4) Ordovician Devonian Sandpile Group: Conformably overlies the Kechika Group. Consists of a lower laminated sequence of dolomites and an upper sandy unit. A thin graptolitic siltstone member is present in some areas.
- (5) Mid Upper Devonian McDame Group: Consists of a lower member of black, fetid dolomite and an upper member of grey, platy limestone.
- (6) Upper Devonian Lower Mississippian Sylvester Group: This group consists of greenstone, chert, argillite, greywacke, conglomerate and limestone. The rocks are dark weathering and structureless, distinguished by the abundance of volcanic material, chert, and impure quartzitic rocks.

The area lies within the Cassiar Terrane of the Omineca tectonic belt. The Cassiar Terrane is considered to be a displaced portion of the ancient continental margin of North America.



# PROPERTY GEOLOGY & MINERALIZATION

The property is underlain by units of Proterozoic to Lower Mississippian strata as detailed in the above section and illustrated in Figure 3. Bedding strikes consistently to the northwest and for the most part dips steeply (70°) to the southwest.

The general structural trend in the area is northwesterly. The claim block lies on the southwest limb of a major anticlinorium, the axis of which passes through Good Hope Lake. Strike-slip faults striking northeasterly partly along McDame Creek and parallel to it, have dissected the property into a series of fault-bounded blocks [Figure 3]. The sense of displacement for the McDame Creek Fault is left-lateral, while parallel faults may have an opposite movement.

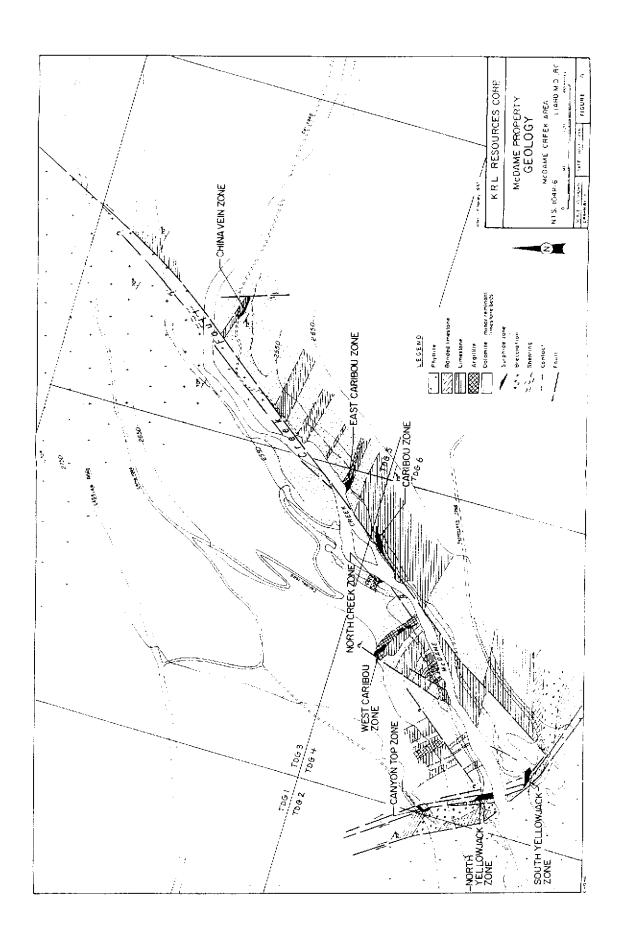
North-south faults are represented by the Yellowjack Fault System, amd a small fault located east of the China Vein Zone. Both of these faults are oriented north-south and have a right lateral sense of displacement. Other northerly trending faults include a series of small faults in the vicinity of the Caribou Zone. The sense of displacement for this fault set has not been defined. The oldest fault on the property appears to be the McDame Creek Fault, which has been offset by the Yellowjack Fault. However, both faults have undergone repeated movement.

Overall, the grade of metamorphism for the property appears to be lower greenschist facies. This is characterized by the development of chlorite and/or sericite in the phyllites of the Kechika Group. Otherwise the rocks on the property are relatively unmetamorphosed.

#### <u>Mineralization</u>

# McDame Creek Canyon Mineral Zones

A total of eight showings are known to occur in the canyon occupied by McDame Creek [Figure 4]. At present, all are interpreted to be the result of a skarn mineralizing event distantly related to intrusions in the area as described by Hall (1984).



#### Caribou Zone

This is both the largest and the most intensely explored of all the showings. Present reserves of 'possible ore' to 61 metres (200 feet) below surface indicate 40,000 tons with an average grade of 8.64 oz/ton Ag, 3.65% Pb, 2.97% Zn and 0.35% Cu. The eastern margin has been inadequately defined by a 0.7 m thick intersection of 'sub-economic' mineralization. To the west and at depth, mineralization remains open. At present the strike length has been defined as over 61 m (200 feet).

#### East Caribou Zone

The mineralization here closely resembles the Main Caribou Zone. Galena-sphalerite-pyrite-chalcopyrite occurs in limestone along the contacts of three narrow argillite beds which are bounded on both sides by dolomite. The sulphides occur parallel to bedding as massive lenses up to 15 cm wide over a stratigraphic interval of 6 m. The best assay came from a 1.1 m section of argillite which contained 12.17% Pb, 4.33% Zn, 2.34% Cu and 32.5 g Ag/tonne.

#### West Caribou Zone

This zone is located on the north side of McDame Creek and consists of sporadic mineralization for a length of 50 m. Trenches have exposed both ends of this showing, but are now extensively sloughed-in. Small veins containing chalcopyrite, pyrite, galena and sphalerite occur parallel to bedding in a zone greater than 5 m wide. The host rocks are two narrow argillite beds which are separated by limestone and bounded by dolomite. Stratigraphic similarities suggest that this zone may be the faulted extension of the East Caribou Zone. Samples reported in 1963 yielded 0.60% Cu, 6.46% Pb, 0.25% Zn and 274 g/tonne Ag across 0.6 metres.

#### North Creek

This zone occurs directly across McDame Creek to the west of the Caribou Zone. The mineralization consists of an irregular sphalerite-galena-pyrite-chalcopyrite vein and a small stockwork-like zone of galena veinlets (less than 1 cm wide). Assays of samples taken in 1984 from the massive sulphide vein produced values of 2.69% Cu, 1.27% Pb, 4.75% Zn and 238 g/tonne Ag over 20 cm. Mo, Cu, Mn and Bi (0.26%) were found to be significantly enriched as is the case in the Caribou Zone. The best assay intersection produced by the 1963 sampling was 17.87% Pb, 9.60% Zn, 4.50% Cu and 610 g/tonne Ag over 40 cm.

A second showing consisting of a small (less than 5 cm thick) vein of massive pyrite-sphalerite-galena-chalcopyrite occurs approximately 50 m southwest of the North Creek Zone. This vein occurs in a shear zone which is oriented 160°/45° W and is hosted in dolomite. Grab samples taken in 1963 yielded 24.08% Pb, 3.01% Zn, 7.94% Cu and 113 g/tonne Ag.

# **Canyon Top Zone**

This zone is represented by two trenches which are now sloughed-in. Diamond drilling in 1965 intersected zones containing disseminated pyrite-galena-sphalerite-chalcopyrite.

# South Yellowjack Zone

This zone consists of a 60 cm thick band of massive sulphides, oriented at 095°/75°S and subparallel to bedding. Pyrrhotite is the dominant sulphide comprising up to 70% of the rock. Towards the footwall, 1-3 cm thick bands of pyrite-sphalerite parallel the mineralization. The footwall contact contains skarn mineralization within the enclosing dolomites. The hanging wall contact is diffuse, grading through a 50 cm thick zone of siliceous rock containing veins of pyrite, sphalerite, chalcopyrite and vuggy quartz.

Between this zone and the North Yellowjack Zone, 15 drill holes were attempted of which 11 were completed, with 8 intersecting significant mineralization. The best intersection contained values of 430 g/tonne Ag, 11.75% Pb, 7.25% Zn, 0.30% Cu and 0.47% Bi over 1.6 m (5.5 feet). From the drilling, approximately 6,000 tons of material with a grade similar to the Caribou Zone were outlined in 1965.

#### North Yellowjack Zone

This zone is located midway between the South Yellowjack Zone and the Canyon Top Zone, and is believed to represent mineralization which is continuous between these zones. The mineralization consists of disseminated and veined galena, sphalerite, pyrite and chalcopyrite which is hosted in dolomite. An average of surface assays in 1965 yielded 96.0 g/tonne Ag, 1.20% Pb, 0.25% Zn and 0.12% Cu over a length of 12.2 m (40 feet) and a width of 3.2 m (10.6 feet). Examination of this zone indicates the mineralization is very spotty and highly oxidized.

#### China Vein Zone

This showing consists of a small pyrrhotite-pyrite-galena vein located on the south side of McDame Creek, 800 m northeast of the Caribou Zone. Although not continuous, this vein can be traced for a distance of 40 m along strike and has a maximum width of 1.0 m. A northerly trending fault truncates the southeastern end of this vein with the northwestern end obscured by overburden. For the most part, this vein is parallel to bedding (116°/75°S) with splays at a limestone-dolomite contact in some places. An assay sample taken in 1965 yielded 67.0 g/tonne, 0.70% Pb, 0.23% Zn and 10.3 g/tonne Au.

# OTHER SHOWINGS SURROUNDING THE PROPERTY

#### Ram

This showing is located about 2.0 kilometres south of McDame Creek on the northfacing slopes of Mt. Pendleton. It consists of veins and stockwork of quartz carrying tetrahedrite and disseminated tetrahedrite in the wall rock. The showing is intensely fractured in the core of a southeast plunging anticline.

The best grade from a selected grab sample assayed 3.5% copper and 1,587 g silver per tonne. Eighteen samples quoted in GSC Memoir 194 (1900) give an arithmetic average of 2,252 g silver per tonne and about 9% copper. No width is given for these samples and it can be assumed that they were taken selectively. (Minfile Report 104P 042)

# Joe Reed

This showing is located on the south slopes of Mt. Reed about 2.0 kilometres north of Highway 37. The mineralization consists of a vein and brecciation with galena, sphalerite and arsenopyrite in quartz and calcite gangue. The vein strikes north-south. It has exposed dimensions of 170 m x 61 m x 2 m and contains an indicated 36,284 tonnes grading 219.4 g silver per tonne, 5.5% lead and 4.14% zinc. Inferred resources contain the same tonnage and grade. (Minfile Report 104P 021)

#### Mount Reed

This showing occurs on the south facing slope of Mt. Reed. The mineralization consists of molybdenite, scheelite, magnetite, sphalerite, pyrite, arsenopyrite, chalcopyrite and galena in a broad zoned system, within metacarbonate rocks around the Eocene Mount Reed granitic stock. (Minfile Report 104P 043)

# **GROUND GEOPHYSICS**

Between March 9 to 11th, 1998, a 2-person crew conducted 9,500 metres of flagged grid line establishment and magnetic surveying on the north slope sides of McDame Creek on the TDG claims.

Six survey lines were put in adjacent to the highway running east-west and 2 lines on the west side of Somers Creek in a north-south direction. The survey covers an area just north of several sulphides skarn showings which are exposed in the McDame Creek canyon. The lines were spaced 100 m apart with readings taken at 25 m intervals. Conditions such as wet snow and very thick forest at higher elevations made it difficult to continue the survey upslope. The south side of McDame Creek was not surveyed due to the difficulty in access.

A Scintrex IGS-2 (Integrated Geophysical System) field unit and a Scintrex MP-3 magnetic base station recorder were used to conduct the survey. The survey consisted of measurements of the total magnetic field. Instrument accuracies are 0.1 nT magnetically. The magnetic data was not corrected for diurnal variation due to a malfunction in the base station recorder, although the base magnetic readings fluctuated only about 25 nT all day. Instrument problems also prevented VLF-EM readings from being taken.

#### Results

Survey results are plotted at a 1:5,000 scale with values in profile [Figure 5] and in plan with contours at 20 nT intervals [Figure 6].

The magnetic field varies from a low of 57,669 nT at 1375E on line 100S to a spot high of 58,772 nT at the north end of line 400W. The low reading, however, is part of a broad low, up to several hundred nT below the background of approximately 58,200 nT, which occurs at the east ends of the lines. The intensity of the low decreases to the south and by line 500S it seems to have completely disappeared. The cause and significance of the low is unclear. The claim area is underlain by beds of dolomite, limestone, phyllite and argillite, all of which are expected to give a low magnetic signature.

Line 500S passes the closest to McDame Creek where the sulphide skarn showings are exposed. There is nothing in the results from line 500S that appear to relate to the known mineralization and no significant anomalies were recorded. A single station (475E on line 0) is a spot high of 600 nT which may extend to 500E on line 100S is consistent with a narrow pyrrhotite zone of the kind at the South Yellowjack Zone. However, the known mineralization does not appear to have a magnetic signature and no widespread magnetite and/or magnetic pyrrhotite skarn appears to occur in the survey area.

#### **DISCUSSION / CONCLUSIONS**

The limited magnetic surveying on the TDG claims did not produce any significant anomalies. Mineralized zones to the south of the survey area dominantly consist of sphalerite, galena, pyrite and chalcopyrite in veins and lenses at argillite/limestone bedding contacts and as limestone replacement. Based on the survey results, it is concluded that no extensive pyrrhotite or magnetite in skarn altered zones is present.

The use of electomagnetic geophysical methods may be a more appropriate tool to use in the area and futher work should include coverage on the north and south sides of McDame Creek. It has been suggested that the Caribou Zone may represent the central facies of mineralization, with potential for more tonnage to the southeast of this zone. This overburden covered area should be surveyed with EM (Max-Min or Plus EM) and soil sampled. The most favourable anomalies should be followed up with trenching and mapping.

#### REFERENCES

- Borovic, I. and Sevensma, P.H. (1969): Ram Group, Exploration Progress Report *for* Fawn Bay Development Co. Ltd.; BC MEMPR Assessment Report #2593.
- Chow, R. (1997): Geophysical Report on the McDame Property for KRL Resources Corp.; BC MEMPR Assessment Report.
- Gabrielse, Hubert (1963): McDame Map Area, Cassiar District, British Columbia; GSC Memoir 319 with geology map 1110A.
- Hall, Brian V. (1984): Geochemical Report on the Bad Bear Claim Group, BC MEMPR Assessment Report #13713.
- Livgard, Egil (1997): Report on the McDame Property, Liard Mining Division; private report for KRL Resources Corp.; 31 p.
- Minfile Reports: 104P-021 Joe Reed, 1044P-022 McDame Belle (Caribou, Yellowjack), 104P-043 Mount Reed (Dome); BC MEMPR.
- Watkins, John J. (1981): Geology and Diamond Drill Report on the "J" Claim Group, Liard Mining Division, Mt. Reed Option for Canadian Superior Exploration Ltd.; BCMEMPR Assessment Report #9809.

# STATEMENT OF QUALIFICATIONS

- 1, Rita Chow of 5615 Dumfries Street, Vancouver, British Columbia, do hereby declare that:
- 1. I graduated from the University of British Columbia with a B.Sc. Degree (first class standing) in Geological Sciences in May, 1995.
- 2. I have been employed by KRL Resources Corp. since June of 1995.
- 3. This report is based on work done on the property between March 9-11, 1998 and on references as listed.

Rita Chow
June 10, 1998

# **COST STATEMENT**

Labour		
Joel White, Magnetometer Survey March 9-11; 9.5 km @ \$60/km Shawn Ryan, Gridding & Supervision March 9-11; 3 days @ \$200/day		570 600
Accomodation & Meals		
Motel: 3 days @ \$120/day Food: 6 mandays @ \$35/day		360 210
Travel		
Truck rental: 3 days @ \$40/day Gas		120 100
Instrument Rental		
Scintrex IGS-2 unit and magnetic base station recorder		120
Report & Data Plotting		1,200
	Total	\$ 3,280

