

**DIAMOND DRILLING REPORT**

on the

**END LAKE PROPERTY**

**CD Mineral Claim**

**Omineca Mining Division**

**NTS: 94C/02W**

**B.C. Geographic System Map Sheet: 094C.016**

**Latitude: 56° 10' N; Longitude 124° 55' W**

**UTM: 6 226 500 N; 381 700 E; Zone 10**

**Owner: Cross Lake Minerals Ltd.**

**Author: Jim Miller-Tait, P.Geo.**

**January 15, 2002**

**GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT**

**26,826**

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**SECTION A: REPORT****INTRODUCTION:**

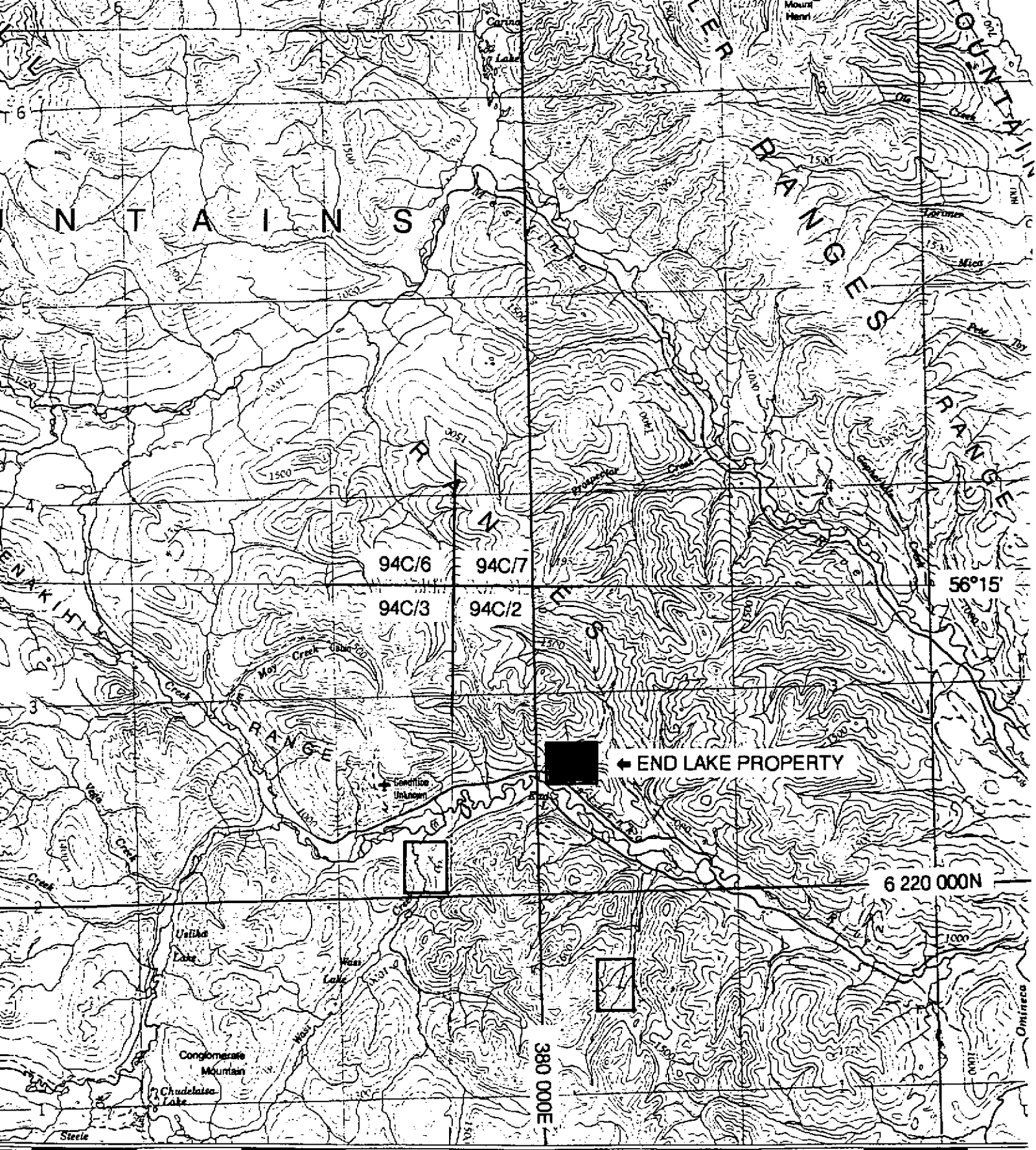
Cross Lake Minerals Ltd. holds 100% interest in the End Lake Property which is comprised of the CD mineral claim. The claim was staked to cover a historic zinc, lead and silver showing called the Childhood Dream. This report documents the diamond drilling program carried out August 2001. The diamond drilling was initiated after rock sampling in 2000 resulted in strong zinc, lead and silver assays from two historic adits in favorable oxidized dolomite. The drilling was completed to test the dolomite for an extension of the sulphides in the vicinity of the adits and test the host stratigraphy for new base metal mineralization containing zinc, lead and silver.

**PROPERTY:**

The End Lake Property is comprised of one mineral claim, tenure number 379602, totalling 20 claim units and covering 500 hectares, located in the Omineca Mining Division. The claim was staked in July, 2000 and is owned 100% by Cross Lake Minerals Ltd. The property details are set out in Section B of this report.

**LOCATION AND ACCESS:**

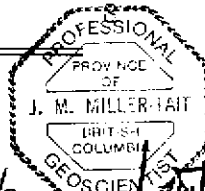
The End Lake Property is located in the Swannell Ranges of the Omineca Mountains in the Omineca Mining Division some 45 kilometres north-northwest of Germansen Landing. The claims are situated on NTS map sheet 94C/02W and B.C. Geographic System map sheet 094C.016. Geographic coordinates are latitude 56° 10' N and longitude 124° 55' W while the UTM coordinates are 6 226 500 N and 381 700 E in Zone 10.



15'

125°00'

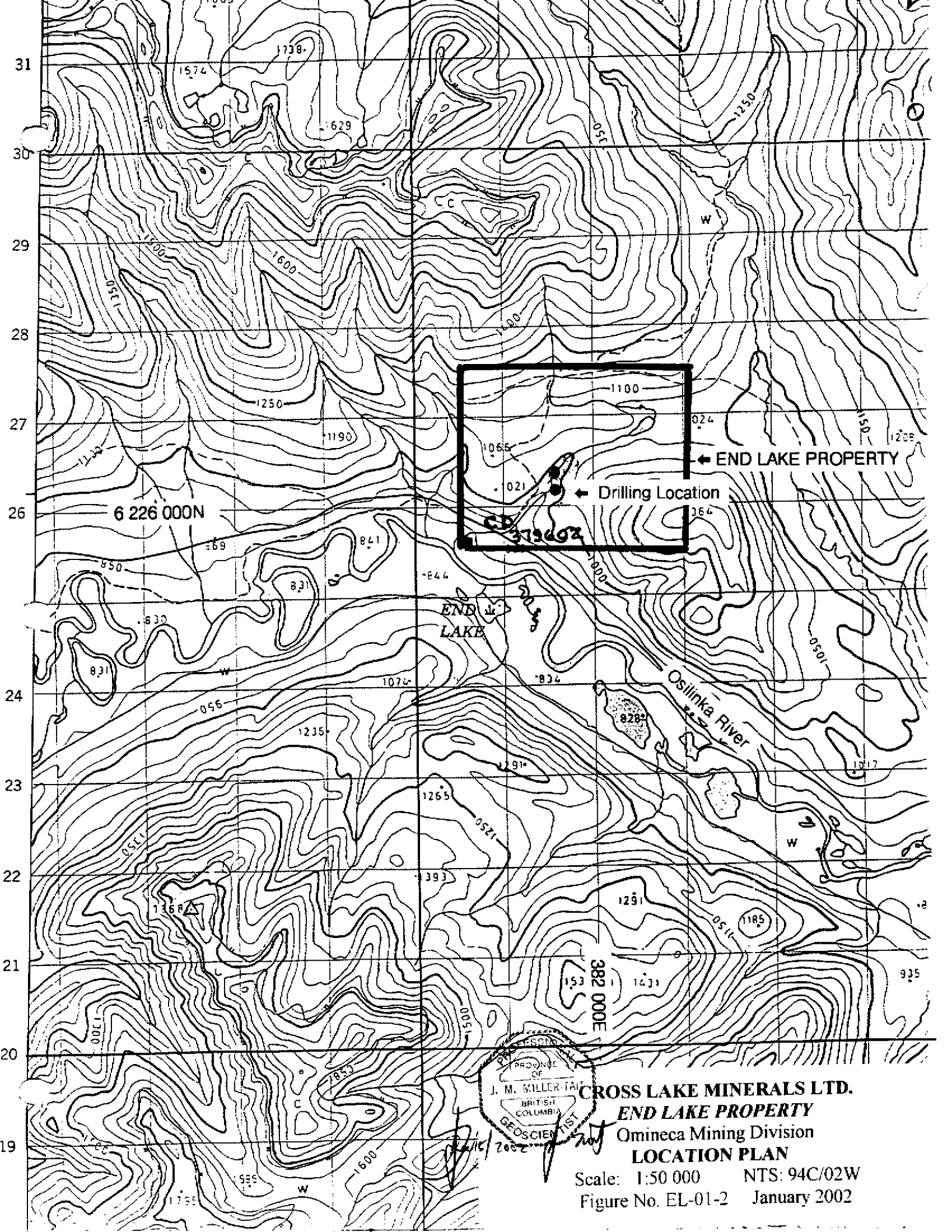
9 45'



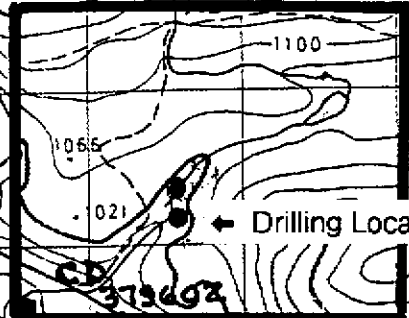
Jan 15/2002

**CROSS LAKE MINERALS LTD.**  
**END LAKE PROPERTY**  
 Omineca Mining Division  
**GENERAL LOCATION PLAN**

Scale: 1:250 000 NTS: 94C/02W  
 Figure No. EL-01-1 January 2002



6 226 000N



← END LAKE PROPERTY

← Drilling Location

END LAKE

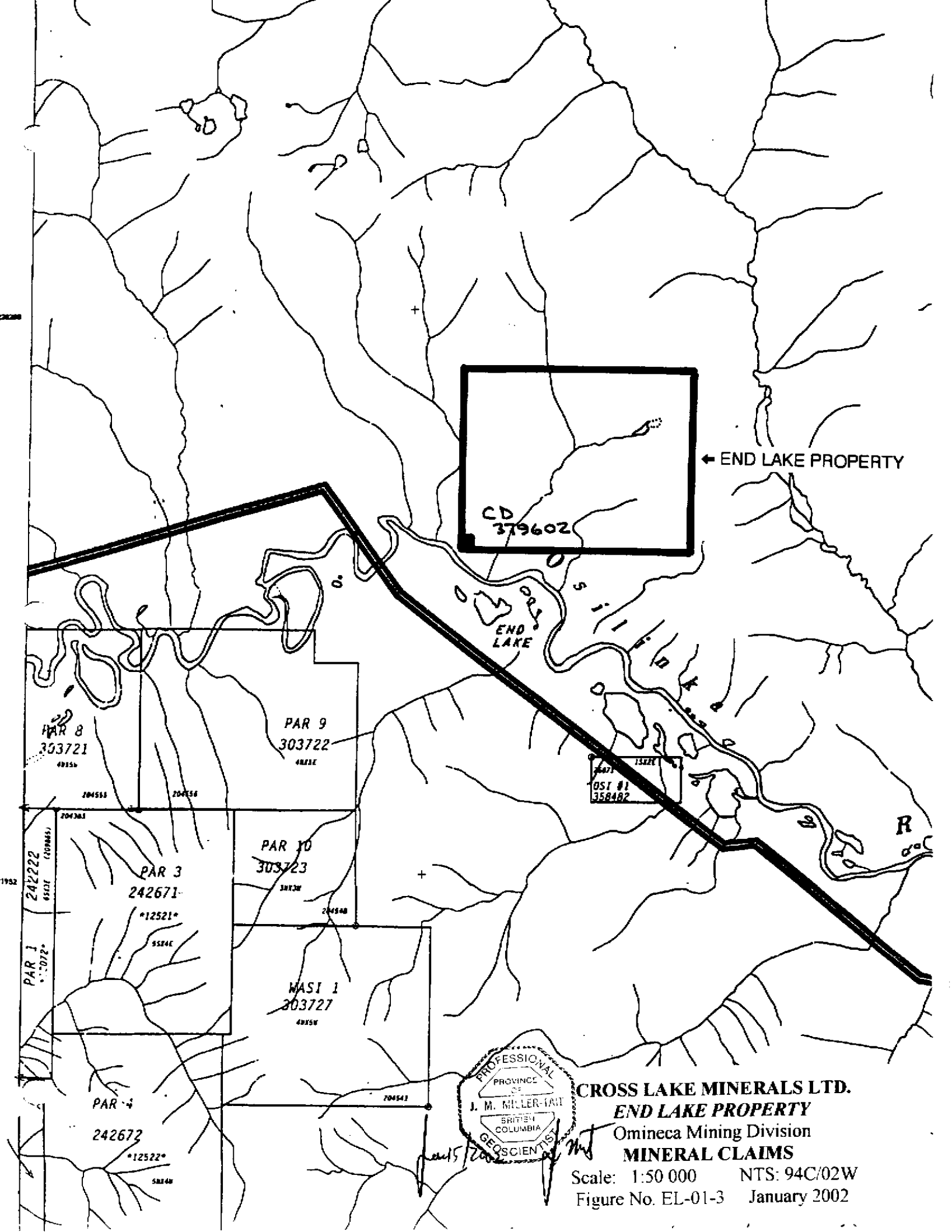
Oslinka River

382 000E



**CROSS LAKE MINERALS LTD.**  
**END LAKE PROPERTY**  
Omineca Mining Division  
**LOCATION PLAN**

Scale: 1:50 000    NTS: 94C/02W  
Figure No. EL-01-2    January 2002



← END LAKE PROPERTY

CD  
379602

PAR 8  
303721  
48156

PAR 9  
303722  
48156

OST #1  
358482

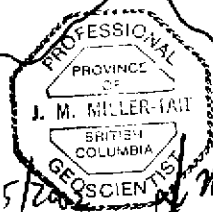
PAR 1  
24222  
6512E (E08465)  
55072°

PAR 3  
242671  
\*12521\*

PAR 10  
303723  
38120

WASI 1  
303727  
48250

PAR 4  
242672  
\*12522\*



**CROSS LAKE MINERALS LTD.**  
**END LAKE PROPERTY**  
 Omineca Mining Division  
**MINERAL CLAIMS**

Scale: 1:50 000 NTS: 94C/02W  
 Figure No. EL-01-3 January 2002

There is excellent access to the property as a result of intense logging activity in the area.

Access to the property is gained by driving 140 kilometres north from Mackenzie along the west side of Williston Lake on a main logging haulage road, west for 22 kilometres on the Kemess Mine Access Road, and 11 kilometres northwest on a secondary logging road named the Dead Bear Creek access road. There are several secondary forest access roads crossing the claim, which are navigable with a four wheel drive vehicle.

### **CLIMATE, TOPOGRAPHY AND VEGETATION:**

The Swannell area has cold, high snowfall winters and warm, damp summers. The topography of the claim is moderately steep with the lowest elevation of 840 metres in the southwest corner of the property on the north bank of the Osilinka River to 1364 metres on the ridge located at the southeast corner of the claim. The slopes are heavily timbered by pine and spruce. In the clear cuts deciduous willows and poplars predominate.

### **HISTORY:**

There has been very limited work recorded on the End Lake Property, which covers the historic Childhood Dream zinc, lead and silver showing. There are no records of work in the provincial assessment report database. The first work documented is in the 1930 Report of Minister of Mines, pages 152 & 153, which describes the Childhood Dream showing. At this time the property was owned by A.O. Swiggum, F. Eklund and Allan McKinnon of Finlay Forks. The report summarizes the method of transportation, site location and work description of several trenches on the Childhood Dream showing. Several samples were collected, assayed and described.

In the 1952 Report of the Minister of Mines there is a description of the property, now owned by New Jersey Zinc Explorations Limited. The report summarizes the location, geology and two adits that have been driven into the main showings at creek level. E.F. Roots briefly described the Childhood Dream showing in the Geological Survey of Canada Memoir 274.

In July 2000, when Cross Lake Minerals Ltd. staked the property, the Childhood Dream showing was mapped and sampled. The results of this program prompted the drilling program, which is the subject of this report.

### **REGIONAL GEOLOGY:**

The following Regional Geological description has been compiled from papers in the British Columbia Geological Survey Branch Reports of Geological Fieldwork in 1989 and 1991. The End Lake Property is located in an area that straddles the boundary between the Intermontane and Omineca tectostratigraphic belts of the Canadian Cordillera. The Western Intermontane Superterrane is represented by the Slide Mountain and Quesnel terranes. Together with the eastern autochthonous North American stratigraphy, these rocks form part of a southwest-dipping homoclinal sequence. This sequence has been cut by a series of normal faults, which trend northeasterly. With the exception of the eastern pericratonic strata, which underlie the End Lake Property, all of the rocks have been weakly metamorphosed.

The End Lake Property is underlain by the pericratonic North American rocks of primarily carbonates and siliciclastics of miogeoclinal origin. These rocks include the Upper Proterozoic Ingenika Group consisting of impure quartzite, schist, phyllite, limestone, feldspathic wacke and arkosic sandstone. Overlying this Group is the Lower Cambrian to Middle Devonian Atan,



Razorback, Echo Lake and Otter Lake Groups. These Groups consist of limestone, dolomite, shale, quartzite, and argillaceous limestone. The Lower Cambrian to Middle Devonian limestone and dolomite host the zinc, lead and silver mineralization on the End Lake Property.

**PROPERTY GEOLOGY:**

The End Lake Property is underlain by Lower Cambrian to Middle Devonian limestone and dolomite, which host the zinc, lead and silver mineralization. Quartz monzonite dykes, probably Triassic-aged dykes related to the Hogem Intrusive Complex, were observed approximately 750 metres north of the drilling area where logging road ditching had exposed bedrock.

The main showing on the Property is named the Childhood Dream showing where explorationists in the 1920's had trenched and driven two short adits into oxidized pyrite, galena and sphalerite exposed by the erosion effects of a creek, named End Lake Creek, a southern flowing tributary of the Osilinka River. The creek has cut a steep canyon through unaltered dolomite for approximately 10 to 15 metres from a flat terrace and exposed oxidized, mineralized dolomite in the bottom 10 metres on the east side of the canyon and in the creek bed. On the west side of the bank, where there are remnants of an old prospector's shack, there is no bedrock exposure and only gray clay and fine gravels were observed. There are three oxidized areas within 150 metres along the creek bottom with unoxidized dolomite in between them. The workers in the early 1900's drove two adits which exposed pyrite, fine grained galena and brown-red sphalerite. The sulphides have been well oxidized and there is abundant limonite, goethite and hydro-zincite present. There is also abundant brecciation and dolospar veining in the dolomite, a favorable porous indicator for base metal fluid movement.

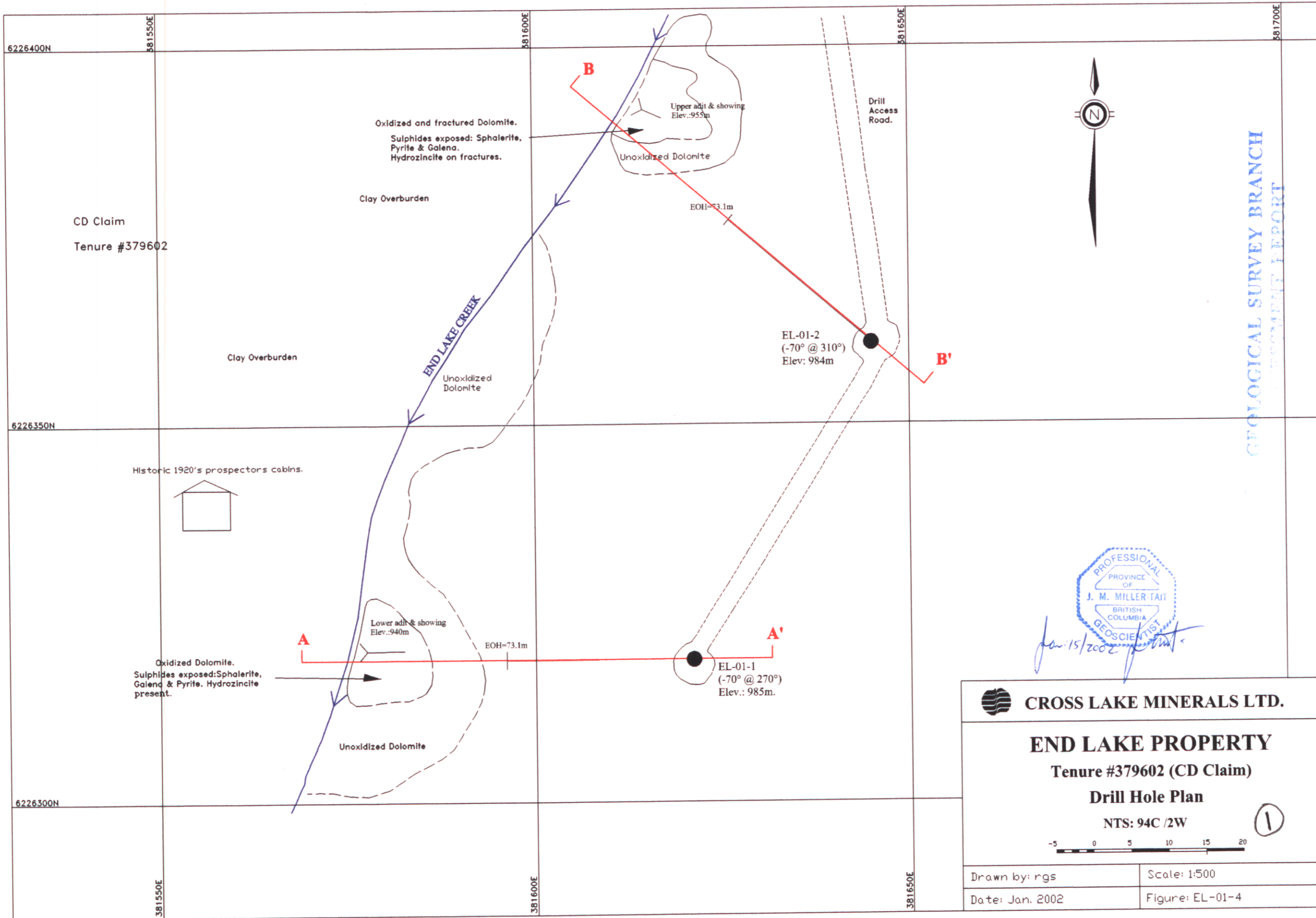
It was after sampling, mapping and staking the End Lake Property in July 2000 and a second field examination in late May of 2001 that a short diamond drilling program was initiated to explore the east bank of the creek for the continuation of the sulphide mineralization. The rock sampling in 2000 yielded assays of 10.20% zinc, 9.39% lead over 2.0 metres and 9.23% zinc, 5.62% lead over 3.0 metres.

### **DIAMOND DRILLING PROGRAM:**

The diamond drilling program consisted of two thin-wall BQ (BQTK) core size holes totalling 146.2 metres. The contractor was F. Boisvenu Drilling Ltd. of Delta, B.C. The drill core was logged and split on site with one half of the core being delivered to and analyzed by ALS Chemex in North Vancouver, B.C.. The drill core remains stacked on the property on the west side of the creek from the two drill holes on the edge of the secondary logging road. The core is labeled, cross-stacked and covered for storage. The drill hole details are summarized in the following table and shown on the Drill Hole Plan, figure EL-01-4 and Cross Sections A-A' (hole EL-01-1) and B-B' (hole EL-01-2), figures EL-01-5 and EL-01-6.

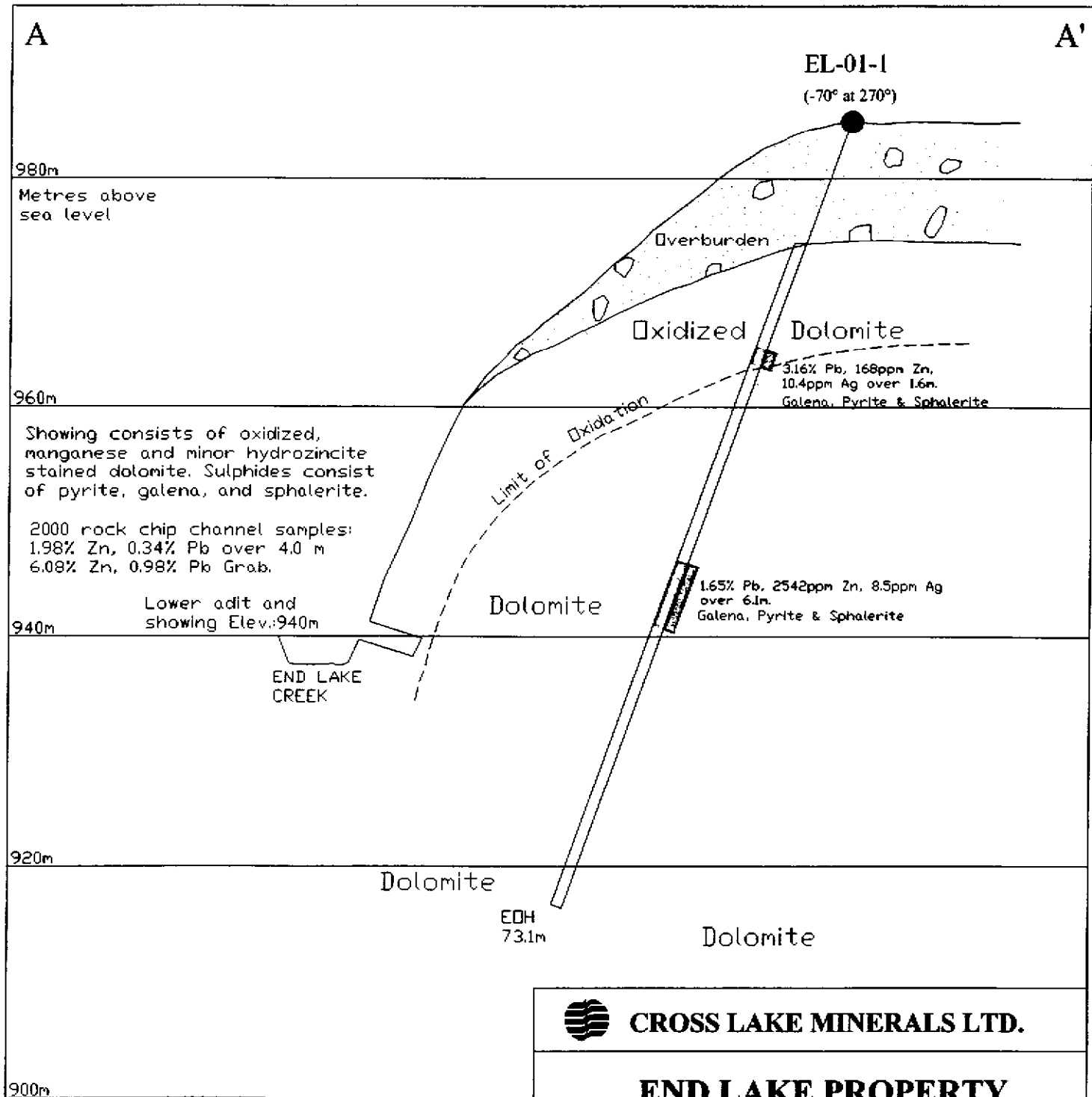
Drill Hole Number	Northing (UTM Zone 10)	Easting (UTM Zone 10)	Elevation (metres ASL)	Azimuth	Dip	Length (metres)
EL-01-1	6 226 329	381 621	985	270°	-70°	73.1
EL-01-2	6 226 361	381 645	984	310°	-70°	73.1

The drill program was designed to test the extension of the oxidized base metal mineralization exposed in the creek and to test for new unexposed mineralized horizons.



GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

26,926



980m  
Metres above  
sea level

960m  
Showing consists of oxidized,  
manganese and minor hydrozincite  
stained dolomite. Sulphides consist  
of pyrite, galena, and sphalerite.  
  
2000 rock chip channel samples:  
1.98% Zn, 0.34% Pb over 4.0 m  
6.08% Zn, 0.98% Pb Grab.

940m  
Lower adit and  
showing Elev:940m

END LAKE  
CREEK

920m

900m

EL-01-1  
(-70° at 270°)

Overburden

Oxidized Dolomite

3.16% Pb, 168ppm Zn,  
10.4ppm Ag over 1.6m.  
Galena, Pyrite & Sphalerite

Limit of Oxidation

Dolomite

1.65% Pb, 2542ppm Zn, 8.5ppm Ag  
over 6.1m.  
Galena, Pyrite & Sphalerite

Dolomite

EDH  
73.1m

Dolomite



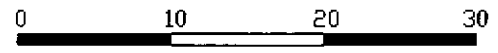
**CROSS LAKE MINERALS LTD.**

**END LAKE PROPERTY**

**Cross Section A-A' Through Hole EL-01-1**

**Azimuth=270° Looking North**

**NTS: 94C /2W**



PROFESSIONAL  
PROVINCE OF  
J. M. MILLER-TAIT  
BRITISH COLUMBIA  
GEOLOGIST  
*Jan. 1/2002*

Drawn by: rgs

Scale: 1:500

Date: Jan. 2002

Figure: EL-01-5

B

B'

Metres above sea level  
980m

EL-01-2  
(-70° at 310°)

Showing consists of oxidized, manganese and minor hydrozincite stained dolomite. Sulphides consist of pyrite, galena, and sphalerite.

2000 Rock chip channel samples:  
10.2% Zn, 9.39% Pb over 2.0m.  
9.23% Zn, 5.62% Pb over 3.0m.

Overburden

Oxidized

Dolomite

960m

END LAKE CREEK

Caved adit  
Elev. 955m

Dolomite

2.14% Zn, 816ppm Pb,  
3.2ppm Ag over 3.0m.

940m

920m

Dolomite

Dolomite

EDH  
73.1m

900m



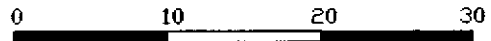
CROSS LAKE MINERALS LTD.

### END LAKE PROPERTY

#### Cross Section B-B' Through Hole EL-01-2

Azimuth=310° Looking Northeast

NTS: 94C /2W



Drawn by: rgs

Scale: 1:500

Date: Jan. 2002

Figure: EL-01-6

Drill hole EL-01-1 intersected dolomite with minor limestone which has been fractured, brecciated and resealed with dolospar. There were elevated values in lead and zinc to a depth of 47.2 metres with the highest grade intervals assaying 31,600 ppm lead and 168 ppm zinc from 21.3 to 22.9 metres and 16,500 ppm lead and 3,000 ppm zinc from 41.1 to 47.2 metres. Drill hole EL-01-2 intersected the same dolomite as in hole EL-01-1 and was elevated in zinc and lead the entire 73.1 metres with the highest grade interval of 21,400 ppm zinc and 816 ppm lead from 48.8 to 51.8 metres. In both holes there is an abundance of very fine grained black drusy pyrite coating fractures and bands in the dolomite.

Complete descriptive drill logs are appended in Section D and the certificates of analysis are in Section E.

### **CONCLUSIONS:**

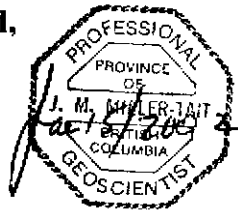
The End Lake Property, owned 100% by Cross Lake Minerals Ltd., covers the historic Childhood Dream base metal showing. The showing consists of three oxidized areas along 150 metres of creek bank exposure. The zinc and lead mineralization is hosted by oxidized dolomite with sulphides consisting of pyrite, galena and sphalerite coated with abundant limonite and goethite. The rock sampling completed in 2000 yielded high assay values in zinc and lead. The two drill holes completed in August 2001 intersected favourable porous dolomite host rock with uneconomic lead and zinc mineralization consisting of galena and sphalerite.

### **RECOMMENDATIONS:**

The End Lake Property should be mapped and prospected, especially in the areas to the north and west of the known Childhood Dream showing where extensive logging and road

construction has occurred. In the area where the Childhood Dream showing is located a few Mobile Metal Ions (MMI) soil sample lines should be sampled in a north-south direction every 25 metres on the terraces located above the base metal mineralization. This would be carried out to determine if the MMI sampling method and analyses can be used as an exploration tool to trace the mineralization on this property. The Childhood Dream showing should be completely exposed by hand trenching combined with using a high-pressure water pump to complete detailed mapping for structural controls of the mineralization.

Respectfully submitted,



**Jim Miller-Tait, P.Geo.**

**LIST OF REFERENCES:**

Ferri F., Dudka S., Rees C. Geology of the Usilika Lake Area, Northern Quesnel Trough, B.C. (94C/3, 4, 6). British Columbia Geological Survey Geological Fieldwork 1991, Paper 1992-1.

Gabrielse, H., Unpublished GSC Map of the Mesilinka Map Area, 94C.

Mansy, J.L. and Gabrielse, 1978. *Stratigraphic Terminology and Correlation of Upper Proterozoic Rocks in Omineca and Cassiar Mountains, North-Central B.C.*, GSC Paper 77-19.

Melville D.M. Carbonate-Hosted Lead-Zinc Occurrences in the Germansen Landing and End Lake Areas (94C/2, 93N/15). British Columbia Geological Fieldwork Exploration in British Columbia 1989, Pages 193 to 196.

Roots, E.F., 1954. Geology and Mineral Deposits of the Aiken Lake Map Area, B.C., GSC Memoir 274.



**STATEMENT OF QUALIFICATIONS:**

For: Jim Miller-Tait of 828 Whitchurch Street, North Vancouver, B.C. V7L 2A4


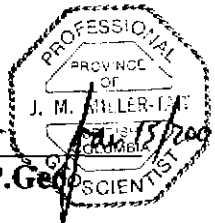
I graduated from the University of British Columbia with a Bachelor of Sciences Degree in Geology (1987);

I have been practicing my profession as a geologist in mineral exploration and mining continuously since 1987;

I am a fellow in good standing with the Geological Association of Canada;

I am a registered member in good standing as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia;

The observations, conclusions and recommendations contained in the report are based on field examinations, personal sampling, supervision and the evaluation of results of the exploration programs.

    
 Jim Miller-Tait, P. Geoscientist

**SECTION B: PROPERTY**

<b>END LAKE</b>	<b>SCHEDULE OF MINERAL CLAIMS</b>		
PROVINCE: British Columbia	CLAIMS: 01	UNITS: 20	AREA: 500 ha
MINING DIVISION: Omineca	NTS: 94C/02W		BCGS: 094C.016
LOCATION: on the north side of the Osilinka River some 210 km northeast of Smithers and 48 km north northwest of Germansen Landing	LATITUDE: 56° 10'		LONGITUDE: 124° 55'
	UTM: ZONE 10	6 226 500N	381 700E
MAP SHEET (1:250 000): 94C - Mesilinka River (1:50 000): 94C/02 - End Lake	PROPERTY INTEREST: Cross Lake Minerals Ltd. - 100%		

CLAIM NAME	RECORD NUMBER	UNITS	RECORD DATE (yyyy-mm-dd)	DUE DATE (yyyy-mm-dd)	ANNUAL WORK REQUIRED	RECORDED HOLDER
CD	379602	20	2000-07-27	2002-07-27	2000.00	Cross Lake Minerals Ltd.
		20			\$2000.00	

**ASSESSMENT WORK SUMMARY**

Date of Filing (yyyy-mm-dd)	Work Filed \$	New Work Applied \$	PAC Credits Applied	PAC Credits Saved	Total PAC Credits	Date of Approval (yyyy-mm-dd)	Event Number
2000-01-24	2000.00	2000.00	0	0	0		3159809

**SECTION C: EXPENDITURES – End Lake Property**

Item	Work Performed	Quantities / Rates	Amount
<b>Field Work Period: August 28 to September 1, 2001</b>			
Diamond Drilling: F. Boisvenu Drilling Ltd.	Mobilization / demobilization: Vancouver to site and return	Transport charges	\$3477.50
	BQTK drilling:	146.2 metres	9243.75
	Moving, cat work, acid tests and extra labour costs		2367.70
	Drilling materials including 24 core boxes		<u>2858.11</u>
			17947.06
Project Geologist: J. Miller-Tait, P.Geo.	Project supervision and drill core logging during the period from August 28 to September 1, 2001	5 days @ \$350.00	1750.00
Transportation: Vancouver to property, onsite and return	One 4x4 pickup truck	5days @ \$105.00	525.00
Accommodation and Meals	1 person; during the period from August 28 to September 1, 2001	5 man days @ \$35.00/day	175.00
Field Supplies	Core splitter rental: Pothier Enterprises Ltd.		42.75
Analytical Services: ALS Chemex Labs	-ICP-AES 32 element analyses plus Au fire assay	43 samples	948.80
	-Pb and Zn overlimit assays	4 samples	<u>22.77</u> 971.57
Report Preparation:	J. Miller-Tait, P.Geo.	2 days @ \$350.00	700.00
Data Plotting, Analysis and Map Preparation	Ron Simpson, P.Geo., Geosim Services Inc.	4.0 hours @ \$58.85	235.40
<b>Total</b>			<b>\$22346.78</b>
<b>Total Drilled</b>			<b>146.2 m</b>
<b>Cost per metre</b>			<b>\$152.85</b>

**SECTION D: DRILL HOLE LOGS**

1. Diamond Drill Hole Number EL-01-1
2. Diamond Drill Hole Number EL-01-2



**CROSS LAKE MINERALS LTD.**

**Diamond Drill Hole Log**

**Property: END LAKE**

Fill in on every page =>

**Hole No.**  
EL-01-1

**Page**  
2 of 2

Hole Co-ordinates: UTM Zone 10 6 226 319N 381 621E		Collar Elevation: 985 m ASL	Total Depth: 73.1 m	Azimuth and Dip of Hole:			Comments: Acid test only; azimuth estimated	Map Reference: NTS: 94C/02W BCGS: 094C.016		Claim Name /Number: CD Tenure #379602		
Date Hole Started: August 29, 2001	Date Completed: August 30, 2001	Date Logged: Aug 30, 2001	Logged by: F. Miller-Tait	Collar	270°	-70°		Core Size: Thin wall BQ (BQTK)	Property Location (Twp. Lot, Con. or Lat. and Long.) Latitude: 56° 10' Longitude: 124° 55'			
Exploration Co., Owner or Optionee: Owner: CROSS LAKE MINERALS LTD. Optionee:		Date submitted: Jan 15/2002	Submitted by: (Signature)	m	*	*	Core Storage Location: on west side of creek and ~100m west of drill site.		UTM: Zone 10 6 226 500N; 381 700E			
				m	*	*		Drilling Contractor: F. Boisvenu Drilling Ltd. Delta, B.C.	Property is located on the north side of the Osilinka River some 210 km northeast of Smithers and 48 km northwest of Germanen Landing			
				m	*	*	Assay Laboratory: ALS Chemex North Vancouver, B.C.					
				m	*	*				Assays		
Metres		% Recovery	Description (Colour, grain size, texture, minerals, alteration, etc.)	Sample Tag No.	Sample Depth (metres)		Sample Length (metres)					
From	To				From	To		Au ppb	Ag ppm	Cu Ppm	Pb ppm	Zn Ppm
38.1	50.3	95	White-gray sucrose dolomite. Doesn't fizz with HCL only when scratched. Abundant (50%) carbonate/silica flooding of open space around brecciated angular gray dolomite. Hydrozincite along talcose fractures. Angular fragments of gray dolomite up to 5 cm in size. Galena in blebs up to 0.5 cm and in pockets up to 1 cm. At 42.7 and 46.6 m in bands at 20° to c.a. up to 2 cm wide. Pyrite v.f.g. along coatings of fractures. Overall galena ~ 2% and pyrite ~ 2%. Sphalerite tan coloured trace. Black fine grained sulphide in black-coloured dolomite. Black drusy pyrite ~ 5% or greater.									
50.3	65.4	90	Dark gray dolomite (90%), 10% open space resealed with carbonate and silica (less). Sucrose quartz/carbonate flooded from 59.4 – 60.3 m (breccia). With trace (fine grained) pyrite. Hydrozincite on all fractures throughout 50.3 – 65.4 m. Breccia fragments rounded ~ 2cm. 50.3 – 65.4 m – dark black dolomite with drusy very fine grained black sulphide ~ 5–10%. Pyrite drusy on stringers ~ 2%. 60.3 – 65.4 m – extremely silicified brittle black dolomite. Barely scratch with steel and only fizzes with HCL after extensive scratching.	347515	50.3	53.3	3.0	< 5	5.0	3	40	26
				347516	53.3	56.4	3.1	< 5	< 0.2	3	24	2
				347517	56.4	59.4	3.0	< 5	< 0.2	3	34	2
				347518	59.4	60.3	0.9	< 5	< 0.2	2	10	12
				347519	60.3	63.4	3.1	< 5	< 0.2	3	12	4
				347520	63.4	65.4	2.0	< 5	< 0.2	2	10	12
				347521	65.4	68.6	3.2	< 5	< 0.2	2	48	28
				347522	68.6	71.6	3.0	< 5	< 0.2	2	< 2	< 2
				347523	71.6	73.1	1.5	< 5	< 0.2	2	2	6
65.4	73.1	90	White silicified limestone or dolomite (70%) to 30% gray breccia fragments, angular and up to 4 cm in size, silicified limestone or dolomite. Silica overprinting – sucrose-like. Colloform like stringy erratic gray (fine grained pyrite or black sulphide (~10%)) patterns throughout ~ 1-2%. Oxidation along fractures from 65.4 – 67.1 m.	Note: See ALS Chemex Certificates of Analysis #A0124030 and #A0124591 for complete set of analytical results.								
			EOH									
			Viewing examples collected:									
			21.6m, 24.7m, 42.4m, 46.3m, 46.9m, 47.5m, 48.5m, 50.9m, 56.4m, 71.3m									

**CROSS LAKE MINERALS LTD.**

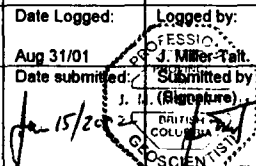
**Diamond Drill Hole Log**

**Property: END LAKE**

Fill in on every page →

**Hole No.**  
EL-01-2

**Page**  
1 of 1

Hole Co-ordinates:		UTM Zone 10		Collar Elevation:	Total Depth:	Azimuth and Dip of Hole:			Comments:	Map Reference: NTS: 84C/02W BCGS: 084C.016	Claim Name /Number: CD Tenure #379602					
6 226 361 N		381 645 E		984 m ASL	73.1 m	Depth	Azimuth	Dip								
Date Hole Started:	Date Completed:	Date Logged:	Logged by:				Core Size: Thin wall BQ (BQTK)			Property Location (Twp. Lot, Con. or Lat. and Long.) Latitude: 56° 10' Longitude: 124° 55' UTM: Zone 10 6 226 500N; 381 700E Property is located on the north side of the Osilinka River some 210 km northeast of Smithers and 48 km northwest of Germansen Landing.						
Aug 30/01	Aug 31/01	Aug 31/01	J. Miller-Tait				Collar	310°	-70°				Core Storage Location: on west side of creek and ~100m west of drill site			
Exploration Co., Owner or Optionee: Owner: <b>CROSS LAKE MINERALS LTD.</b> Optionee:				Date submitted:	Submitted by:	Drilling Contractor: F. Bolsveru Drilling Ltd. Delta, B.C.			Assay Laboratory: ALS Chemex North Vancouver, B.C.							
Metres	% Recovery	Description (Colour, grain size, texture, minerals, alteration, etc.)					Sample Tag No.	Sample Depth (metres)		Assays						
From	To							From	To	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm		
0	15.8	0	Casing.													
15.8	17.5	10	Overburden boulders.													
17.5	23.5	90	Limit of oxidation along fracture planes. Extremely silicified bleached tan-white dolomite. Cannot scratch with steel. HCL fizzes only after leaving a minute on scratch attempts. Total silica rehealing of fractures and overprinting. More oxide (pyrite) than EL-01-1 ~ 2-5% overall. Unoxidized pyrite very fine grained band 2 cm wide at 30° to core axis at 21.3 m. Very fine grained trace black sulphide with pyrite.					347524	17.5	20.4	2.9	< 5	< 0.2	3	12	62
								347525	20.4	23.5	3.1	< 5	0.2	4	44	74
								347526	23.5	26.5	3.0	< 5	< 0.2	4	180	42
								347527	26.5	29.0	2.5	< 5	0.2	7	192	142
								347528	29.0	32.0	3.0	< 5	1.2	13	850	356
23.5	29.0	95	Silicified dolomite. Probably same unit as above but non-oxidized. Dolomite has appearance of being shattered and then silicified. Pyrite and very fine grained black sulphide mineral ~ 3% overall as disseminated and fine stringers. Gouge of rounded Dolomite fragments at 45° to core axis at 26.5 – 26.7 m.					347529	32.0	35.1	3.1	< 5	1.0	23	786	3010
								347530	35.1	38.1	3.0	< 5	< 0.2	3	54	26
								347531	38.1	41.1	3.0	< 5	0.2	9	196	30
								347532	41.1	42.7	1.6	< 5	< 0.2	13	20	92
29.0	42.7	95	Fractured siliceous dolomite with silica overprinting. More sucrose silica flooding of open space ~ 60% (white) to dolomite angular fragments of blue-gray dolomite up to 5 cm in size. Galena ~ 1%, very fine grained black sulphide ~ 3% (probably pyrite), pyrite ~ 5%. At 32.3 – 32.5 m massive sulphide, pyrite 30%, galena 20%, sphalerite 10%.					347533	42.7	45.7	3.0	< 5	0.2	6	26	126
								347534	45.7	48.8	3.1	< 5	0.2	9	34	444
								347535	48.8	51.8	3.0	< 5	3.2	38	816	21400
								347536	51.8	54.9	3.1	< 5	0.8	18	60	6150
								347537	54.9	56.4	1.5	< 5	< 0.2	3	16	308
42.7	56.4	95	Fractured rehealed silica flooded gray/blue brecciated dolomite. Open space silica flooded areas ~ 30% dolomite fragments approximately 70%. Semi-rounded dolomite fragments up to 5 cm in size. Pyrite along fractures very fine grained ~ 2-3%, galena trace. Black very fine grained sulphide ~1-2%.					347538	56.4	59.4	3.0	< 5	1.0	20	158	2940
								347539	59.4	62.5	3.1	< 5	0.4	9	44	1625
								347540	62.5	65.5	3.0	< 5	1.2	19	270	8770
								347541	65.5	68.6	3.1	< 5	0.2	4	162	394
56.4	71.6	95	Hard siliceous (non-scratchable) fractured blue/gray dolomite. Open space silica resealed. ~ 60% to rounded dolomite fragments up to 3 cm ~ 40%. Patches of pyrite ~ 50% in bands up to 5 cm at 40° to core axis at 59.0, 67.5, 68.6 m, very fine grained.					347542	68.6	71.6	3.0	< 5	0.6	6	144	158
								347543	71.6	73.1	1.5	< 5	< 0.2	3	16	12
71.6	73.1	95	Trace pyrite in relatively barren hard siliceous gray dolomite.					Note: See ALS Chemex Certificates of Analysis #A0124030 and #A0124591 for complete set of analytical results.								
	EOH		Viewing examples collected: 27.1m, 32.3m, 38.4m, 59.7m.													

**SECTION E: ANALYTICAL RESULTS**

Analyses carried out by ALS Chemex Labs of North Vancouver, B.C.

- Certificate of Analysis #A0124030 dated September 13, 2001
- Certificate of Analysis #A0124591 dated September 14, 2001
- Statement of Analytical Procedures





# ALS Chemex

Aurora Laboratory Services Ltd.  
Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
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PHONE: 604-984-0221 FAX: 604-984-0218

CROSS LAKE MINERALS LTD.

240 - 800 W. PENDER ST.  
VANCOUVER, BC  
V6C 2V6

25 2001

A0124030

Comments: ATTN: JIM MILLER-TAIT

CERTIFICATE

A0124030

(NWT) - CROSS LAKE MINERALS LTD.

Project: ENDLAKE  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 13-SEP-2001.

## SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
PUL-31	43	Pulv. <250g to >85%/-75 micron
STO-21	43	Reject Storage-First 90 Days
LOG-22	43	Samples received without barcode
CRU-31	43	Crush to 70% minus 2mm
SPL-21	43	Splitting Charge
229	43	ICP - AQ Digestion charge

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

## ANALYTICAL PROCEDURES 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
WEI-21	43	Weight of received sample	BALANCE	0.01	1000.0
Au-AA23	43	Au-AA23 : Au ppb: Fuse 30 grams	FA-AAS	5	10000
Ag-ICP41	43	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	43	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	43	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	43	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	43	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	43	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	43	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	43	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	43	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	43	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	43	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	43	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	43	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	43	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	43	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	43	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	43	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	43	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	43	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	43	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	43	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	43	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	43	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	43	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	43	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	43	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	43	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	43	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	43	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	43	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	43	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	43	V ppm: 32 element, soil & rock	ICP-AES	1	10000



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CROSS LAKE MINERALS LTD.

240 - 800 W. PENDER ST.  
 VANCOUVER, BC  
 V6C 2V6

A0124030

Comments: ATTN: JIM MILLER-TAIT

**CERTIFICATE**

**A0124030**

(NWT) - CROSS LAKE MINERALS LTD.

Project: ENDLAKE  
 P.O. #:

Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 13-SEP-2001.

## SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
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\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Tl, Tl, W.

## ANALYTICAL PROCEDURES 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
W-ICP41	43	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	43	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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 Invoice No. : 10124030  
 P.O. Number :  
 Account : NWT

Project : ENDLAKE  
 Comments: ATTN: JIM MILLER-TAIT

## CERTIFICATE OF ANALYSIS A0124030

SAMPLE	PREP CODE	Weight Au ppb Kg FA+AA	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
347501	94139402	2.92 < 5	0.2 < 0.01	< 2	< 10	30 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	5	0.53	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347502	94139402	3.54 < 5	0.2 < 0.01	< 2	< 10	10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	4	0.38	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347503	94139402	3.30 < 5	0.6 < 0.01	< 2	< 10	30 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	5	0.55	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347504	94139402	2.62 < 5	0.4 < 0.01	< 2	< 10	50 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	6	0.50	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347505	94139402	1.46 < 5	10.4 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	0.5	< 1	< 1	25	1.06	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347506	94139402	4.62 < 5	3.6 < 0.01	4	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	10	0.81	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347507	94139402	5.54 < 5	0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	4	0.30	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347508	94139402	4.58 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	3	0.38	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347509	94139402	5.08 < 5	0.8 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	5	0.52	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347510	94139402	5.38 < 5	1.0 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	6	0.27	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347511	94139402	5.46 < 5	1.4 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	5	0.60	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347512	94139402	5.70 < 5	9.0 < 0.01	8	< 10	< 10 < 0.5	< 2 >15.00	14.0	< 1	< 1	13	1.45	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347513	94139402	5.56 < 5	8.0 < 0.01	20	< 10	< 10 < 0.5	< 2 >15.00	27.0	< 1	< 1	24	2.60	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347514	94139402	5.66 < 5	0.8 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	22.0	< 1	< 1	10	0.31	< 10	3	< 0.01	< 10	< 1	< 0.01	< 10
347515	94139402	5.74 < 5	5.0 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	3	0.29	< 10	< 1	0.01	< 10	< 1	0.01	< 10
347516	94139402	5.10 < 5	< 0.2 < 0.01	< 2	< 10	20 < 0.5	6 >15.00	5.0	< 1	< 1	3	0.42	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347517	94139402	5.50 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	3	0.38	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347518	94139402	1.86 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	2	0.14	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347519	94139402	4.56 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	3	0.47	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347520	94139402	3.06 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	2	0.24	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347521	94139402	3.92 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	2	0.11	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347522	94139402	5.80 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	2	0.05	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347523	94139402	2.68 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	2	0.05	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347524	94139402	4.44 < 5	< 0.2 < 0.01	< 2	< 10	120 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	3	0.98	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347525	94139402	5.34 < 5	0.2 < 0.01	2	< 10	60 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	4	1.83	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347526	94139402	5.10 < 5	< 0.2 < 0.01	< 2	< 10	60 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	4	1.24	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347527	94139402	4.46 < 5	0.2 < 0.01	< 2	< 10	90 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	7	0.95	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347528	94139402	4.94 < 5	1.2 < 0.01	12	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	13	2.04	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347529	94139402	5.28 < 5	1.0 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	11.0	< 1	< 1	23	0.71	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347530	94139402	5.42 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	3	0.12	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347531	94139402	5.30 < 5	0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	9	0.42	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347532	94139402	5.08 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	13	0.81	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347533	94139402	2.30 < 5	0.2 < 0.01	2	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	6	2.41	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347534	94139402	5.04 < 5	0.2 < 0.01	4	< 10	< 10 < 0.5	< 2 >15.00	< 0.5	< 1	< 1	9	2.81	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347535	94139402	5.26 < 5	3.2 < 0.01	10	< 10	< 10 < 0.5	< 2 >15.00	38.5	< 1	< 1	38	1.99	< 10	5	< 0.01	< 10	< 1	< 0.01	< 10
347536	94139402	4.68 < 5	0.8 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	17.5	< 1	< 1	18	1.37	< 10	1	< 0.01	< 10	< 1	< 0.01	< 10
347537	94139402	3.34 < 5	< 0.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	0.5	< 1	< 1	3	0.22	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347538	94139402	4.46 < 5	1.0 < 0.01	10	< 10	< 10 < 0.5	< 2 >15.00	10.0	< 1	< 1	20	3.48	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347539	94139402	5.98 < 5	0.4 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	3.5	< 1	< 1	9	2.17	< 10	< 1	< 0.01	< 10	< 1	< 0.01	< 10
347540	94139402	5.60 < 5	1.2 < 0.01	< 2	< 10	< 10 < 0.5	< 2 >15.00	22.5	< 1	< 1	19	1.09	< 10	1	< 0.01	< 10	< 1	< 0.01	< 10

1-101

2-101

CERTIFICATION: \_\_\_\_\_





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Project: ENDLAKE  
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Page Number: 2-A  
 Total Pages: 2  
 Certificate Date: 13-SEP-2001  
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 Account: NWT

## CERTIFICATE OF ANALYSIS A0124030

21072

SAMPLE	PREP CODE	Weight	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La
		Kg	ppb FA+AA	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
347541	94139402	6.04	< 5	0.2	0.01	< 2	< 10	< 10	< 0.5	< 2	>15.00	< 0.5	< 1	< 1	4	0.85	< 10	< 1	< 0.01	< 10
347542	94139402	4.62	< 5	0.6	< 0.01	< 2	< 10	< 10	< 0.5	< 2	>15.00	< 0.5	< 1	< 1	6	1.28	< 10	< 1	< 0.01	< 10
347543	94139402	2.50	< 5	< 0.2	0.01	< 2	< 10	< 10	< 0.5	< 2	>15.00	< 0.5	< 1	< 1	3	0.76	< 10	< 1	< 0.01	< 10

CERTIFICATION: \_\_\_\_\_





# ALS Chemex

Aurora Laboratory Services Ltd.  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

Client: CROSS LAKE MINERALS LTD.

240 - 800 W. PENDER ST.  
 VANCOUVER, BC  
 V6C 2V6

SEP 25 2001

A0124591

Comments: ATTN: JIM MILLER-TAIT

**CERTIFICATE**

**A0124591**

(NWT) - CROSS LAKE MINERALS LTD.

Project: ENDLAKE  
 P.O. #:

Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 14-SEP-2001.

### SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
212	4	Overlimit pulp, to be found

### ANALYTICAL PROCEDURES

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
Pb-AA46	3	Pb %: Conc. Nitric-HCl dig'n	AAS	0.01	50.0
Zn-AA46	1	Zn %: Conc. Nitric-HCl dig'n	AAS	0.01	50.0



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Page Number : 1  
 Total Pages : 1  
 Certificate Date: 14-SEP-2001  
 Invoice No. : I0124591  
 P.O. Number :  
 Account : NWT

Project : ENDLAKE  
 Comments: ATTN: JIM MILLER-TAIT

## CERTIFICATE OF ANALYSIS

### A0124591

SAMPLE	PREP CODE	Pb %	Zn %							
347505	212 --	3.16	-----							
347512	212 --	1.69	-----							
347513	212 --	1.61	-----							
347535	212 --	-----	2.14							



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## FACSIMILE MESSAGE

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<b>To:</b> CROSSLAKE MINERALS	<b>From:</b> Stuart Mcleod
<b>Name:</b> Jim Miller Tait	<b>Pages:</b> 6 (including this page)
<b>Fax:</b> 688 - 5443	<b>Date:</b> January 14, 2000
<b>Re:</b> Analytical methods used .	

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Dear Mr. Jim Miller Tait ,

Please find attached 5 pages regarding the analytical methods we used to analyze your samples.

Please let me know if you need anything else.

Thank You  
Stuart Mcleod.



\* Geochemical Procedure - G32 Package

Sample Decomposition: Nitric Aqua Regia Digestion

Analytical Method: Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)

A prepared sample (1.00 gram) is digested with concentrated nitric acid for at least one hour. After cooling, hydrochloric acid is added to produce aqua regia and the mixture is then digested for an additional hour and a half. The resulting solution is diluted to 25ml with demineralized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. The analytical results are corrected for inter-element spectral interferences.

<u>Chemex Code</u>	<u>Element</u>	<u>Symbol</u>	<u>Detection Limit</u>	<u>Upper Limit</u>
229	ICP-AQ Digestion	n/a	n/a	n/a
2119	* Aluminum	Al	0.01%	15 %
2141	Antimony	Sb	2 ppm	1 %
2120	Arsenic	As	2 ppm	1 %
2121	* Barium	Ba	10 ppm	1 %
2122	* Beryllium	Be	0.5 ppm	0.01 %
2123	Bismuth	Bi	2 ppm	1 %
557	Boron	B	10 ppm	10,000 ppm
2125	Cadmium	Cd	0.5 ppm	0.05 %
2124	* Calcium	Ca	0.01%	15 %
2127	* Chromium	Cr	1 ppm	1 %
2126	Cobalt	Co	1 ppm	1 %
2128	Copper	Cu	1 ppm	1 %
2130	* Gallium	Ga	10 ppm	1 %
2150	Iron	Fe	0.01%	15 %
2151	* Lanthanum	La	10 ppm	1 %
2140	Lead	Pb	2 ppm	1 %
2134	* Magnesium	Mg	0.01%	15 %
2135	Manganese	Mn	5 ppm	1 %
2131	Mercury	Hg	1 ppm	1 %
2136	Molybdenum	Mo	1 ppm	1 %
2138	Nickel	Ni	1 ppm	1 %
2139	Phosphorus	P	10 ppm	1 %
2132	* Potassium	K	0.01%	10 %

April 9, 1999



Geochemical Procedure - G32 Package (con't)

<u>Chemex Code</u>		<u>Element</u>	<u>Symbol</u>	<u>Detection Limit</u>	<u>Upper Limit</u>
2142	*	Scandium	Sc	1 ppm	1 %
2118		Silver	Ag	0.2 ppm	0.01 %
2137	*	Sodium	Na	0.01%	10 %
2143	*	Strontium	Sr	1 ppm	1 %
551		Sulfur	S	0.01 %	5 %
2145	*	Thallium	Tl	10 ppm	1 %
2144	*	Titanium	Ti	0.01%	10 %
2148	*	Tungsten	W	10 ppm	1 %
2146		Uranium	U	10 ppm	1 %
2147		Vanadium	V	1 ppm	1 %
2149		Zinc	Zn	2 ppm	1 %

\*Elements for which the digestion is possibly incomplete.

April 9, 1999



**Assay Procedure - Arsenic, Bismuth, Cadmium, Copper, Iron, Lead,  
Molybdenum, Silver, and Zinc by Nitric- Aqua Regia digestion**

**Sample Decomposition:** Nitric - Aqua Regia Digestion

**Analytical Method:** Atomic Absorption Spectroscopy (AAS)

A prepared sample (0.2 to 2.0g) is digested with concentrated nitric acid for one half hour. After cooling, hydrochloric acid is added to produce aqua regia and the mixture is then digested for an additional hour and a half. An ionization suppressant is added if molybdenum is to be measured. The resulting solution is diluted to volume (100 or 250 ml) with demineralized water, mixed and then analyzed by atomic absorption spectrometry against matrix-matched standards.

**International Units:**

Chemex Code	Element	Symbol	Detection Limit	Upper Limit
331	Arsenic	As	0.01 %	100 %
349	Bismuth	Bi	0.001 %	100 %
320	Cadmium	Cd	0.001 %	100 %
* 301	Copper	Cu	0.01 %	100 %
3501	Copper	Cu	0.001 %	100 %
3508	Copper	Cu	10 ppm	1,000,000 ppm
326	Iron	Fe	0.01 %	100 %
* 312	Lead	Pb	0.01 %	100 %
306	Molybdenum	Mo	0.001 %	100 %
307	Molybdenum as MoS <sub>2</sub>	MoS <sub>2</sub>	0.001 %	100 %
386	Silver	Ag	0.3 g/t	350 g/t
956	Silver (Rush charge)	Ag	0.3 g/t	350 g/t
* 316	Zinc	Zn	0.01 %	100 %
8089	Manganese	Mn	0.01 %	100 %

**American/English Units:**

Chemex Code	Element	Symbol	Detection Limit	Upper Limit
385	Silver	Ag	0.01 oz/ton	10.0 oz/ton
980	Silver (Rush charge)	Ag	0.01 oz/ton	10.0 oz/ton



### Fire Assay Procedure - Gold, Silver

Sample Decomposition: Fire Assay Fusion

Analytical Method: Gravimetric

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents in order to produce a lead button. The lead button containing the precious metals is cupelled to remove the lead. The remaining gold and silver bead is parted in dilute nitric acid, annealed and weighed as gold. Silver, if requested, is then determined by the difference in weights.

#### International Units:

Routine Code	Rush Code	Element	*Sample Weight	Symbol	Detection Limit	Upper Limit
397	474	Gold	½ assay ton	Au	0.1 g/t	1,000 g/t
* 997	955	Gold	1 assay ton	Au	0.07 g/t	1,000 g/t
3597		Gold	50 grams	Au	0.07 g/t	1,000 g/t
1297		Gold	2 assay ton	Au	0.03 g/t	1,000 g/t
1597		Gold	5 assay ton	Au	0.03 g/t	1,000 g/t
448		Gold	all	Au	0.002 mg	30 mg
* 384	473	Silver	½ assay ton	Ag	3 g/t	3,500 g/t
447		Silver	all	Ag	0.1 mg	100 mg

#### American/English Units:

Routine Code	Rush Code	Element	*Sample Weight	Symbol	Detection Limit	Upper Limit
396	471	Gold	½ assay ton	Au	0.003 oz/ton	30 oz/ton
996	954	Gold	1 assay ton	Au	0.002 oz/ton	30 oz/ton
3596		Gold	50 grams	Au	0.001 oz/ton	30 oz/ton
1296		Gold	2 assay ton	Au	0.001 oz/ton	30 oz/ton
1596		Gold	5 assay ton	Au	0.001 oz/ton	30 oz/ton
383	470	Silver	½ assay ton	Ag	0.1 oz/ton	100 oz/ton

\*Note: ½ assay ton = 14.5893 grams  
 1 assay ton = 29.166 grams  
 2 assay ton = 58.322 grams  
 5 assay ton = 145.83 grams



### Fire Assay Procedure - Trace Gold

**Sample Decomposition:** Fire Assay Fusion

**Analytical Method:** Atomic Absorption Spectroscopy (AAS)

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead.

The bead is digested for \* hour in dilute nitric acid. Hydrochloric acid is then added and the solution is digested for an additional hour. The digested solution is cooled, diluted to 7.5 ml with demineralized water, homogenized and then analyzed by atomic absorption spectrometry.

#### International Units:

<u>Routine Code</u>	<u>Rush Code</u>	<u>Element</u>	<u>Sample Weight (grams)</u>	<u>Symbol</u>	<u>Detection Limit</u>	<u>Upper Limit</u>
100	990	Gold	10	Au	5 ppb	10,000 ppb
96	1090	Gold	10	Au	0.005 ppm	10 ppm
* 983	991	Gold	30	Au	5 ppb	10,000 ppb
99	1091	Gold	30	Au	0.005 ppm	10 ppm
494	1209	Gold	30	Au	0.005 g/t	10 g/t
3583		Gold	50	Au	5 ppb	10,000 ppb
3584		Gold	50	Au	0.005 ppm	10 ppm
3594		Gold	50	Au	0.005 g/t	10 g/t

#### American/English Units:

<u>Routine Code</u>	<u>Rush Code</u>	<u>Element</u>	<u>Sample Weight (grams)</u>	<u>Symbol</u>	<u>Detection Limit</u>	<u>Upper Limit</u>
877	1977	Gold	30	Au	0.0002 oz/ton	0.3 oz/ton

**SECTION F: ILLUSTRATIONS**

<b>Plan Number</b>	<b>Title</b>	<b>Scale</b>
EL-01-1 (after p.3)	General Location Plan	1:250 000
EL-01-2 (after p.3)	Location Plan with Topography	1:50 000
EL-01-3 (after p.3)	Mineral Claims	1:50 000
EL-01-4 (after p.7)	Drill Hole Plan	1:500
EL-01-5 (after p.7)	Cross Section A-A' Through Hole EL-01-1	1:500
EL-01-6 (after p.7)	Cross Section B-B' Through Hole EL-01-2	1:500