Clear Lake Zinc-Lead-Silver Deposit
Yukon

Prepared for:

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Project No. 2CC035.000

February 2010

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Zinc-Lead-Silver Deposit,
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1 Summary

The Clear Lake property, consisting of 121 contiguous quartz claims covering approximately 2,479 ha, is located 65 km east of Pelly Crossing and 225 km north of Whitehorse, Yukon. Currently, access is via helicopter based in Carmacks, located approximately 90 km to the southwest, or from Whitehorse, a distance of 225 km. The Clear Lake property is currently under option from Bernie Kreft, a prospector living in Whitehorse, Yukon. Copper Ridge must make payments of $160,000 and issue 500,000 shares over 5 years in order to obtain a 100% interest in the property.

Clear Lake is a sedimentary-exhalative (SEDEX) massive sulphide deposit that occurs in Devonian to Mississippian aged shales of the Earn Group. The pyritic massive sulphide body is sigmoidal in shape, approximately 1,000 m in length and up to 120 m wide. Sulphide minerals are laminated and consist largely of framboidal pyrite, galena and sphalerite. Base metal mineralization occurs in two discrete horizons. In the massive sulphide-siliceous horizon, combined zinc-lead mineralization grading +5% occurs in three elongate-shaped lenses, 5 to 30 m thick and 450 m in length that extend at least 300 m down dip. The tuff-barite horizon, 75 m into the hanging wall of the deposit, has a number of intersections of +10% Zn over widths of one to six metres.

A revised estimate based on historical drill data suggests the Clear Lake deposit contains 7.65 million tons of Inferred Mineral Resource grading 7.6% Zn, 1.08% Pb and 22 g/t Ag. The mineral resources are reported at a 4% (Pb+Zn) cut-off. Pb grades have been capped to 1.5% and Ag grades were capped at 60 g/t.

One of the key questions that remain unanswered with regard to the Clear Lake deposit is what happens at depth and to west. There is some evidence to suggest that the deposit is folded into an overturned syncline and that a western upper limb may contain extensions of the deposit below a northeast directed thrust fault. Alternatively the deposit may be a single massive sulphide lens with fault offsets that may persist to depth. Additional drilling is required to fully evaluate these scenarios.

The favourable Earn Group stratigraphy occurs extensively within and external to the claim boundary. An airborne VTEM and magnetic survey done in 2008 and the follow-up ground IP and gravity surveys done 2009 have identified a number of targets, three of which warrant drill testing based on some similarities to the EM anomaly, gravity and IP responses associated with the main Clear Lake deposit.

A review of historical drill data and the recent geophysical surveys done on the property by Copper Ridge suggest a program of infill drilling and drill testing of geophysical anomalies is warranted. A work program consisting of 2,500 metres of diamond drilling is recommended. The estimated cost of this program is $830,000.

2 Introduction

This technical report has been prepared at the request of Dr. Gerald Carlson P.Eng. (B.C. & Yukon), Director, President and Chief Executive Officer of Copper Ridge Explorations Inc. (“Copper Ridge” or the “Company”) a publicly traded company listed on the TSX Venture Exchange. The writers have been asked to review all data pertaining to the property and to prepare a technical report that describes historical work completed on the property, reviews the results of recent geophysical surveys and utilizes historical drill data on the Clear Lake deposit to estimate a NI 43-101 compliant resource.

Don MacIntyre prepared sections of this report that pertain to the location, mineral tenure, exploration history and geology of the Clear Lake deposit (Sections 2-9, 11-13, 15, and 18). Gilles Arseneau of SRK Consulting prepared the resource estimate presented in Section 17 of the report. Other sections of the report (1, 14, 19 and 20) were prepared jointly by the authors. Extracts from independent geophysical reports (section 10) and a metallurgical study (section 16) are also included as supporting documentation for the next phase of mineral exploration on the property.

This technical report has been prepared in compliance with the requirements of National Instrument 43-101 and Form 43-101F1 and is intended to be used as supporting documentation to be filed with the Canadian Securities Commissions and the TSX Venture Exchange. The purpose of this filing is to support the first time disclosure of mineral resources by Copper Ridge for the Clear Lake deposit.

In preparing this report, the authors have reviewed the geological, geophysical and historical resource estimate reports, maps and miscellaneous technical papers listed in the References section at the conclusion of this report and as well they have consulted with experienced Copper Ridge personnel. Information used in the preparation of this report includes a number of historical internal company reports not available to the public. These reports contain detailed information on the results of diamond drilling completed on the property. The property was visited by D.G. MacIntyre on June 24, 2008 and by Gilles Arseneau on September 28, 2009.

Units of measure in this report are metric; monetary amounts referred to are in Canadian dollars.

3 Reliance on other Experts

This report is based on a review of previous reports filed for assessment credit with the Yukon government and on internal company reports, database files, core photos and original assay certificates supplied by Copper Ridge Explorations Inc., the issuer. Most of the work done to date on the Clear Lake property has been filed for assessment credit and much of this information is available as free downloadable Adobe Portable Document Format (PDF) files from Energy, Mines and Resources, Government of Yukon. The authors are satisfied that the information contained in publicly available assessment reports and internal company reports was collected and processed in a professional manner following industry best practices applicable at the time, and that the historical data gives an accurate indication of the nature, style and possible economic value of known mineral resources on the property.

Details of the status of tenure ownership on the Clear Lake property were provided by Copper Ridge through personal communication with Company representatives. Although the writer has no reason to believe this information is inaccurate a detailed audit of the legal agreements between Copper Ridge and the property vendor has not been done and the writer is relying solely on information that has been made available by the Company.

4 Property Description and Location

The Clear Lake property, consisting of 121 contiguous quartz claims covering approximately 2,479 ha, is located 65 km east of Pelly Crossing and 225 km north of Whitehorse, Yukon (Figure 4.1). The center of the deposit is located at NTS coordinates 491683E and 6961560N, NAD 83, Zone 8 or in geographic coordinates - Latitude 62°47’03”N, Longitude 135°09’46”W. Elevations near the deposit range from 690 to 715 metres above sea level.

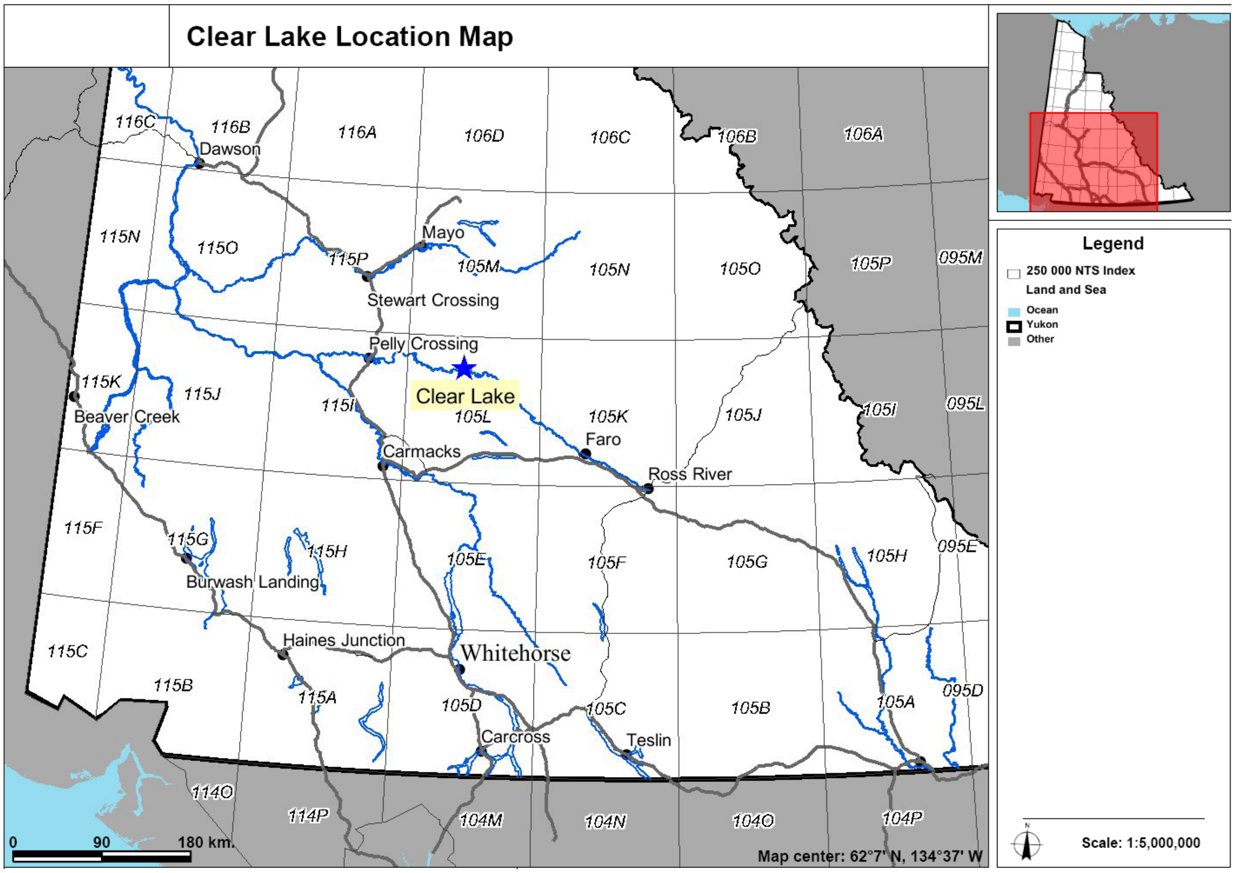

Figure 4.1: Location of the Clear Lake Deposit, Yukon

4.1 Mineral Tenures

The mineral tenures comprising the Clear Lake property are shown in Figure 4.2 and listed in Table 4.1.

Table 4.1 The claim map shown in Figure 4.2 was generated by digitizing information derived from mineral tenure maps that were downloaded from the Government of Yukon web site (http://maps.gov.yk.ca). These maps are based on information provided by the claim stakers and may or may not be accurate. The Clear Lake claims have not been surveyed.

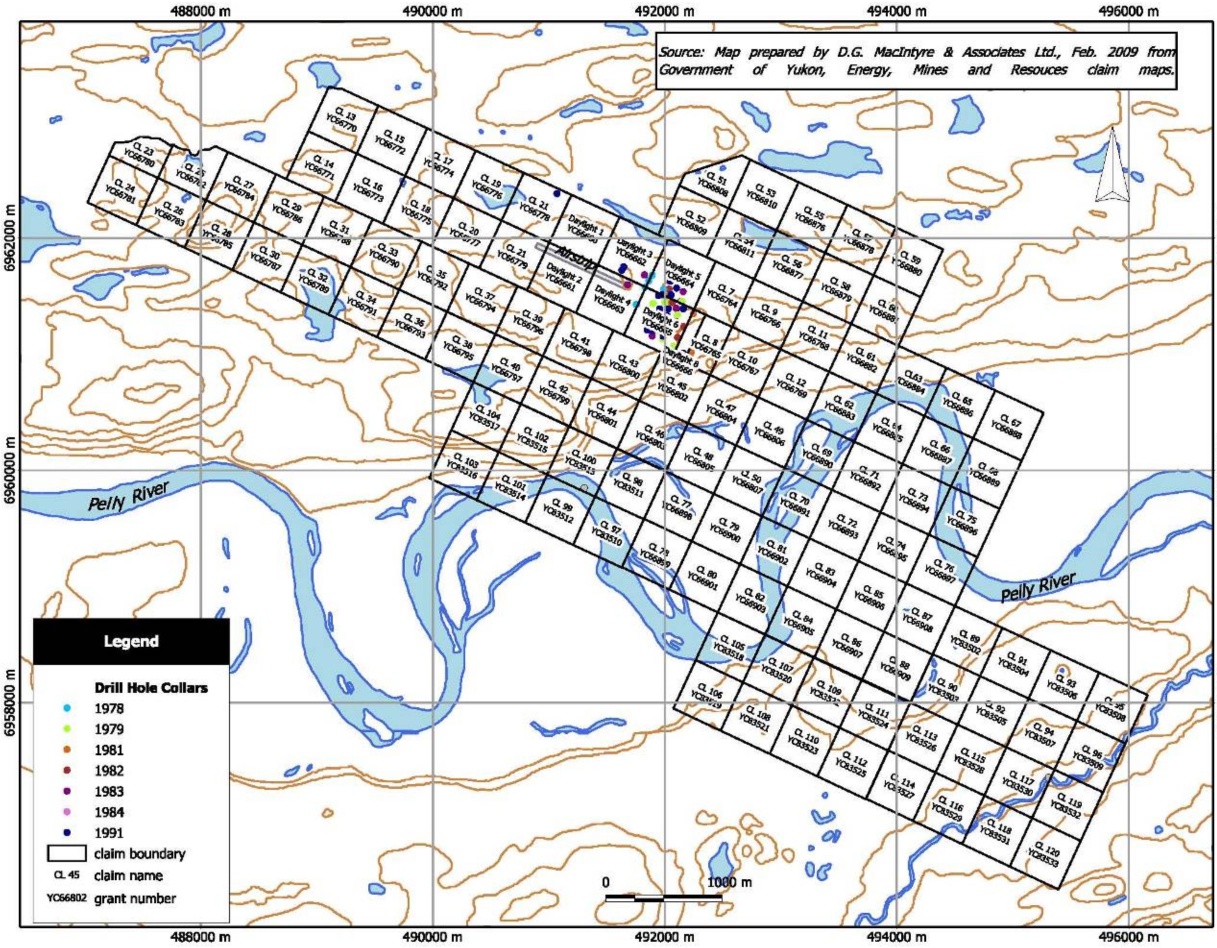
Source: Map prepared by D.G. MacIntyre & Associates Ltd., Feb. 2009 from Government of Yukon, Energy, Mines and Resouces claim maps.

Figure 4.2: Mineral Tenure Map, Clear Lake Property, Yukon

Table 4.1: List of Mineral Tenures, clear Lake Property, Yukon

Grant No.	Name	Recording Date	Expiry Date	Status
YC66660	DAYLIGHT 1	13/12/2007	13/12/2017	Active
YC66661	DAYLIGHT 2	13/12/2007	13/12/2017	Active
YC66662	DAYLIGHT 3	13/12/2007	13/12/2017	Active
YC66663	DAYLIGHT 4	13/12/2007	13/12/2017	Active
YC66664	DAYLIGHT 5	13/12/2007	13/12/2017	Active
YC66665	DAYLIGHT 6	13/12/2007	13/12/2017	Active
YC66666	DAYLIGHT 8	13/12/2007	13/12/2017	Active
YC66764	CL 7	11/01/2008	11/01/2018	Active
YC66765	CL 8	11/01/2008	11/01/2018	Active
YC66766	CL 9	11/01/2008	11/01/2018	Active
YC66767	CL 10	11/01/2008	11/01/2018	Active
YC66768	CL 11	11/01/2008	11/01/2018	Active
YC66769	CL 12	11/01/2008	11/01/2018	Active
YC66770	CL 13	11/01/2008	11/01/2018	Active
YC66771	CL 14	11/01/2008	11/01/2018	Active
YC66772	CL 15	11/01/2008	11/01/2018	Active
YC66773	CL 16	11/01/2008	11/01/2018	Active
YC66774	CL 17	11/01/2008	11/01/2018	Active
YC66775	CL 18	11/01/2008	11/01/2018	Active
YC66776	CL 19	11/01/2008	11/01/2018	Active
YC66777	CL 20	11/01/2008	11/01/2018	Active
YC66778	CL 21	11/01/2008	11/01/2018	Active
YC66779	CL 22	11/01/2008	11/01/2018	Active
YC66780	CL 23	11/01/2008	11/01/2018	Active
YC66781	CL 24	11/01/2008	11/01/2018	Active
YC66782	CL 25	11/01/2008	11/01/2018	Active
YC66783	CL 26	11/01/2008	11/01/2018	Active
YC66784	CL 27	11/01/2008	11/01/2018	Active
YC66785	CL 28	11/01/2008	11/01/2018	Active
YC66786	CL 29	11/01/2008	11/01/2018	Active
YC66787	CL 30	11/01/2008	11/01/2018	Active
YC66788	CL 31	11/01/2008	11/01/2018	Active
YC66789	CL 32	11/01/2008	11/01/2018	Active
YC66790	CL 33	11/01/2008	11/01/2018	Active
YC66791	CL 34	11/01/2008	11/01/2018	Active
YC66792	CL 35	11/01/2008	11/01/2018	Active
YC66793	CL 36	11/01/2008	11/01/2018	Active
YC66794	CL 37	11/01/2008	11/01/2018	Active
YC66795	CL 38	11/01/2008	11/01/2018	Active
YC66796	CL 39	11/01/2008	11/01/2018	Active
YC66797	CL 40	11/01/2008	11/01/2018	Active
YC66798	CL 41	11/01/2008	11/01/2018	Active
YC66799	CL 42	11/01/2008	11/01/2018	Active
YC66800	CL 43	11/01/2008	11/01/2018	Active
YC66801	CL 44	11/01/2008	11/01/2018	Active
YC66802	CL 45	11/01/2008	11/01/2018	Active

Grant No.	Name	Recording Date	Expiry Date	Status
YC66803	CL 46	11/01/2008	11/01/2018	Active
YC66804	CL 47	11/01/2008	11/01/2018	Active
YC66805	CL 48	11/01/2008	11/01/2018	Active
YC66806	CL 49	11/01/2008	11/01/2018	Active
YC66807	CL 50	11/01/2008	11/01/2018	Active
YC66808	CL 51	11/01/2008	11/01/2018	Active
YC66809	CL 52	11/01/2008	11/01/2018	Active
YC66810	CL 53	11/01/2008	11/01/2018	Active
YC66811	CL 54	11/01/2008	11/01/2018	Active
YC66876	CL 55	26/03/2008	26/03/2018	Active
YC66877	CL 56	26/03/2008	26/03/2018	Active
YC66878	CL 57	26/03/2008	26/03/2018	Active
YC66879	CL 58	26/03/2008	26/03/2018	Active
YC66880	CL 59	26/03/2008	26/03/2018	Active
YC66881	CL 60	26/03/2008	26/03/2018	Active
YC66882	CL 61	26/03/2008	26/03/2018	Active
YC66883	CL 62	26/03/2008	26/03/2018	Active
YC66884	CL 63	26/03/2008	26/03/2018	Active
YC66885	CL 64	26/03/2008	26/03/2018	Active
YC66886	CL 65	26/03/2008	26/03/2018	Active
YC66887	CL 66	26/03/2008	26/03/2018	Active
YC66888	CL 67	26/03/2008	26/03/2018	Active
YC66889	CL 68	26/03/2008	26/03/2018	Active
YC66890	CL 69	26/03/2008	26/03/2018	Active
YC66891	CL 70	26/03/2008	26/03/2018	Active
YC66892	CL 71	26/03/2008	26/03/2018	Active
YC66893	CL 72	26/03/2008	26/03/2018	Active
YC66894	CL 73	26/03/2008	26/03/2018	Active
YC66895	CL 74	26/03/2008	26/03/2018	Active
YC66896	CL 75	26/03/2008	26/03/2018	Active
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YC66900	CL 79	26/03/2008	26/03/2018	Active
YC66901	CL 80	26/03/2008	26/03/2018	Active
YC66902	CL 81	26/03/2008	26/03/2018	Active
YC66903	CL 82	26/03/2008	26/03/2018	Active
YC66904	CL 83	26/03/2008	26/03/2018	Active
YC66905	CL 84	26/03/2008	26/03/2018	Active
YC66906	CL 85	26/03/2008	26/03/2018	Active
YC66907	CL 86	26/03/2008	26/03/2018	Active
YC66908	CL 87	26/03/2008	26/03/2018	Active
YC66909	CL 88	26/03/2008	26/03/2018	Active
YC83502	CL 89	26/09/2008	26/09/2014	Active
YC83503	CL 90	26/09/2008	26/09/2014	Active
YC83504	CL 91	26/09/2008	26/09/2014	Active
YC83505	CL 92	26/09/2008	26/09/2014	Active
YC83506	CL 93	26/09/2008	26/09/2014	Active

Grant No.	Name	Recording Date	Expiry Date	Status
YC83507	CL 94	26/09/2008	26/09/2014	Active
YC83508	CL 95	26/09/2008	26/09/2014	Active
YC83509	CL 96	26/09/2008	26/09/2014	Active
YC83510	CL 97	26/09/2008	26/09/2014	Active
YC83511	CL 98	26/09/2008	26/09/2014	Active
YC83512	CL 99	26/09/2008	26/09/2014	Active
YC83513	CL 100	26/09/2008	26/09/2014	Active
YC83514	CL 101	26/09/2008	26/09/2014	Active
YC83515	CL 102	26/09/2008	26/09/2014	Active
YC83516	CL 103	26/09/2008	26/09/2014	Active
YC83517	CL 104	26/09/2008	26/09/2014	Active
YC83518	CL 105	26/09/2008	26/09/2014	Active
YC83519	CL 106	26/09/2008	26/09/2014	Active
YC83520	CL 107	26/09/2008	26/09/2014	Active
YC83521	CL 108	26/09/2008	26/09/2014	Active
YC83522	CL 109	26/09/2008	26/09/2014	Active
YC83523	CL 110	26/09/2008	26/09/2014	Active
YC83524	CL 111	26/09/2008	26/09/2014	Active
YC83525	CL 112	26/09/2008	26/09/2014	Active
YC83526	CL 113	26/09/2008	26/09/2014	Active
YC83527	CL 114	26/09/2008	26/09/2014	Active
YC83528	CL 115	26/09/2008	26/09/2014	Active
YC83529	CL 116	26/09/2008	26/09/2014	Active
YC83530	CL 117	26/09/2008	26/09/2014	Active
YC83531	CL 118	26/09/2008	26/09/2014	Active
YC83532	CL 119	26/09/2008	26/09/2014	Active
YC83533	CL 120	26/09/2008	26/09/2014	Active

Claim details given in Table 4.1 were obtained using an online mineral tenure search engine available on the Government of Yukon web site. All claims listed in the table are in the Whitehorse Mining District within NTS map sheet 105L14. Information posted on the government website shows all of the claims listed in Table 4.1 as owned 100% by Copper Ridge Explorations Inc.

According to documents provided by Copper Ridge, the Clear Lake property is under option from Bernie Kreft, a prospector living in Whitehorse, Yukon. In order to earn a 100% interest in the Clear Lake property, Copper Ridge must make payments of $160,000 and issue 500,000 shares over 5 years. If an interest in the property is farmed out or sold to a third party Copper Ridge must make a payment of $10,000 and issue 250,000 shares to Mr. Kreft. The vendor will retain a 2% Net Smelter Royalty, ¾ of which can be purchased for $1.5 million.

4.2 First Nation Settlement Lands

According to a map published on the Government of Yukon website and the map shown in Figure 4.3 that was generated using the Yukon MapMaker online mapping system, much of the Clear Lake property is located within Settlement Lands of the Selkirk First Nation (SFN), specifically the parcel designated as SFN R-21B. This parcel is classified as Category B and is adjoining Category A Settlement Land to the north (SFN R-36A) and south (SFN R-15A). The following descriptions of Settlement Lands and associated rights of access are taken from the Government of Yukon website.

Category A Settlement Land is settlement land where a Yukon First Nation has ownership of the surface and subsurface, including minerals. All staking, exploration and mining activity is governed by the First Nations for new mineral interests.

Category B Settlement Land is settlement land where a Yukon First Nation has ownership of the surface. New and existing staking, exploration and mining activity are governed by the Yukon government.

The holder of an existing mineral right on Settlement Land or on Non-Settlement Land (‘existing’ means prior to the effective date of the Yukon First Nation Final Agreement) has a right of access to exercise mineral rights, without the consent of the First Nation, provided that the access is of a casual or insignificant nature, or the route traveled is generally recognized and not altered significantly.

A person who has a new mineral right on Category B or Fee Simple Settlement Land also has a right of access on Settlement Land without permission from a First Nation. That person also has a right to use that parcel of Settlement Land, provided that no heavy equipment or methods more disruptive than hand labour methods are used. Refer to Chapter 6 and 18 of the Umbrella Final Agreement for further information.

The Umbrella Final Agreement is a political or policy document between the Government of Canada, Government of Yukon and Yukon First Nations as represented by the Council of Yukon First Nations (CYFN). This agreement is a common template for negotiating First Nation Final Agreements. It is important to note that the Umbrella Final Agreement, on its own, is not a legally enforceable document. Because all of its provisions are contained in each First Nation Final Agreement, those provisions have lawful effect.

Each First Nation Final Agreement is a treaty recognized in section 35 of the *Constitution Act*, 1982 and therefore takes precedence over other laws.

In recognition of the surface rights embodied under the above agreements, Copper Ridge is consulting on an ongoing basis with representatives of the Selkirk First Nation. Head office for the Selkirk First Nation is located in Pelly Crossing, Yukon.

Copper Ridge must obtain permission from the SFN to drill at the Clear Lake deposit and negotiations to obtain this permission, which cannot be unreasonably withheld, are in progress. On June 23, 2009, the company was granted a Class III Mining Land Use Permit. The Permit is valid until June 22, 2014 and allows the Company to conduct exploration programs on the Property including trenching, drilling and limited road building. Prior to any drill programs, the company must file a Schedule III Notice of Water use with the Yukon Water Board.

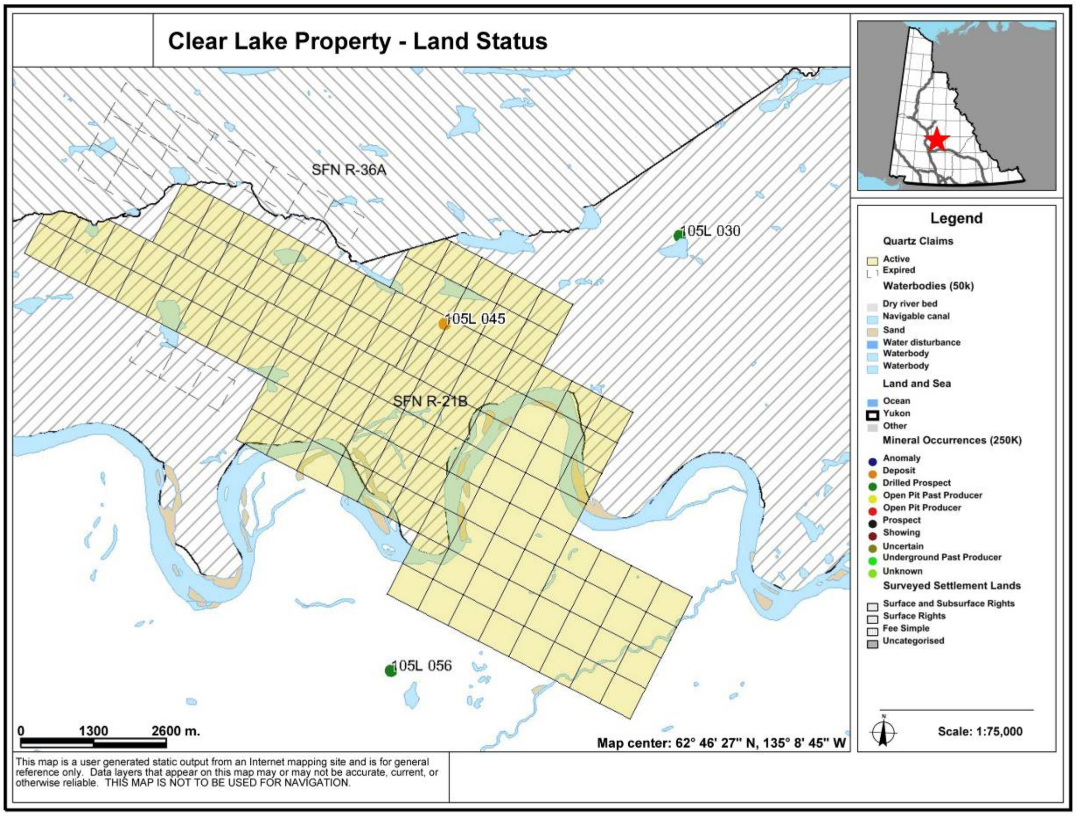
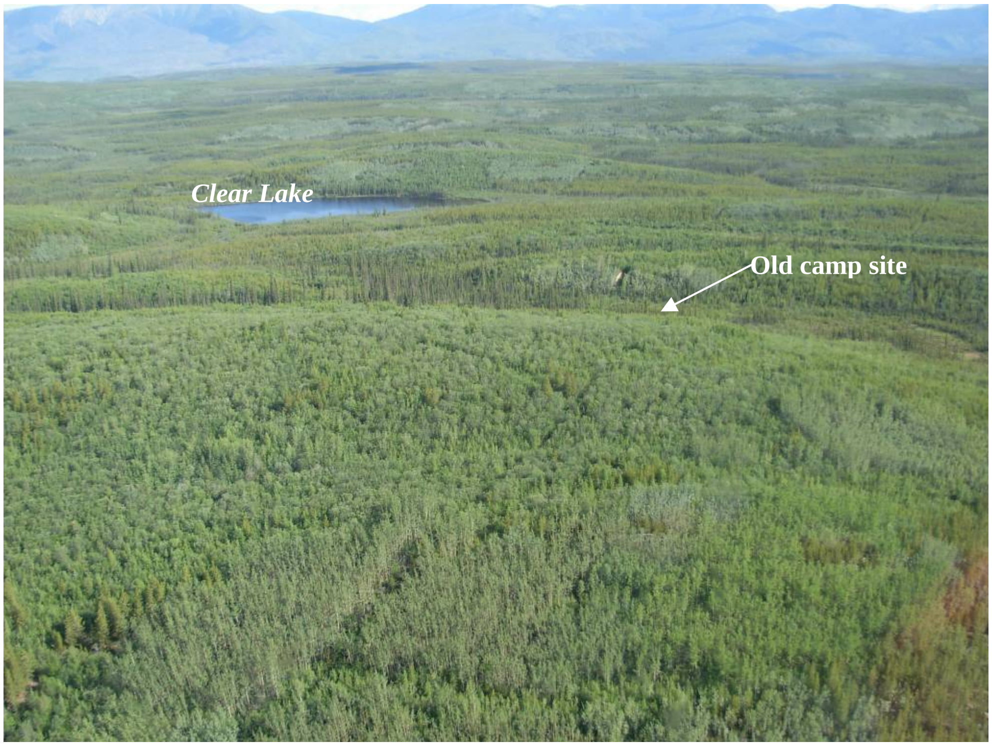


Figure 4.3: Boundaries of Selkirk First Nation Settlement Lands, Clear Lake Property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Clear Lake property covers the height of land between the confluence of the Pelly and MacMillan Rivers (Figure 6.1). Currently, access is via helicopter based in Carmacks, located approximately 90 km to the southwest, or from Whitehorse, a distance of 225 km. A dirt airstrip approximately 1,000 m long was used during previous drilling programs but is now overgrown. A winter road links the property to the all-weather North Klondike Highway at Pelly Crossing, approximately 65 km to the west. The property is approximately 100 km east of Sherwood Copper's new Minto mine (Figure 6.1).

The climate in southwestern Yukon is one of contrast with short, moderately dry summers (30 cm annual precipitation) and long, cold winters with moderate snowfall. The exploration season extends from mid-May through to late September-early October. The property covers rolling upland between the MacMillan and Pelly Rivers with numerous small lakes and swampy basins contained by low hills (Figure 5.1, Plate 1). Topography is moderate with approximately 200 m of relief. The highest point on the property is 800 m above sea level. Vegetation on north and east facing slopes consists of stunted white and black spruce, willow, labrador tea and moss. South and west facing slopes sustain white spruce, aspen, poplar, lodgepole pine, and various grasses and shrubs. Cottonwood is restricted to river and stream valleys and stands of lodgepole pine grow on some dry, flat areas. Large areas have been burned within the last 25 years. They are now covered by stands of small spruce, poplar, and pine along with extensive growths of alder, birch and willow.



Note: The main area of drilling is in the foreground; the location of the old camp is also shown. (Photo by D. G. MacIntyre, June 24, 2008)

Figure 5.1: Plate 1 Aerial view Northeast towards Clear Lake

During the Pleistocene epoch two lobes of the Cordilleran ice sheet scoured a westerly glacial fabric across the region resulting in hundreds of drumlins, moraines and outwash deposits. Overburden in the Clear Lake area ranges from 1 to over 50 meters and outcrop exposure is generally poor.

6 History

The following description of historical work done on the property is derived from the Yukon Geological Survey Minfile database, supplemented, where appropriate, with information contained in publicly available assessment reports. These assessment reports are listed in the References section of this report.

The Clear Lake property was first staked in 1965 by Conwest Exploration Company Ltd, as part of a 734 claim block, following the discovery of the Faro ore body 80 km to the southeast. Limited prospecting, mapping, ground and airborne EM and magnetometer surveying was carried out. Reportedly, six EM anomalies were tested by diamond drilling and one of these drill holes intersected 0.45 m of massive pyrite. Due to a lack of understanding of the geological environment and geophysical character of other known deposits no significant mineralization was detected and the claims were allowed to lapse.

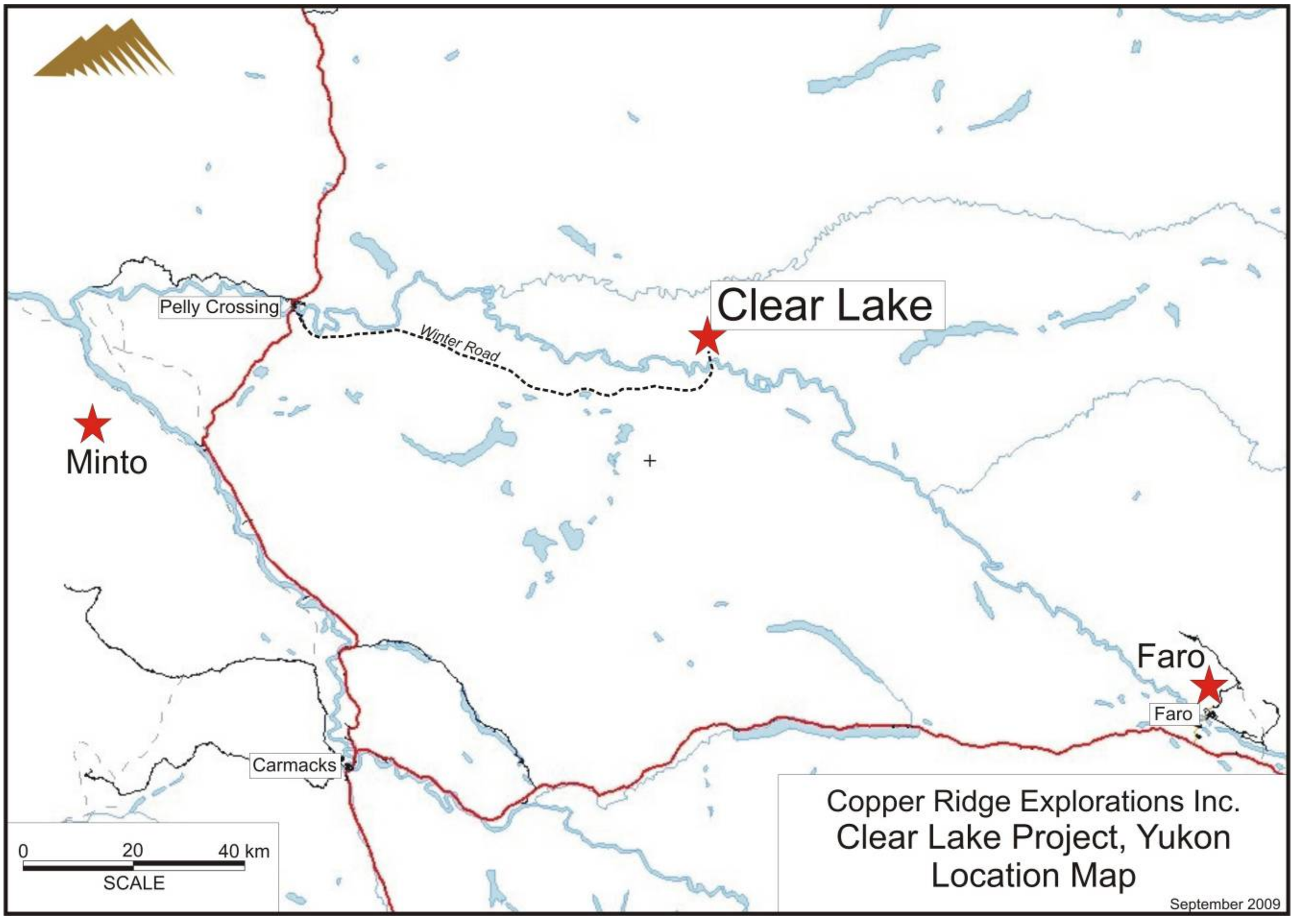


Figure 6.1: Infrastructure and Access Routes, Clear Lake Property, Yukon

The Clear Lake property was re-staked as the Sue claims in August 1974 by a syndicate of Conwest companies (Chimo Gold Mines Ltd, Consolidated Canadian Faraday Ltd and International Mogul Mines Ltd) and Teck Corporation Ltd. U.S. Steel Western Hemisphere Inc acquired the Teck interest early in 1975 and formed the Macmillan Joint Venture. The joint venture carried out extensive bulldozer gridding, line cutting, EM, magnetometer and gravity surveying and geological mapping in 1975, additional gravity surveying in 1976 and 1977, drilled 17 holes (2,531 m) in 1978 and did MaxMin EM surveying, airstrip construction and drilling of 10 holes (2,481 m) in 1979.

The main sulphide body at Clear Lake was discovered in 1978 while drilling a 3 milligal (mGal) residual gravity anomaly. The gravity anomaly coincides with magnetic and EM anomalies and is situated beside a small acidic lake containing geochemically anomalous lake bottom sediments. Lake bottom samples assayed up to 19,000 ppm Zn, 1.2 ppm Ag and 20 to 40 ppm Cu. A subtle gossan was later recognized over the target.

Welcome North Mines Ltd tied on RSVP, PVA and Pelly claims to the Clear Lake property in August 1979 and optioned the claims to E and B Exploration Inc (Pelly Project), which carried out airborne magnetometer and EM surveying and geochemical sampling in 1980.

The Conwest syndicate's interest in the Macmillan Joint Venture was acquired by Getty Canadian Metals Ltd. in the spring of 1980. Getty subsequently staked the Get A, Get B, Get C and Get D claims in June 1980 and carried out geological mapping, soil geochemical sampling, MaxMin EM and gravity surveying on the claims. This was followed by EM and magnetometer surveying, soil and lake bottom geochemical sampling, prospecting and drilling of 3 holes (709.3 m) in 1981; line cutting, geochemical sampling, EM and gravity surveying and drilling of 3 holes (943.7 m) in 1982; line cutting, drilling of 69 overburden holes (531 m) and 2 diamond drill holes (2,045.5 m) in 1983; and diamond drilling of one hole (457.2 m) in 1984.

Most of the Sue claims surrounding the showing were subsequently abandoned and were re-staked as the Clear claims in June 1989 by Total Energold Corporation, which also purchased Conwest's NPI interest. Total Energold staked additional Clear claims in April and May 1990 and carried out geochemical soil and rock sampling and geological mapping to evaluate 18 target areas later in the year. The geochemical sampling included hand-augered soil samples and 35 samples of glacial overburden collected down-ice from the deposit using an overburden drill. The property was optioned to Mitsui Kinzoku Resources of Canada Inc, a wholly owned subsidiary of Mitsui Mining and Smelting Company Ltd in 1991. At the same time Total Energold purchased U.S. Steel’s interest in the property.

Work carried out in 1991 consisted of diamond drilling of 19 holes (4,588.2 m), geological mapping, IP and gravity surveying, geochemical sampling, line cutting and trenching and staking of additional Clear claims in July, 1991. Soil sampling using hand augers and an overburden drill in 1990 located anomalies in several new areas. North of the Tintina Fault, stratiform galena and sphalerite outcrop at the transition between Mt. Mye and the Vangorda Formation rocks, the same stratigraphic interval as the Faro deposits. Specimens from this area assayed up to 2.68% Zn, 0.78% Pb and 13.7 g/t Ag.

In 1992, Total Erickson Resources Ltd, a wholly owned subsidiary of Total Energold, carried out diamond drilling of 10 holes (3,100.1 m), geological mapping, soil geochemical sampling, trenching, line cutting and IP, gravity and Power Line magnetotelluric surveying. The Clear and Sue claims were transferred to Energold Minerals Inc in November 1992. In 1993, Mitsui and Energold carried out gravity and magnetometer surveying, auger assisted soil sampling, rock chip sampling, geological mapping and drilling of 6 holes (1,364 m). Baseline environmental studies were also carried out before Mitsui dropped its option. Energold Mining Ltd changed its name to Energold Drilling Corporation in September 2005.

The Clear Lake property was staked by Bernie Kreft on January 11, 2008 and was subsequently optioned to Copper Ridge on January 24, 2008.

6.1 Historical Resource Estimate (1985)

Don MacIntyre has carried out an in depth review of a resource estimate completed by D.R. Hawke in 1984 and revised in 1985 (Hawke, 1985). This mineral resource estimate is a ‘historical estimate’ as defined in Section 1.1 of National Instrument 43-101 (NI43-101). In MacIntyre’s opinion the historical estimate was done to the best practices applicable at the time and gives a reasonable indication of the grade and tonnage of the Clear Lake deposit. Data pertaining to this estimate has been obtained by Copper Ridge and was made available for review as part of this technical report. The supporting documentation includes tabulated assay data, drill hole sections and summary tables showing the calculated tons and grades for each resource block. Missing from the report are original assay certificates and any documentation of quality control measures that might have been used in assessing the accuracy and precision of the assay data. There is no mention of relative density (specific gravity) studies.

The calculation method used to produce the historical resource estimate shown in Table 6.1 consisted of outlining areas of the tonnage blocks on cross-sectional views using the parameters listed below (Hawke, 1985). These blocks were subsequently transferred to longitudinal views to obtain lateral influence measurements for volume calculations. The longitudinal views were vertical and perpendicular to strike of the deposit in order to measure lateral influence.

Tonnages and grades were estimated for cut-off grades of >5%, >6% and >7% Pb+Zn using the following parameters:

1. A minimum mining width of 15 feet (4.57 metres) was assumed;
2. High grade zones less than the minimum assumed mining width were averaged with adjacent lower grade material to attain the minimum assumed mining width provided the cut-off grade was maintained;
3. Where no Ag assays were available a grade of 0.1 oz/ton Ag was assumed;

4. Two adjacent grade zones were merged if they were separated by a distance of less than 20 feet (6.1 metres) and if the lower grade of the two zones carries the intervening interval while maintaining the cut-off grade;
5. Areas of influence (dip length of block times measured true thickness at mid-point of dip length) for the various grade intersections were derived from the geological composite cross-sections by extending a grade intersection;
6. Halfway to the nearest drill hole sulphide intersection; or
7. 200 feet down dip when a deeper drill hole is not present; or,
8. To subcrop if there is no shallower hole;
9. Volumes of influence for the various grade intersections are derived by multiplying the area of influence calculated from the cross-sections times the lateral distance influence derived from geological plan views and the longitudinal views. The lateral distance influence is determined by:
    - Extending the area of influence half way to the nearest drill hole sulphide intersection; or,
    - A distance of 200 feet (60.96 metres) if there is no laterally adjacent drill hole.
10. The tonnage factor used for the calculations was 8.0 cubic feet per ton (4.05 tonnes per cubic metre).

The results of the resource estimate using >5%, >6% and >7% combined Pb+Zn cut-off levels is shown in Table 6.2. This resource estimate does not include the results of drilling done after 1985, specifically the 1991 drill program which also targeted the main Clear Lake deposit. The estimate is the only available historical estimate for the Clear Lake deposit and the estimate is not reported using categories of mineral resources as stipulated in Section 1.3 of NI43-101, the estimate is only stated here for historical completeness and should not be relied upon as it is based on partial data only.

Table 6.1 Historical Resource Estimate by Hawke, 1985

Cut-off Pb+Zn	Tons	Tonnes	Zn%	Pb%	Ag oz/ton	Ag g/t
>5%	11,642,859	10,562,224	7.91	1.38	0.80	25.00
>6%	9,025,043	8,187,381	9.36	1.58	0.95	29.69
>7%	6,117,803	5,549,978	11.34	1.99	1.19	37.19

The cut-off grade used in the resource calculation had a significant influence on the grade continuity of the deposit. Using the >5% Pb+Zn cut-off the deposit is defined by four separate zones – footwall, central, hanging wall, and tuff (Hawke, 1985).

7 Geological Setting

7.1 Regional Geology

The compiled geology for the Clear Lake area taken from the Yukon Geological Survey MapMaker website is shown in Figure 7.1. The legend for this figure is given in Table 7.1. Regional geological data included in the compiled map is from the Glenlyon 1:250,000 map sheet (105L) which was first mapped by Campbell in 1967 (Campbell, 1967) and the 1977 revised 1:1,000,000 scale MacMillan River map sheet by Gabrielse (Gabrielse et al, 1980). The regional geology as mapped by the Geological Survey of Canada in the immediate deposit area does not show the map units that have been identified on a property scale. In particular, the overturned syncline of Earn Group rocks that host the Clear Lake deposit southwest of the Tintina Fault is not shown on the map presented in Figure 7.1.

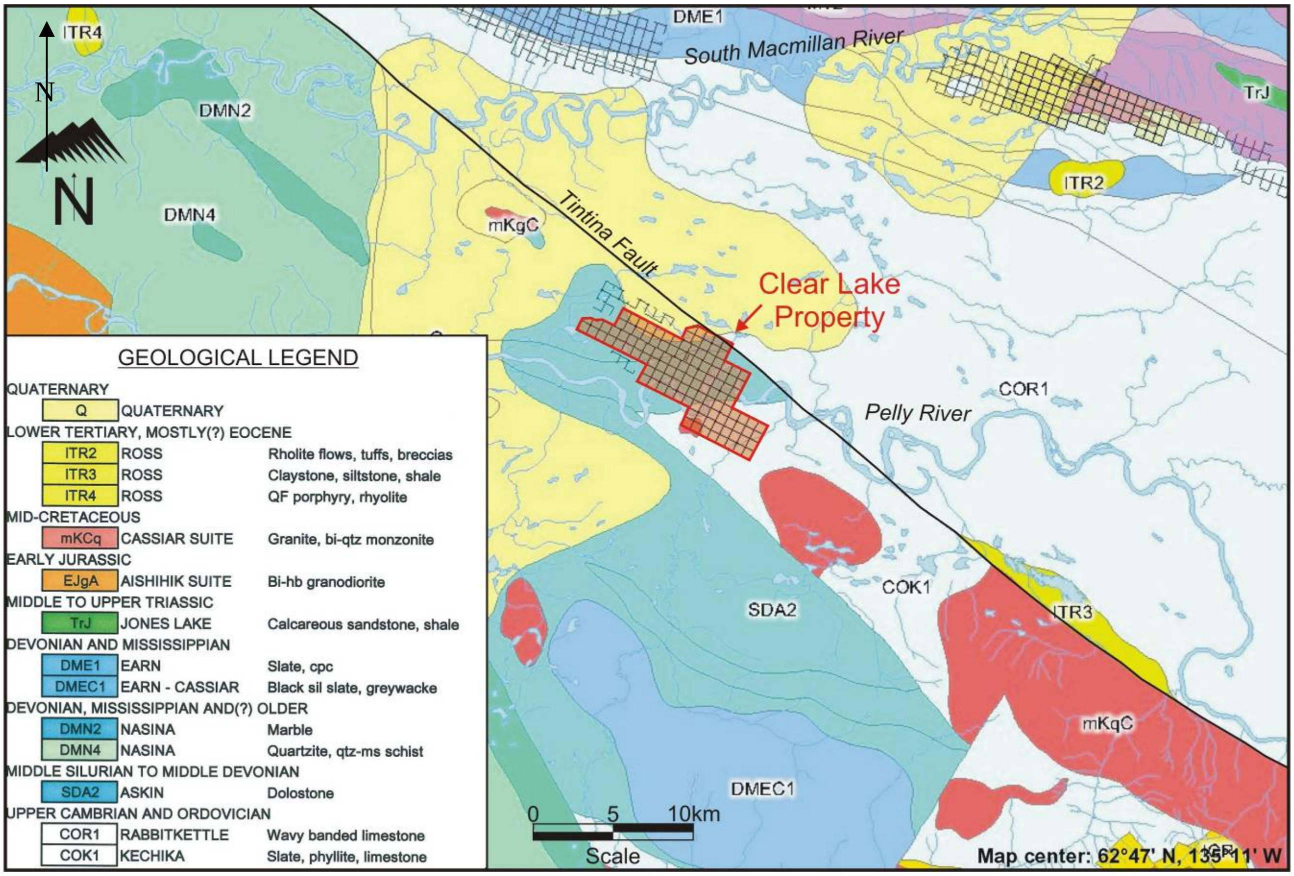


Figure 7.1: Regional Geological setting, Clear Lake Property

The Pelly River region comprises Palaeozoic deep sea clastic sedimentary rocks of the Selwyn Basin, deformed intermediate to mafic volcanic rocks of the Cassiar Belt and locally Mesozoic intrusive rocks.

The Tintina Fault separates the Selwyn Basin and Anvil Allochthon in the northeast from the Cassiar Belt in the southwest. Thrust sheets and parallel faults have complicated the geology, particularly in the Clear Lake area. The Anvil Allochthon was formed by westerly derived thrust sheets that were active during late Triassic to mid-Cretaceous. Recent interpretation of regional geology suggests that numerous major faults occur in the area.

The Clear Lake deposit occurs within the Tunnel Basin in Upper Devonian-Mississippian black graphitic argillite along the western margin of Selwyn Basin (Grapes, 1987). Selwyn Basin has a central basinal chert facies that is bounded by the Mackenzie and Pelly-Cassiar platformal carbonates to the west and east respectively. The western margin is partly truncated by the Tintina Fault. The Clear Lake strata occur within splays in the fault zone. To the north, the southwestward-dipping, Paleozoic, Anvil Range Group clastic metasediments are cut by northwest-trending, normal faults and are intruded by subvolcanic plugs and necks of Cretaceous andesite (Tempelman-Kluit, 1977). Anvil Range Group rocks occur immediately to the north of the Clear Lake Deposit. Mid-Devonian Askin Group dolostone and quartzite occur to the southwest of the Clear Lake deposit (Grapes, 1987).

Table 7.1: Regional Geologic Map Units

Unit	Age	Group or Formation	Lithology
Q	Quaternary		silt, sand, gravel
lTR2	Lower Tertiary, mostly(?) Eocene		rhyolite, flows, tuff, breccia
lTR3	Lower Tertiary, mostly(?) Eocene		shale, claystone, siltstone, sandstone, conglomerate, coal
mKgC	mid-Cretaceous		granodiorite, quartz diorite, quartz monzonite, granite
mKgS	mid-Cretaceous		quartz monzonite, granodiorite, quartz diorite, syenite
mKqC	mid-Cretaceous		granite, quartz monzonite, granodiorite
mKqS	mid-Cretaceous		granite, quartz monzonite, granodiorite
EJgA	Early Jurassic		
TrJ	Middle to Upper Triassic		shale, argillite, sandstone, limestone
CPMC	Carboniferous to Permian		chert, shale, siltstone
DMN2	Devonian, Mississippian and(?) older		Marble
DMN4	Devonian, Mississippian and(?) older		quartzite, qtz-musc-schist
MT1	Mississippian		shale, siltstone, limestone
MT2	Mississippian		limestone
DMEC1	Upper Devonian to Lower Mississippian		slate, sandstone, conglomerate
DME3	Earliest Mississippian	Earn Group	flows, tuffs, plugs, chert
DME2	Devonian	Earn Group	chert, shale, argillite
DME1	Upper Devonian and Mississippian	Earn Group	siltstone, sandstone, conglomerate
SDA2	Middle Silurian to Middle Devonian	Road River Group, Askin Formation	mudstone, quartzite, limestone, dolostone
ODR	Ordovician to Lower Devonian	Road River Group	shale, chert, siltstone, limestone, conglomerate
ODR1	Ordovician to Lower Silurian	Road River Group	shale, chert
COK1	Upper Cambrian and Lower Ordovician	Kechika Group	slate, phyllite, limestone
COR1	Upper Cambrian and Ordovician	Rabbitkettle Formation	chert, siltstone, phyllite, limestone, conglomerate
lCR	Lower Cambrian		limestone, dolostone, marble
PCI4	Upper Proterozoic to Lower Cambrian		slate, siltstone, quartzite
PCH1	Upper Proterozoic		phyllite, shale, sandstone, grit, conglomerate, limestone

An interval of erosion following tilting and probably open folding of Devono-Mississippian and older rocks in the Clear Lake area, occurred in the late Mississippian or early Permian (Grapes, 1987).

During the Late Cretaceous or early Tertiary, regional stratigraphic and structural correlations within the Clear Lake area were obscured by offset along the Tintina Fault. The surface manifestation of the fault is the Tintina Trench, a northern extension of the Rocky Mountain Trench. It represents a zone of major, northwest-trending, steeply dipping, transcurrent faulting, approximately 960 km long on which 450 km of right lateral displaced has been postulated (Tempelman-Kluit, 1977). Displacements in the Clear Lake area occurred along steeply dipping, anastomosing fault surfaces making correlation between fault blocks within the fault zone extremely tentative.

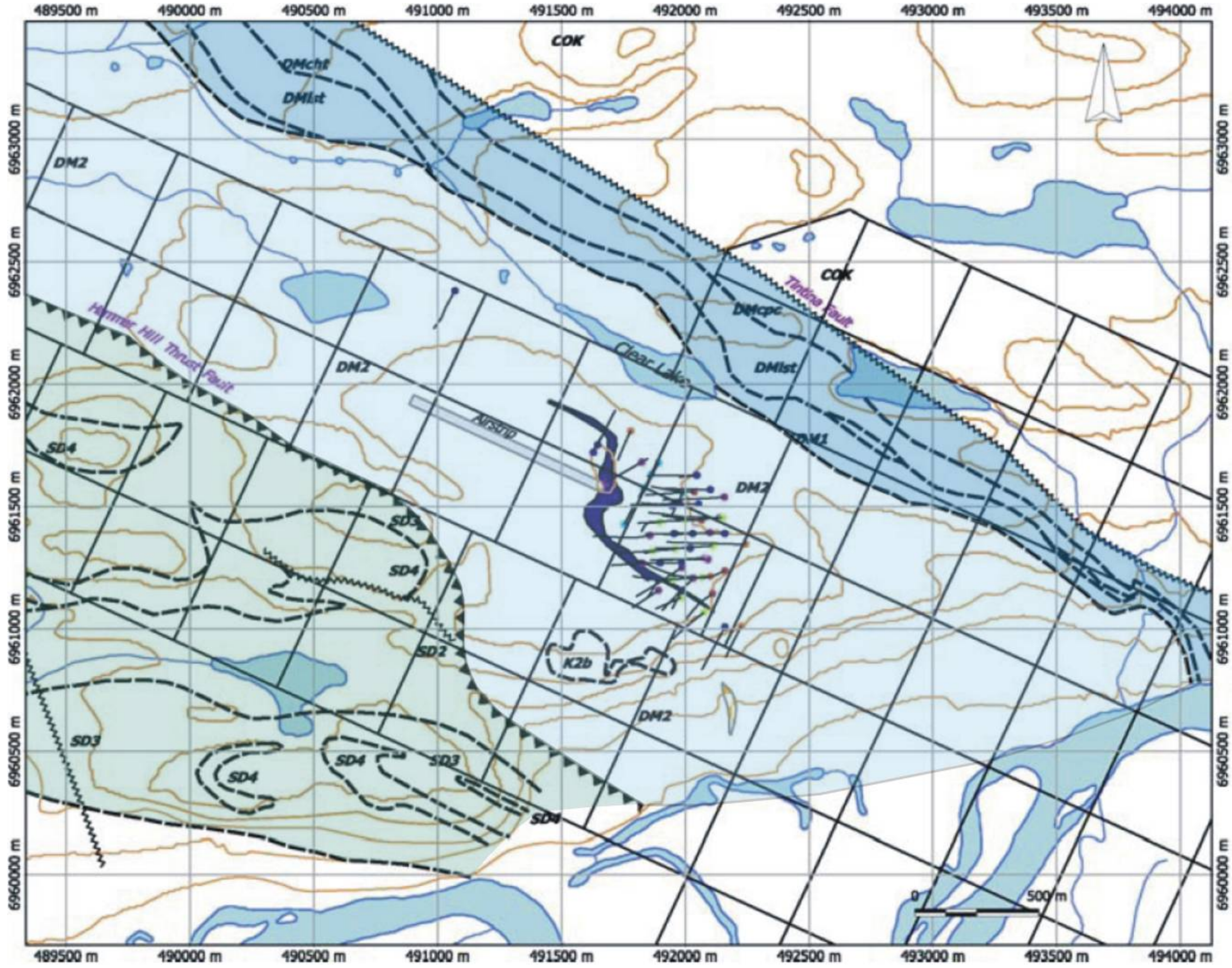
Deformation in the Anvil Range culminated in the Mid-Cretaceous with intrusion of the Anvil batholith. The intrusion resulted in a domal or antiformal feature 64 km long and 24 km wide trending northwest parallel to the Tintina Trench, and terminating just east of the Clear Lake deposit. The northeast limb dips gently, whereas the southeast limb is steep (Campbell, 1967).

The geologic setting, deposit type, and host rocks (Earn Group) of the Clear Lake Zone are similar to the Cirque and Driftpile deposits in northern British Columbia and Clear Lake may be a part of the same deposit district (Kechika), offset to the northeast by the Tintina Fault.

7.2 Property Geology

Clear Lake is a barite-associated, shale-hosted, sedimentary-exhalative massive sulphide deposit that is hosted by carbonaceous argillite, siltstone, chert and tuff of the Devonian to Mississippian Earn Group. The favourable Earn Group stratigraphy occurs extensively within and external to the claim boundary (Note: see Table 7.2 for description of map units) (Figure 7.2).

The property is bisected by the northwest trending Tintina Fault. This strike-slip fault may have right lateral displacements of as much as 450 km (Tempelman-Kluit, 1977). On the property, north of the fault are phyllites of the Cambrian to Ordovician Kechika Group. These have been correlated with the Lower Cambrian Mt. Mye Formation and calcareous phyllite and limestone of the Cambrian to Ordovician Vangorda Formation which are important host rocks for the massive sulphide deposits of the Faro district. South of the fault are Ordovician to Silurian shale of the Road River Group, Silurian to Devonian quartzite, dolostone, argillite, shale and amygdaloidal andesite of the Askin Formation and sandstone, argillite, chert, limestone, shale, breccia, conglomerate and tuff of the Devonian to Mississippian Earn Group.



Note: See Table 7.2 for description of map units.

Figure 7.2 Property Geology (after Basnett 1990)

The Clear Lake stratabound massive sulphide deposit is hosted by carbonaceous argillite, siltstone, chert and intermediate tuff of the Earn Group. The precise age of the host sediments is not known due to lack of diagnostic micro or macro fossils (Grapes, 1987). The host rocks are steeply dipping to the northeast and are contained within a northeast dipping, overturned syncline. The Earn Group rocks unconformably overlie dolostone and quartzite of the Middle Devonian Askin Group. Regionally, the Clear Lake host rocks are correlative with lithologically similar Upper Devonian to Mississippian shales in the Pelly Mountains to the southwest and in the Selwyn Mountains to the east (Tempelman-Kluit, 1981).

Youngest rocks on the Clear Lake property are mafic and felsitic intrusive rocks of unknown age. One such intrusion cuts Earn Group argillite and shale just south of the main Clear Lake deposit (Note: see Table 7.2 for description of map units) (Figure 7.2)

The stratigraphic succession hosting the Clear Lake massive sulphide deposit has been described in a Master in Science thesis completed by Kathyrn Grapes at Carleton University (Grapes, 1987). The following description of lithologic units is largely based on information contained in this thesis. A simplified stratigraphic column is presented in Figure 7.3.

7.2.1 Sandstone (Unit 1)

The sandstone unit is subdivided into quartz arenite (unit 1a) and laminated quartz arenite (unit 1b) units. Unit 1a is comprised of poorly sorted, locally graphitic fine to coarse grained light gray to dark green-grey quartz arenite. This rock is comprised of up to 50% angular quartz grains in a calcite and clay rich matrix. Locally, this unit is darker with a higher percent of volcanic, chert, pyrite and argillite clasts and contains up to 10% pyrite as veins disseminations and blebs. Below the massive sulphide body this unit grades into laminated sandstone and silty argillite and above the deposit it grades into silty argillite and argillite.

Laminated quartz arenite (unit 1b) is a finer-grained, medium to dark gray rock which locally has cross-bedding, parallel laminations, rip-up clasts, normal and reverse graded-bedding and slump and load structures. This unit may also be ankerite or calcite rich in places and can contain up to 50% pyrite as euhedral, blebs and veins. Contacts with finer-grained siltstones and argillites are gradational.

Table 7.2: Table of Formations, Clear Lake Property (after Basnett, 1990)

TERTIARY, MESOZOIC (?) OR MISSISSIPPIAN	
INTRUSIVE ROCKS	
K2	Mafic Intrusive Rocks – a: gabbro, diorite, b: diabase
K1	Felsite
MISSISSIPPIAN AND/OR EARLIER	
DMCPC	Chert Pebble Conglomerate – locally heterolithic with Kechika Group clasts
DEVONIAN-MISSISSIPPIAN ***EARN GROUP***	
DMB	Barite
DMA	massive sulphide
DM6	mafic volcanic flow rocks
DM5	tuff
DM4	chert, dark grey, massive
DM3	breccia, conglomerate
DM2	argillite and shale
DM1	sandstone
DMLST	limestone
DMCHT	chert
SILURIAN-DEVONIAN ***ASKIN GROUP***	
SD4	quartzite
SD3	dolostone
SD2	argillite, shale
SD1	amygdaloidal andesite
ORDOVICIAN-SILURIAN ***ROAD RIVER FORMATION***	
OS	shale
KECHIKA GROUP	
COK	phyllite

7.2.2 Siltstone (Unit 2)

This unit is composed of light to very dark grey graphitic siltstone that contains poorly sorted quartz fragments in a fine-grained clay or carbonate rich matrix. Although rare, some fossil fragments have been noted in this unit. The siltstones commonly contain calcite or ankerite and occasionally chlorite and may have up to 25% pyrite as veins, euhedral grains, fragments and occasional laminae.

Sphalerite is sometimes present as disseminations. Massive siltstone is gradational into laminated siltstone below and above the massive sulphide. It also grades into black chert and silty argillite above the deposit. Laminated siltstone (Unit 2b) typically has cross bedding and slump structures and higher pyrite content (up to 35%) as laminae, veins, nodules, disseminations, clasts and beds. Sphalerite is rare and occurs in veins, breccia matrix and clots. Laminated siltstone is gradational to massive argillite.

7.2.3 Argillite (Unit 3)

The argillite unit is comprised of fissile fine-grained clastic rocks that have varying amounts of interbedded sandstone and siltstone and varying silica and carbonate content. Alternating argillite, sandstone and siltstone units up to 100 m in thickness make up more than two-thirds of the sequence. Where sandstone and siltstone interbeds are absent the rock is a black, carbonaceous, argillite (unit 3a) that varies in thickness from 1 to 82 metres. Locally it is finely laminated and contains darker, finer-grained layers that have higher graphite content (Units 3b and 3c). Pyrite typically occurs as fragments, but may be disseminated, in laminae, massive beds and blebs. Veins of pyrite and sphalerite locally comprise up to 10% of the rock. Underlying the massive sulphide a thin bed of randomly oriented barite crystals is interbedded with the massive argillite.

The argillite unit is locally fossiliferous and includes interbeds of sandstone and siltstone that vary in thickness and extent. These contain quartz, carbonate and pyrite fragments. Some of these coarser-grained beds have well defined parallel to ripple laminations and Bouma turbidite cycles, with associated load casts and flame structures. The coarser grained beds are quartz rich and are compositionally similar to the sandstone and siltstone units. Sphalerite occurs as fine disseminated grains and veins, while rare galena occurs in fractures.

A subunit of the argillite unit is a dark grey to black carbonaceous, cherty argillite that underlies black chert and massive sulphides (unit 3d). It typically contains pyrite as disseminations, clots and veins. Sphalerite is locally present as disseminations. A distinctive massive to laminated, pale gray to yellow-white limey argillite (unit 3e) is also present and contains fragments of quartz, carbonate and pyrite. Pyrite also occurs as disseminations, blebs, veins and rare laminae. This unit is gradational to massive argillite and grey chert.

7.2.4 Limestone (Unit 4)

Mottled, light grey to medium grey limestone and dolostones occur as thin beds in the footwall argillite unit. These carbonate beds contain crinoid, brachiopod, pelloid, ooid and rare gastropod, coral and plant fragments in a sparry calcite matrix. Minor silt laminae and graphite may be present locally but for the most part the carbonate beds are massive. Pyrite, though rare, is sometimes present in these beds as disseminated euhedra. Limestone beds have gradational contacts with overlying argillite or silty argillite.

7.2.5 Conglomerate (Unit 5)

A distinctive conglomerate unit occurs below the main massive sulphide zone. Beds are relatively thin and pinch out down dip and to the north and south of the central part of the deposit (Norman, 1984). The conglomerate is umber to dark grey, poorly sorted, clast-supported to rare matrix supported and contains subrounded 0.8 to 8 cm clasts of siltstone, argillite, light grey chert, sandstone, fine-grained mafic volcanics and pyrite in a dark coloured mudstone to fine sandstone matrix. Overall this unit lacks bedding and has sharp contacts with surrounding silty argillites. Locally the matrix of the conglomerate is altered with quartz and ankerite filling cavities.

Pyrite content in this unit is low but where present occurs as veins, disseminations and minor colloform masses. When sphalerite is present it occurs as disseminated grains.

7.2.6 Chert (Unit 6)

Chert occurs stratigraphically below, above or within the massive sulphides. Within the massive sulphide it is a dark grey to black, massive to occasionally brecciated, laminated and stylolitic rock with calcite and gypsum filled cavities (unit 6a). Veins of pyrite with minor sphalerite and galena cross cut the chert. Up to 50% pyrite occurs as laminae, fragments, colloform masses and disseminations. Above the massive sulphide the chert is light to medium grey, often stylolitic with poorly developed bedding (unit 6b). Spheroidal, coarse-grained, quartz surrounded by finer-grained chalcedony may represent recrystallized radiolarian or colloidal nucleation of the silica (Grapes, 1987). Wispy bands and random disseminations of fine-grained dark, organic material is scattered throughout the chert. Pyrite veins occur locally up to 20% but the overall pyrite and sphalerite content is generally less than 10%.

Grey chert overlying the massive sulphide is overlain by massive siltstone and silty argillite.

7.2.7 Tuff (Unit 7)

Beds of intermediate light to medium grey to grey-green tuffaceous rocks ranging from 15 cm to 15 m thick are interbedded with argillite, chert and massive sulphides. Weakly defined reverse graded bedding is defined by the gradation of ash tuff up-section into lapilli tuff. Pervasive clay, carbonate and quartz alteration occurs locally along with minor amounts of fine-grained sericite. Overall the tuffs are poorly bedded but are well foliated with lapilli having a preferred orientation transposed into the foliation. Lapilli fragments of pumice, argillite, chert and pyrite are moderately sorted and angular and are suspended in an ash rich matrix. Pyrite commonly occurs as veins, massive beds and laminae and less commonly as nodules, disseminations, colloform masses and blebs. Sphalerite occurs as minor disseminations and laminae. Tuff beds occur stratigraphically below colloform pyrite. Above the massive sulphide it is gradational into silty argillite and in sharp contact with thinner lenses of colloform pyrite.

Lapilli tuff is comprised of around 60% moderately well sorted clasts of pumice, argillite, chert and pyrite that range from 3 mm to 3 cm in diameter suspended in a soft chlorite, clay and quartz matrix. Pumice clasts are light grey and flattened into lenticular shapes. Tuffs may contain 15% to 50% pyrite and sphalerite and rare chalcopyrite as disseminations. Pyrite also occurs as laminae and wispy bands and locally as veins. Sphalerite forms clots and veins. A relatively thick lapilli tuff bed up to 30 m. thick occurs approximately 30 m stratigraphically below the deposit and serves as a useful marker horizon. Above the massive sulphide, lapilli tuff is gradational into silty argillite.

7.2.8 Massive Sulphide (Units 8 & 9)

The massive sulphide unit is comprised of stratabound accumulations in excess of 60% sulphide that occur as one main lens and several smaller lenses within a succession of chert, silicified argillite and lapilli tuff. The main sulphide lens is approximately 800 metres long and varies in thickness from 50 to 100 m within the main zone pinching to 3 to 6 metres thick at its southern and northern extremities. It is comprised of pyrite, pyrite/melnikovite, sphalerite, galena and minor chalcopyrite (Grapes, 1987). Gangue minerals include quartz, calcite, ankerite, graphite, siderite, gypsum, barite, barian sericite and chlorite. Supergene minerals include minor iron oxides, the K/Al sulphate mineral melanterite, rozenite, pickeringite, kalinite and potash alum. Smaller pyrite rich massive sulphide lenses up to 10 metres thick occur 100 metres stratigraphically above the main massive sulphide body. Lenses of pyrite, sphalerite and galena also occur to the south.

Grapes (1987) reports a positive statistical correlation between Zn and Pb, Zn and Ag, Pb and Ag and Cu and Au.

Grapes (1987) divides the massive sulphide into five subunits based on macroscopic textures and mineralogy. These are:

1. massive pyrite (unit 8a);
2. laminated pyrite (unit 8b);
3. colloform pyrite (unit 8c);
4. fragmental pyrite (unit 8d);
5. sphalerite and galena rich with >10% combined Zn+Pb (unit 9).

Unit 8a is the predominant pyrite unit and is comprised of 60% pyrite as massive aggregates, 20% sphalerite as clots and disseminated grains, 5% galena as fine disseminated grains and 15% gangue minerals. This unit may contain interbeds of black chert with minor argillite and chert. Calcite and siderite may also be present as cavity fillings and fracture coatings. Minor recrystallization of pyrite has been observed in this unit.

The laminated pyrite subunit (unit 8b), which is relatively rare, is comprised of 45% pyrite mainly as laminae but also clasts or nodules interbedded with black chert. This unit contains only trace amounts of sphalerite and galena.

The colloform pyrite subunit (unit 8c) is comprised of up to 80% pyrite with around 10% sphalerite and trace amounts of galena. Occasionally this subunit is interbedded with chert, argillite and tuff. Secondary minerals include calcite, quartz and siderite as cavity fillings and fracture coatings. Pyrite also occurs as very small nodules, clasts, euhedral disseminations, laminae and rarely as ovoids of radiating pyrite crystals emanting from a chert filled core (Grapes, 1987). Sphalerite occurs as clots, finely disseminated grains and in fractures.

The fragmental pyrite subunit (unit 8d) contains the most galena, averaging 60% pyrite, 10% galena, 5% sphalerite and 25% gangue minerals. The sulphide beds are rarely interbedded with chert, argillite and tuff. The fragments are mainly comprised of massive and to a lesser extent laminated pyrite derived from subunits 8a, 8b and 8c respectively. Sphalerite occurs as clots, disseminate grains and rarely as fine-grained laminae. Galena occurs as disseminations and fracture fillings in pyrite.

The massive sphalerite subunit (unit 9), which is comprised of approximately 35% pyrite, 35% pale sphalerite, 5% galena and 25% gangue minerals, is interbedded with massive and colloform pyrite and is economically important because it typically grades >10% combined Zn+Pb. Secondary minerals include cavity fillings of quartz, calcite and ankerite.

Pyrite is mainly colloform but may be massive, fragmental, disseminated or laminated. Sphalerite is mainly massive or finely disseminated but may also occur as clots, colloform bands, laminae and fragments. Galena is mainly massive but is also found filling cavities and coating fractures.

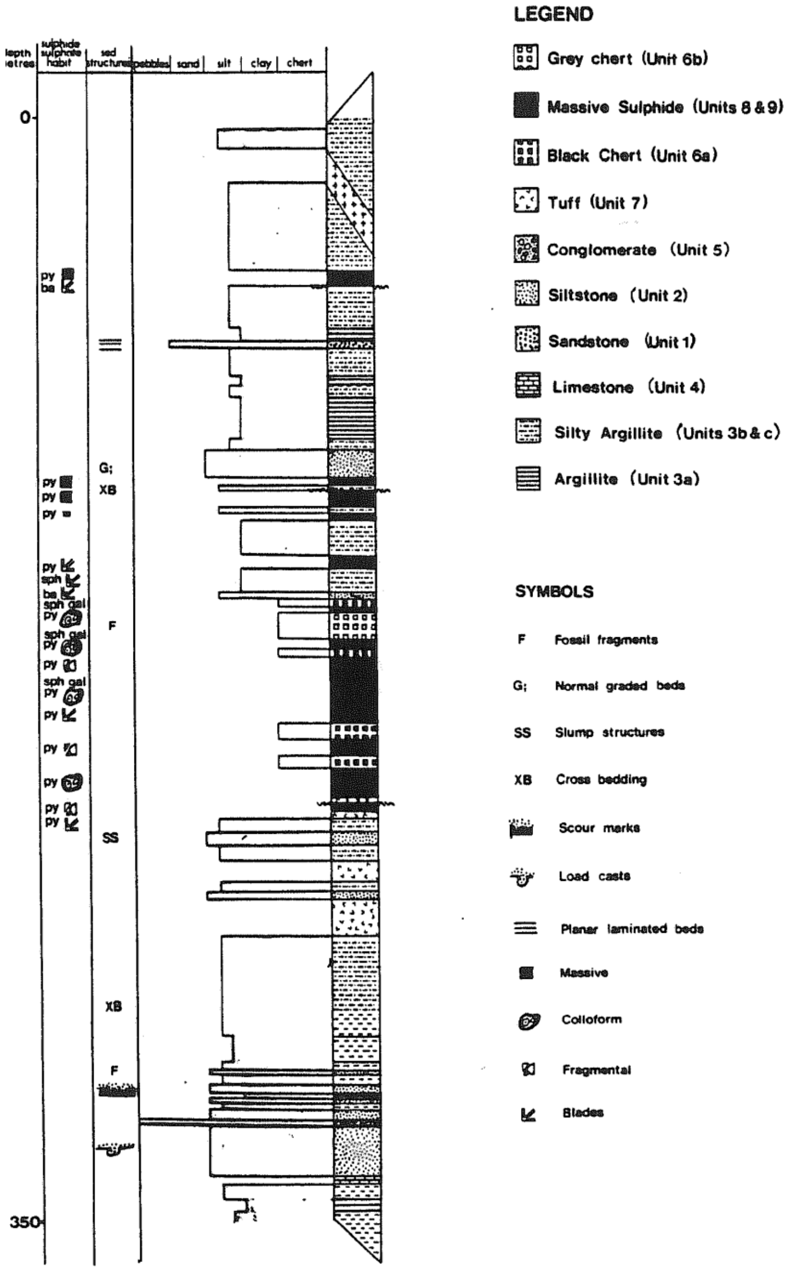


Figure 7.3: Simplified Stratigraphic Column, Clear Lake Deposit (after Grapes, 1987)

7.2.9 Barite (Unit 10)

The barite subunit is comprised of pale to medium grey, weakly laminated to massive crystalline barite commonly interbedded with grey chert. Pyrite laminae are common, occurring up to 30% locally. Pyrite laminae rarely contain up to 1% sphalerite.

7.2.10 Stringer or Stockwork Zones

Stringer and stockwork veins of pyrite and sphalerite occur in the footwall sedimentary units and also cut through the main massive sulphide unit. Pyrite veins contain pyrite and black chert fragments and occasionally are interbanded with quartz and/or sphalerite. Overall the Pb-Zn-Ag content of the pyrite stockwork is low. Sphalerite generally occurs with quartz or calcite in veins up one cm wide. Red-brown sphalerite is commonly rimmed with yellow sphalerite or by galena in calcite. Galena occurs rimming sphalerite and pyrite or as cavity infilling in the core of the veins.

Contouring of the percentage of pyrite and sphalerite veins indicates a concentration below the massive sulphide body (Grapes, 1987). Sphalerite veins are also concentrated above the massive pyrite lenses to the southwest.

7.2.11 Andesite

Rare light green, very fine-grained amygdaloidal andesite flows or dykes up to 5 m thick occur in sharp contact with fine-grained sandstone and argillite above and below the main massive sulphide lens. The andesite is weakly banded with calcite-filled vesicles and bands of pyrite up to 15 cm thick. Locally the andesite is feldspar phyric with scattered, sericite altered phenocrysts of plagioclase in a sericite altered groundmass of plagioclase and interstitial mafic minerals.

7.2.12 Feldspar porphyry

Fine to medium-grained white-green to buff feldspar porphyry dykes have been intersected in the area tested by drilling. These dykes typically have 1-2 mm sericite altered feldspar phenocrysts. Widths vary from 0.1 to 16 m in width but most are around 4 m. The dykes have locally been pervasively altered to chlorite, clay and ankerite with up to 10% euhedral pyrite as disseminated grains.

7.2.13 Structure

The stratigraphic succession hosting the Clear Lake deposit forms an overturned, north dipping syncline as indicated by primary sedimentary structures observed in drill core. Tight, small scale fold structures and a crenulated, axial planar foliation have developed as a result of folding. The sedimentary succession has been displaced by sub parallel high angle sinistral faults. The northwest trending faults are antithetic to the trend of the Tintina Fault. The result of this movement is a sigmoidal-shaped deposit in plan (Grapes, 1987).

Basnett (1992a) has described evidence for a west dipping thrust fault named the Hammer Hill fault that comes to surface west of Clear Lake. The hangingwall rocks are the older Silurian to Devonian Askin Formation. Below the fault is the overturned syncline of Devonian to Mississippian Earn Group rocks that hosts the Clear Lake deposit. Basnett (1992a) speculates that the western limb of the syncline lies below the thrust fault and that this limb could contain additional lenses of massive sulphide. The thrust fault and host stratigraphy were then offset by a later high angle fault called the Duck Lake fault.

8 Deposit Types

Gustafson and Williams (1981) and others have reviewed the geologic characteristics and genetic models for sedimentary exhalative deposits. The physiochemical controls on formation of the deposits have been discussed by Goodfellow and Jonasson (1986a, b) and others. The consensus amongst these authors is that the deposits form by precipitation of sulphide and sulphate minerals from metalliferous brines exhaled along active submarine faults. Metals and fluids are most likely derived from the sedimentary pile either by normal dewatering during basin subsidence or by hydrothermal leaching during periods of elevated heat flow and convective circulation of seawater through the sedimentary pile.

The Clear Lake Pb-Zn+/-Ag deposit has characteristics typical of the sedimentary exhalative (SEDEX) deposit type but also has characteristics of volcanic hosted submarine exhalative deposits (Grapes, 1987). In particular the presence of tuffaceous rocks in the host stratigraphic succession suggests proximity to a volcanic vent. Tuffaceous rocks intercalated with the sulphides reach a thickness of 30 metres in the original footwall, stratigraphically beneath the main massive sulphide lens. The tuff exhibits relict pyroclastic texture, with both matrix and fragments largely altered to soft grey clay, and local concretions of galena, sphalerite, barite, siderite and calcite. Argillite which lie stratigraphically beneath the overturned footwall tuff are highly siliceous rocks that extend to a depth of 90 m below the deposit. The overturned hanging wall is formed by a layer of siliceous argillite which resembles mottled to laminated chert. Irregular pyrite stringers and masses are common throughout both the hanging wall and footwall argillite. Massive barite in several drill holes appears to be peripheral to the deposit and forms a partial cap over it. Barite and tuff lenses intersected at depth in the 1991 drill holes indicate that there is potential for another sulphide lens below the main massive sulphide body.

A trace element study of the tuffaceous rocks by Jim Morin (Morin, 1981) revealed high Ti and P contents and high K_2O/Na_2O ratios, consistent with an alkaline volcanic environment. The mineral deposit is inferred to be an exhalative deposit related to Devonian rifting. Worm tubes replaced by quartz and calcite surrounded and partly replaced by sphalerite and pyrite have been found in drill core, and the sulphides are believed to have precipitated from a hydrothermal fluid hotter than 350° C which mixed with cold seawater at a black smoker vent.

Both barren barite and mixed barite-sulphide deposit types occur in the district. This bimodal distribution is also observed in the MacMillan Pass district of the Yukon (Dawson and Orchard, 1981).

Shale-hosted stratabound, zinc-lead occurrences represent an important economic target in the Canadian Cordillera (MacIntyre, 1991). There are four specific age groups of deposits currently known. These are:

1. Late Proterozoic to early Cambrian – mainly fine-grained pyrite and sphalerite hosted in the upper “Grit Unit” as typified by the Quartz Lake deposit
2. Cambrian – medium to coarse-grained, massive pyrite-sphalerite-galena lenses of in deformed and transported bedding of the Kechika Group. This age group included the Anvil deposits of the Faro camp.
3. Ordovician-Silurian – fine-grained galena and sphalerite laminae in black graphitic chert and cherty mudstone of the Road River Group. The best know deposits of this age are at Howard’s Pass in Yukon.
4. Middle Devonian – Mississippian – Galena-sphalerite-barite lenses hosted by lower Earn Group black argillites as typified by the Tom and Jason deposits in Selwyn Basin of the Yukon and the Cirque, Driftpile and Akie deposits in the Kechika Trough of northeast B.C. In the Yukon, the MM deposit is hosted by felsic volcanic rocks intercalated with black slate of the Upper Earn Group.

The Clear Lake deposit is part of the Devonian to Mississippian group of deposits. Unlike the shale hosted deposits of Devonian age, there is a volcanic component to the host stratigraphy at Clear Lake and this suggests the deposit is transitional between sediment hosted and volcanic hosted end members of this group of deposits. The deposit is also more pyrite rich compared to typical sediment hosted deposits such as Tom and Jason and the deposits of the Gataga District in B.C. (MacIntyre, 1992).

9 Mineralization

The Clear Lake deposit is a proximal, exhalative massive pyritic sulphide body within which drilling has outlined approximately 30 million tonnes of massive sulphides, mostly pyrite. Base metal mineralization occurs in two discrete horizons. In the massive sulphide-siliceous horizon, combined zinc-lead mineralization grading +5% occurs in three elongate-shaped lenses, 5 to 30 m thick and 450 m in length that extend at least 300 m down dip. The tuff-barite horizon, 75 m into the hangingwall of the deposit, has a number of intersections of +10% Zn over widths of one to six metres. The pyritic massive sulphide body is sigmoidal in shape, approximately 1,000 m in length and up to 120 m wide and pinches at depth (Figure 9.1). It dips steeply to the east, and Bouma turbidite sequences in drill core indicate that it is overturned. Sulphide minerals are laminated and consist largely of framboidal pyrite, galena and sphalerite which is slumped and fragmented in places. The best drill intersections assayed 18.3% Zn, 2.15% Pb and 58.6 g/t Ag over a core length of 13 m and 13.29% Zn, 2.12% Pb and 37.4 g/t Ag over 33.5 m.

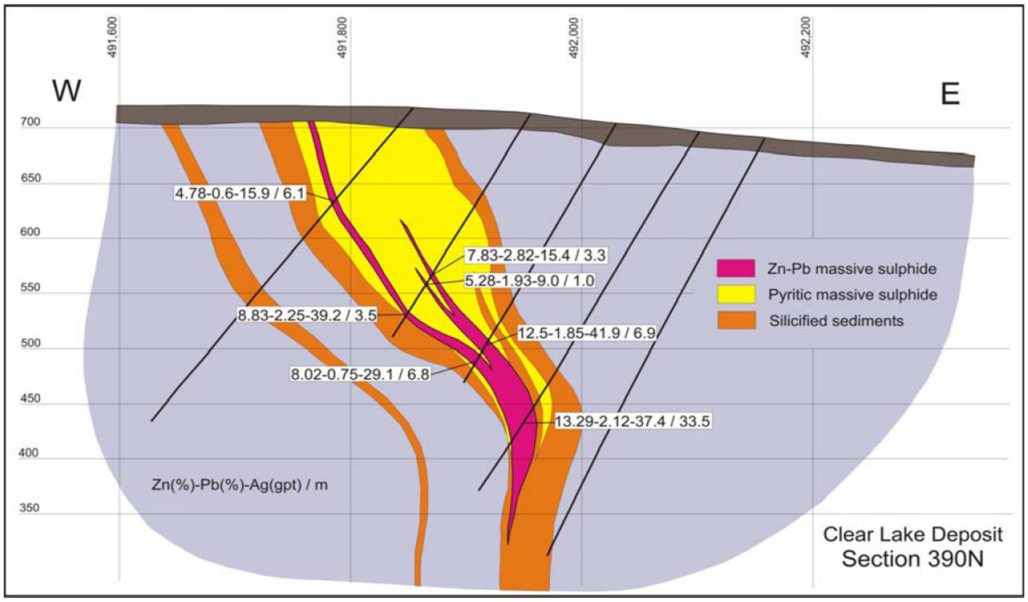


Figure 3. Clear Lake deposit cross section, near the centre of the deposit.

Figure 9.1: Cross Section near Centre of Clear Lake Deposit

10 Exploration

10.1 Airborne VTEM and Magnetometer Surveys

Between July 17 and August 2, 2008 Geotech Ltd. carried out a helicopter-borne geophysical survey for Copper Ridge over the Clear Lake property. The following information is extracted from a summary report prepared by Geotech for Copper Ridge (Legault et al., 2008). The summary report describes the procedures for data acquisition, processing, final image presentation and the specifications for the digital data set. No formal interpretation was included in the report.

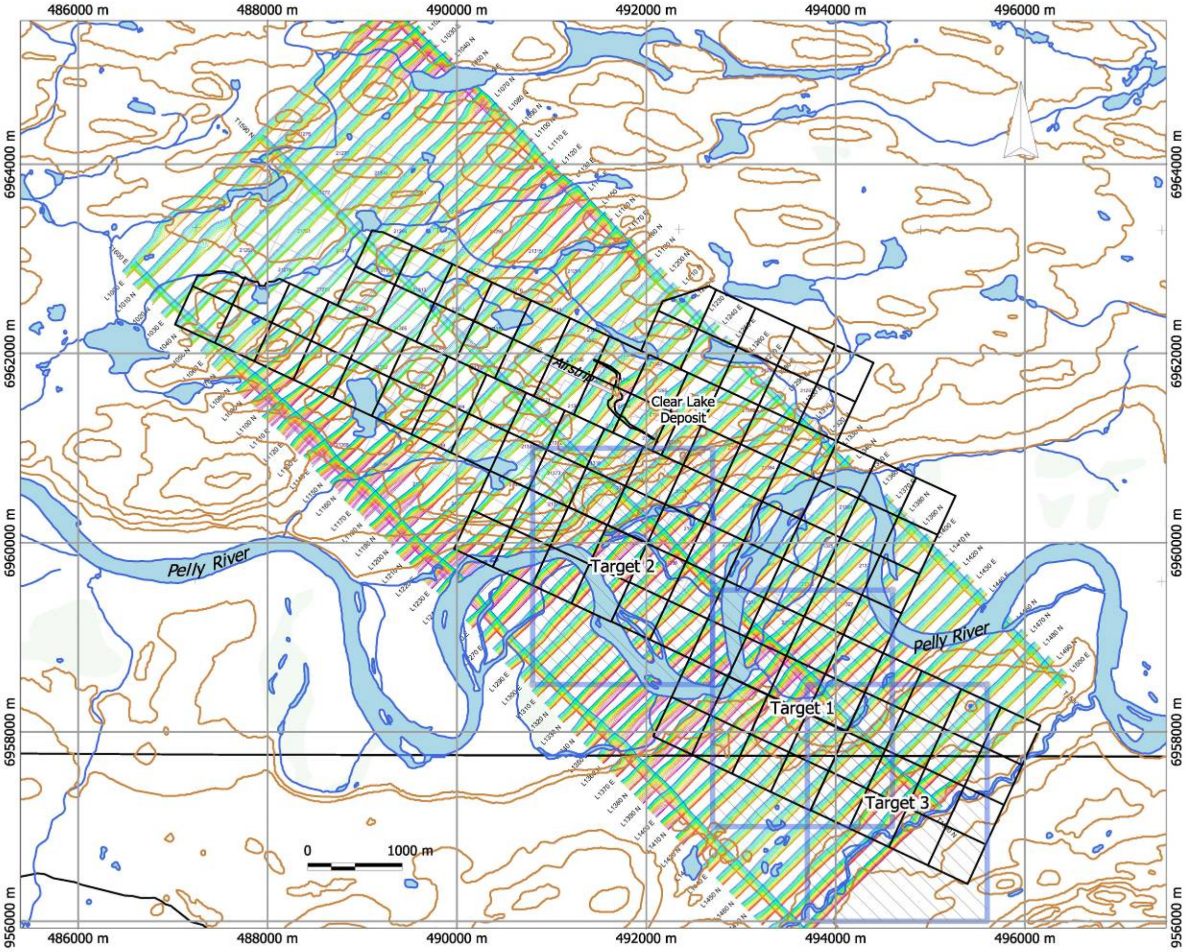


Figure 10.1 VTEM Survey Grid and dB/dt Profiles, Clear Lake Property, Yukon

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM) system, and a caesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 235 line-kilometres were flown (Figure 10.1).

The survey operations were based in Mayo, Yukon. In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as electromagnetic stacked profiles (Figure 10.1), and as a color contour grid of the B-field EM late time channel, and total magnetic intensity. Digital data includes all electromagnetic and magnetic products, plus ancillary data including the waveform.

Geotech recommended a more detailed interpretation of the EM and magnetic data including EM anomaly picking and EM time constant analysis, as well as using inversion and modeling technique to better characterize the observed anomalies and to more accurately determine their parameters (depth, conductance, dip, etc.) prior to ground follow-up and drill testing (Legault et al., 2008).

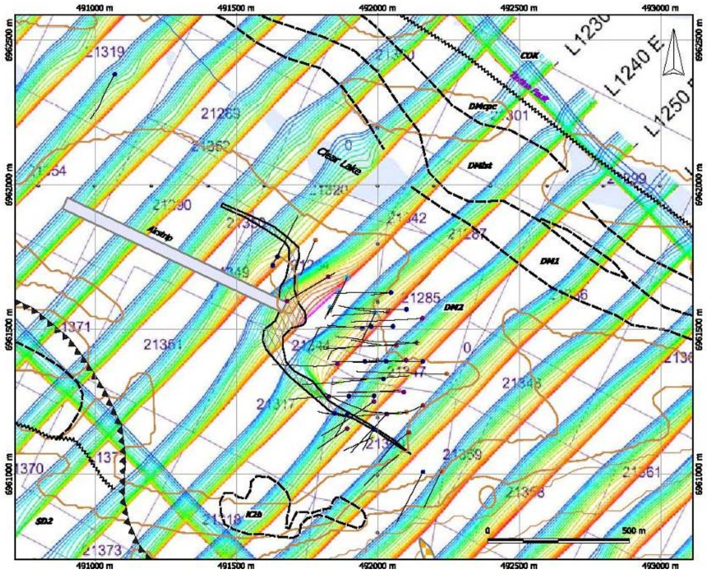


Figure 10.2: VTEM Survey Grid and dB/dt Profiles in vicinity of Clear Lake Deposit

Based on the geophysical results obtained, a number of interesting EM and magnetic anomaly groupings were identified across the property. As shown in Figure 10.2, there is a strong cross over anomaly on Line 1240E that coincides with the surface trace of the deposit. Adjacent lines also display anomalous profiles over the deposit but these are not as pronounced possibly because the lines cross the deposit at oblique angles. Other weaker anomalies on the survey grid may or may not be significant.

Three target areas were also identified for follow-up and these are shown in Figure 10.1. Of particular interest is Target 1 (Figure 10.3) where there is a coincident gravity and IP anomaly in the same area. Target 2 (Figure 10.4) is also interesting as there is a zinc-rich gossan or rusty seep on the banks of the Pelly River in the same area as the anomaly. Target 3 (Figure 10.5) is unusual as it has a somewhat coincident negative magnetic anomaly.

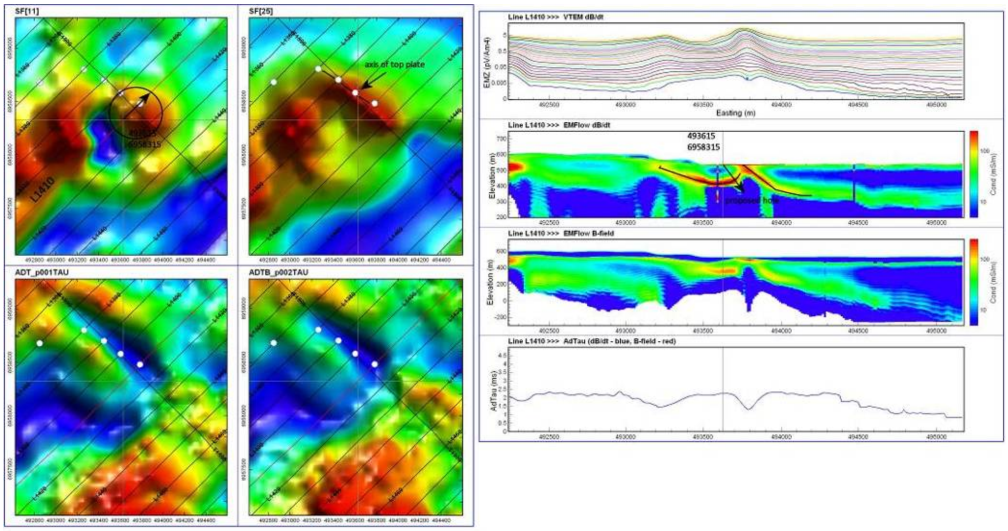


Figure 10.3: VTEM Survey Plan Maps and Profiles, Target area 1 (See Figure 10.1 for Location of target areas)

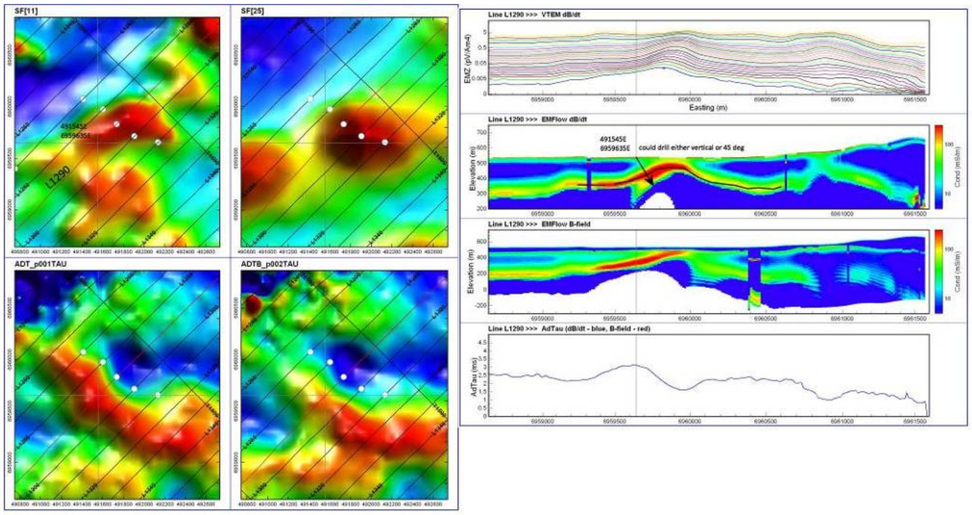


Figure 10.4: VTEM Survey Plan Maps and Profiles, Target area 2 (See Figure 10.1 for location of target areas)

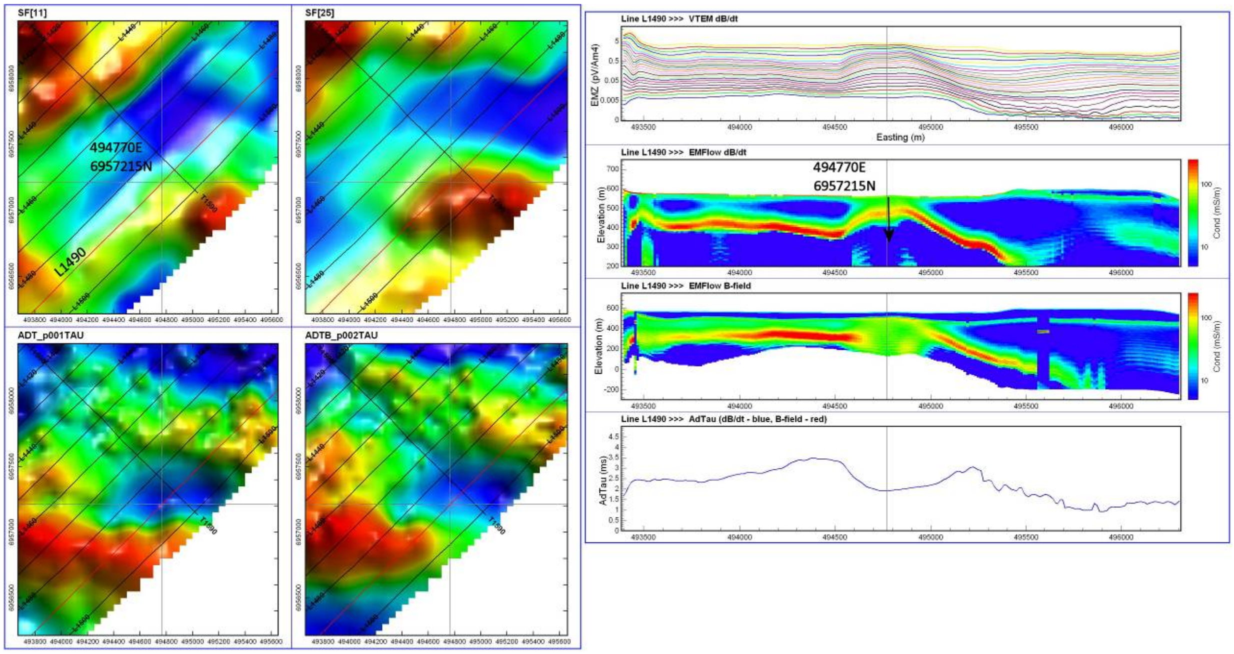


Figure 10.5: VTEM Survey Plan Maps and Profiles Target area 3 (See Figure 10.1 for location of Target areas)

10.1.1 Additional Processing and Analysis

Copper Ridge contracted Condor Consulting Inc. (“Condor”) of Lakewood Colorado, USA to do additional processing and analysis of the Geotech VTEM survey described above. The results of this work are contained in an internal company report entitled “Report on Processing & Analysis of VTEM 30 Hz EM and Magnetics Data, Clear Lake Deposit, Yukon” that was authored by Ken Witherly and dated January 6, 2009 (Witherly, 2009).

The main purpose of the Condor processing and analysis was to identify targets which could be analogues to the Clear Lake deposit. Although only a preliminary assessment of the VTEM results was undertaken it was felt that there was sufficient work done to provide a reasonable set of conclusions regarding the outcomes of the survey (Witherly, 2009).

The Condor work involved a property-wide processing of the EM data to produce a 3D model. The data processing involved applying a layered-earth inversion that produced conductivity depth sections generated from the dB/dT and B field outcomes (Witherly, 2009). In addition, a time constant AdTau program that calculates the time constant (tau) from time domain decay data was applied. Additional magnetic data processing was also done as part of the analysis. A more complete description of the techniques used by Condor to analyze the EM and magnetic data is given in their report (Witherly, 2009).

The Condor report states that there is in general low magnetic relief due to the lack of intrusive or volcanic rocks but that enhancement of the data may be showing subtle aspects of the regional geology such as faults or thin lithologic units. In particular, an intense low at the southeast limit of the survey area could possibly represent a covered intrusive body.

Processing and analysis of the EM data focused on Channel 1 amplitude response and the AdTau outcomes. The Channel 1 response reflects the shallow EM response whereas the AdTau reflects the areas of strongest response whether shallow or deeper. The Channel 1 data shows a large, coherent response over the Clear Lake deposit. A similar Northwest-southeast trending formational style conductor is present at the north end of the survey area, north of the Tintina Fault. By contrast the AdTau image does not show a response associated with the Clear Lake deposit apart from a pronounced low indicating the NW-SE linear along which the deposit is located. Condor concludes that the shallow Channel 1 and deeper AdTau responses are reflecting significant changes in the conductivity with increased depth (Witherly, 2009).

As part of the analysis, Condor assessed four target areas, three identified by Copper Ridge as described in the previous section and a fourth selected by Condor. Interpretation of the Channel 1 and AdTau responses over the target areas suggests the most prospective of the three Copper Ridge targets is Target 2 which is located south of the Clear Lake deposit (Witherly, 2009). The fourth target, identified by the analysis done by Condor, is located northwest of the Clear Lake deposit and is interpreted to be a modest conductive body dipping to the north. Historical work in this area has also defined both geochemical and geophysical anomalies (Max Min conductors). Apparently no drilling has been done in this area and follow up work in the form of drill-testing was therefore recommended. Drill testing of Targets 1 and 2 was also recommended although these do not appear to be exact analogues of the Clear Lake deposit (Witherly, 2009).

10.2 Follow-up IP and Gravity Surveys in 2009

This section is based on information provided by Copper Ridge and is a summary of a report prepared by Aurora Geosciences Ltd. of Whitehorse (“Aurora”) for Copper Ridge (Hildes, 2009).

Previous workers had determined that gravity was the best surface exploration tool for Clear Lake style mineralization, followed by IP, which is effective particularly around the perimeter of the deposit (Carlson, 2009). Aurora was contracted to conduct IP and gravity surveys over each of the three targets areas and consisted of three lines over Targets 1 and 2 and a single line over Target 3. This work was performed between July 17 and August 14, 2009 (Hildes, 2009). The following is a summary of the findings.

10.2.1 Target 1

Target 1 is the highest priority target that coincides with previously defined gravity, IP and electromagnetic anomalies, also known historically as “Area 16” or “Grid 5”. Previous work has identified two gravity anomalies in this area. The southernmost of these is believed to be caused by a bedrock high, but the northern anomaly has been interpreted to be caused by sulphides (Basnett, 1990). This 0.5 milligal anomaly has coincident HLEM and IP chargeability anomalies. It has been tested by one drill hole, which did not reach bedrock. Overburden is believed to be 30 to 40 m thick in this area. The preliminary interpretation of the 2008 VTEM anomaly by Condor suggests the EM response at Target A is caused by a flat-lying, weak conductor, possibly disrupted by a shallow fault, at a depth of about 150 m (Figure 10.6 and Figure 10.7). This anomaly could represent a massive sulphide body similar to Clear Lake.

The 2009 surface geophysical program demonstrated a correlation between the VTEM conductor, a gravity anomaly and both chargeability and resistivity responses from the 2009 IP survey. On L2200E, a broad gravity anomaly, with a width of 750 m (from station 250 to 1000N – vertical bars in Figure 10.7) has an amplitude of approximately 1 mGal. It is coincident with a VTEM imaged conductor and on the flank of a strong chargeability (40 mV/V) response to the south-west. At Clear Lake, the highest chargeabilities typically occur on the flank of the massive sulphide body.

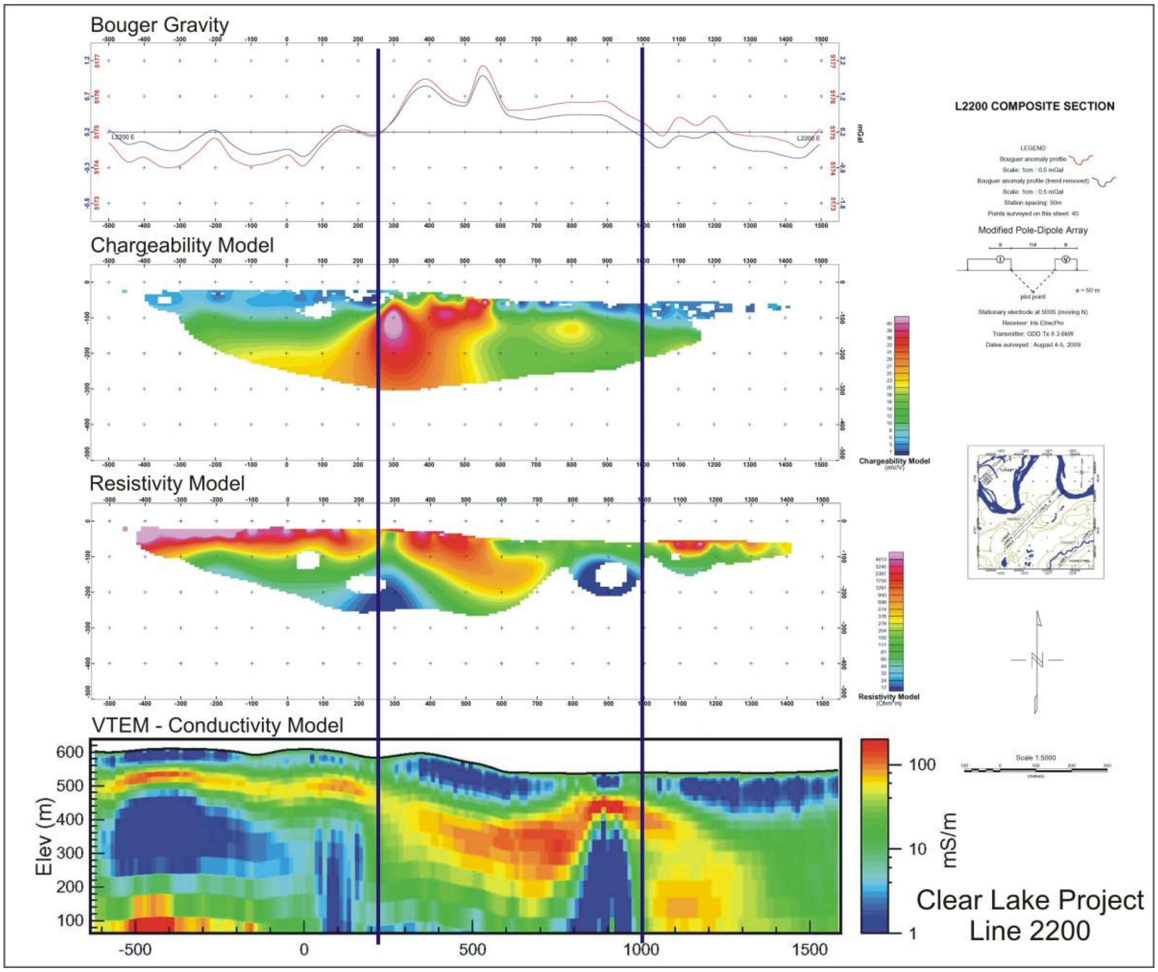


Figure 10.6: Target area 1, L2200E Gravity Profile, Modeled Chargeability, Resistivity and VTEM Conductivity

The conductor is too deep to be imaged well with the ground DC resistivity survey. There are two smaller scale Bouguer gravity anomaly features, each 0.5 mGal in amplitude, within the broad high but the spatial wavelength (100 m) is too small to be attributable to the deep conductor. The gravity/VTEM feature could be a flat-lying sulphide body, similar to Clear Lake, at a depth of 200 to 300 m. On the other hand, the short wavelength gravity features and IP chargeability appear to reflect a smaller, shallower source.

On the adjacent L2300E (Figure 10.7), a 0.8 mGal Bouguer anomaly is open to the north. Coverage on this line was curtailed due to swampy ground conditions. A smaller scale Bouguer anomaly (100 m) of 0.7 mGal amplitude is within the broader anomaly and is coincident with a modest chargeability feature (19 mV/V). The profiles on this line appear to be reflecting similar geology to L2200E, but with less intensity.

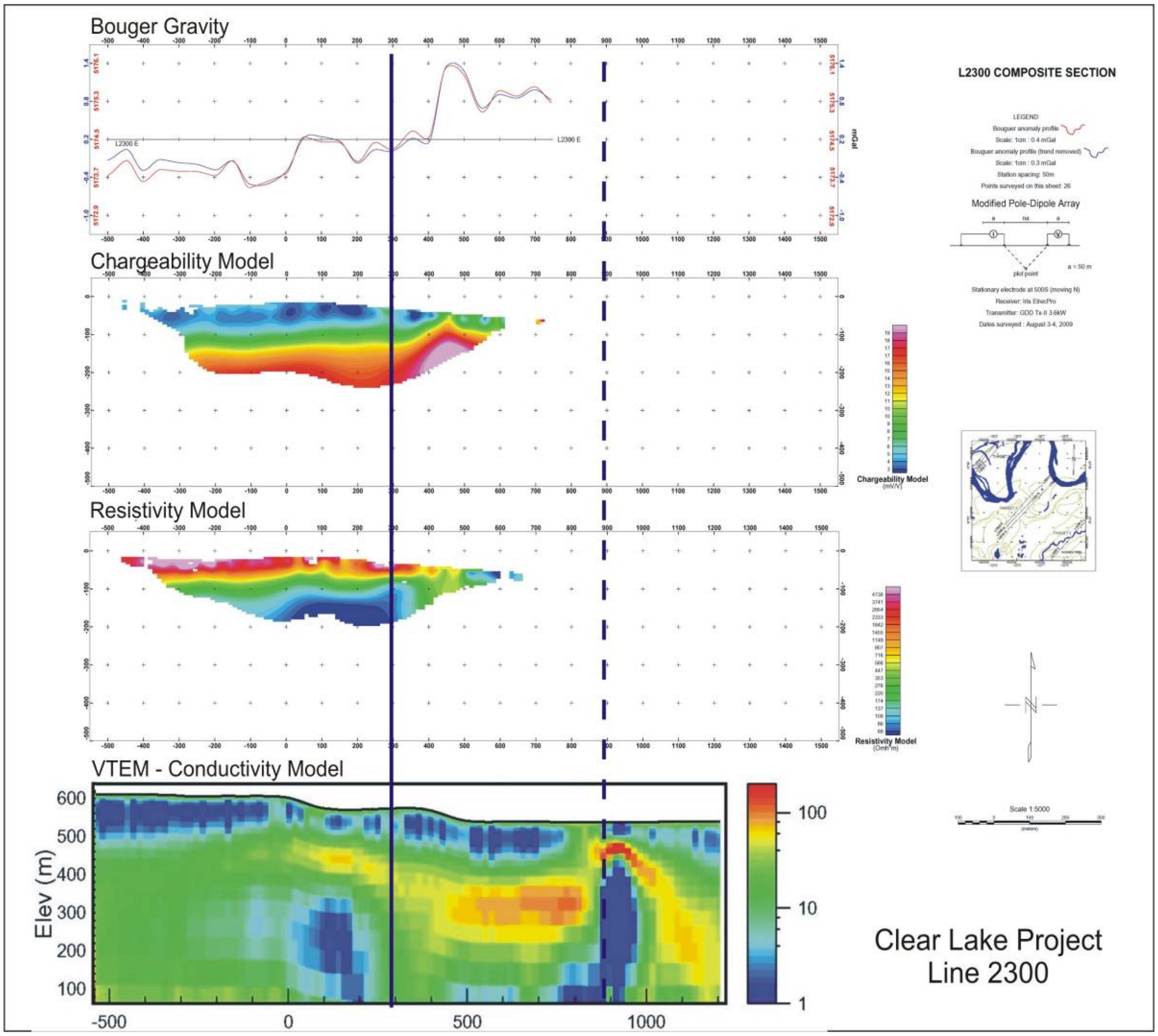


Figure 10.7: Target area 1, L2300E Gravity Profile, Modeled Chargeability, Resistivity and VTEM Conductivity

10.2.2 Target 2

Target 2 is of interest because it occurs where no previous exploration has been reported, yet it is on strike with the Clear Lake stratigraphy and it occurs near a zinc-rich gossan along the bank of the Pelly River. Like Target 1, the anomaly lies on low, flat ground adjacent to the Pelly River. Initial interpretation of the VTEM survey (Witherly, 2009) outlined a gently dipping, monoclinal style fold with the strongest conductivity on the southwest side of the fold (Figure 10.8). A second discrete conductor is detected beneath the first. It was also noted that the VTEM data suggests that this is an area of structural complexity.

On L0E (Figure 10.8), a 1.9 m Gal Bouguer anomaly, width of 400m is coincident with a chargeability of 20 mV/V and is immediately northeast of the conductive feature mentioned above, as imaged by both the ground DC resistivity and the airborne VTEM. A smaller 100 m width, 0.6 mGal Bouguer anomaly is within the broader high.

To the northwest of the smaller scale gravity feature, the chargeability reaches a high of 35 mV/V, comparable to the strongest chargeability on the fringes of the Clear Lake massive sulphide body.

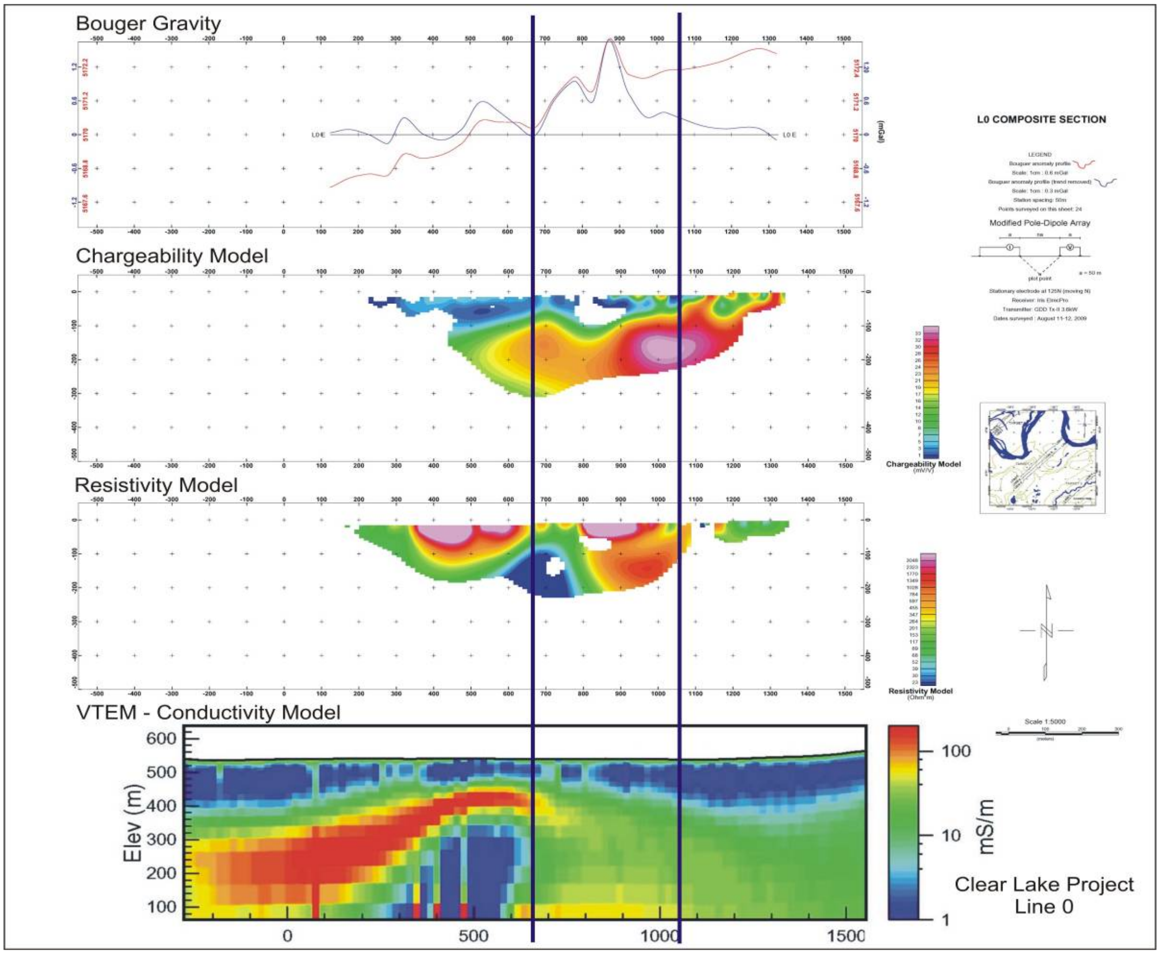


Figure 10.8: Target area 2, L0E Gravity Profile, Modeled Chargeability, Resistivity, and VTEM Conductivity

On the adjacent L100E (Figure 10.9), 0.35 m Gal Bouguer anomaly with width of 150m is coincident with a 25 mV/V chargeability anomaly, both of which flank a conductor as imaged by both the ground DC resistivity and the airborne VTEM. The chargeability anomaly is modeled at a depth that would be consistent with the spatial wavelength of the gravity anomaly. This is a similar response to L0, but weaker.

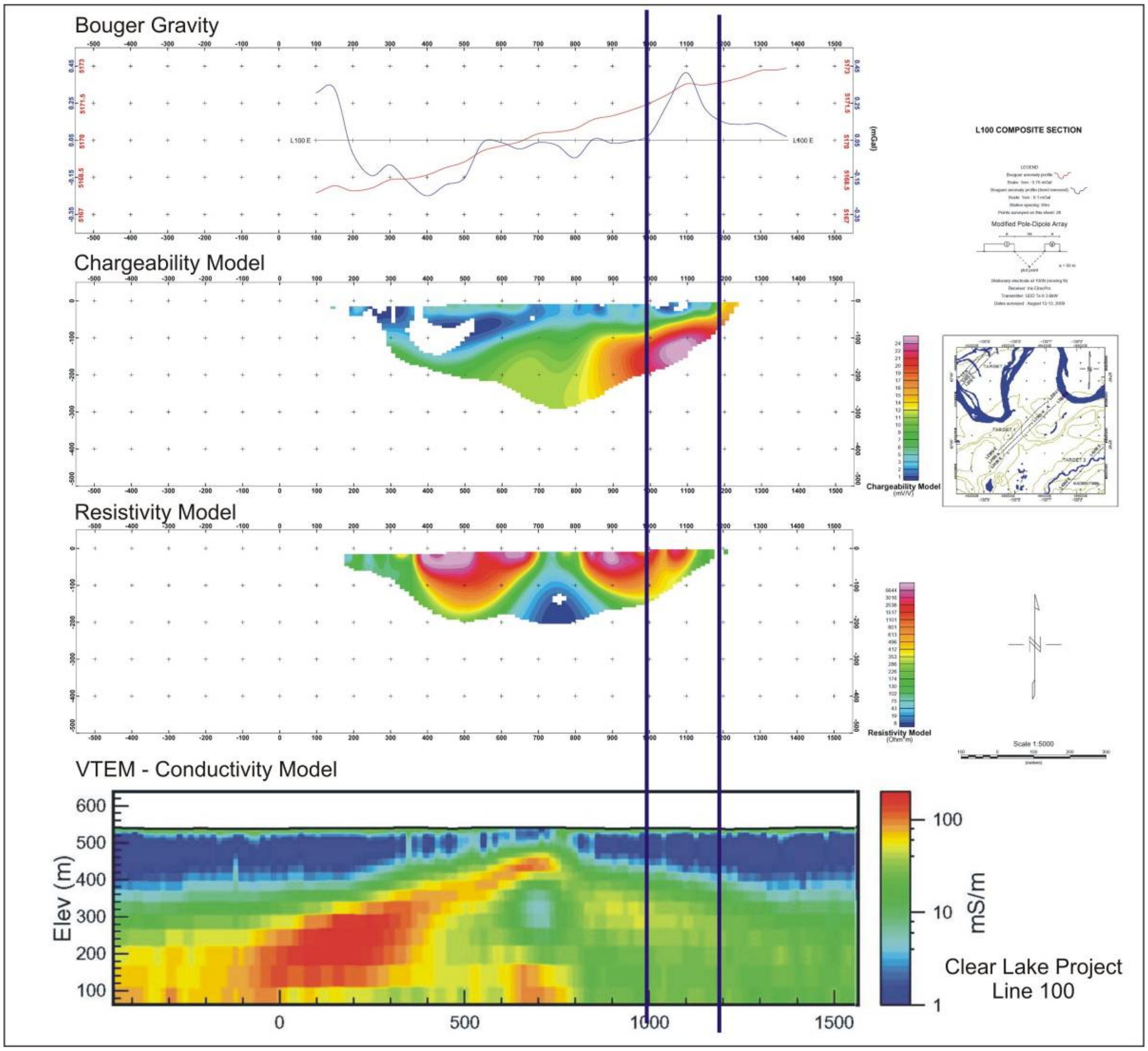


Figure 10.9: Target area 2, L100E Gravity Profile, Modeled Chargeability, Resistivity and VTEM Conductivity

10.2.3 Target 3

The original VTEM interpretation suggested a thrust, with a less conductive plate being thrust over the more conductive southern plate (Figure 10.10). However, this picture is complicated by a circular magnetic low partially overlapping the conductive feature, offset slightly to the west. It is also noted that the conductive feature has a limited strike extent – approximately 400 x 600 m.

On the L4200E profile, a well defined, 1.4 mGal gravity anomaly is centred at station 200N, over the strongest portion of the VTEM conductor. A strong chargeability anomaly (+40 mV/V), with a coincident resistivity low, is centred at 850N, well outside the gravity anomaly and coincident with the interpreted thrust. The chargeability-resistivity feature may reflect a buried intrusive with disseminated metallic mineralization, at a depth of 200-250m. The coincident gravity-VTEM feature potentially reflects a flat-lying massive sulphide deposit at a depth of about 300 m.

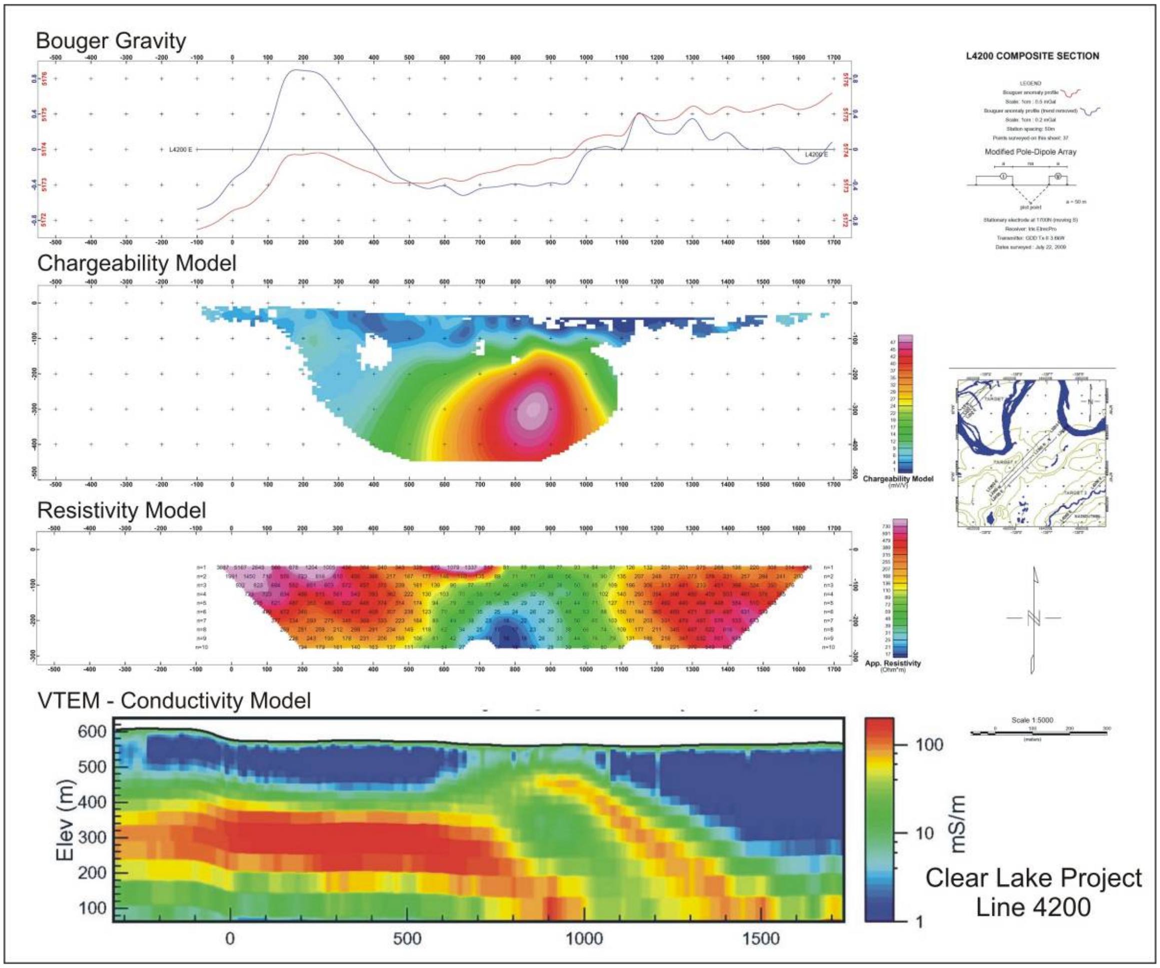


Figure 10.10: Target area 3, L4200E Gravity Profile, Modeled Chargeability, Resistivity and VTEM Conductivity

11 Drilling

Clear Lake was first explored in 1965. Drill programs in the late 1970's, 1980's and the early 1990's have included a total of 18,219 m in 71 drill holes. Location of drill holes that targeted the main massive sulphide body are shown in Figure 11.1. All drilling carried out prior to 1990 was BQ (36.3 mm) in size and the core size was increased to NQ (47.6mm) in 1990 and logging was done in metric as opposed to the older holes which were all logged in Imperial units.

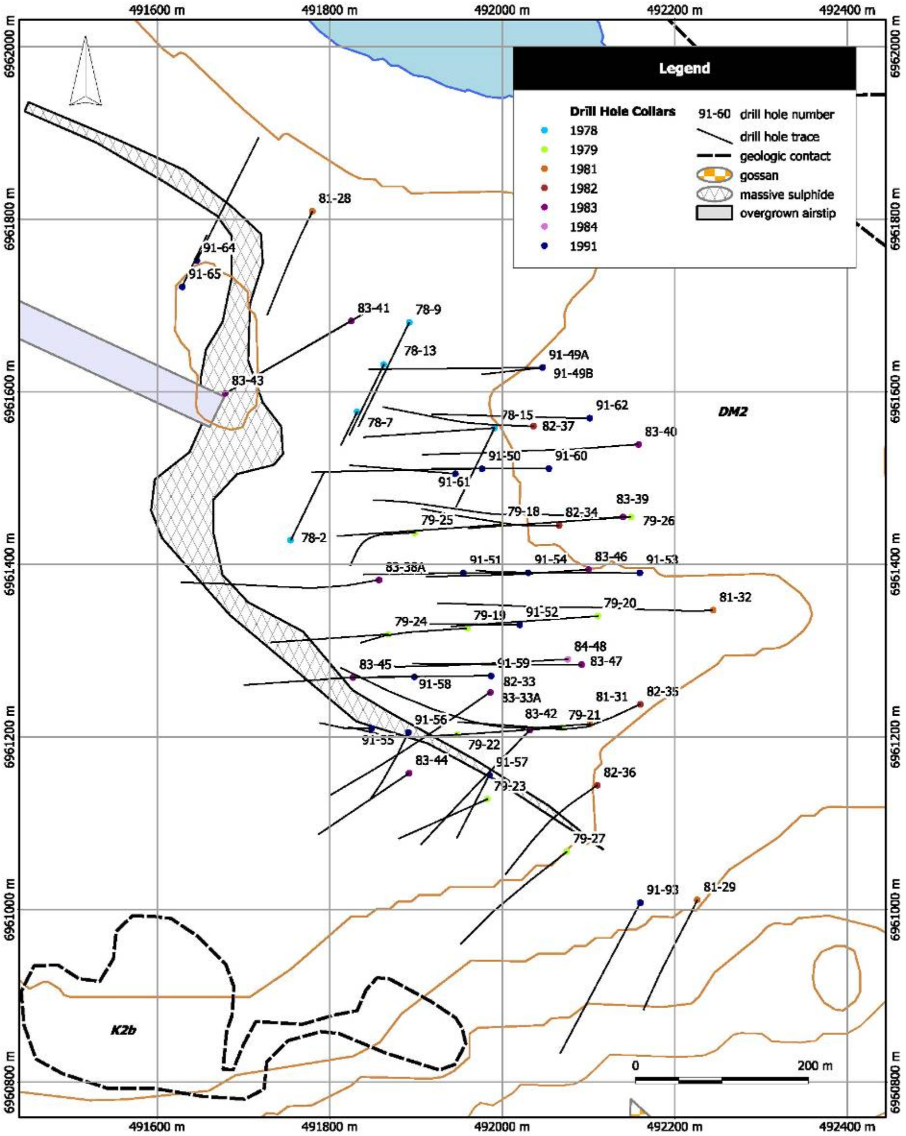


Figure 11.1: Drill hole Plan, Clear Lake Deposit

Table 11.1 is a summary of significant drill hole intersections using a cut-off grade of 5% combined Zn+Pb.

Table 11.1: Significant drill hole Intersections (> 5% Zn + Pb)

Drill Hole	From (m)	To(m)	Width (m)	Zn (%)	Pb (%)	Ag(gpt)
78-07	32.6	36.6	4.0	9.99	4.51	70.01
78-14	114.9	118.9	4.0	11.55	0.47	7.30
78-15	99.5	103.8	4.3	6.81	0.90	14.20
78-15	204.2	206.4	2.1	6.35	0.70	31.56
79-18	171.3	175.9	4.6	4.92	1.38	9.89
79-18	196.6	202.7	6.1	5.35	0.71	9.68
79-18	208.8	214.9	6.1	4.84	0.52	13.20
79-19	121.6	132.6	11.0	5.64	1.56	21.98
79-19	151.8	156.1	4.3	4.55	1.40	12.24
79-19	160.0	163.1	3.1	4.70	0.89	17.20
79-19	206.4	221.0	14.6	16.06	1.91	51.91
79-20	315.2	319.7	4.6	10.34	6.32	48.81
79-20	330.7	335.0	4.3	9.95	12.22	105.76
79-20	336.4	338.9	2.6	18.42	0.92	46.88
79-22	215.5	218.5	3.1	5.17	0.66	13.59
79-23	56.4	59.4	3.1	7.47	0.35	19.69
79-23	62.5	67.1	4.6	7.31	0.59	19.38
79-23	68.6	74.7	6.1	6.75	0.69	13.29
79-23	82.3	85.3	3.0	4.55	0.96	11.56
79-24	113.7	117.0	3.4	4.86	0.82	9.05
79-24	133.2	138.7	5.5	8.48	1.20	30.93
79-24	141.7	145.1	3.4	6.18	1.03	19.21
79-27	53.0	56.1	3.0	9.04	0.61	11.65
81-31	293.5	306.9	13.4	10.05	0.85	27.92
81-31	332.5	336.2	3.7	10.02	0.96	32.64
82-34	180.8	183.5	2.7	7.78	0.22	3.68
82-34	253.3	257.9	4.6	5.01	1.31	18.44
82-34	266.1	268.5	2.4	25.30	0.63	71.93
82-34	269.1	271.9	2.7	6.03	0.47	31.74
82-37	218.5	221.6	3.1	6.25	1.61	17.97
82-37	230.7	234.1	3.4	11.88	0.60	28.34
82-37	243.2	246.3	3.1	4.81	0.78	10.00
82-38	108.8	114.9	6.1	4.78	0.60	14.53
83-44	37.8	42.7	4.9	4.57	1.05	8.67
83-44	44.2	59.4	15.2	9.02	0.97	37.63
83-44	71.6	80.8	9.1	8.94	1.36	25.84
83-44	82.3	85.3	3.0	8.73	0.74	41.88
83-45	85.0	88.7	3.7	5.32	1.31	10.14
83-45	97.5	100.6	3.0	8.25	1.05	26.25
83-46	285.6	288.8	3.2	9.95	1.72	25.10
83-46	290.2	319.1	29.0	14.13	2.24	36.45
83-47	313.9	320.2	6.3	20.96	8.33	101.01
91-50	83.7	86.8	3.1	17.83	0.93	18.76
91-50	157.0	166.0	9.0	9.04	1.07	24.94
91-50	183.0	185.0	2.1	7.23	0.94	12.89

Drill Hole	From (m)	To(m)	Width (m)	Zn (%)	Pb (%)	Ag(gpt)
91-50	194.8	198.6	3.8	10.05	1.75	9.53
91-50	200.0	202.1	2.1	5.59	1.52	7.34
91-51	144.3	146.3	2.0	4.63	1.29	10.38
91-51	166.0	169.3	3.3	7.83	2.40	15.54
91-51	207.3	210.8	3.5	8.83	2.25	39.47
91-52	215.5	219.4	3.9	7.86	1.94	27.53
91-52	221.4	223.4	2.0	4.86	1.30	22.88
91-52	231.4	233.4	2.0	4.94	1.41	23.39
91-52	243.7	247.7	4.0	6.53	1.24	18.67
91-54	223.4	230.3	6.9	12.50	2.00	42.25
91-54	230.7	235.8	5.1	6.39	0.80	27.28
91-54	240.5	243.5	3.0	7.94	0.80	25.65
91-54	244.0	246.0	2.0	11.35	0.94	48.24
91-55	56.9	60.6	3.7	6.30	0.45	6.40
91-56	94.2	99.3	5.1	11.00	0.47	12.68
91-56	99.9	102.9	3.0	10.28	0.82	10.44
91-56	103.7	105.9	2.2	15.24	0.44	16.33
91-56	106.7	110.0	3.3	7.87	0.79	17.57
91-56	134.0	136.0	2.0	8.13	0.76	22.53
91-56	148.0	153.9	5.9	5.30	0.78	16.71
91-58	143.9	147.6	3.7	6.23	1.37	14.59
91-58	161.2	164.9	3.7	5.13	0.77	10.71
91-59	235.2	238.9	3.8	14.64	1.18	53.48
91-60	225.7	228.2	2.5	4.99	1.64	11.74
91-60	241.2	243.5	2.3	6.98	0.69	18.42
91-60	250.3	253.2	2.9	6.64	0.74	12.20
91-61	121.5	124.0	2.5	6.16	1.32	16.64

Most of the drilling has been oriented to intersect the mineralized zone as orthogonal as possible thereby resulting in drill intercepts that are close to true width, however, because of the sigmoidal shape of the deposit, several of the drill hole intercepts do not represent true thicknesses.

12 Sampling Method and Approach

Work completed on the Clear Lake property is described in the various assessment reports and internal reports cited in the reference section. A review of these reports suggests that rock samples collected from the property were either random grab samples or chip samples over a specific width. With respect to the various drilling programs examination of the core remaining on the property indicates that only the mineralised intervals were split and sampled. Examination of drill logs indicates the mineralized core was sampled in intervals ranging from 0.03 m to 9.75 m, with a median length of 1.5 m. The length of sample intervals appears to have been determined by the amount and type of sulphide present with shorter intervals taken within the massive sulphide zone.

All of the pre-1990 drilling was sampled in 5 foot intervals (1.52m) or in 10 foot intervals if the core was deemed to be only weakly mineralized while the all of the 1990 drilling was sampled on 1or 2 m intervals.

From an examination of the core stored at the property, drill recoveries appear to have been excellent even with the smaller BQ core for which recoveries were well above 90%.

13 Sample Preparation, Analyses and Security

There is little information available regarding sample preparation, analyses and security for the historical work done on the property. Since most of the work was done by professional geoscientists employed by the property operators it is assumed that work was done following recognized best practices applicable at the time. Analytical certificates, where included in reports describing drill results, indicate that drill core analyses were done by commercial laboratories using the best techniques available at the time. While no data is available on the levels of quality controls used during the drilling programs, several drill intersections have been assayed by a variety of companies over the years and while the results are not available, a report by Basnett and Zuran indicated that at least some of the 1991 drill results assayed at Northern Analytical Laboratories were checked at Bondar Clegg in North Vancouver. The check assay program, probably carried out on pulp duplicate agreed very well as indicated in Figure 13.1 to Figure 13.3.

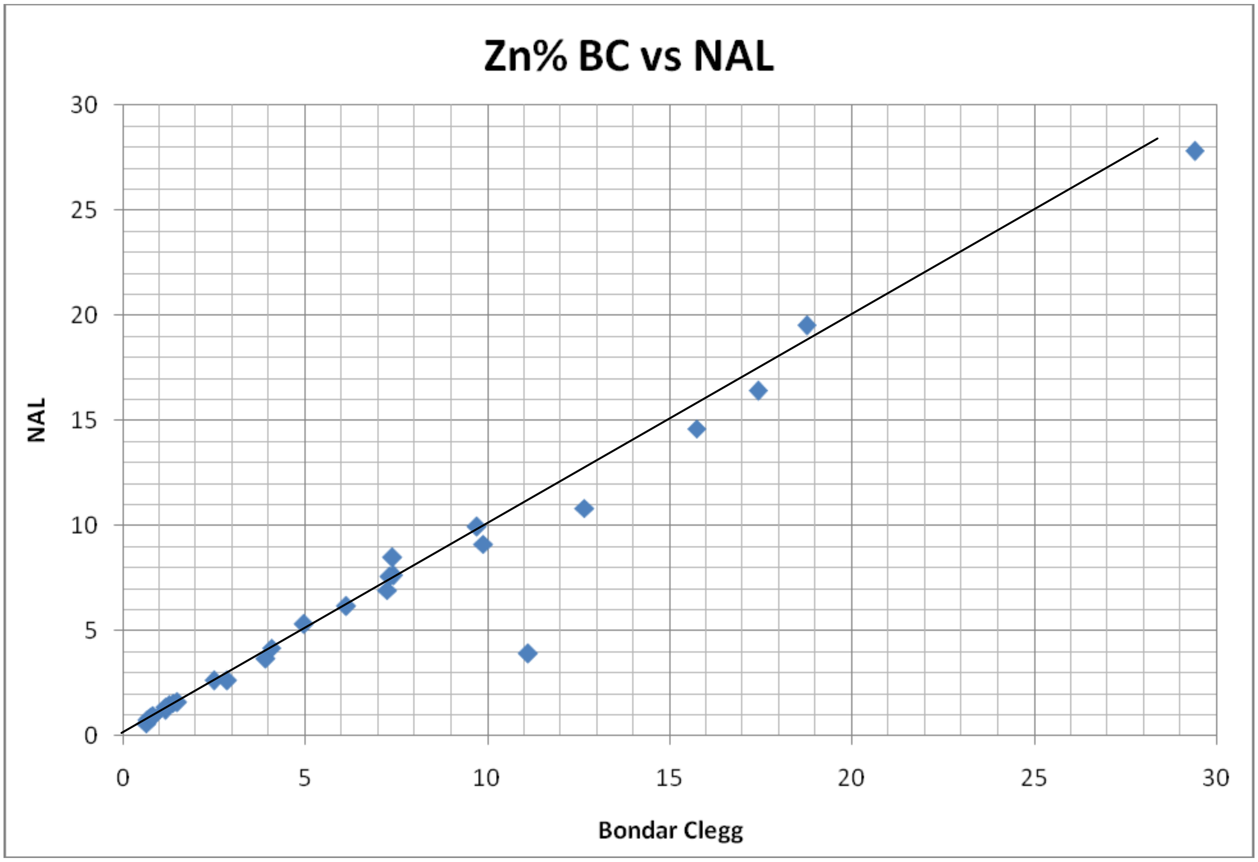


Figure 13.1: Check Assays Zn% Bondar Clegg versus NAL

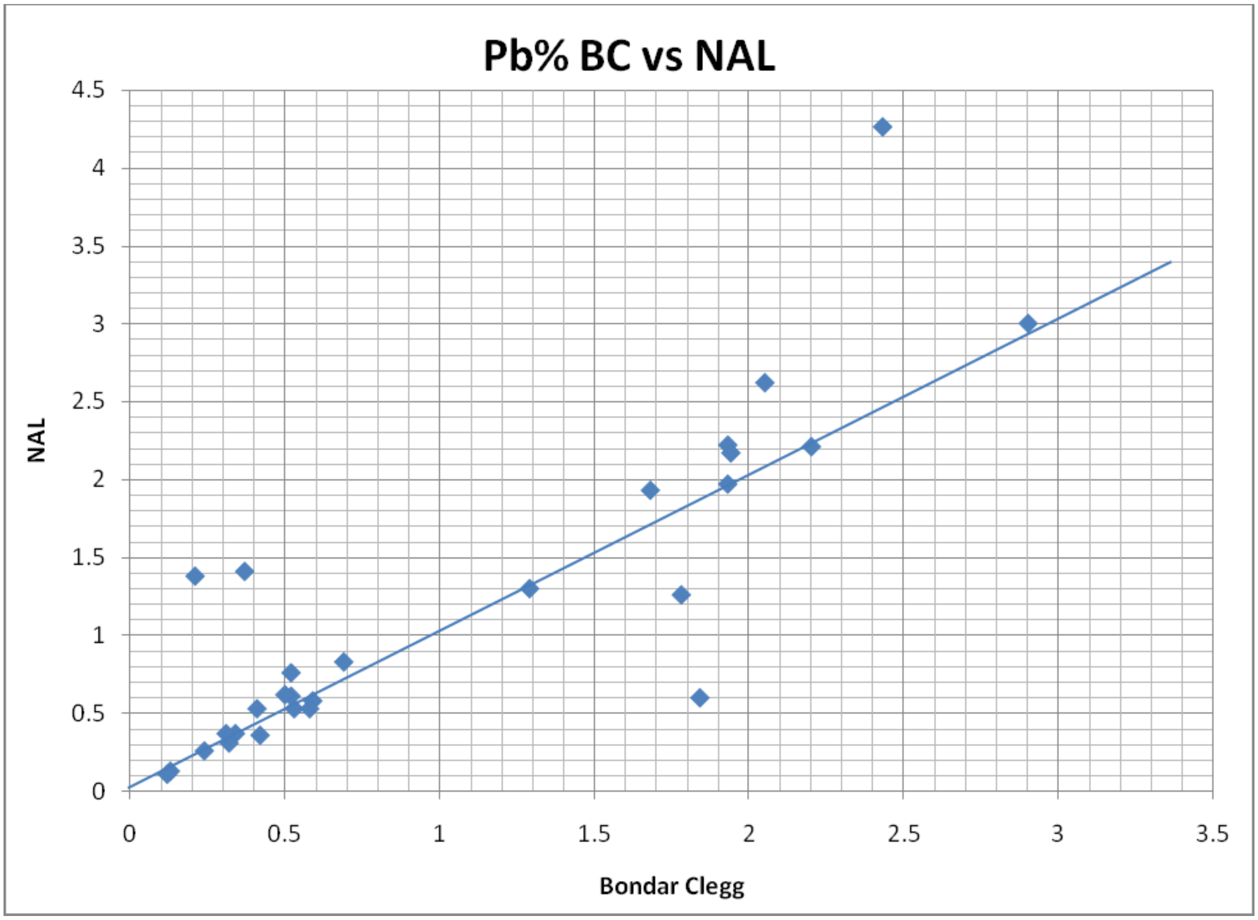


Figure 13.2 Check Assays Pb% Bondar Clegg versus NAL

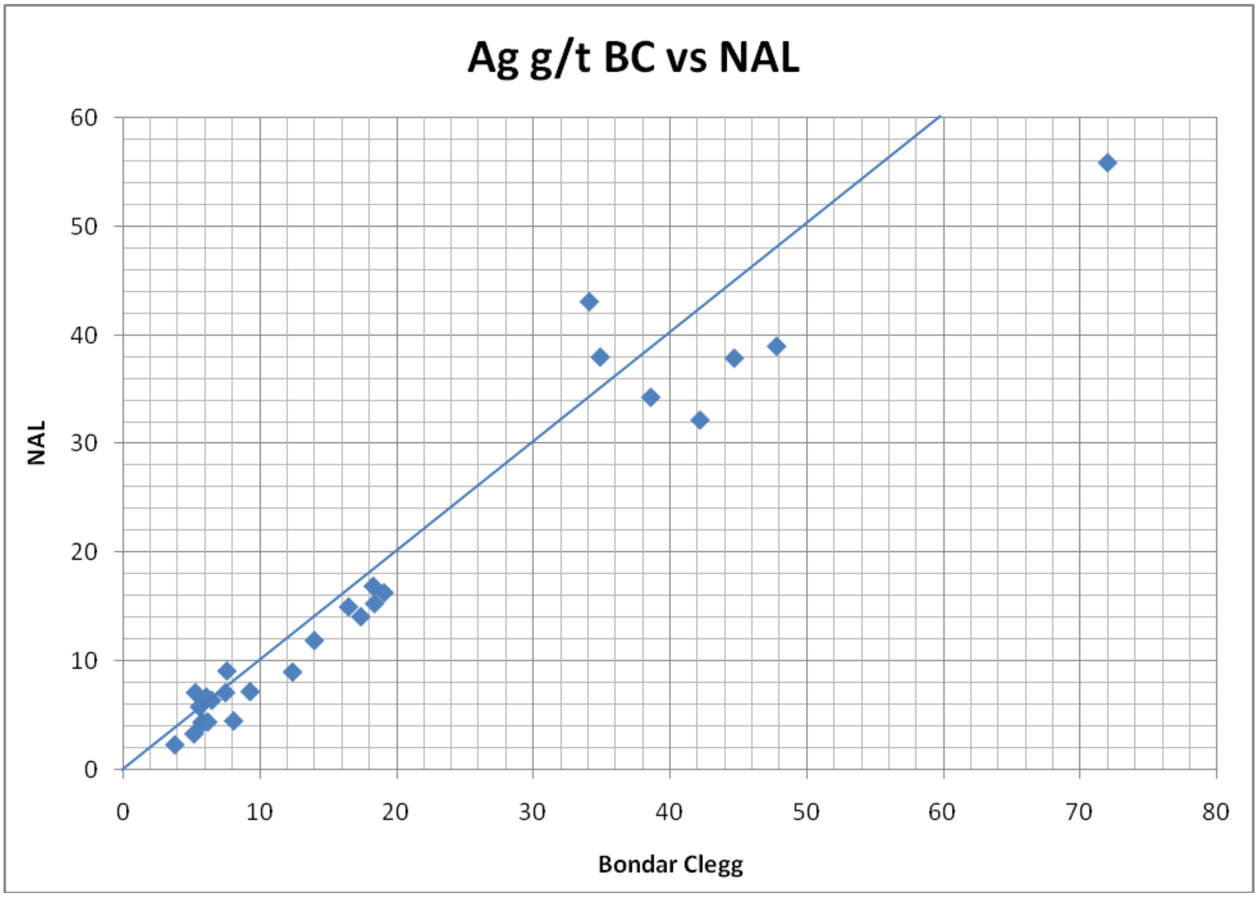


Figure 13.3 Check Assays Ag g/t Bondar Clegg versus NAL

14 Data Verification

As previously mentioned, few of the original analytical certificates for the drilling done between 1978 and 1991 are available for review, however, SRK was able to locate photocopies of all the assays for the 1991 drilling and a portion of the 1978 drilling. The digital assay database contains 1,846 assay records comprising 5,538 assay values. Copies of 819 assay records containing 2,457 assay values were located and validated against the electronic database. In all only 61 assay values (2.5%) were incorrectly entered in the database and had to be corrected. Most errors were minor and not material, most were incorrectly entered lower detection limits. SRK is of the opinion that the level of errors is acceptable for resource estimation and not significant considering the age of the data and the number of past owners involved with the project.

In order to further verify the grade of mineralization reported for the massive sulphide zone, two samples of massive sulphide were collected by D. MacIntyre on June 24, 2008 from the core boxes stored at the old Clear Lake campsite and 11 samples were collected by G. Arseneau during the September 2009 site visit.

The ICP certificate of analysis for these samples is included in Appendix A. Table 14.1summarizes the results for the samples collected during the June 24, 2008 site visit and Table 14.2 summarizes the results of the samples collected during the September 2009 site visit. The analytical results of both sampling campaigns confirm the presence of moderate to high grade Zn, Pb and Ag in the drill core and correlate well with the results of the previous drill programs.

Table 14.1: Analytical Results of Samples Collected by D. MacIntyre

		WGHT	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Fe %	As PPM	Cd PPM	Sb PPM	Ca %	Ba PPM	Hg PPM
	MDL	0.01	0.5	0.5	5	0.5	0.01	5	0.5	0.5	0.01	5	0.05
67651	Drill Core	0.62	131.4	25398	176898	18	3.73	23	832.5	17.5	1.13	273	24.42
67652	Drill Core	0.5	4.9	902.2	1237	2.8	38.04	55	4.4	11.5	5.68	51	14.02

Sample 67651 was collected from the high grade zone and contained 17.7% Zn, 2.5% Pb and 18 grams per tonne Ag. This sample also had anomalous Cd and Ba concentrations. Sample 67652 was from the massive pyrite zone and contained 0.09% Pb, 0.12% Zn and 2.8 grams per tonne Ag.

The 11 samples collected by SRK agree very well with the original assay data as outlined in Table 14.2.

During the site visit, the authors observed that most of the core boxes for the 1991 drilling were in good condition with metal tags affixed to each core box indicating drill hole number and start and finish of core interval (figure 14.1, Plate 2).

Efforts were made during the site visit to locate drill collars. Location was difficult as the area is now covered with thick underbrush and mostly overgrown, however, three drill hole collars were located in the field and it was verified that their locations corresponded with the data entered in the digital database.

Table 14.2: Analytical Result of Samples Collected by G. Arseneau

	Original Data					SRK Check Samples			
HOLE-ID	**FROM_FT**	**TO_FT**	**ZN%**	**PB%**	**AGGPT**	**SAMPLE**	**Zn%**	**Pb%**	**Ag GPT**
81-31	983	988	10.68	1.39	28	C048158	11.20	1.71	40
81-31	988	993	12.22	1.22	38	C048159	10.85	1.39	42
82-34	865	870	2.15	0.45	12	C048160	2.13	0.57	11
82-34	873	876	26.20	0.50	69	C048161	14.30	0.41	55
82-34	593	598	9.48	0.23	4	C048162	10.75	0.22	6
82-37	757	761	6.92	0.50	15	C048163	6.25	0.30	15
83-46	967	970	5.68	2.02	16	C048164	9.02	2.28	30
83-46	970	975.5	26.10	2.58	40	C048165	25.40	3.61	52
79-27	174	181	4.53	0.56	10	C048166	6.13	0.37	10
79-24	365	373	1.63	0.47	6	C048167	1.61	0.47	6
79-24	373	378	4.70	0.87	2	C048168	3.76	0.73	9

Figure 14.1: Plate 2 1991 Drill Core stored at Clear Lake

(Photo by D. MacIntyre, June 24, 2008)

15 Adjacent Properties

There are no significant mineral properties in the vicinity of the Clear Lake deposit. A number of small showings are indicated on the Yukon Government Minfile maps but none of these are currently staked.

16 Mineral Processing and Metallurgical Testing

The following information is extracted from a report by Winckers (2008).

16.1 Introduction

Arthur H Winckers & Associates were requested by Copper Ridge to review two metallurgical studies performed at Lakefield Research on behalf of previous owners; these studies on drill core reject samples were conducted under the following project numbers:

Project No.L.R.2251; March 1980 for Conwest Exploration Company Ltd

Project No.L.R.4046; November 1990 for Strathcona Minerals

The conclusions drawn from the results of these studies are very preliminary in nature as they are based on the unproven assumption that the composite tested in Project L.R 4046 was representative of the Clear Lake mineralization. The head grade of Project L.R.2251 composite is much lower than the geological resource grade of the deposit; the results of this study are therefore not considered in this review.

16.2 Mineralization and Mineralogy

Clear Lake is described as a shale-hosted stratiform SEDEX massive sulphide Zn-Pb-Ag deposit with an average geological resource grade of 11.4% Zn, 2% Pb and 38 g/t Ag (Hawke, 1985). Zinc-lead –silver mineralization occurs mainly in the central and foot wall sections of the pyritic massive sulphide layer; lenses of siliceous rock are found to be contained in or inter-fingered with the massive sulphides. A “tuff-barite zone” located in the hanging wall of the massive sulphide zone contains a zinc-lead mineral horizon.

About 50 % of the galena occurs as fine grained inclusions and fraction fillings in pyrite; the balance as (15-50micron) free grains which may contain inclusions of pyrite and sphalerite.

About 70 % of the sphalerite occurs as middlings with galena (30%), silicates (15%) and pyrite (25%), 15 % occurs as inclusions in pyrite and galena and only 15 % was estimated to be liberated.

16.3 Metallurgical Samples

The head grades of the two composites tested are shown in Table 16.1; there are significant differences in head assays between these composites.

Information on diamond drill holes and intervals used for the preparation of the composites is not available; neither is it known if mineralization from the “tuff-barite” zone was included. It should be noted that the oxide lead content of the project L.R.2251 composite is very high in relative terms but that its metal content is much lower than the estimated resource grade. The extent to which these composites are representative of the Clear Lake zinc-lead mineralization is not known.

Table 16.1 Head Grade of Metallurgical Samples

Clear Lake Composite Head Grades					
Project #	**Pb%**	**Pb-ox%**	**Zn%**	**Ag g/t**	**Fe%**
L.R.2251	0.74	0.35	4.3	17	36
L.R.4046	3.30	0.6	9.7	50	24

16.4 Results of Metallurgical Studies

The low overall head grades and high relative lead oxide content of composite L.R. 2251 makes the results of tests on this composite somewhat irrelevant unless this type of mineralization is more important than expected.

The results of this study indicate that:

- A primary grind finer than 80 % minus 200 mesh is likely required.
- The lead-zinc mineralization responds to conventional flotation conditions and reagent protocols
- The lead recovery is very poor, not unexpectedly, at about 15 % to a concentrate grading 61 % Pb.
- A zinc concentrate containing 60 % zinc can be produced
- Further test work is required to optimize conditions.

The head grade of composite L.R. 4046 is more in line with the estimated resource grade. Primary grind and regrind requirements were explored as well two alternate reagent schemes in batch rougher and cleaning tests. Most of the tests were done at a primary grind level of 75 % passing 400 mesh or 37 micron; this a very fine primary grind. The lime cyanide system gave the best lead metallurgy; zinc flotation reagents were the conventional combination of lime and copper sulphate. The results of the final test using the above indicated reagent systems are summarized in Table 16.2 below.

Table 16.2: Final Results of Test L.R. 4046

L.R. 4046 Tests -8 Results							
	Wt %	Assays, %, g/t			Distribution %		
		Pb	Zn	Ag	Pb	Zn	Ag
Pb Cleaner Conc.	4.0	53.9	6.7	352	68.8	2.8	27.2
Pb Rougher Conc.	12.5	21.1	9.2	165	85.1	12.1	40.2
Zn Cleaner Conc.	15.1	0.9	52.1	110	4.6	83.2	32.3
Zn Rougher Conc.	24.1	0.9	33.1	78	6.8	84.4	36.8
Zn Rougher Tail	61.6	0.37	0.39	28	7.3	2.5	21.6
Head-calc	100.0	3.1	9.45	51			

The following observations can be made from the results of this preliminary study:

- A very fine primary grind level was used; the requirement for a fine grind is indicated by the results of a mineralogy study
- The lead metallurgy is poor starting with a relatively low rougher recovery; the rougher concentrate is difficult to upgrade and contains high levels (25%) of pyrite. This may have to do with the type of pyrite present; colloform and framboidal types of pyrite mineral are difficult to depress.
- The zinc metallurgy is quite good with low rougher and cleaner tailings losses; the zinc cleaner concentrate is relatively low in grade due to a combination of a zinc mineral high in iron content (4-8%) and the presence of pyrite.
- The silver deportment is unfavourable with less than one third reporting to the lead concentrate.

Minor element analysis of the concentrates of one of the tests indicated relatively low levels the of potential penalty elements as indicated in Table 16.3.

Table 16.3: Minor Element concentrations in concentrates

Concentrate Minor Elements			
Element		Pb Conc.	Zn Conc.
As	%	0.013	0.005
Sb	%	0.08	0.01
Cd	ppm	30	260
Hg	ppm	35	33
Se	ppm	50	<50

16.5 Metallurgical Tests Conclusions

The review of Project L.R 4046 results leads to the following conclusions:

- The lead metallurgy is rather poor with a combination of low concentrate grade and recovery; a concentrate grade of 55% Pb with a 75 percent recovery may perhaps be achievable under optimized conditions.
- The silver recovery to the lead concentrate is low at less than 30 percent; the potential to improve this is believed to be relatively small. The silver mineralogy is not well understood. The concentration of silver in the zinc concentrate and various intermediate tailings streams offers the potential for incremental silver recovery by cyanidation.
- The zinc concentrate grade at 52 % is relatively low in part due the iron content of the zinc mineral; an 85 percent recovery may perhaps be achievable.
- The lead and zinc concentrates are relatively “clean” with relatively low penalty element concentrations.
- The potential to improve the metallurgy in particular that of lead and silver exists by optimizing the grind levels and reagent and or process conditions but is difficult to quantify.
- The ultimate metallurgical response of the ore is function of pay element concentrations and mineralogy.
- The requirement for further mineralogy and metallurgy studies on representative samples is clearly indicated.

17 Mineral Resource and Mineral Reserve Estimates

Mineral resources for the Clear Lake massive sulphide deposit were estimated by SRK using 3-dimensional block modelling software provided by Gemcom Software International Inc. of Vancouver, GEM version 6.2.2. Resources were estimated and classified by Dr. Gilles Arseneau (P. Geo.), Principal Consultant, Geology at SRK in Vancouver.

17.1 Exploratory Data Analysis

Data for the Clear Lake project was provided to SRK digitally in the form of an EXCEL spreadsheet containing drill hole locations in UTM coordinates, down hole surveys, assay data and abbreviated geological logs. Historical drill holes were located on UTM grid coordinates on the original drill logs. SRK verified the coordinate conversion by measuring and comparing the relative drill hole spacing in both UTM and local grid coordinates. SRK is satisfied that the coordinate transformation between local to UTM grid has been performed correctly.

17.1.1 Assay Data

The majority of the drilling on the property was performed twenty to thirty years ago and by operators other than Copper Ridge and, as a result, most of the assay records have been misplaced, lost or destroyed. Some photocopies of original assay certificates do still exist and were used by SRK to validate and verify the digital assay data used for resource estimation (see Section 14 of this report). SRK is of the opinion that the level of errors is acceptable for resource estimation and not significant considering the age of the data and the number of past owners involved with the project. There are a total of 1,842 assay records in the database representing 63 diamond drill holes and 13,168m of drilling. Descriptive statistics of all the assay records are presented in Table 17.1.

17.1.2 Composites

Assay values were composited to a fixed length of 3m to assure that all data were evenly weighted before block modelling interpolation. Composites were generated starting from the collar of the drill hole downwards and incorporated only the assays contained within the interpreted mineralized zones. Assay data that fell outside of the interpreted mineralized zone were not composited and not used during block model estimation.

Composite lengths that were less than 1.5 m were added to the previous composite interval to assure that all composites lengths were between 1.5 m and 4.5 m in length. Two composites shorter than 1.5 m were retained in the composited dataset to preserve the continuity of the mineralization between adjacent drill holes. A total of 176 composites were generated and used for block model estimation.

Table 17.1: Descriptive Statistics of Assay Data

Statistic	Length (m)	Zn (%)	Pb (%)	Ag (g/t)
Valid cases	1842	1842	1842	1842
Mean	1.52	2.69	0.46	7.43
Std. error of mean	0.02	0.10	0.02	0.31
Variance	0.53	17.41	1.07	178.55
Std. Deviation	0.73	4.17	1.03	13.36
Variation Coefficient	0.48	1.55	2.23	1.80
Rel. V. coefficient (%)	1.12	3.62	5.20	4.19
Skew	1.02	3.28	11.55	5.15
Kurtosis	2.08	14.83	193.05	41.68
Minimum	0.10	0.00	0.00	0.00
Maximum	6.71	39.00	22.32	169.06
Range	6.61	39.00	22.32	169.06
1st percentile	0.28	0.00	0.00	0.00
5th percentile	0.49	0.01	0.01	0.00
10th percentile	0.63	0.01	0.01	0.00
25th percentile	1.00	0.15	0.04	0.31
Median	1.52	1.22	0.22	3.05
75th percentile	1.81	3.49	0.57	9.38
90th percentile	2.85	6.78	1.03	17.81
95th percentile	3.05	10.39	1.57	28.75
99th percentile	3.35	20.67	3.30	68.39

17.1.3 Capping

Capping of high grade values to restrict their influence on the estimated block model resource was evaluated using decile analysis as defined by Parrish (1997). Because of the varying lengths between the 1970’s and 1990’s drilling campaigns, SRK decided to composite the assay values to a fixed length prior to capping. Based on the decile analysis, SRK decided to cap both lead and silver. Capping levels were determined by examining the frequency distribution, histograms of composited data for lead and silver. While the zinc histogram was skewed, there were no indications that significant outliers existed, therefore SRK decided not to apply capping to zinc values. Descriptive statistics of both the capped and uncapped composited data are presented in Table 17.2.

17.2 Bulk Density

No record has been found of bulk density data collected during the drilling at Clear Lake. Bulk density is an important component of the resource estimation process as the bulk density is applied to the interpreted volume of the mineralized body to calculate the in-situ tons.

To address the issue of missing bulk density data, Copper Ridge carried out in-field bulk density measurements on drill core stored at Clear Lake (Figure 17.1, Plate 3)(Photo by G. Arseneau during October, 2009 site visit)

Figure 17.1: Plate 3). A total of 43 field measurements were taken from mineralized core, results from these field measurements ranged from 2.87 t/m3 to a high of 4.9 t/m3 with the average of all measurements being 4.07 t/m3.

As a check of the validity of the field method of determining bulk density, ALS Chemex calculated the bulk density of the 11 check samples collected by SRK during the site visit prior to assaying, the bulk density determined by ALS Chemex agreed well with the values calculated in the field by Copper Ridge.

While the data are still sparse and limited, SRK determined that the average bulk density was sufficient to estimate an inferred mineral resource. SRK recommends that additional bulk density measurement be taken from existing drill core stored at the site and from all future drilling programs.

Table 17.2: Descriptive statistics of Capped and Uncapped Composites

Statistic	Length (m)	Pb (%)	Zn (%)	Ag (g/t)	Pb Cap (%)	Ag Cap (g/t)
Valid cases	176	176	176	176	176	176
Mean	2.89	1.18	7.09	21.20	0.98	20.24
Std. error of mean	0.04	0.11	0.37	1.43	0.05	1.19
Variance	0.30	2.19	24.18	357.47	0.42	250.25
Std. Deviation	0.55	1.48	4.92	18.91	0.65	15.82
Variation Coefficient	0.19	1.25	0.69	0.89	0.66	0.78
rel. V.coefficient(%)	1.42	9.42	5.23	6.72	5.01	5.89
Skew	-0.58	4.10	1.77	1.98	0.96	1.17
Kurtosis	1.86	18.97	4.77	5.07	0.37	0.70
Minimum	1.23	0.00	0.00	0.00	0.00	0.00
Maximum	4.47	10.55	31.96	119.74	2.50	60.00
Range	3.24	10.55	31.96	119.74	2.50	60.00
1st percentile	1.40	0.00	0.00	0.00	0.00	0.00
5th percentile	1.69	0.00	0.00	0.00	0.00	0.00
10th percentile	1.96	0.31	2.63	4.47	0.31	4.47
25th percentile	3.00	0.59	4.33	9.44	0.59	9.44
Median	3.00	0.84	5.98	15.70	0.84	15.70
75th percentile	3.00	1.21	8.52	26.50	1.21	26.50
90th percentile	3.27	2.21	13.20	47.42	2.21	47.42
95th percentile	3.80	2.89	18.25	63.17	2.50	60.00
99th percentile	4.42	9.59	27.96	90.30	2.50	60.00

(Photo by G. Arseneau during October, 2009 site visit)

Figure 17.1: Plate 3 In-Field Measurements of Bulk Density by Water Immersion Method

17.3 Geological Interpretation

The Clear Lake deposit is a massive zinc-lead sulphide body hosted within larger pyrite dominated massive sulphide body. The base metal grades, while concentrated in discrete lenses, are somewhat dispersed and the upper and lower contacts of the base metal mineralization is gradational in some cases. Accurate grade control would be essential in any attempts at mining the deposit, but given that the deposit is composed of coarse lead-zinc mineralization, it is very likely that visual estimates of grade by experienced staff would suffice in identifying mineralized sections from semi-barren pyritic waste rock. With this in mind, geological modelling of the base metal zone was carried out on vertical sections spaced 25 m apart using two separate grade cut-offs as modelling parameters, a 3% (Pb+Zn) and a 5% (Pb+Zn) cut-off. The sectional interpretations were checked using plan views spaced at 20m intervals. The mineralized body was modelled by drawing 2-dimensional polygons on sections. The polygons were designed to enclose all assays greater than 3% (Pb + Zn) for the lower grade envelope and 5% (Pb+Zn) for the higher grade envelope. A (Pb+Zn) field was generated in the assay database by adding the Pb% to the Zn%. The polygons were then linked in a 3 dimensional solid using manual tie lines to generate a solid of the mineralized envelope. The solids are such that the 5% (Pb+Zn) is entirely enclosed within the 3% (Pb+Zn) solid, as would be expected. Each solid was evaluated using block modelling estimation as describe below. Separate models were prepared for each of the interpretations.

Both solids were compared and validated against previous estimates prepared by Hawke (1985).

17.4 Spatial Data Analysis

Geostatisticians use a variety of tools to describe the pattern of spatial continuity, or strength of the spatial similarity of a variable with separation distance and direction. The correlogram measures the correlation between data values as a function of their separation distance and direction. The distance at which the correlogram reaches the maximum variance is called the “range of correlation” or simply the range. The range of the correlogram corresponds roughly to the more qualitative notion of the “range of influence” of a sample or composite; it is the distance over which sample values show some persistence of covariance.

Using Sage 2001 software, variographic analysis was completed for Pb, Zn and Ag for the Clear lake deposit. Directional correlograms were generated for composited data at 30 degree increments along horizontal azimuths of 0, 30, 60, 90, 120, 150, 180, 210, 240, 270, 300 and 330 degrees. For each azimuth, correlograms were calculated at dips of 0, 30 and 60 degrees. A vertical correlogram was also calculated. Using information from these 37 correlograms, Sage determines the best fit model using least square fit method. The correlogram model is described by the nugget (C_o), and two nested structure variance contributions (C_1, C_2), ranges of the variance contributions and the model type (spherical or exponential). After fitting the variance parameters, the algorithm then fits an ellipsoid to the 37 ranges from the directional models for each structure. The final models of anisotropy are given by the lengths and orientations of the axes of the ellipsoids.

Correlograms were calculated for lead and zinc only, the silver data did not yield meaningful correlograms, so silver was estimated using the information from the zinc correlogram because of the positive correlation that exists between the silver and zinc grades. Results of the correlogram analyses are summarized in Table 17.3 below.

Table 17.3 Correlogram Data for Lead and Zinc

Metal	Nugget C0	Sill C1 and C2	Gemcom Rotations (RRR rule)			Ranges a1, a2		
			around Z	around Y	around Z	X-Rot	Y-Rot	Z-Rot
Pb	0.394	0.496	63	-85	-46	28	21	7
		0.11				31	650	420
Zn	0.319	0.485	14	68	-39	81	164	13
		0.196				47	540	600
Ag	N/A	0.485	14	68	-39	81	164	13
		0.196				47	540	600

17.5 Block Model Data

Mineral resources were estimated using block model method with values interpolated into 12 m by 12 m by 9 m blocks. The block model was defined based on parameters outlined in Table 17.4, the block origin is defined at the lower easting and northing but the maximum elevation.

Table 17.4 Block Model Parameters in UTM coordinates

Model	Origin	No of Blocks	Block Size
Easting	491,600	50	12m
Northing	6,960,800	73	12m
Elevation	750	46	9m

Block models are comprised of multiple components including rock code, grade, bulk density and percent models. Each model or attribute is coded independently of each other and combined in the final process of resource tabulation. The subsections below describe how each model attribute was constructed.

17.5.1 Rock Type Model

The rock type model contains information regarding the geology of the deposit and block model. The model was constructed by assigning an integer code to each block in the model as outlined in Table 17.5. All blocks were initially assigned an air rock code and all blocks being at least 50% by volume below the surface topography were assigned a waste rock code. All waste blocks that intersected the wireframes representing the mineralized zones were re-coded as “ore block” if more than 0.001% of the block volume was contained within the wireframe defining the mineralized envelope.

Table 17.5: Block Model Rock Codes

Rock type	Block Model Code
Air	0
Waste	999
High Grade (> 5% Pb+Zn)	100
Lower grade (>3% Pb+Zn)	10

17.5.2 Percent Model

The Percent model is used to store the proportion of each block contained within the wireframes representing the mineralized envelopes. Because blocks were assigned “ore” rock codes if only 0.001% of their volumes were encapsulated within the mineralized envelop, the total volume of all “ore” block is far greater than the volume of the wireframe representing the mineralized envelopes.

To assure that the volume of the block model result corresponds to the volume of the wireframe, the volume of each block is weighted with the percent of the block found within the wireframe (from 0.001% to 100%).

17.5.3 Density Model

The density model contains information about the bulk density of each block. The data is used to convert the block model volumes into tonnes during the resource tabulation. A total of 43 field measurements of bulk density were taken from mineralized core. Results from these field measurements ranged from a low of 2.87 t/m^3 to a high of 4.9 t/m^3 with the average of all measurements being 4.07 t/m^3. The bulk density data is far too sparse for block model interpolation but nonetheless considered sufficient to use in resource estimation. The density model was therefore coded with an average bulk density values corresponding to the rock type of the block. All air block were assigned a value of zero, all waste blocks were assigned 2.7 t/m^3 and all mineralized blocks were assigned 4.07 t/m^3.

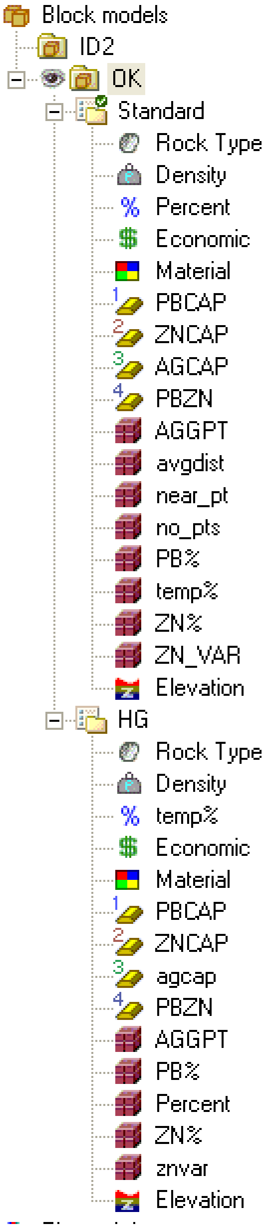
17.5.4 Grade Model

Grade values for Pb, Zn and Ag were interpolated into blocks using ordinary kriging (OK). Along with the OK interpolated grades, special models were recorded for the number of composites used to estimate each block, the kriging variance for the Zn estimation, the distance to the nearest composite and the average distance of all composites used for each interpolated block. The grade interpolation was carried out in a single pass using a flat search ellipse with a radius of 80 m oriented parallel to the long axis of the mineralised body as defined in Table 17.6. Grades were interpolated into a block if at least two drill holes and three composites were found within the search ellipsoid. No more than 12 composites were used to interpolate any block grades.

Table 17.6: Search Ellipse Parameters

Pass	Rotation Axes	Range (m)	Maximum samples per holes	Minimum No of samples	Maximum No of samples
1	Z= 90	X= 80	2	3	12
	Y= -30	Y= 80			
	Z= 0	Z=40			

Because the high grade envelope (>5% Pb+Zn solid) overlaps and is entirely contained within the lower grade envelope (>3% Pb+Zn solid), to evaluate the two different scenarios, SRK constructed two separate block models, one for high grade and one for the low grade scenario. The high grade results are stored within the HG model in Gemcom and the results for the lower grade scenario are stored within the Standard model (Figure 17.2). Both models although independent of each other, were interpolated in the same manner using the same interpolation techniques.



- Block models
  - ID2
  - OK
    - Standard
      - Rock Type
      - Density
      - Percent
      - Economic
      - Material
      - 1 PBCAP
      - 2 ZNCAP
      - 3 AGCAP
      - 4 PBZN
      - AGGPT
      - avgdist
      - near_pt
      - no_pts
      - PB%
      - temp%
      - ZN%
      - ZN_VAR
      - Elevation
    - HG
      - Rock Type
      - Density
      - temp%
      - Economic
      - Material
      - 1 PBCAP
      - 2 ZNCAP
      - 3 agcap
      - 4 PBZN
      - AGGPT
      - PB%
      - Percent
      - ZN%
      - znvar
      - Elevation

Low Grade Model
>3% (Pb + Zn)

High Grade Model
> 5% (Pb + Zn)

Figure 17.2: Block Model File Structure of High Grade and Low Grade Models

17.6 Mineral Resource Classification and Tabulation

Mineral resources were classified in accordance with definitions provided by the Canadian Institute of Mining ("CIM") as stipulated in NI43-101. A Mineral Resource as defined by CIM is "*a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge*." The identification of a reasonable prospect for economic extraction of a mineral resource implies that some basic level of economic analysis be carried out in order to determine if mineralization pass the '*reasonable prospect of economic extraction*" test**.** This is usually achieved by applying a reasonable cut-off and minimum mining thickness to the modeled mineral resource.

For this reason, SRK applied a 2m minimum thickness requirements to all intersections used in the model, if a high grade interval was less than the minimum thickness the interval was not used to estimate the block model. Similarly, if a single drill hole was situated such that no other drill hole could be located within the search ellipsoid, the intersection was ignored during block modeling. Finally, the mineral resource is reported at a minimum cut-off value that is to assume a reasonable extraction by underground mining method. For the Clear Lake deposit SRK recommends a lower cut-off of 4% Pb+Zn be utilized.

Mineral resources were estimated for both high grade and low grade solids and reported for both capped and un-capped grades. Based on the metal content alone, SRK recommends that the high grade model be used as base case for reporting as this model contains a much higher grade resource at all cut-offs and less tonnes have to be mined to recover more metal at most cut-offs (Table 17.7). Based on the above, SRK estimates that the Clear Lake deposit contains 7.76 million tonnes of Inferred Mineral resource grading 1.08% Pb, 7.6% Zn and 22 g/t Ag in the capped model.

Because of the uncertainty about bulk density, drill hole locations and lack of verification of the 1980 drilling, SRK classified all mineral resources as inferred. However, SRK noted that most of the mineral resource is drilled at a sufficiently close spacing to support indicated classification. With a few well-located twinned drill holes, the mineral resources could easily be re-classified as an indicated mineral resource.

Table 17.7: Inferred Mineral Resource Estimate for High and Low Grade Models, Capped and Uncapped

High Grade Model Uncapped				
Cut-off	**Tonnes**	**Pb%**	**Zn%**	**Ag g/t**
>7%	5,146,000	1.59	8.93	28
>6%	6,391,000	1.47	8.27	26
>5%	7,290,000	1.39	7.84	24
>4%	7,765,000	1.35	7.60	23
Total	7,765,000	1.35	7.60	23

High Grade Model Capped				
Cut-off	**Tonnes**	**Pb%**	**Zn%**	**Ag g/t**
>7%	5,146,000	1.18	8.93	26
>6%	6,391,000	1.14	8.27	24
>5%	7,290,000	1.10	7.84	23
>4%	**7,765,000**	**1.08**	**7.60**	**22**
Total	7,765,000	1.08	7.60	22

Low Grade Model Uncapped				
Cut-off	**Tonnes**	**Pb%**	**Zn%**	**Ag g/t**
>7%	4,055,000	1.62	9.20	29
>6%	5,212,000	1.46	8.39	26
>5%	7,471,000	1.28	7.25	22
>4%	9,205,000	1.18	6.60	20
Total	9,205,000	1.18	6.60	20

Low Grade Model Capped				
Cut-off	**Tonnes**	**Pb%**	**Zn%**	**Ag g/t**
>7%	4,055,000	1.13	9.20	27
>6%	5,212,000	1.07	8.39	25
>5%	7,471,000	1.01	7.25	21
>4%	9,205,000	0.97	6.60	19
Total	9,205,000	0.97	6.60	19

17.7 Block Model Validation

The block model was validated by inspecting the interpolated grades on sections and plans and carrying out a visual comparison of interpolated grades against the drill hole composite grades (Figure 17.3). In order to check for global bias or errors, a duplicate model was generated and blocks were estimated using an ID2 interpolation method. The ID2 model agrees well with the ordinary kriged model as seen in Table 17.8.

Table 17.8: Comparison between Ordinary Kriged and ID2 Models

OK HG Uncapped				
Cut-off	**Tonnes**	**Pb%**	**Zn%**	**Ag g/t**
>7%	5,146,000	1.59	8.93	28
>6%	6,391,000	1.47	8.27	26
>5%	7,290,000	1.39	7.84	24
>4%	7,765,000	1.35	7.60	23
Total	7,765,000	1.35	7.60	23

ID2 HG Uncapped				
Cut-off	Tonnes	**Pb%**	**Zn%**	**Ag g/t**
>7%	4,254,000	1.69	9.30	30
>6%	5,981,000	1.45	8.14	26
>5%	7,196,000	1.36	7.55	24
>4%	7,678,000	1.33	7.36	23
Total	7,678,000	1.33	7.36	23

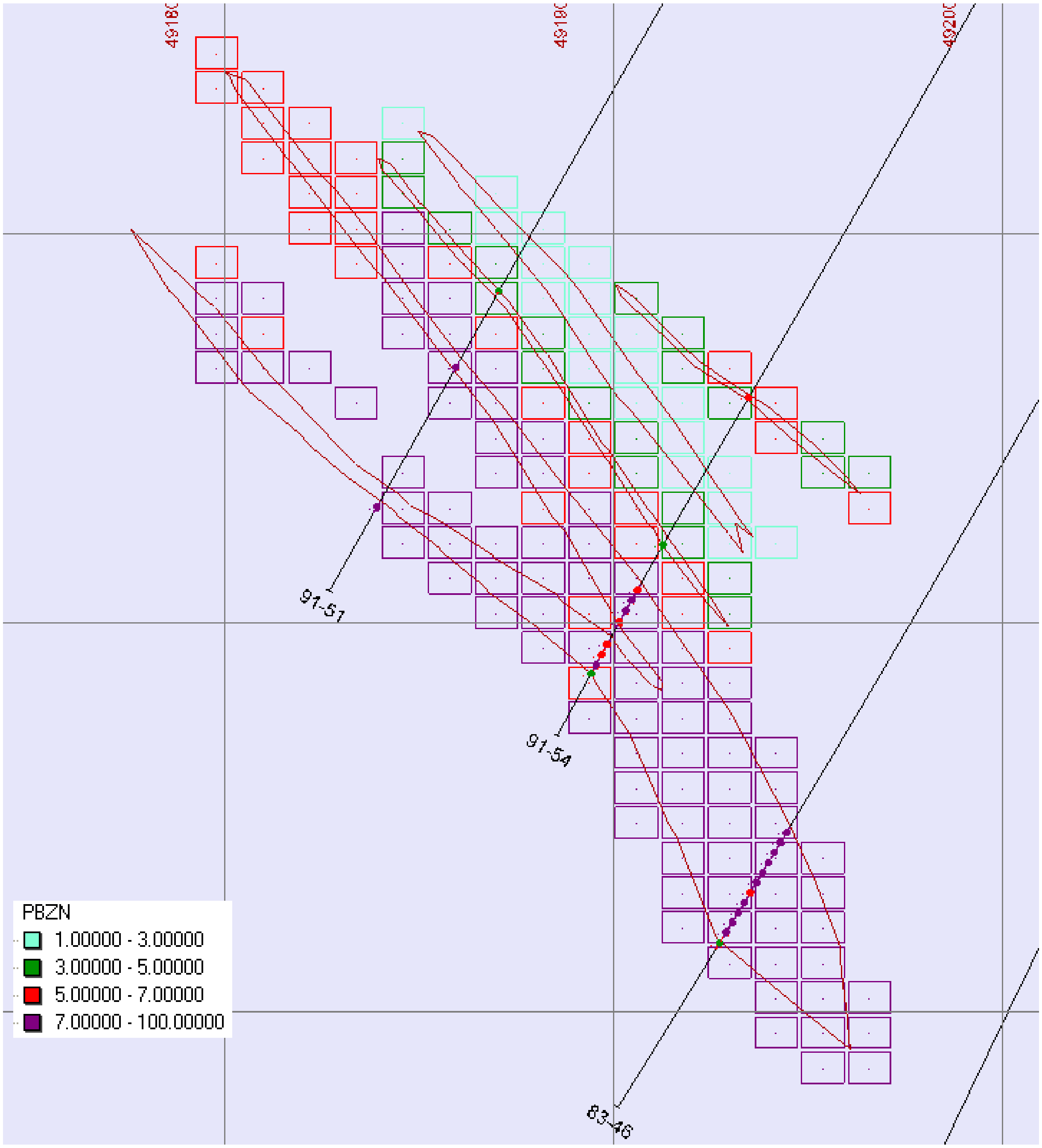


Figure 17.3: Comparison of Block Model Grades with Drill Hole Composite, Block Model Row 24 (Grid is 100 m by 100 m, blocks are 12 m by 9 m)

18 Other Relevant Data and Information

D. MacIntyre has reviewed the sources of information cited under References including drill hole logs and cross-sections, historical resource calculations and geological and geochemical reports produced by various property operators between 1978 and 1991. These reports include those filed for assessment and internal company reports obtained by Copper Ridge and stored in their Vancouver office. The writers are not aware of any additional sources of information that might significantly change the conclusions presented in this technical report.

19 Interpretation and Conclusions

Clear Lake is a sedimentary-exhalative (SEDEX) massive sulphide deposit that occurs in Devonian to Mississippian aged shales of the Earn Group. The pyritic massive sulphide body is sigmoidal in shape, approximately 1,000 m in length and up to 120 m wide. Base metal mineralization occurs in two discrete horizons. In the massive sulphide-siliceous horizon, combined zinc-lead mineralization grading +5% occurs in three elongate-shaped lenses, 5 to 30 m thick and 450 m in length that extend at least 300 m down dip. The tuff-barite horizon, 75 m into the hanging wall of the deposit, has a number of intersections of +10% Zn over widths of one to six metres.

The deposit contains 7.65 million tons of Inferred Mineral Resource grading 7.6% Zn, 1.08% Pb and 22 g/t Ag. The mineral resources are reported at a 4% (Pb+Zn) cut-off. Pb grades have been capped to 1.5% and Ag grades were capped at 60 g/t.

One of the key questions that remain unanswered with regard to the Clear Lake deposit is whether or not this deposit occurs on the steeply dipping northeast limb of an overturned syncline that is being overridden by a northeast directed thrust fault. This interpretation was put forth by Basnett (1992) who felt that there was evidence for such a thrust fault (Hammer Hill fault) and that below this fault might be the hidden southwest limb of the overturned syncline hosting the Clear Lake mineralized horizon. If this interpretation is correct then the area below the thrust fault, in the vicinity of Hammer Hill, could be prospective for additional massive sulphide concentrations. Drilling would be required to fully test this hypothesis.

Another question is whether or not the deposit itself pinches out at depth, as shown in Figure 9.1 Figure 17.3 or whether it might continue, either with its dip reversed to the west or as a fault offset to the west. Previous workers noted that alteration and silicification are observed in the deepest drill holes, suggesting that the sulphides might also persist to depth (Basnett, 1992).

The favourable Earn Group stratigraphy occurs extensively within and external to the claim boundary. Numerous geophysical and geochemical targets have been identified over the years of exploration on the property, and many of these have been tested by trenching and drilling. Although a number of other base metal occurrences have been discovered, none have as yet been of significant size to warrant follow-up work. However the recent airborne VTEM and magnetic survey done in 2008 and the follow-up ground IP and gravity surveys done 2009 have identified a number of targets, three of which (Targets 1-3) warrant drill testing based on some similarities to the EM anomaly, gravity and IP responses associated with the main Clear Lake deposit.

20 Recommendations

The Clear Lake property is of sufficient merit to warrant further work. A two stage work program is proposed. Stage 1 would involve additional drilling to expand the mineralized body and better define areas where single drill holes intersected mineralization along strike of the deposit. SRK recommends that Copper Ridge drill an additional 9 core hole totalling 1,500 m to test the lateral and vertical extent of the mineralization at Clear Lake.

Furthermore, Target 1 as defined by recent geophysical surveys should be tested with one hole to evaluate the coincident gravity-chargeability anomaly that is evident on both lines (Station 500N – 200 m depth) and one hole should be allocated to test the centre of the broader main gravity anomaly and the VTEM conductor (Station 600-700N – 250-300m depth). Target 2 should also be tested by diamond drilling. It is recommended that a test hole be drilled to test the coincident gravity-chargeability anomaly at station 900E. Two holes would be drilled at -75°, both to the north and south along the line and to depths of 200 m. Target 3 is a coincident gravity-VTEM feature potentially reflecting a flat-lying massive sulphide deposit at a depth of about 300 m. It is recommended that this target be tested by a single vertical drill hole at 200N.

Once the main zone testing has been completed, Copper Ridge would be in a position to complete a revised resource estimation.

The Phase 2 program would be contingent on the results of the Phase1 work. This Phase would involve a modest 3,200 metre drilling program which would focus on upgrading the resource and further testing any intersections of interest encountered in the Phase 1 drilling.

A provisional budget for this work is given in Table 20.1. The estimated total cost of this two stage program would be on the order of $1,900,000. The high per metre cost is due to the remoteness of the property which will require helicopter support from Carmacks, a distance of 90 km to the southwest. Using a Bell Jet Ranger helicopter, a one way trip to the property takes approximately 45 minutes.

Table 20.1: Projected Costs for Proposed Exploration Program

Phase 1 **Expense**		**Units**	**Unit cost**	**Total**
Data compilation/digitization	200	hours	$100	$20,000
diamond drilling Target 1 to 3	1000	metres	$125	$125,000
Main Zone Extension (SRK)	1500	metres	$125	$187,500
Camp costs	60	days	$2,500	$150,000
Helicopter	150	hours	$1,400	$210,000
Analytical	250	analyses	$30	$7,500
Geologist/camp manager	70	days	$550	$38,500
Report preparation	25	days	$550	$13,750
Sub-total				$752,250
Contingency 10%				$75,225
			Total Phase 1	**$827,475**
Phase 2				
Expense				
Drilling	3200	metres	$120	$384,000
Density/metallurgical testing				$20,000
Helicopter	200	hours	$1,400	$280,000
Camp costs	75	days	$2,500	$187,500
Analytical	300	analyses	$30	$9,000
Geologist/camp manager	110	Person days	$550	$60,500
Report preparation	25	days	$550	$13,750
Sub-total				$954,750
Contingency 10%				$95,475
			Total Phase 2	**$1,050,225**
			Total Phase 1+2	**$1,877,700**

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22 Date and Signature Page

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CERTIFICATES OF QUALIFIED PERSONS

I, Donald George MacIntyre, Ph.D., P. Eng. do hereby certify that:

1. I am an independent consulting geologist providing services through D.G. MacIntyre and Associates Ltd. a wholly owned company incorporated December 10, 2004 in the Province of British Columbia (registration no. BC0710941). My residence and business address is 4129 San Miguel Close, Victoria, British Columbia, Canada, V8N 6G7.
2. I am a co-author of the technical report titled "Clear Lake Zinc-Lead-Silver Deposit, Yukon" dated February, 2010 (the "Technical Report").
3. I graduated with a B.Sc. degree in geology from the University of British Columbia in 1971. In addition, I obtained M.Sc. and Ph.D. degrees specializing in Economic Geology from the University of Western Ontario in 1975 and 1977 respectively. I have been registered with the Association of Professional Engineers and Geoscientists of British Columbia since September, 1979, registration number 11970. I am a Fellow of the Geological Association of Canada and a member of the British Columbia Association for Mineral Exploration.
4. I have practiced my profession as a geologist, both within government and the private sector, in British Columbia and parts of the Yukon for over 30 years. Work has included detailed geological investigations of mineral districts, geological mapping, mineral deposit modeling and building of geoscientific databases. I have directly supervised and conducted geologic mapping and mineral property evaluations, published reports and maps on different mineral districts and deposit models and compiled and analyzed data for mineral potential evaluations.
5. I visited the Clear Lake property on June 24, 2008 for one day.
6. I am responsible for Sections 2 to 9, 11 to 13, 15, 18 and partly responsible for Sections 1, 14, 19 and 20 of the technical Report.
7. I am independent of the issuer as described in Section 1.4 of National Instrument 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. As of the date of this Certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading

Dated this 3rd day of February, 2010 at Vancouver, British Columbia.

"Original Document, signed and sealed by:

Donald G. MacIntyre, PhD., P. Eng.

Donald G. MacIntyre, PhD., P. Eng.
Consultant

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CERTIFICATES OF QUALIFIED PERSONS

I, Gilles Arseneau of North Vancouver, British Columbia, do hereby certify that as an author of the "**TECHNICAL REPORT ON THE CLEAR LAKE ZINC-LEAD-SILVER DEPOSIT, YUKON"**, dated February 2010, I hereby make the following statements:

1. I am Principal Consultant, Geology with SRK Consulting with a business address at 2200-1066 West Hastings Street, Vancouver, BC, V6E 3X2.
2. I have a B.Sc. in Geology from the University of New Brunswick, 1979; a M.Sc. in Geology from the University of Western Ontario, 1984 and a Ph.D. in Geology from the Colorado School of Mines, 1995.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia, License #25474.
4. I have practiced my profession in mineral exploration continuously since graduation. I have over twenty years of experience in mineral exploration including work on volcanogenic massive sulphide deposits in Ontario and Quebec. I have over ten years experience working with block model resource estimation techniques using Gemcom software. I fulfill the requirements to be a "qualified person" for the purpose of NI 43-101.
5. I visited the property on September 28, 2009 for one day.
6. I am responsible for section 17 of the report and parts of sections 1, 10, 14, 16, 19 and 20 of this technical report.
7. I am independent of the Issuer as described in Section 1.4 of National Instrument 43-101.
8. I have had no prior involvement with the Property that is the subject of this technical report.
9. I have read National Instrument 43-101 and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.
10. As of the date of this Certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 3rd day of February 2010 at Vancouver, British Columbia.

"Original Document, signed and sealed by:

Gilles Arseneau, Ph.D., P.Geo."

Gilles Arseneau, Ph.D., P.Geo.
Principal Consultant, Geology
SRK Consulting