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by

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March 1994

GEOLOGICAL BRANCH ASSESSMENT REPORT 23.36

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SUMMARY

Ashworth Explorations Limited carried out a field program, consisting of geological mapping, rock sampling, Mag-EM and I.P. geophysical surveys on the Lake Adit Claim Group for Guardian Resource Corporation during January and February 1994. The Lake Adit Claim Group consists of eighteen contiguous two post claims, located in the Lillooet Mining Division, approximately 120 kilometers north of Vancouver and 14.5 kilometers east of Pemberton.

The subject property is underlain by massive, dark green andesite - dacite volcanic flows, rhyolitic tuff, feldspar-porphyry volcanic andesite of Cadwallader Group, and skarnified limestone. The limestone-andesite contact is usually sheared, and well mineralized with disseminated, semi-massive to massive pyrite-pyrrhotite, calchopyrite copper staining and magnetite.

The property has a lengthy history of previous work that has outlined several copperzinc, silver showings between the Lake Adit, and the North Eagle showings. The majority of the previous work has concentrated on the Lake Adit showings. A 200 x 1,000 meter of Cu-Zn soil geochem anomaly was detected over the area of the showings.

Programs of geochemistry, geophysics and diamond drilling were conducted during a 1986-1987 work program. The geochemical survey showed the presence of extensive anomalous zinc values with associated anomalous copper over an area located southeast of the Lake Adit showing. 617 meters of drilling was completed in eight drill holes. One hole encountered 6 meters of zinc-copper mineralization grading, 1.34% Zn, .28% cu, .13 oz/ton Ag, immediately upon entering bedrock. The mineralization is structurally controlled and represents a different style not found on the claims previously and is possibly volcanogenic massive sulphide.

The 1988 drilling program recommended further drilling to test the area of mineralization located in hole LL-88-1 to determine its extent and to test areas of highly anomalous geochemical Zn values and the untested area of the geophysical anomalies.

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The 1994 exploration program has confirmed the possibility of volcanogenic massive sulphide mineralization within the area previously drilled in the 1988 program for the following reasons:

- 1. The area represents extensive anomalous zinc-copper values that coincide with a strong I.P. chargeability high, correlating with a strong I.P. resistivity high.
- 2. Detailed photo interpretation has indicated the presence of two sets of intense fractures concentrated within an area 800x1000 meters and coincides with the 1994 I.P anomaly.
- 3. Silicious-pyritic rhyolite outcrop heavily mineralized with sulphides located nearby LL-88 drill hole.
- 4. The geological-geophysical results of 1994 program correlate with the 1987-1988 results and suggest the right environment for a volcanogenic massive sulphide target.

A second phase exploration program has been recommended which will consist of 600 meters of diamond drilling to test the area of the 1994 IP anomaly at an estimated cost of \$112,000.

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1. INTRODUCTION

This report was prepared at the request of Guardian Resource Corporation, to describe and evaluate the results of geological-geophysical surveys carried out by Ashworth Explorations Limited from January 24 - February 2nd, 1994 on the Lake Adit Claim Group, Lillooet Mining Division, British Columbia. 1

The report also describes the regional geology, past exploration activities in the area, previous work completed on the property and outlines a proposed exploration program.

My Fayz Yacoub planned and supervised all fieldwork, and was project geologist on the subject claims.

2. LOCATION, ACCESS AND PHYSIOGRAPHY (Figure 1)

The Lake Adit Claim Group is located in the Lillooet Mining Division, approximately 120 kilometers north of Vancouver and 14.5 kilometers east of Pemberton, B.C., on the northwest shore of Lillooet Lake.

Coordinates of the claims are latitude 50° 17' north and longitude 122° 37' west, on N.T.S. mapsheet 92J/7E.

Access to the Lake Adit Claim Group is provided by a new logging road that begins at the Pemberton airport and follows the west shore of Lillooet Lake through the claims.

The property is on moderate to steep mountainous terrain. Elevation varies from 200 metres on the lake shore to 1350 metres at the northwest corner of L.A-13 claim. Vegetation consists of mature Douglas Fir, Hemlock and Spruce forest.

Mild weather during summer and winter seasons allows for year round field work programs.

3. PROPERTY STATUS (Figure 1)

The Lake Adit Claim Group consists of eighteen contiguous two post claims in the Lillooet Mining Division of British Columbia. The claims are owned by Mr. Andris Kikauka of Brakendale, B.C. who optioned the property to Guardian Resource Corporation.

Claim Name <u># of Units</u> Record # Record Date Exp. date Feb 2, 93 LA 1 1 315502 Feb 2, 96 LA 2 1 315503 Feb 2, 93 Feb 2, 96 LA 3 1 315504 Feb 2, 93 Feb 2, 96 LA 4 1 315505 Feb 2, 93 Feb 2, 96 LA 5 1 315506 Feb 2, 93 Feb 2, 96 LA 6 315507 Feb 2, 93 Feb 2, 96 1 LA 7 1 315508 Feb 2, 93 Feb 2, 96 LA 8 1 315509 Feb 2, 93 Feb 2, 96 LA 9 315510 Feb 2, 93 Feb 2, 96 1 LA 10 1 315511 Feb 2, 93 Feb 2, 96 LA 11 1 315512 Feb 2, 93 Feb 2, 96 LA 12 315513 Feb 2, 93 1 Feb 2, 96 LA 13 315514 1 Feb 2, 93 Feb 2, 96 LA 14 1 315515 Feb 2, 93 Feb 2, 96 LA 15 1 315516 Feb 2, 93 Feb 2, 96 LA 16 1 315517 Feb 2, 93 Feb 2, 96 LA 17 1 315518 Feb 2, 93 Feb 2, 96 LA 18 1 Feb 2, 93 315519 Feb 2, 96

Pertinent claim data is as follows:

The total area covered by the claim group is 450 hectares (1,080 acres).



4. AREA HISTORY (Figure 2)

The history of the area can be traced back to the early 1900's after the discovery of the Boulder (Ure) Creek and Lake Adit showings. Several other showings were discovered around Pemberton area. This includes showings in the Tenquille Lake, Owl Creek, and Lillooet Lake area. Summary of mineral occurrences near Pemberton is summarized as follows (Riddell, 1990).

1) RAILROAD PROPERTY

A large rusty zone extends over most of the southwest flank of Grouty Peak, near the Hurley Pass road. The rocks on the property are intensely to moderately silicified, and disseminated pyrite is ubiquitous. Quartz-sericite schists are common, most shear foliations strike north-northwest and dip gently to very steeply to the northeast.

2) MOUNT BARBOUR SHOWING

The showing, located southeast of Tenquille Lake, consists of a pod of massive, banded pyrrhotite within a conspicuous northwest trending rusty scar that cuts through the ridges east and west of a snowfield. The host rocks are well-bedded felsic tuffs with cherty tops.

3) AVALANCHE PROPERTY

The property covers a wide, rusty alteration zone east of Tenquille Mountain. Bedrock is deformed by a complex set of anastomosing north-northwest striking shears associated with a fault that passes through Grizzly Pass. The shear zone is bounded to the southwest by competent, unsheared massive basalt-andesite, and to the north by overlapping Tertiary basalt breccias. Rocks within the shear zone are banded parallel to the strike of the fault, and individual bands can be traced along strike for hundreds of meters.

4) CERULEAN LAKE

A pod of massive pyrrhotite about 3 meters thick and 30 meters long lies along the contact zone between massive andesite flows and Late Cretaceous Spetch Creek pluton, on the creek that flows into the southwest end of Cerulean Lake (near Tenquille Lake). It is surrounded by a large rusty zone on the west bank of the creek. Mineralized boulders have conspicuous black and iridescent manganese coatings.



5) THE LAKE ADIT SHOWING

This showing consists of 2-5 meters wide massive sulphide band, mainly magnetite, pyrite, chalcopyrite, pyrrhotite and sphalerite hosted by Andesite-marble contact. The showing trend - north-northwest and traced for 200 meters along strike.

6) APEX AND SKERL SHOWINGS

The mineralized zone corresponding to skerls showing is believed to occur in a predominantly leucocratic silicious tuff, frequently banded and pyritized according to the intensity of shearing. The general mineralization trend is believed to be North 65° west, closely related to porphyrite dyke intrusions.

On the Apex group, the zone is about 600 feet wide (Cairnes 1924) and is mineralized with pyrrhotite.

7) MARGERY

A sequence of limestone and andesite tuffs is intruded by porphyry dikes in the vicinity of the showings, and by a the Coast Range plutonic complex farther up the mountain slope. Pods and lenses of massive magnetite-pyrite with lesser sphalerite, arsenopyrite, and chalcopyrite occur in a gangue of garnet, epidote, diopside, calcite, and quartz.

5. PREVIOUS WORK

The Lake Adit showing was discovered in 1915. Considerable work done on the Lake Adit property since then by a number of companies with most extensive reconnaissance and detailed work programs.

Previous work on the property has concentrated on two areas, the Lake and Eagle adits showings and the area of copper-zinc southeast of the Lake Adit.

From 1915 to 1923

The Lake Adit (70 meters) and the Eagle Adit (6 meters) were deriven. Open cuts, shallow pits and several copper showings were excavated between the two adits.

1924

Geological mapping by C.E. Cairnes of G.S.C. discovered a regional zone of mineralization 5.6 kilometers long by 200 meters wide includes the Lake Adit, Ure Creek and Boulder Creek showings.

Sampling the Boulder Creek Showing returned the following results:

Sample #	Width	Copper %	oz/ton silver	oz/ton gold
1	15	1.5	0.68	trace
2	20	045	0.22	trace
3	20	0.10	.52	trace
4	30	0.30	0.54	0.070

Cairnes suggested that better values may be obtained below the surface.

1929

Diamond drilling program was carried out by Howe Sound Company, and three drill holes were collared beneath the Lake Adit. The drill results of this program are not available. A reconnaissance and detailed work program was carried out by Cerro Mining Company of Canada Limited. The program consisted of

- 1. Geological mapping over the Lake Adit, North Eagle, and Boulder Creek prospects.
- 2. Ground magnetic and electromagnetic survey along northeast trending lines and detailed magnetic survey over the North Eagle showings.
- 3. Soil sampling program over an area of one by four kilometers to investigate the soil geochemistry and the possible extension of the copper, mineralization within the area of the showings.
- 4. Detailed geological mapping around the Lake Adit Showing.

The results of this program can be summarized as follows:

The geophysical survey program has outlined several small magnetic highs and magnetic dipoles in the vicinity of the Lake Adit and the North Eagle showings. A crone shootback EM Survey gave some anomalous readings in the vicinity of the Lake Adit.

The geochemical survey program has outlined a well defined, strong anomalous zinc zone, several hundred meters across, located north and southeast of the Lake Adit. Three areas of copper anomaly, several hundred meters across roughly coincide with the well defined zinc anomalies mentioned above (Kierous, 1969).

The soil geochemistry gave background zinc values of 100 - 1000 ppm highlighted by anomalous values in excess of 3600 ppm, and a background copper values of 20-180 ppm highlighted by anomalous values in excess of 280 ppm.

1980

A geological mapping and VLF-EM geophysical survey was performed on 1 by 1.5 kilometer area centered at the Lake Adit by Mr. H. Kim, Consulting Geologist for Regulus Resources Inc. Mr. Kim collected 40 channel samples across widths of 0.5-2.4 meters, represents the Lake Adit Showing and the North Eagle Showings that returned the following range of assays:

Copper	0.21-2.87%
Zinc	0.01-10.10%
Lead	0.01-0.22%
Silver	trace-0.07 oz/ton
Gold	trace-0.09 oz/ton

The VLF-EM Survey revealed several new conductors and a one kilometer long North-Northwest trending conductor axis coincides with the Lake Adit and the North Eagle showings. In the southwestern part of the grid, a significant new open-ended conductor was discovered (not covered by earlier soil sampling).

1986-1987

Green Lake Resources Ltd. completed a geochemical, geophysical and diamond drilling program. A 33 kilometers of grid lines and four diamond drill holes were collared. The geochemical soil and rock survey gave the following results:

Element	Mean Value	Maximum Value
Zn	630 ppm	10.289 ppm (1.03%)
Cu	76 ppm	2.482 ppm (0.25%)
Ag	0.7 ppm	3.6 ppm
Au	6 ppb	160 ppb

Statistical Summary of 500 Soil Samples

Statistical Summary of 94 Rock Samples

Element	Mean Value	Maximum Value
Zn	371 ppm	17,517 ppm (1.35%)
Cu	56 ppm	762 ppm (0.081%)
Ag	1 ppm	9.7 ppm
Au	8 ppb	213 ppb
As	9 ppb	117 ppm

The magnetometer survey identified large broad magnetic anomalies south of the Lake Adit and a strong oblong magnetic anomaly southeast of the Lake Adit. A strong VLF-EM conductor is coincident with the west flank of the strong oblong magnetic anomaly located 1.3 kilometers southeast of the Lake Adit. This conductor is either a sulphide zone at the interface of possibly a volcanic tuff/flow horizon or a sulphide/graphite rich argillaceous sediment. The shape of the VLF-EM response suggests a conductor which extends to depth.

The drilling program revealed a very encouraging geological and geochemical results. A diamond drill hole located near the strong VLF-EM response was collared in controlled Cu-Zn-Au and silver mineralization that persisted to a depth of 28 feet. From 28' to 161' heavily pyritized alternating bands 10 to 20 feet thick, of rhyolite and andesite were cored. Nearby, an outcrop of coarse fragmented rhyolite cemented by sulphides suggests the close proximity of this area to a volcanic vent.

One drill hole LL-88-1 encountered 16 feet of significant copper, zinc and silver mineralization.

In view of these recent discoveries there is potential for volcanogenic style mineralization, shear hosted mineralization and skarn type mineralization (Day, 1987).

1990

The new road cut along Lillooet Lake near the Lake adit showings has been recently mapped by B.C. Geological Survey. Outcrops along the road cut are intensely silicified and bleached andesite and andesite breccia with abundant massive and disseminated pyrite. This zone was interpreted as a continuation of an east-side up thrust fault running through Lillooet Lake. This regional structure continues further to the south and may be related to the Grizzly Pass shear zone near Tenquille Lake (Riddell, 1990).

1992

Mr. A. Kikauka P.Geo. conducted a geological mapping, rock and stream sediments sampling program in the area of the Lake Adit, North Eagle prospects.

A total of 17 rock chip samples and 7 stream sediments samples were collected. New showing has been exposed by the road cut. Select sample across 10 cm of mineralized pod hosted by 1 meter of silicified shear zone returned values of 9.99% Cu, 0.11% Pb, 0.51% Zn, 8.48 oz/t Ag and 0.196 oz/t Au.

A sample of heavily mineralized skarn from the Lake Adit assayed 9.07% Cu, 0.32% Zn, 3.4 oz/t Ag and 0.023 oz/t Au across 35 cm. Another sample across 1 meter of chalcopyrite-magnetite mineralized zone. 30 meters north of the Lake Adit gave values of 5.44% Cu, 7.04% Zn, 1.21 oz/ton Ag, and 0.030 oz/ton Au.

6. **REGIONAL GEOLOGY** (Figure #3)

The subject mineral claims are situated on the southwest flank of the Coast Cystalline Belt. The general geology of the area is shown on 1990 G.S.C. Stratigraphy of Mezozoic Rocks east of Pemberton by J.M. Riddell. The northeastern limit of the Coast Crystalline Belt composed of granite, granodiorite, quartz monzonite and quartz diorite trends northwesterly across the Pemberton map area.

The Lake Adit mineralized area is underlain by a roof-pendant consisting of volcanics, sediments, intrusive, and metamorphic rocks of upper Triassic Cadwallader Group, however recent geochronometry by the U.B.C. Department of Geological Sciences has identified Early Permian ages for the Bralorne diorite and Soda granite that cut the Cadwallader Group implying that the Cadwallader sequence may contain Permian rocks as well as Middle-Late Triassic age rocks that are documented by fossils within the Cadwallader Group.

The Cadwallader group consists mainly of greenstone, tuff and flows of andesite, rhyolitic tuff and flows and minor lenticular limestone beds, argillite, phyillite, conglomerate and chert. This sequence is cut by Pre-Cretaceous diorite and quartz porphyry. The above sequence forms a roof pendant surrounded by Cretaceous-Tertiary Coast Range Plutonic rocks.

Contact metamorphism is evident in development of skarn at or near limestone-volcanic contact. Mineralization has been found associated with limestone-volcanic contacts (skarn) and to silicified banded tuffaceous rocks and has been suggested by J. Montgomery, to have a strong resemblance to a volcanogenic massive sulphide deposit.

Structural trends are northwest, parallel to contact secondary post-mineral faults offset the extend of the mineralized structures.



7. 1994 WORK PROGRAM

7.1 Scope and Purpose

From January 24th to February 2nd, 1994, two geologists and seven geochemical and geophysical geotechnicians carried out a field work program that consisted of geological mapping, rock sampling, magnetometer, electromagnetometer, and induced polarization geophysical surveys. The purpose of this program was:

- a. To better define and confirm the copper-zinc geochemical anomaly discovered during the 1986 fieldwork by Green Lake Resources Ltd. southeast of the Lake Adit.
- b. To confirm the geological setting and the mineralization types within the property.
- c. To evaluate the mineral potential of the property and to define follow-up exploration targets.

7.2 Methods and Procedures

Geological mapping, rock sampling, magnetic and electromagnetic surveys were performed over 3.4 line kilometers of the Lake Adit grid. Control for mapping was established by using the cut and flagged grid lines and the topographic 1:2500 contour map.

A total of 46 rock samples were collected and analyzed for gold and multi-element I.C.P. by Vangeochem Lab Ltd. (see Appendix B for analytical reports and Appendix C for Geophysical reports).

A northwest-southwest control grid (the main grid), flagged and marked consisting of 12 lines averaging 500 meters in length at 100 meters apart was laid out by compass and hip chain. A 320 degrees base line was put in parallel to the new logging road. An induced polarization (I.P.) survey, magnetic and electromagnetic surveys were carried out over the main grid area. Readings were taken at 25 meters interval over a total of 6.7 line kilometers. (See Appendix C for geophysical reports).

8. RESULTS

<u>8.1 Property Geology</u> (Map 1)

The Lake Adit Claim Group is underlain by the Pendant Cadwallader Group of upper Triassic age.

Outcrops within the area of the Lake Adit grid consists mainly of massive, dark green adesite-dacite volcanic flows, rhyolitic tuff, feldspar-porphyry volcanic andesite and lenticular limestone bodies. Minor bleached, leucocratic rhyolitic volcanic outcrops also mapped near the North Eagle showing.

White, light grey massive limestone band recrystallize to fine-grained marble located in the vicinity of the Lake Adit. The limestone has been intruded by volcanic bodies of Cadwallader Group. Near the contact, the limestone is skarnified with massive to semi-massive sulphide pods consists mainly of pyrite, pyrrhotite, magnetite, sphalerite, chalcopyrite and copper staining.

The limestone-andesite contact is usually sheared, fractured and well mineralized, trending northwest conforming the regional trend of shearing in the Pemberton area. Epidotization, silicification and pyrite pyrrhotite and magnetite mineralization are the main characteristic features for the limestone-volcanic contact within the area of the Lake Adit. Lamprophyre dyke trending northeast, exposed in the lake adit, seems to have no structural effect on the sulphide mineralization. A secondary shear zones, fracture system trending northeast postdating the mineralization exposed in and around the Lake Adit. A large exposure of sheared volcanic outcrops along the new logging road near the shoreline of Lillooet Lake. Rocks are intensely silicified, bleached hosting numerous fractures and shear zones up to two meters wide trending 200°-240° with 1-3% fine-grained pyrite dissemination.

8.2 STRUCTURE

The intrusive cystalline rock in the vicinity of the Lake Adit Claim Group is trending northwesterly and has been moderately foliated in a direction parallel to Lillooet Lake.

The main structural feature on the Lake Adit Claim Group is a northwest trending regional thrust fault running through Lillooet Lake and continues further to the south. This structural feature is a part of large mineralized zone 5.6 kilometers long, and 200 meters wide includes the Lake Adit, Ure Creek and Boulder Creek showings.

The structural trend in and around the Lake Adit, and the North Eagle showings is north 50° west, as well as the limestone-volcanic contact confirming the main regional structure mentioned above, however, a lamprophyre dyke exposed in the Lake Adit trending northeasterly.

A secondary shear system postdating the mineralization offsets the northwest trending mineralized zone within the Lake Adit showing.

Several northeast trending fractures, jointings and shear zones usually cut the andesite volcanic exposed along the new road cut with general trend between 200°-240°, dipping southeast.

The numerous northwest and northeast structural elements in the area of the Lake Adit Claim Group are considered the most important ground preparation features and may have provided conduits for hydrothermal activities.

8.3 ALTERATION

Two types of alteration were observed within the Lake Adit grid area:

- 1. Propylitic alteration where Epidote and chlorite are associated with the limestonevolcanic contact near all the showings.
- 2. Silicification

Silification occur within the main structural zone exposed along the new road cut, usually associated with the northeast trending shear zones hosted by the Cadwallader volcanics along the shore of Lillooet lake.

8.4 MINERALIZATION

The Lake Adit Claim Group is located within a regional mineralization zone trending northwest discovered by C.E. Cairnes of G.S.C. in 1924. Cairnes suggested that the mineralized zone is a part of volcanogenic event. His hypothesis based on two geological factors:

1. The mineralized zone occurs in volcanic pyroclastics near the contact with volcanic flows.

2. The copper zinc mineralization is typical of volcanogenic massive sulphide event.

Mineralization on the Lake Adit Claims is usually at or near the contact of limestone lenticular bodies and greenstone complex of Cadwallader Group. During the 1994 exploration program the writer observed the following types of mineralization within the area of the property.

- 1. Massive magnetite and massive sulphides (pyrite, Cu pyrite) with lesser gold, silver, lead and zinc represented by the mineralization of the North Eagle showing.
- 2. Skarn mineralization, principally pyrite, pyrrhotite, magnetite, sphalerite and malachite, represented by the mineralization of the Lake Adit Showing and several other showings in the vicinity of the adit.
- 3. Intense silicification and abundant pyrite dissemination in volcanic outcrops exposed along the new road cut with very high silver and copper values, represented by a new shear zone trending 200° discovered recently on the road cut.

8.5 ROCK GEOCHEMISTRY

A total of 46 rock samples graded as chip, grab and select were collected on the Lake Adit claim group during the 1994 field program, the rock samples yielded values up to 1140 ppb Au, 24.2 ppm Ag, 1.04% Cu, and .35% Zn.

The 1994 fieldwork program has identified seven zones of mineralization between the Lake Adit and the North Eagle showings.

8.5.1. The Lake Adit - Showing No. 1 (Figure #4)

The Lake Adit showing located at the south central part of L.A.-3 claim (190 meters elevation). A 28 meters crosscut and two drifts following a massive sulphide - magnetite zone, 1 to 2 meters wide hosted by volcanic andesite and hornblend diorite in contact with limestone band. A total of 9 chip rock samples were collected across the mineralized zone over a widths of 1-2 meters gave the following assay ranges 456 ppb Au, 38.3 ppm Ag, 1.67% Cu, and .7% Zn. The type of mineralization in the Lake Adit is typical skarn contact - metamorphism.

8.5.2 Showing No. 2 (Figure #5)

This showing is located at 10 meters above the Lake Adit Portal and is considered the surface continuation of the massive sulphide-magnetite zone exposed in the adit. Chip sample FR-5, returned 790 ppb Au, 26.9 ppm Ag, 1.4% Cu, and 1% Zn over a width of two meters.

8.5.3 Showing No. 3 (Figure #6)

Massive sulphide-magnetite zone located at 5 meters above the Lake Adit portal hosted by pyritic volcanic andesite in contact with limestone band. FR-6 is chip sample across one meter of the sulphide zone, returned 415 ppb Au, .6% cu, .3% Zn and 33.9 ppm silver.









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8.5.4 Showing No. 4 (Figure #7)

Semi-massive sulphide zone located at 44 meters Northwest of the Lake Adit hosted by aphanitic volcanic andesite in contact with limestone band. Several massive sulphide pods 20-30 cm wide are also associated with the limestone-volcanic contact. Mineralization is mainly pyrite, pyrrhotite and malachite FR-2 is chip sample across 20 cm of massive sulphide pod returned 380 ppb Au, 18.3 ppm Ag, 2% Cu, and .8% Zn.

8.5.5 Showing No. 5 (Figure #8)

Typical skarn type mineralization located at 49 meters Northwest of the Lake Adit portal. Massive sulphide pod consists of pyrrhotite, minor pyrite hosted by light grey volcanic andesite in contact with limestone band. FR-3 is chip across 1 meter of sulphide pod returned 110 ppb Au, 11.1 ppm Ag, .4% Cu, and .2% Zn.

8.5.6 Showing No. 6 (Figure #9)

Massive pyrite, pyrrhotite, and magnetite zone hosted by dark grey volcanic andesite with stains of malachite. FR-10 is chip sample taken across the sulphide zone returned 60 ppb Au, 2.2 ppm Ag, .7% Cu, .5% Zn. This zone is located at 135 meters northwest of the Lake Adit Portal.

8.5.7 Showing No. 7 (Figure #10)

The North Eagle showing is located at 150 meters northwest of the Lake Adit. Massive pyrite pod and magnetite body hosted by dark grey massive volcanic andesite in contact with leucocratic rhyolitic volcanic outcrop disseminated with fine-grained pyrite. FR-15 is chip sample taken across two meters of the pyritic rhyolite, returned no significant results, FR-14 was taken across 50 cm of semi-massive sulphide pod returned 80 ppb Au, 6.4 ppm Ag, .5% Cu, and .1% Zn.







8.6 AERIAL PHOTO INTERPRETATION (Appendix C)

Geological photo interpretation was performed at a scale of 1:19,700 over an area of approximately 8 square kilometers by Richard E. Kucera. The purpose of this study was to describe the results of photo interpretation of the Lake Adit property and add more geological and structural information to the area.

Steep slopes and thick forest prevent the tracing of structural attitudes in the field but detailed analysis of the image in the stereo model disclose the presence of important lineaments on the Lake Adit Claim Group.

When viewed in the stereo model, Cadwallader rocks in the vicinity of Lake Adit strike N 50°W and dip approximately 40° southwestward.

Detailed mapping on the aerial photographers show the presence of several northeast and northwest-trending fractures, many of which are inconspicuous on the ground. The fractures are expressed on the photographs as very subtle straight or gently curved lines. Mr. Kucera has mapped several fractures as much as 1200 meters long that trend N 45°W to N 80°W and cut obliquely across the regional structural trend. Subtle but important N65° E to 70° E - trending fractures cut across the prevailing structural trend at nearly right angles.

The fracturing as observed in the stereo model is concentrated in an area of 800 x 1000 meters within the area of the Lake Adit 5 and 7 claims. This area coincides with the copper-zinc soil anomaly of the 1986-1987 work program by Green Lake Resources Ltd. and the I.P. anomaly of the 1994 work program. A somewhat similar fracture pattern occurs within the area of the Lake Adit 13 and 14 claims. At this locality, two northwest-trending fractures, 500 meters, intersect northeast-trending lineaments.

The 1994 aerial photo interpretation on the Lake Adit claim group suggests a strong possibility of structurally controlled mineralization within the area of the apparent intersection of northwest and northest-trending lineaments at the Lake Adit 5 and 7 claims.

8.7 GEOPHYSICAL SURVEY (Maps 2-21)

Induced polarization, resistivity, Magnetic and Genie EM surveys were carried out over the Lake Adit Claim Group during the period of January 24 to February 8, 1994.

The I.P. and resistivity surveys were carried out over the main grid for a total of 6630 meters, the results were plotted in pseudosection, plan and contoured (Maps 2-16).

The magnetic survey was carried out over two grids. Twelve lines were surveyed on the main grid and ten lines on the Adit Grid for a total survey length of 6240 meters. The results were plotted and contoured on Maps 2, 17 and 20.

Genie Electromagnetic survey was carried out over the Main Grid and the Lake Adit Grid. Readings were taken at 25 meters along 13 kilometers of grid lines. The results were plotted on Maps 18 and 21.

The main purpose of the geophysics was to determine the response to the known mineralization, as well as locate new zones.

8.7.1 I.P. Survey (Maps 2-16)

The geophysical feature of greatest economic interest is a strong chargeability I.P. anomaly directly correlating with a relatively strong resistivity high, occurring for the most past of the main grid between Line 23+00S and Line 30+00S.

The anomaly is composed of two subparallel anomalies being about 100 to 150 meters apart extend across the survey area resulting in a minimum strike length of 700 meters and open to both directions, the northwest and the southeast. Both anomalies are stronger and closer in the area between Line 25+00S and Line 28+00S, and thus appear to be one anomaly. The correlating resistivity has values that are relatively high.

The I.P. and resistivity values, strongly suggest the causative sources to silicified rocks that is heavily mineralized with sulphides. DDH #88-1 encountered 6 meters of copperzinc mineralization grading, .28% Cu, 1.34% Zn and .13 oz/ton Ag within a silicified rhyolite. The dip of the causative sources appear to be southwesterly.

<u>8.7.2</u> E.M. Survey (Map 18, 21)

The Genie EM Survey encountered two weak conductors, the first consists of a northerly striking arm that on Line 28+00S correlates with I.P. resistivity anomaly. The second conductor occurs on lines 31+00S to 33+00S and appears to possibly be the southeasterly extension of an I.P. resistivity anomaly occurring at Line 30+00S-1+40E.

The Genie EM Survey failed to locate strong or well defined conductors within the grid area to a depth of about 50 meters.

8.7.3 Mag Survey (Maps 2, 17, 20)

A significant northwest trending magnetic high is detected during the 1994 survey between Line 27+00S to Line 34+00S. This magnetic high suggests magnetite or pyrrhotite to be part of the causative source.

The I.P. anomaly between L23+00S and L28+00S, occurs southwest of a magnetic high, but its sub-cropping probably correlates directly. This suggests the causative source probably contains magnetite or possibly pyrrhotite.

9. DISCUSSION OF RESULTS

The 1994 geological-geophysical surveys delineated three areas of interest.

Area 1

The first area is located at the southeast and the northeast corners of the L.A.5 and L.A.7 claims. The area is considered to be a possible target for hosting a volcanogenic massive sulphide deposit. Detailed aerial photo interpretation has indicated the presence of two sets of fractures concentrated within an area of 800 x 1000 meters and coincides with the I.P. anomaly of the 1994 program. The photo mapping also suggests that the area has been offset by numerous fractures, some of which may have experienced shear movement as well as vertical displacement.

Based on the previous geochemical results of the 1987 program by Green Lake Resources Ltd. Area 1 represents an extensive anomalous zinc values with associated anomalous copper values. The geophysical results of the 1987 program defined numerous VLF-EM conductors, that coincides with the geochemical Cu-Zn anomalies. Of four holes drilled in the target area during 1988 drilling program, the first hole failed to encounter any significant values and the second and third were lost in overburden. The fourth hole (LL-88-1) however encountered 6 meters of zinc and copper mineralization (1.34% Zn, .28% Cu) immediately upon entering bedrock. Based on the 1988 drilling information of LL-88-1 to LL-88-7, the host rock is well mineralized rhyolites, rhyolite tuffs and silicous tuffs with disseminated pyrite, chalcopyrite and less sphalerite.

The I.P. survey strongly suggest the causative sources to silicified rocks that is heavily mineralized with sulphides, dipping southwesterly. This has been verified by DDH #88-1 which was drilled with a - 45° dip to the northeast. As a result it encountered one of the causative sources. DDH's #88-2, 88-3, 88-5A and 88-7 were drilled parallel or subparallel to the causative sources. DDH # 88-4 was drilled vertically to a shallow depth and therefore may not have encountered the mineralization.

All geological, geochemical and geophysical data of the 1987, 1988 and 1994 work program suggest the right environment for a volcanogenic massive sulphide target.
Area 2

The second area represents the Lake Adit Showing located at the south central part of the L.A.-3 claim where 28 meters of crosscut and two drifts follow a massive magnetite, pyrrhotite, pyrite zone 1-2 meters wide hosted by andesitic volcanic, hornblend diorite and marblized limestone band. The type of mineralization in and around the Lake Adit Showing appear to be rather typical of skarn type contact metamorphism. The mineralized zone exposed on surface in several locations is traced for 200 meters along strike. Previous geophysical and geochemical work suggests a potential strike length of 1 kilometer, however, several northeast trending structural elements offset the mineralized zone. The general attitude of the mineralized bodies appear to be lens-like, pinching and swelling along their dip and strike.

Area 3.

The third area is located at the L.A. 13 and 14 claims northwest of Ure Creek where structure pattern similar to the structural elements identified by the aerial photographs at the L.A. 5 and L.A. 7 claims.

CONCLUSION AND RECOMMENDATIONS

The Lake Adit Claim Group is situated in an area that is well-known for hosting precious metal deposits and numerous gold-copper showings occur in close proximity to the subject claims.

The property is underlain by massive andesite-dacite volcanic flows, rhyolitic tuff, feldspar porphyry volcanic andesite of Cadwallader Group, and lenticular bands of limestone. This sequence is cut by Pre-cretaceous diorite and surrounded by the Coast Range Plutonic Rocks. This geological setting is a favourable environment for hosting economic mineralization.

The Lake Adit Claim Group is situated in a northwest trending regional thrust fault which is considered part of a large mineralized zone 5.6 kilometers long and 200 meters wide.

The 1994 field program has outlined three areas of interest, one area represents intensive shearing and a strong I.P. anomaly that coincides with a Zn-Cu soil anomaly.

The geophysical results of the 1994 field program were very encouraging, and the aerial photo interpretation suggests a strong possibility of structurally controlled mineralization within an area of 800x1000 meters.

A diamond drill program consisting of three holes 200 meters each is recommended to test the area of the I.P. anomaly located at the southeast and northeast corners of the L.A.5 and L.A.7 claims.

All drill holes should be located between L25+00S and L28+00S and drilled at N-40°E, -50° inclination to a depth of 200 meters.



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L.A. CLAIM GROUP

PROPOSED BUDGET

600 meters of Diamond Drilling 21 days

Project Preparation Mob/Demob	\$1,20 3,71	0
<u>Field Crew</u> Geologist @\$350.00/day x 21 days Geotechnician @\$250.00/day x 21 days Truck 4x4 @\$130/day x 21 days	7,350 <u>5,250</u> 12,60 2,73	0
Drilling 600 meters of diamond drilling @ \$100/meter	60,00	0
Lab Analysis 300 core sample @\$15.00/sample	4,50	0
Supervision and Report Sub total Administration @15% GST 7%	6,00 \$90,74 13,61 7,30	<u>0</u> 0 1 4
Total	111,65	5

Say

\$112,000



CERTIFICATE OF QUALIFICATIONS

I, FAYZ F. YACOUB, of 13031 - 64th Avenue, Surrey, British Columbia, V3W 1X8, do hereby declare:

- 1. That I am a graduate in Geology and Chemistry from Assuit University, Egypt (B.Sc., 1967), and Mining Exploration Geology of the International Institute for Aerial Survey and Earth Sciences (I.T.C.), Holland (Diploma 1978).
- 2. I am a fellow in good standing with the Geological Association of Canada.
- 3. I am a professional geologist and a member of the Association of the Professional Engineers and Geoscientists of B.C.
- 4. I have actively pursued my career as a geologist for the past twenty years.
- 5. The information, opinions, and recommendations in this report are based on fieldwork carried out by myself, and on published and unpublished literature. I was present on the subject property between February 25 to March 2, 1994.
- 6. I have no interest, direct or indirect, in the subject claim or the securities of Guardian Resources Corporation.
- 7. I consent to the use of this report in a Prospectus of Statement of Material Facts for the purpose of private or public financing.



Fayz F. Yacoub, P.Geo.

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Appendix A:

Rock Sample Descriptions

The Lake Adit Claim Group Rock Sample Description

Sample No.	Description	Width <u>(cm)</u>
L.A./94 FR1	Chip, two metres of mineralization zone of massive magnetite & minor pyrite dissemination and copper staining	200
L.A./94 FR2	Chip across 30 cm of massive sulphide pod, mineralization consists of pyrite pyrrhotite, sphalente and malachite	30
L.A./94 FR3	Chip over 1 meter of disseminated sulphide pod mainly pyrrhotite, hosted by light grey volcanic andesite	100
L.A./94 FR4	Massive sulphide pod, hosted by volcanic andesite, sample collected across 1 meter.	100
L.A./94 FR5	Chip over 3 meters of semi-massive mag, py, pyr zone of contact between volcanic andesite and marble.	300
L.A./94 FR6	Massive sulphide zone hosted by volcanic andesite. Mineralization consists of massive magnetite, pyrrhotite, pyrite and minor malachite. Sample over two meters.	200
L.A./94 FR7	Chip sample collected across 1 meter of rusty, disseminated volcanic andesite, 2% pyrite, 2% pyrrhotite, 15% hemalite and limonite.	100
L.A./94 FR8	Chip across 1 1/2 meters of suphide pod exposed in a short (2 meters adit) mineralization consists of 60% py, 20% pyrrhotite, hosted by altered vuggy volcanic andesite	150
L.A./94 FR9	Chip, 40 cm of marble band mineralized with green malachite (5%). Sample taken at 10 meters below FR7.	40
L.A./94 FR10	Chip sample across 1 meter of massive sulphide pod, mineralization is mainly pyrite, pyrrhotite and magnetite, hosted by massive dark grey volcanic andesite.	100

L.A./94 FR11	Chip; 30 cm of altered (propylitic) volcanic, disseminated with pyrite (2%), epidote (20%).	30
L.A./94 FR12	Select sample taken across 30 cm of slicified pod disseminated with pyrite and minor chalcopyrite hosted by sheared, silicified volcanic andesite.	30
L.A./94 FR13	Chip over one meter of silicified, shear zone strikes 205° in fractured volcanic andesite disseminated with 2-3% pyrite.	100
L.A./94 FR14	Semi-massive sulphide pod, mineralization is mainly pyrite, pyrrhotite hosted by magnetite. Chip sample over 50 cm.	50
L.A./94 FR15	Chip; light grey rhyolite, dessiminated with fine-grained pyrite.	200
L.A./94 FR16	Channel sample, 10 cm of quartz vein disseminated with pyrite, chalcopyrite, sphalerite and minor galera, hosted by dark grey volcanic andesite, vein strikes N-20° East.	10
L.A./94 FR17	Chip; silified shear zone, strikes 205°, 1% pyrite dissemination. Sample taken at 3 meters above FR 13.	300
L.A./94 FR18	Chip sample across 2 meters of volcanic shear zone, 15 meters south of FR 13, FR17, striking 210°, disseminated volcanic (5% pyrite).	200
L.A./94 FR19	Chip; massive volcanic andesite hosting quartz vein 20 cm wide. Sample collected from 1 meter of volcanic wall rock, disseminated with 1% pyrrite.	100
L.A./94 FR20	Channel sample across 20 cm of white sugary quartz vein, 2% fine-grained pyrite, hosted by volcanic andesite.	20
L.A./94 FR21	Chip; propylitic alteration zone of light grey rhyolite with extensive epidote, 2% pyrite, the zone strikes 208.	150
L.A./94 FR22	Semi-massive pyritic pod exposed in a small open cut, the pod strikes N-60°E, contains 30-40% pyrite, hosted by massive volcanic andesite.	100

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	Chip sample across one meter.	
L.A./94 FR23	Semi-massive to massive sulphide zone in shear zone 2 meters wide, strikes N-20°E, contains 30-40% pyrite. Chip across the shear zone.	200
L.A./94 FR24	Massive sulphide pod expouse in a trench, mineralization consists of massive pyrite, pyrrhotite and magnetite. Chip sample over 1 meter.	100
L.A./94 FR25	Semi-massive to disseminated sulphide pod 20-30% pyrite, pyrrhotite in a trench 20 meters above FR24. Chip across 1 meter.	100
L.A./94 FR26	Rusty, dark brown weathered shear zone, strikes 210°, disseminated with 5% pyrite, trace of chalcopyrite. Chip over 2 meter of the shear zone.	200
L.A./94 FR27	Altered volcanic rhyolite zone 20 meters long, 10 meters wide, the zone is light brown with minor silification, trending 225°. Grab sample.	
L.A./94 FR28	Chip across 30 cm of shear zone strikes 220°/90°, bleached volcanic andesite disseminated with very fine-grained pyrite.	30

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Sample No.	Description	Width <u>(cm)</u>
GKR-1	Intensely, malachite stained, quartz flooded material of andesitic composition, mineralization includes semi-massive and blebs of chalcopyrite, and magnetite, minor pyrite.	200
GKR-2	Chip sample, Intensely Fe oxidized surface some malachite staining at contact with lamprophyre dyke, andesite contain minor pyrite, chalcopyrite and magnetite.	100
GKR-3	Silicified andesite host rock with semi-massive to massive sulphide, mostly pyrite and pyrrhotite and semi- massive magnetite.	200
GKR-4	Chip across two meters of oxidized volcanic locally malachite stained, minor sphalerite and chalcopyrite.	200
CKR-5	Host dominantly skarnified marble, contains semi-massive chalcopyrite and pyrite as fine dissemination.	140
GKR-6	Altered andesitic host rock, intensely malachite stained sulphides comprise semi-massive to massive chalcopyrite and pyrite. Chip over two meters.	200
GKR-7	Skarnified material with magnetite, pyrite, and chalcopyrite, mostly massive in appearance. Chip across two meters.	200
GKR-8	Altered volcanics, mineralization consists of semi-massive to massive pyrite- chalcopyrite.	220
GKR-9	Skarn zone, mineralization includes pyrite dissemination + chalcopyrite.	100
GKR-10	Chip sample across one meter of intensely sheared, gossanous material with 20-30% pyrite. Host rock is silicified andesite - plagioclase porphyry.	100
GKR-11	Intensely sheared, gossanous material as above, moderately silicified andesite containing 3-5% disseminated and fracture filling pyrite and magnetite. Chip over one meter.	100

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GKR-12	Intensely pyritiferous material from shear zone, contains up to 30% pyrite, minor chalcopyrite, considerable magnetite hosted by silified andesite.	100
GKR-13	Intensely silicified and oxidized material (shear zone) disseminated with 10% pyrite, weakly magnetite. Chip across 1 meter.	100
GKR-14	Shear zone of undetermined orientation very pyritic (40% pyrite) and magnetite, minor fracture filling epidote.	100
GKR-15	Semi-massive pyrite pod associated with shear zone in andesite. There is a considerable amount of epidote. The shear zone is trending 45/26.	100
GKR-18	Grab sample taken from an old pit, comprises massive pyrite and magnetite, with considerable amount of epidote. The mineralization is controlled by a shear trending 55°/66°.	

Appendix B:

Analytical Report

GC VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: ASHWORTH EXPLORATIONS LTD. ADDRESS: 4491 MARINE DRIVE : W. Vancouver BC : V7W 2N8

PROJECT#: L.A.

REPORT COMPLETED: FEB 07 1994

SAMPLES ARRIVED: FEB 03 1994

ANALYSED FOR: Au (FA/AAS) ICP

DATE: FEB 07 1994

REPORT#: 940008 GA JOB#: 940008

INVOICE#: 940008 NA TOTAL SAMPLES: 46 SAMPLE TYPE: 46 ROCK REJECTS: SAVED

SAMPLES FROM: ASHWORTH EXPLORATIONS LTD. COPY SENT TO: ASHWORTH EXPLORATIONS LTD.

PREPARED FOR: MR. CLIVE ASHWORTH

ANALYSED BY: Raymond Chan

SIGNED:

GENERAL REMARK: RESULTS FAXED TO MR. CLIVE ASHWORTH @ 926-0466.

VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

REPORT NUMBER: \$40008 GA	JOB NUNBER: \$49008	ASSIGNMENTS EXPLORATIONS LTD.	PAGE 1 OF 2
SAMPLE #	Au		·
	ppb		
L.A94 F-R-01	350		
L.A94 F-R-02	380		
L.A94 F-R-03	110		
L.A94 F-R-04	140		
L.A94 F-R-05	790		
L.A94 F-R-06	420		
L.A94 F-R-07	210		
L.A94 F-R-08	40		
L.A94 F-R-09	20		
L.A94 F-R-10	60		
L.A94 F-R-11	460		
L.A94 F-R-12	110		
L.A94 F-R-13	20		
L.A94 F-R-14	80		
L.A94 F-R-15	10		
L.A94 F-R-16	10		
L.A94 F-R-17	10		
L.A94 F-R-18	10		
L.A94 F-R-19	10		
L.A94 F-R-20	. nđ		
L.A94 F-R-21	nđ		
L.A94 F-R-22	nd		
L.A94 F-R-23	nd		
L.A94 F-R-24	40		
L.A94 F-R-25	10		
L.A94 F-R-26	20		
L.A94 F-R-27	10		
L.A94 F-R-28	nd		
L.A94 G-K-01	920		
L.A94 G-K-02	30		
L.A94 G-K-03	770		
L.A94 G-K-R-04	190		
L.A94 G-K-R-05	170		
L.A94 G-K-R-06	500	~	
L.A94 G-K-R-07	370		
L.A94 G-K-R-08	-20		
L.A94 G-K-R-09	1140		
L.A94 G-K-R-10	nd		
L.A94 G-K-R-11	nđ		
DETECTION LINIT	5	·	
nd = none detected	= not analysed	is = insufficient sample	

VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

REPORT NUMBER: \$40008 GA	JOB NUNBER: \$44445
SAMPLE #	Au
	ppb
L.A94 G-K-R-12	nd
L.A94 G-K-R-13	nd
L.A94 G-K-R-14	nd
L.A94 G-K-R-15	nd
L.A94 G-K-R-16	nđ
L.A94 G-K-R-17	490
L.A94 G-K-R-18	nd

DETECTION LIMIT nd = none detected

-- = not analysed

is = insufficient sample

ASHRORTE EIPLORATIONS LTD.

PAGE 2 OF 2

ICAP GEOCHEMICAL ANALYSIS

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ANALYST:

A .5 gram sample is digested with 5 ml of 3:1:2 HCL to HNOm to H=O at 95 for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

Pand Pand Patr (1997) Phi (604) 251-5656 Fax: (604) 254-5717

D Pand

REPORT 1: 940008 PA	ASH	WORTH EXI	LORATION	IS LTD.	•		PROJE	<u>CT: L.A</u>	·		DATE	IN: FEB	03 1994	DATE	OUT: FEB	14 1994	AT	TENTION:	MR. CLI	VE ASHWOR	<u>sth</u>			PA	<u>6e i of</u>	2
- Samle Name	An	Al	Ås	₹Å.s	Ba .	Bi	Ca	Cd	Co	Cr	Cu	Fe	ĸ	Ha	Ko	Ka	Ka	Ni	P	Pb	Sb	Sn	Sr	U	¥	Zn
	0.0	Ţ	00.	coh	008	004	1	50.	008	000	00.0	1	1	1	00.6	00.0	1	008	ī	000	006	008	004	008	008	006
L.A94 F-R-01	36.6	0.49	46	350	98	8	3.53	61.4	65	10	>20000	20.04	(0.01	0.15	2381	37	0.06	12	0.06	58	1	(2	8	<5	(3	9174
L.A94 E-R-02	18.3	0.68	46	380	107	12	1.59	67.8	176	22	(20000	23.97	(0.01	0.45	1765	45	0.07	5	0.04	103	5	(2	2	(5	(3	8019
L.A94 F-R-03	11.1	0.68	49	110	118	14	2.87	44.5	60	26	4489	23.09	(0.01	0.29	2799	28	0.07	6	0.05	157	24	(2	8	<5	<3	1938
L.A94 F-R-04	6.5	1.24	38	140	110	8	1.94	28.4	59	21	3696	20.91	(0.01	0.79	2346	26	0.06	7	0.03	130	26	(2	9	(5	(3	914
L.A94 F-R-05	26.9	1.04	63	790	95	11	2.11	25.5	90	21	14540	19.44	(0.01	0.59	2265	34	0.07	4	0.07	105	9	(2	10	(5	(3	1349
																				•						
L.A94 F-R-06	33.9	0.83	415	420	129	25	0.81	48.9	87	27	5994	26.26	<0.01	0.68	1626	142	0,08	. 7.	0.05	150	25	<2	11	(5	<3	3089
L.A94 F-R-07	8,5	1.27	510	210	116	27	0,27	24.9	63	22	3530	22.58	(0,01	0.84	1057	153	0.08	5	0.08	115	26	<2	19	. (5	(3	350
L.A94 F-R-08	2.4	0.14	274	40	118	18	0.08	1.7	99	43	363	27.13	<0.01	0.14	708	78	0.08	14	0.03	125	16	<2	6	<5	<3	131
L.A94 F-R-09	2.2	0,03	<3	20	23	3	14.17	19.2	10	1	7250	1.99	<0.01	0.03	1278	4	0.04	4	0.02	6	<2	<2	44	<5	(3	5442
L.A94 F-R-10	3.8	1,20	139	60	117	16	1.84	29.5	85	27	2054	23.50	(0.01	1.03	1487	76	0.07		0.03	110	34	(2	14	(5	(3	885
L.A94 F-R-11	>50.0	3.83	671	460	75	. 6	0.36	14.8	138	11	11740	16.94	(0.01	1,93	2439	21	0.10	24	0.06	59	40	<2	11	(5	(3	1496
	>50.0	0.71	126	110	65	30	0.09	1.9	106	21	3731	13.63	(0.01	0.34	569	71	0.04	2	0.03	534	<2	(2	2	(5	(3	202
L.A94 F-R-13	4.7	1.53	51	20	73	4	0.20	1.1	41	22	1061	8.99	(0.01	0.60	825	24	0.04	3	0.06	134	11	<2	8	(5	<3	233
L.A94 F-R-14	6.4	0.30	141	80	145	45	0.10	2.0	76	29	4846	30.06	(0.01	0.20	1069	137	0.09	12	0.04	128	18	<2	9	<5	(3	153
L.A94 F-R-15	1.0	0.39	15	10	52	4	0.07	0.5	8	16	252	6.84	(0.01	0.21	163	9	0.10	2	0.09	16	<2	<2	7	(5	(3	35
T A -04 E-D-16		1 24	17	10	21		A 15	A 5	20	22	127	4 00	70.01	0.70	557	10	0.05	2	0.09	19	4	12	2	(5	(3	76
L.H34 (-K-10	2 0	1.51	22	10	170	/2	0,1J 0 10	24	25	23	522	12 00	70.01	0.75	524	14	0.03		0.11	69	10	(2	12	(5	(3	134
L.R 94 F-R-17	1.4	0.92	20	10	57		0.42	0.5	25	20	125	3.94	(0.01	0.39	406		0.06		0.09	20	6	(2	16	(5	(3	138
1 A -94 F-P-19	11	5 33	63	10	79		2 94	1 7	87	38	334	5.70	(0.01	0.94	883	14	0.73	26	0.05	51	64	(2	190	(5	(3	119
L.A94 F-R-20	0.4	0.77	16	(5	17	(3	0.52	0,5	27	51	25	2.74	(0.01	0.23	244	4	0.04	9	0.01	13	5	<2	30	<5	<3	29
- 04 C-0-21	<u>م م</u>	1 00	10	/5	57		A 15	٨٤	20		15	6 17	70.01	A 95	200	• •	0 07	6	0 09	P	3	(2	4	(5	(3	45
L.A 74 F-K-Z1	5 2	2 12	41			10	0.49	37	54	13	4595	13 21	(0.01	1 98	2973	J	0.05	0	0.09	-46	15	(2	11	(5	(3	460
LA -94 F-P-73	4 3	0.99	34	(5	44	14	0.81	15	54	4	6012	10.20	(0.01	0.26	592	6	0.03	2	0.11	29	3	<2	44	(5	(3	164
LA -94 5-P-24	19.6	1 45	59	40	99	16	0.50	14.8	78	14	>20000	19.34	(0.01	0.72	1905	27	0.05	1	0.11	53	(2	(2	26	(5	(3	619
L.A94 F-R-25	1.5	0.68	22	10	61	9	1.04	2.3	50	33	815	11.71	<0.01	0.28	987	29	0.03	54	0.12	32	<2	<2	30	<u>(</u> 5	<3	65
L A -94 E-P-26	2 Q	2 32	30	20	65	11	1 15	15	25	25	1555	- 5 79	(0.01	0.88	1324	11	0.13	3	0.09	51	20	(7	53	(5	(3	340
1 4 -94 5-9-27	25	0 80	22	10	25		1 04	0.8	Q	30	745	5 19	(0.01	0.07	349		0.02	4	0.07	30	4	(2	45	(5	(3	170
L.A94 F-R-28	1.1	2.41	23	(5	115	4	0.13	0.6	26	22	104	7.36	0.07	2.40	1208	6	0.15	5	0.07	37	17	(2	18	<5	(3	178
I A -94 G-K-01	40.2	1.67	84	920	52	۸	0:63	12.0	31	5	>20000	9,90	0.30	1.05	1614	16	0.05	1	0.03	15	<2	(2	15	(5	(3	1507
L.A94 G-K-02	5.1	2.02	43	30	147	<3	0.53	14.3	70	34	4788	22.23	(0.01	2.04	2102	30	0.10	49	0.10	76	27	(2	40	<5	<3	503
																			-							
L.A94 6-K-03	16.7	0.85	550	770	106	24	0.37	9.2	64	14	19680	23,72	<0.01	0.55	999	88	0.07	2	0.04	100	<2	(2	7	<5	(3_	688
L.A94 6-K-R-04	12.6	1.27	55	190	52	(3	7.05	51.4	41	3	12000	6.94	<0.01	0.24	5366	9	0.04	1	0.06	31	6	(2	10	(5	(3	11148
L.A94 6-K-R-05	5.2	0.57	20	170	62	8	14.30	159.3	129	1	2427	9.98	<0.01	0.08	5807	23	0.06	5	0.05	119	<2	<2	20	(5	(3	>20000
L.A94 G-K-R-06	17.5	0.71	46	500	103	7	2.55	38.6	63	10	17170	22.72	<0.01	0.34	2195	24	0.07	1	0.05	79	6	<2	8	<5	(3	1507
L.A94 6-K-R-07	>50.0	1.05	61	370	152	41	0.45	24.3	9	4	>20000	42.25	<0.01	0.75	1659	52	0.09	4	0.40	9	14	<2	6	<5	<3	2754
L A _04 C_K_P_00	10.6	0.60			127	10	0.07	1.0	07		5705	20 12	(0.01	0.20	020		6 67	15	0.04	125	· 17	12	2	(5	(3	221
1 4 -94 6-K-D-09	14.0	0.00	27	1140	79		1 01	30 0	29	- 40	16900	18 60	(0.01	0.30	1522	26	0.06	13	0.06	47	(7	(7	12	(5	(3	4431
L.A94 G-K-R-10	4.8	4.37	80	(5	69	14	1.41	11.7	123	20	2337	14.65	(0.01	1.50	1092	46	0,40	13	0.07	135	54	<2	98	(5	(3	1268
L.A94 G-K-R-11	1.1	0.51	19	(5	43	(3	0.44	0.9	14	15	410	2.89	(0.01	0.28	360	6	0.08	5	0.08	17	3	(2	11	(5	(3	132
														A A4		4	A A1					2		5	2	1
ninimum Detection	<u>0.1</u>	10.00	2000	10000	1000	1000	10.00	0.1	20000	1000	20000	10.01	10.00	10.00	20000	1000	10.01	20000	10.00	20000	2000	1000	10000	100	1000	20000
A Loce The Mini-		5raator 3	1000 Hari	10000	1000		10.00	1000.0	- 10 5	1000	20000	10.00	10.00	10.00		1000	AAC C		10.00	20000	1000	1000				
V LESS (844) (1101100	····· / -	UICALE	HOH HOLL	HUH	12 - 105	ou(111118	ns Dampi	<u>e 65</u>	- NO 298	016	,≭AU ANa	11 Y 51 5 10	me by F1	18 A229	concent	14310 <u>0 /</u>	NAD LIN	150.								

1630 Pandora Street, Vancouver, B.C. VSL 1L6 Ph:(604)251-5656 Fax:(604)254-5717 .

ICAP GEOCHEMICAL ANALYSIS

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A .5 gram sample is digested with 5 ml of 3:1:2 HCL to HNOm to H₂O at 95 for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Ma, P, Sn, Sr and W.

ANAL YST:

ACTURI DI 240000 FR	N3		UPLOKATIK	NO LIV.			PRUJ	<u>Ççiî Liñi</u>	·		- <u></u>	PA	15 JUL 31	L8 U3 192	14 U	ALE UUI:	FEB 14 1	1994	ALLENI	IUN: NK.	ULIVE AS	NANAKIN			PAGE 2	<u>. up z</u>
Sample Name	Aq	A1	As_	. +Au	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Kq	Ka	Ko	Xa	Ni	P	Pb	56	Sa	Sr	U		Zn
	004	1	004	ppb	ppe	004	I	ppe	ppe	ppe	ppe	7	I	1	pps	00 M	ĩ	ppe	Z	000	ppa	008	ppa	ppa	008	ppe
L.A94 6-K-R-12	4.1	1,78	75	<5	70	19	0,07	3,4	48	1	143	13.87	(0.01	1.22	1115	46	0,26	6	0,04	196	13	<2	24	<5	(3	212
L.A94 6-K-R-13	0,9	1,08	25	(5	70	4	0,07	6.1	48	13	556	6.12	(0.01	0.67	406	5	0,08	1	0.03	32	.1	<2	6	<5	(3	1954
L.A94 6-K-R-14	1.1	1.44	39	(5	. 78	11	0.36	11.3	73	5	598	18.12	(0.01	0.70	720	71	0.08	4	0.11	103	10	(2	• 6	<5	(3	206
L.A94 6-K-R-15	1.0	0,52	28	<5	61	9	1.60	8.8	22	6	435	15.79	(0.01	0.07	\$57	6	0.04	5	0.02	38	5	<2	16	<5	<3	\$37
L.A94 G-K-R-16	1.1	1,90	29	(5	43	<3	7,56	160.4	46	13	1980	5.17	<0.01	0,26	8328	9	0.05	1	0.06	47	27	<2	8	<5	<3	>20000
L.A94 6-K-R-17	>50.0	0.74	32	490	129	66	1.49	63.8	41	4	>20000	38.23	<0.01	0.42	2659	14	0.09	4	0.05	47	7	<2	6	<5	(3	16283
L.A94 6-K-R-18	9,5	0.19	12	<5	119	8	0.09	2.9	156	26	6006	28,55	<0,01	0,16	337	26	0.06	40	0.03	89	4	<2	1	(5	<3	360
			•																							
Miniaua Detection	0.1	0.01	3	. 5	1	3	0.01	0.1	i	1	i	0.01	0.01	0.01	1	1	0.01	i	0.01	2	2	2	1.	5	3	11
Maximum Detection	50.0	10.00	2000	10000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000
S - Less Than Minimu	• <u>}-</u>	Greater	Than Maxi	aus	is - Ins	ufficie	nt Sampl	e ns	- No Sae	ple	+Au Ana	lysis Do	ne By Fi	re Assav	Concent	ration /	AAS Fin	ish.								

> - Greater Than Maximum is - Insufficient Sample ns - No Sample +Au Analysis Done By Fire Assay Concentration / AAS Finish.

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VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

ASSAY ANALYTICAL REPORT

CLIENT: ASHWORTH EXPLORATIONS LTD. ADDRESS: 4491 Marine Drive : W. Vancouver BC : V7W 2N8 DATE: MAR 03 1994

REPORT#: 940008 AA JOB#: 940008

PROJECT#: L.A. SAMPLES ARRIVED: FEB 03 1994 REPORT COMPLETED: MAR 03 1994 ANALYSED FOR: Cu Zn Ag INVOICE#: 940008 NB TOTAL SAMPLES: 11 REJECTS/PULPS: 90 DAYS/1 YR SAMPLE TYPE: 11 ROCK PULPS

SAMPLES FROM: ASHWORTH EXPLORATIONS LTD. COPY SENT TO: ASHWORTH EXPLORATIONS LTD.

PREPARED FOR: MR. CLIVE ASHWORTH

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

GENERAL REMARK: * ASSAY ANALYSES AS PER MR. YACOUB'S REQUEST ..ON MARCH 02 1994. * RESULTS FAXED TO MR. CLIVE ASHWORTH @ 926-0466.

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

REPORT NUMBER: \$40003 AA	JOB NUMBER: \$4000\$	ASHVORTE EXPLORATIONS LTD.	PAGE 1 OF 1
SAMPLE #	Cu %	Zn %	Ag oz/st
L.A94 F-R-01	. 3,96		
L.A94 F-R-02	2.00		
L.A94 F-R-11	1.13	·	1.48
L.A94 F-R-12	0.36	— —	1.02
L.A94 F-R-24	3.85	· ·	0.60
L.A94 G-K-01	4.04		0.96
L.A94 G-K-03	2.05		0.51
L.A94 G-K-R-05		4.03	
L.A94 G-K-R-07	10.85		2.00
L.A94 G-K-R-16		4.15	
L.A94 G-K-R-17	8.04		2.42



Appendix C:

Aerial Photo Interpretation

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Report on the 1994 Aerial Photo Interpretation

Lake Adit Claims, Lillooet Mining Division British Columbia

for

Guardian Resources Corp Suite 830 - 355 Burrard Street Vancouver, B.C. V6C 2G8

By

Richard E. Kucera Kucera Geoconsultants 5198 Ranchos Road Bellingham, WA 98226 February, 1994

REPORT ON THE 1994 AERIAL PHOTO INTERPRETATION Lake Adit Claims, Lillooet Mining Division

British Columbia

INTRODUCTION

This report and accompanying photogeological map were prepared at the request of Mr. Yacoub, of Ashworth Explorations Limited, Vancouver, B.C. It was hoped that the few limited outcrops, geologic contacts and structural trends observed during field exploration might be extended on the map area using detailed photo interpretation.

The purpose of this report is to describe the results of photo interpretation of a portion of the Lake Adit Claims. The photogeological map covers an area of approximately 8 square kilometres. Geologic features that were mapped include bedrock exposures, geological structures, and unconsolidated alluvial deposits.

PHOTOGRAPHS AND GEOMETRIC CHARACTERISTICS

The photogeologic map and report are based on the stereoscopic investigation of aerial photographs BC 7478, numbers 281, 282, and 283 and 284. The photogeologic map was constructed with overlays superimposed on the photos. The photographs were taken on a flightline oriented in an east - west direction. The photographs have a scale of approximately 1mm (photo) = 19.7 metres (ground). Therefore, it was possible to delineate only larger geologic features on the photographs.

Owing to scale variation caused by relief of the terrain (210 metres to over 1200 metres elevation), it should be noted that parts of the landscape within a single photograph will be a different scale. It is obvious that the higher parts of the terrain on the Lake Adit Claim will be at a <u>larger</u> scale than in the lower parts.

ACCESS AND PHYSIOGRAPHY

According to earlier reports, road access to the Lake Adit Claims is via a new logging road that follows the west shore of Lillooet Lake. The road does not appear on the photomap since it postdates the air photography.

The Lake Adit Claims are situated on the west side of Lillooet Lake on the northeastern flank of Mt. Currie, approximately 16 km southeast of Pemberton, B.C. From an elevation of approximately 210 metres at lake level, the land rises to over 1200 metre elevation along the western photomap boundary. The terrain is moderately rugged, forming numerous rock cliffs and steep slopes. The east - facing mountain slope has been dissected by streams into steep - sided ravines. The course of some drainage segments coincide with structure trends. Glaciation has modified the upland fractures on the mountain, and certain rock outcrops have been sculpted and rounded by moving ice.

The greater part of the map area is highly vegetated with scarce outcrops. In spite of the thick vegetation cover, the writer has been able to identify and map important structural trends in these areas.

BEDROCK GEOLOGY

Various rock units have been described by Kim (1980) and Kikauka (1992) in their reports on the Lake Adit Claim at the northwest end of Lillooet Lake. The area is underlain by the Cadwallader Group (a roof pendant) of Permian - Triassic age bordered by outcrops of quartz diorite and diorite.

The Cadwallader rocks in the claim area consist of massive andesitic flows, dacite to rhyolite flows, tuffs, breccias and hornblende diorite dykes. Narrow lenses of marble or skarn also occur in this volcanic sequence. The small scale of the aerial photographs does not permit differentiation of bedrock types on the photos.

According to Kikauka, mineralization on the Lake Adit Claims consist of magnetite, pyrite, chalcopyrite and sphalerite as bands and massive lenses localized along limestone (marble) contacts which have been structurally complicated by faulting. These showings trend northwestward and are traced over 200 metres along their strike.

GEOLOGICAL STRUCTURES

The Lillooet Lake area occupies the southwest flank of a northwest - trending antiform composed of crystalline rocks (Spetch Creek Pluton). The northwesttrending foliation of the pluton belt is probably reflected in the similar orientation of the shore of Lillooet Lake along the Lake Adit Claim boundary. When viewed in the stereo model, Cadwallader rocks in the vicinity of Lake Adit Strike N 50° W and dip approximately 40°southwestward. Similar structural attitudes have been mapped by Kikauka in the field. He also noted a similar trend of a band of massive mineralization at the North Eagle prospect, north of the Lake Adit.

Steep slopes and thick forest cover prevent the tracing of structural attitudes in the <u>field</u> but detailed analysis of the image in the stereo model disclose the presence of important lineaments on the Lake Adit claim group.

Detailed mapping on the aerial photographs show the presence of several northeast and northwest - trending fractures, many of which are <u>inconspicuous</u> on the ground. The fractures are expressed on the photographs as very subtle straight or gently curved lines. Lines suggestive of fractures are expressed as straight scarps, rectilinear depressions, straight segments of streams and ravines and slight vegetation differences along linear features. The steep, straight segment of the streams draining the high slopes south of the main showings reflect distinct structural control. This is also true for the drainage flowing NNE in the northern portion of the Lake Adit claim block.

The writer has mapped several fractures as much as 1200 metres long that trend N 45° W to N 80° W and cut obliquely across the regional structural trend. Subtle, but important N 65° E to N 70° E - trending fractures cut across the prevailing structural trend at nearly right angles. In places shearing along the northwest - trending fractures appear to have offset the northeast - trending lineaments. The fracturing as observed in the stereo model is concentrated within an area measuring 800 x 1000 metres near the middle of the Lake Adit 1 - 12 claim block. This area coincides with the mineralized showings on the claim block.

A somewhat similar fracture pattern occurs at the northeast corner of the Lake Adit 13-18 claim block. At this locality, two northwest - trending fractures, 500 metres long, intersect northeast - trending lineaments.

The photo mapping suggests that the mineralized bands and lenses described by previous workers have been offset by numerous fractures, some of which may have experienced shear movement as well as vertical displacement.

CONCLUSIONS

Detailed aerial photo interpretation of a portion of the Lake Adit claim block has extended the geologic contacts noted in the field and determined the presence and orientation of two sets of fractures that are especially prominent in the mineralized area. Northwest - trending fractures cut across the regional structural trend and appear to offset very subtle northeast - trending lineaments. The mineralized bands described by early workers have been offset by numerous fractures, some of which may have experienced shear movement as well as vertical displacement.

It is possible that some of the mineralization may reflect structural control ie, the close proximity of showings on the Lake Adit claims to the apparent <u>intersection</u> of northwest and northeast - trending lineaments.

REFERENCES

Kikauka, A, 1992 - Unpublished Geological Report Kim, H, 1981 - Geology and Geophysical Assessment Report on the Lake Adit Claim Group, March 1981



Rubard E. Kucera

Richard E. Kucera, Ph.D.



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Appendix D:

Geophysical Reports

ADDENDUM

GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION, RESISTIVITY,

GENIE EM, AND MAGNETIC SURVEYS

OVER 2 AREAS OF THE

LA CLAIMS

LILLOOET LAKE, PEMBERTON AREA

LILLOOET MINING DISTRICT, BRITISH COLUMBIA

SURVEY PERIOD

WRITTEN FOR

WRITTEN BY

: January 24 - February 8, 1994

: GUARDIAN RESOURCES CORP. 8th Floor 355 Burrard Street Vancouver, British Columbia

: David G. Mark, Geophysicist GEOTRONICS SURVEYS LTD. #405 - 535 Howe Street Vancouver, B.C. V6C 2Z4

DATED

: March 18, 1994

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SUMMARY

Induced polarization, resistivity, Genie EM and magnetic surveys were carried out over two portions of the LA Claims belonging to Guardian Resources Corp.

The IP and resistivity surveys were carried out using a Huntec Mark IV receiver operating in the time-domain mode. The array used was dipole-dipole, read to six separations, with a dipole length and reading interval of 30 m. Ten lines were carried out on the Main Grid and one line on the Adit Grid for a total survey length of 6,630 m. The results were plotted in pseudosection and plan and contoured.

The magnetic survey was carried out using a Geometrics Unimag proton precession magnetometer with readings taken every 12.5 m on the two grids. Twelve lines were surveyed on the Main Grid and ten lines on the Adit Grid for a total survey length of 6,240 m. The results were plotted and contoured in plan on a base map as well as plotted above the IP/resistivity pseudosections.

The EM survey was carried out using a Genie electromagnetometer manufactured by Scintrex. The transmitter and receiver were oriented in the coplanar mode with a separation of 50 m. Two frequency pairs were read, 1012/112 and 3032/112, and readings were taken every 12.5 or 25 meters.

The purpose of the work was to extend known zones of mineralization, as well as to locate new ones, with the major focus of this goal to be locating drill targets.

CONCLUSIONS

(1) A major exploration target was revealed by the IP/resistivity survey within the central part of the Main Grid. It is composed of two anomalies, labelled A and B, 125 to 150 meters apart. Both anomalies consist of very strong IP chargeability values correlating with moderately high resistivity values. They strike northwesterly across the IP survey area from line 3000S to 2300S and therefore have a minimum length of 700 m, being open both to the northwest and to the southeast. The width of each causative source is up to 30 m and probably dips southwesterly.

The probable causative source is abundant sulphide mineralization occurring within a silicified rock. This has been verified by a sample taken from the anomaly area on line 2600S which consisted of a silicified rhyolite containing abundant pyrite as well as probably other sulphides. It was also verified by DDH #88-1, which drilled across anomaly B on line 2700S with assay results of .28% Cu and 1.34% Zn across 6.2 m.

(2) The southern part of anomaly A occurs along the northeastern edge of a strong magnetic high that probably reflects a rock-type. Therefore, in this area, the mineralization of anomaly A probably occurs along a contact zone. The rest of anomaly A and much of anomaly B correlates directly with, or almost directly with, magnetic highs suggesting magnetite, or possibly pyrrhotite, occurs with or adjacent to the causative sources of anomalies A and B.

ii

CONCLUSIONS (Cont'd)

- (3) The Genie EM survey on the Main Grid resulted in two weak conductors - Conductor A partially correlates with IP/resistivity anomaly A and conductor E suggests that IP/resistivity anomaly B extends a further 300 m southeast of the IP/ resistivity survey area.
- (4) The geophysical surveys over the Adit Grid resulted in:
 - (a) very strong magnetic readings at four locations indicative of lenses of magnetite;
 - (b) four weak to moderate Genie EM conductors, some of which correlate with or are on strike of known sulphide mineralization; and
 - (c) very strong IP readings correlating with moderately high resistivity readings on the one line surveyed (5+00N). There is very good correlation with Genie EM conductors. The probable causative source is also sulphide mineralization, occuring within a silicified rock-type (rhyolite?).

iii

RECOMMENDATIONS

(1) IP/resistivity anomalies A and B of the Main Grid should be drill-tested. Assuming a southwesterly dip to the targets, the holes should be drilled with a northeasterly dip; perhaps -50°. In order to test both anomalies with one hole, the length of each hole should be 150 to 200 m. Four suggested locations for drill hole collars, in order of priority, are:

(a) Line 2800S, 135W;
(b) Line 2700S, 120W;
(c) Line 2500S, 120W; and
(d) Line 2600S, 90W.

(2) The IP, resistivity and magnetic surveys should be extended both to the northwest and to the southeast since anomalies A and B are open in both these directions. Even though they appear to weaken near both survey edges, they may become stronger again, which would indicate strong sulphide mineralization.

iv

ADDENDUM

GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION, RESISTIVITY,

GENIE EM, AND MAGNETIC SURVEYS

OVER TWO AREAS OF THE

LA CLAIMS

LILLOOET LAKE, PEMBERTON AREA

LILLOOET MINING DISTRICT, BRITISH COLUMBIA

INTRODUCTION AND GENERAL REMARKS

This report discusses the instrumentation, theory, field procedure and results of induced polarization (IP), resistivity, Genie EM and magnetic surveys carried out over two grids of the claims. This report is written as an addendum to a geolgocial and geochemical report on the property by Fayz Yacoub, P.Geo. (geologist).

All geophysics were carried out during the period of January 24 to February 8, 1994. The IP/resistivity survey work was carried out under the field supervision of Alain Charest, senior geophysical technician, who also formed part of the field crew. One geophysical technician as well as two helpers completed the crew of four. The magnetic survey was carried out under the direction of Fayz Yacoub, and the Genie EM work was carried out by Andris Kikauka, P.Geo. (geologist).

The main purpose of the geophysics was to determine the response to the known mineralization, extend the known zones, as well as to locate new ones, and assist in determining drill targets.

It is also anticipated that the resistivity and magnetic surveys will assist in the mapping of the bedrock geology. For the resistivity survey, it is expected that faults and shear zones may show up as lineal-shaped resistivity lows; intrusive dykes as lineal-shaped resistivity highs, alteration zones as resistivity lows; and siliceous zones as resistivity highs.

INDUCED POLARIZATION AND RESISTIVITY SURVEYS

(1) Instrumentation

The transmitter used for the induced polarization-resistivity surveys was a Model IPT-1 manufactured by Phoenix Geophysics Ltd. of Markham, Ontario. It was powered by a 2.5 kw motor generator, Model MG-2, also manufactured by Phoenix.

The receiver used was a model Mark IV manufactured by Huntec ('70) Limited of Scarborough, Ontario. This is state-of-the-art equipment, with software-controlled functions, programmable through the front panel.

(2) <u>Theory</u>

When a voltage is applied to the ground, electrical current flows, mainly in the electrolyte-filled capillaries within the rock. If the capillaries also contain certain mineral particles

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that transport current by electrons (most sulphides, some oxides and graphite), then the ionic charges build up at the particleelectrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomena is known as electrode polarization.

A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositelycharged ions from the surrounding electrolyte; when the current stops, the ions slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absence of metallictype conductors.

Most IP surveys are carried out by taking measurements in the "time-domain" or the "frequency-domain".



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Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless paramater, the chargeability, "M" which is a measure of the strength of the induced polarization effect. Measurements in the frequency-domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, "PFE".

The quantity, apparent resistivity, a, computed from electrical survey results is only the true earth resistivity in a homogenous sub-surface. When vertical (and lateral) variations in electrical properties occur, as they always will in the real world, the apparent resistivity will be influenced by the various layers, depending on their depth relative to the electrode spacing. A single reading cannot therefore be attributed to a particular depth.

The ability of the ground to transmit electricity is, in the absence of metallic-type conductors, almost completely depending on the volume, nature and content of the pore space. Empirical relationships can be derived linking the formation resistivity 'to the pore water resistivity, as a function' of porosity. Such a formula is Archie's Law, which states (assuming complete saturation) in clean formations:

$$\frac{R_0}{2} = 0^{-2}$$

Rw

Where: R_0 is formation resistivity R_W is pore water resistivity 0 is porosity

(3) Survey Procedure

On the Main Grid, the IP/resistivity survey was carried out along eight survey lines running in a 50° E (N 50° E) direction, and along two cross lines running in a 320° E (N 40° W) direction. The line separation in both directions was 100 m. The amount surveyed was 6,240 m. On the Adit Grid only one line was surveyed, line 500N, running in a 110° E (S 70° E) direction, for a survey length of 390 m. The total amount surveyed was therefore 6,630 m.

The IP and resistivity measurements were taken in the timedomain mode using an 8-second square wave charge cycle (2seconds positive charge, 2-seconds off, 2-seconds negative charge, 2-seconds off). The delay time used after the charge shuts off was 200 milliseconds and the integration time used was 1,500 milliseconds divided into 10 windows.

The array chosen was the dipole-dipole shown as follows:



The dipole length and reading interval was chosen to be 30 meters for all survey lines. The lines were read to six separations, which gives a theoretical depth penetration of 105 m (about 350 feet).

Stainless steel stakes were used for current electrodes as well as for the potential electrodes.

(4) Compilation of Data

All the data were reduced by a computer software program developed by Geosoft Inc. of Toronto, Ontario. Parts of this program have been modified by Geotronics for its own applications. The computerized data reduction included the resistivity calculations, pseudosection plotting, survey plan plotting and contouring.

The chargeability (IP) values are read directly from the instrument and no data processing is therefore required prior to plotting. The resistivity values are derived from current and voltage readings taken in the field. These values are combined with the geometrical factor appropriate for the dipole-dipole array, to compute the apparent resistivities.

All the data has been plotted in pseudosection form at a scale of 1:2,500 with the magnetic readings plotted in profile form at the top. The map numbers are shown in the Table of Contents at the front of Yacoub's report. Each value is plotted at a point formed from the intersection of a line drawn from the mid-point of each of the two dipoles. The results of this method of plotting is the farther the dipoles are separated, the deeper is the 'reading. The resistivity pseudosection is plotted on the upper part of the map for each of the lines, and the chargeability pseudosection is plotted on the lower part.

All pseudosections were contoured at an interval of 3 milliseconds for the chargeability results, and at an interval of logarithmic to the base 10 for the resistivity results.

Also contoured plan maps were prepared for level 1 (n=1) and for level 5 (n=5), each for chargeability IP and for resistivity results.

MAGNETOMETER SURVEY

(1) Instrumentation

The magnetic survey was carried out with a model G-836 proton precession magnetometer (Unimag), manufactured by Geometrics of California. This instrument reads directly in gammas to an accuracy of ± 10 gammas, over a range of 20,000 - 100,000 gammas. The operating temperature range is -35° to +50° C, and its gradient tolerance is up to 5,000 gammas per meter.

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(2) Theory

Only two commonly occurring minerals are strongly magnetic, magnetite and pyrrhotite. Magnetic surveys are therefore used to detect the presence of these minerals in varying concentrations. Therefore, if magnetite or pyrrhotite occurs with economic mineralization, magnetic surveys are used to locate this type ofmineralization. Magnetic surveys are also useful as a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite.

(3) Survey Procedure

On the Main Grid, the readings of the earth's total magnetic field were taken at 12.5 m stations along twelve survey lines 100 m apart and running in a 50°E direction. The amount surveyed totalled 6,240 m. On the Adit Grid, readings were taken every 12.5 m on ten lines running in a 110°E direction for a total survey length of 2,300 m. The two grids totalled 6,630 m. The diurnal variation was monitored in the field by the closed loop method to enable the variation to be removed from the raw data prior to plotting. However, loops were closed within 40 nT (gammas) and thus no diurnal corrections were done. That is, the magnetic features being explored for were expected to have amplitudes in the order of hundreds of gammas.

(4) Compilation of Data

The data were plotted and contoured on 1:2,500 base maps, one for each of the two grids. The contour interval chosen was 200 nT for the Main Grid and 500 nT for the Adit Grid.

ELECTROMAGNETIC SURVEY

(1) Instrumentation

A Genie portable 2-man electromagnetometer, manufactured by Scintrex Ltd. of Toronto, Ontario was used for this survey. This instrument is designed for measuring the electromagnetic field which results from a conductive body; that is a structure which conducts electricity better than barren rock-types do. This particular instrument has the advantage of flexibility over most other EM units in that it can operate with different modes and frequencies as well as having a variety of distances between transmitter and receiver.

(2) Theory

In all electromagnetic prospecting, a transmitter induces an alternating magnetic field (called the primary field) by having a strong alternating current move through a coil of wire. This primary field travels through any medium and if a conductive mass such as a sulphide body is present, the primary field induces a secondary alternating current in the conductor and this current in turn induces a secondary magnetic field. The receiver picks up the primary field and, if a conductor is present, the secondary field. The fields are expressed as a vector which has two components, the in-phase (or real) component and the out-of-phase (or quadrature) component. The results are expressed as the percent deviation of each component from what the values would be if no secondary field (and therefore no conductor) was present.

Since the fields lose strength proportionally with the distance they travel, a distant conductor has less of an effect than a close conductor. Also, the lower the frequency of the primary field, the further the field can travel and therefore the greater the depth penetration.

The Genie EM unit can vary the strength of the primary field and so use different separations between transmitter and receiver coils, change the frequency of the primary field for varying depth penetrations, and use three different ways of orienting the coils to duplicate the survey in three styles so that more accuracy is possible in the interpretation of the data.

The use of the Genie electromagnetometer allows for better discrimination between low conductive structures such as clay beds and barren shear zones and more conductive bodies like massive sulphide mineralization. It also gives several different types of data over a given area so that statistical analysis can result in less error in the interpretation.

(3) Survey Procedure

Readings were taken at a 12.5- or 25-meter spacing using frequency pairs 1012/112 and 3037/112. The transmitter-receiver separation used was 50 meters and the transmitter and receiver were oriented coplanar for all readings.

A total of 13 km of electromagnetic survey was carried out on both grids.

(4) Compilation of Data

The EM data were profiled on base survey plans at a scale of 1:1,500, one for the Adit Grid (Map #21) and one for the Main Grid (Map #18). The plotting point is taken at the mid-point between the transmitter and the receiver. The vertical scale used for both frequency pairs was 1 cm = 2%.

The trace of the top of each conductor has been drawn on both plans (Maps 18 and 21), in order to facilitate easy correlation. The definite conductor is drawn in solid, and the possible conductor, dashed. For the same reason the peaks of the magnetic highs have been shown on the EM profile maps as a large asterisk.

DISCUSSION OF RESULTS

A. MAIN GRID

The geophysical feature of greatest economic interest is a strong chargeability IP anomaly directly correlating with a relatively strong resistivity high, occurring, for the most part, from lines 2500S to 2800S along and to the immediate west of the baseline. The anomaly is actually composed of two anomalies that have been labelled A and B, respectively, and that are subparallel to each other, being about 100 to 150 m apart. A is the southwestern anomaly and B is the northeastern one. They appear to extend across the whole survey area from line 2300S to 3000S resulting in a minimum strike length of 700 m and being open to both the northwest

(grid north) and southeast (grid south). Both anomalies are stronger and are closer together in the 2500S to 2800S area and thus appear to be one anomaly.

On line 2600S, IP anomaly A appears to die out, but not the resistivity high. However, the IP anomaly may simply join anomaly B, which at this location, has the strongest readings on the property, which are above 90 msec.

For both anomalies, the IP readings are typically above 50 msec on many lines, and often much higher.

The correlating resistivity high has values that are relatively high (above 1000 ohm-meters) for this property. However, in comparing to other areas the high is only moderate, and in fact may even be low.

These values (IP and resistivity), strongly suggest the causative sources to be silicified and/or calcified rock that is heavily mineralized with sulphides. This has been verified by a sample shown to the writer, reportedly taken from line 2600S near the baseline, which is on one or both of the anomalies. The sample is a silicified rhyolite containing an abundant amount of pyrite and possibly other sulphides. Furthermore, DDH #88-1, which is located about 50 m above the road on line 2700S and drilled at a -45° dip to the northeast (grid east), encountered sulphides within a silicified rhyolite from 10.6 m to 16.8 m (6.2 m interval) that contained 0.28% copper and 1.34% zinc. This drill hole would have encountered the causative source of anomaly B.

Although at times the dip of IP and resistivity causative sources can be difficult to determine from pseudosections, due to the electrode effect, the dip of the causative sources of anomalies A and B appear to be southwesterly (grid west). This has also been verified by DDH #88-1 which was collared between anomalies A and B and, as mentioned above, drilled with a -45° dip to the northeast. As a result, it did not encounter the causative source of A but DDH's #88-2, -3, -5A, and -7 were drilled only that of B. with southwesterly dips and therefore would have been drilled parallel or subparallel to the causative sources of DDH #88-4 was drilled vertically to a shallow A and B. depth and therefore may not have encountered the mineralization.

Because of the southwesterly dip, the two causative sources probably sub-crop 15 to 25 m northeast of the center of each anomaly, respectively. The amount of offset is dependent on the amount of overburden. It is understood that here there is little overburden (a few meters?) and thus the offset would be relatively large.

The width of both causative sources undoubtedly varies and appears to be as much as 30 m on some of the lines and less than 30 m on others.

An interesting feature of anomaly B is that its sub-cropping correlates directly with a localized area of steep topography, usually northeast of the road. This is undoubtedly caused by the silicification of the mineral zone and thus the steep topography can be used to trace its extent along strike. This feature also supports the IP/resistivity anomaly at (3000S, 140E), being the southeastern extension of Anomaly B.

The relationship of the IP/resistivity anomalies with the magnetic survey results is variable. Anomaly A from line

3000S to 2800S occurs along the northeastern edge of a strong magnetic high. This high probably reflects a different rock-type and therefore the causative source of A on these lines probably occurs along a lithological contact. On lines 2700S and 2600S, anomaly A correlates directly with a magnetic high suggesting magnetite or pyrrhotite to be part of the causative source. On lines 2500S to 2300S, the sub-cropping of A occurs to the immediate northeast of a localized magnetic high suggesting magnetite mineralization is associated with and occurs within the hanging wall of the causative source.

Anomaly B, for much of its length (2800S to 2300S), occurs southwest of a magnetic high, but its sub-cropping probably correlates directly. This suggests the causative source probably contains magnetite or possibly pyrrhotite.

On line 2800S at 180W occurs a prominent lineal resistivity low dipping northeasterly. This low probably reflects a very strong shear or fault zone.

The Genie EM results encountered two weak conductors that have been labelled A and E, respectively. (Conductors B, C, and D occur on the Adit Grid.) Conductor A consists of a northerly-striking arm that on line 2800S correlates directly with IP/resistivity anomaly A. It also consists of a northeasterly-striking arm that occurs to the immediate southeast of line 2800S and parallel to it. Possibly this arm is reflecting cross-structure.

Conductor E occurs on lines 3100S to 3300S and appears to possibly be the southeasterly extension of an IP/resistivity anomaly occurring at line (3000S, 140E) which, in turn, as mentioned above, is very likely the southeastern extension

of anomaly B. At 3000S, the sub-cropping of anomaly B occurs to the immediate northeast of a southeasterlytrending magnetic high. Genie EM conductor E also occurs to the northeast of the same high, therefore suggesting that B extends southeast of the IP/resistivity survey area to at least as far as line 3300S.

The negative to weak response of the Genie EM to the known mineralization on the property is not surprising. This is due to silicification of the mineral zone as well as the sulphides, though being abundant, not being massive enough to constitute an EM conductor.

B. ADIT GRID

The geophysical surveys carried out over this grid have been quite limited due to the numerous cliffs. The cliffs are probably due to faulting.

The magnetic survey has revealed several strong readings, both magnetic highs and lows. These are undoubtedly due to lenses of magnetite. For example, at the location of the adit occurs a showing of magnetite which has resulted in a highly anomalous magnetic low reading of 53,100 nT. This is 4800 and 3600 nT below the adjacent readings, respectively. (Somewhere within 10 m of this magnetic low reading would be a corresponding magnetic high of similar magnitude since massive magnetite results in dipole-type magnetic fields.)

Other strong magnetic highs or lows that are probably reflective of magnetite occur at (a) L-50N, 1+00W; (b) L-100N, 1+15E; (c) L-300N, 0+50W; and (d) L-350N, 1+25W.

There are some lineal magnetic lows striking northerly that are suggestive of faulting. The most prominent one occurs on all the lines at about 0+50 to 0+60W. A second one occurs at about 3+60W.

The Genie EM survey has revealed four weak conductors that have been labelled B, C, D, and F, respectively. The ampli-tude ratios range from +4.2% to -5.4%.

Conductor B can be traced for 200 meteres through the north central portion of the Adit Grid. It is in close proximity to a network of sulphide bearing shear zones and represents a potential drill target on L3+50N, 2+00W. This conductor is interpreted to be of moderate to weak strength, fairly well defined, and striking north-northeast. The profile response on L3+50N indicates an easterly dip.

Conductor C occurs 100 meters west-southwest of the road showing. This conductor has the sharpest inflection of the survey and correlates to a 2-meter wide vertical dipping sulphide bearing shear outcropping about 25 meters south of L5+00N, 4+00W.

Conductors D and F occur as weak strength, poorly defined negative inflections on L5+00N and L3+00N. These conductors are in steep, cliffy terrain and are roughly on strike with the road showing located 100 meters north-northeast of line 5+00N.

IP/resistivity readings were carried out on only one line, being 5+00N. The survey on this line was not only limited by the cliffs but also by noisy readings, many of which could not be taken, especially to the east.

However, very strong IP readings that correlate with high resistivity readings were revealed. As on the Main Grid,

this indicates abundant sulphides within a silicified rock. The high IP/high resistivity anomalies occur at:

(a) 1+80₩;

(b) 2+70W which correlates directly with EM conductor F;

(c) 3+20W to 3+90W being open to the west. EM conductors C and D correlate with this anomaly.

Respectfully submitted, GEOTRONICS SURVEYS LTD FESSION PROVINCE OF G. MARK BRITISH David G. Mark, P.Geo. OSCIENT

Geophysicist

March 18, 1994

D54/G465

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GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at #405-535 Howe Street, Vancouver, British Columbia.

I further certify that:

- 1. I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 2. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
- 3. I have been practising my profession for the past 26 years and have been active in the mining industry for the past 29 years.
- 4. This report is compiled from data obtained from IP, resistivity, Genie EM and magnetic surveys carried out over two areas of the LA Claims from January 24 to February 8, 1994. The IP and resistivity surveys were carried out under the field direction of Alain Charest, Senior Geophysical Technician. The magnetic survey was done under the direction of Fayz Yacoub, P.Geo., and the Genie EM survey was carried out by Andris Kikauka, P.Geo.
- 5. I do not hold any interest in Guardian Resources Corp. nor in the properties discussed in this report, nor do I expect to receive any interest as a result of writing this report.

FESSIO PROVINCE D. G. MARK COLUMBIA David G. Mark, 00001 Geophysicist

March 18, 1994



(N) LAKE GEOLOGICAL BRANCH ASSESSMENT REPORT 23,366 PROVINCE OF ALIQUE 200 m 150 50 GUARDIAN RESOURCE CORPORATION LAKE ADIT CLAIM GROUP LILLOOET MINING DIVISION GEOLOGY MAP F. Y. Project No: By: J. S. 1:2500 Drawn: Scale: MARCH 1994. Date: 1 **Drawing No:** Ashworth Explorations Limited





Pseudosection Plotting Method LEGEND Nagnetic Base: 57,000 nT(gammas) 1 cm = 400 nT Contour Intervals: Resistivity : 1 Chargeability: 3 log base 10 ohn-metres 3 milliseconds INSTRUMENTATION SEGMETRICS UNINAS, Nodel 6-836 Nagnetometer: Receivers HUNTEC Model Mark IY MAGNETICS Transmitter/Generator: PHOENIX Model (PT-1 2.5 kWatt IP SURVEY PARAMETERS Survey Node: Time Domein Dipole-Dipole Arrays 30 metres (100 feet) n=1 to 6 Dipole Length: Dipole separation: Dolay Time: 200 milliseconds Integration Time: 1500 milliseconds Charge Cycle: 8 second square wave GEPARENTORGISTOVATIL BRANCH ASSESSMENT REPORT ASHWORTH EXPLORATIONS LTD GUARDIAN RESOURCES CORP LA CLAIMS APPARENT CHARGEABILITY LILLOOET LAKE, PEMBERTON AREA Lillooet N.D., B.C. APPARENT RESISTIVITY and CHARGEABILITY PSEUDOSECTIONS with MAGNETIC PROFILE LINE 2300\$ Job No. NTS Scale Date 94-01 98J/7E 1:2500 Feb. 94 Brawn by: AC/DM Nap No. 3















Pseudosection Plotting Nethod LEGEND Negnetic Bese: 57,000 nT(gennes) 1 cm = 400 nT Contour Intervals: Resistivity : log bese 10 ohm-metres Chargeability: 3 milliseconds INSTRUMENTATION GEONETRICS UNINAG, Nodel G-836 HUNTEC Nodel Nerk IV Negnetometer: MAGNETICS Receiver: Transmitter/Generator: PHOENIX Nodel IPT-1 2.5 kWatt IP SURVEY PARAMETERS Time Domein Survey Node: Dipole-Dipole 30 metres (100 feet) Arrey: Dipole Length: Dipole separation: n=1 to 6 200 milliseconds Deley Time: Integration Time: 1500 milliseconds Charge Cycle: 8 second square wave RANCH ASSESSMENT REPOR 23,36 ASHWORTH EXPLORATIONS LTD GUARDIAN RESOURCES CORP LA CLAIMS APPARENT CHARGEABILITY LILLOOET LAKE, PEMBERTON AREA Lillooet N.D., B.C. APPARENT RESISTIVITY and CHARGEABILITY PSEUDOSECTIONS with MAGNETIC PROFILE LINE 3000S Job No. 1175 94-01 98.1/7E Drawn by: AC/DM Scale Date 1:2500 Feb. 94 Nep No. 10

Survey Direction: Az. 320 degrees -3000 -2700 -2400 -2640 -2400 Scale 1:2500 25 0 25 50 75 100 125 (metres)



















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