



[ARIS11A]

**ARIS Summary Report**

Regional Geologist, Smithers

Date Approved: 1998.07.16

Off Confidential: 1998.05.14

**ASSESSMENT REPORT: 25520**

Mining Division(s): Lard

Property Name: Lime

Location: NAD 27 Latitude: 59 16 00 Longitude: 129 42 00 UTM: 09 6589748 480094  
NAD 83 Latitude: 59 15 58 Longitude: 129 42 08 UTM: 09 6589828 480000  
NTS: 104P06W

Camp:

Claim(s): Lime 3-10

Operator(s): Fischer, Richard E.

Author(s): Hoffman, G.

Report Year: 1998

No. of Pages: 21 Pages

Commodities  
Searched For:

General: PROS

Specific: Sphalerite

Work Done: PROS Prospecting (100.0 ha.)

Keywords: Quartz monzonites, Sphalerite

Statement Nos.: 3118675

MINFILE Nos.:

Related Reports:



## **Retread Resources Ltd.**

215 Cedarwood Road SW, Calgary, Alberta T2W 3G8  
Phone/fax 403-281-5622, e-mail: nikolsd@cadvision.com  
visit: [www.retreadresources.com](http://www.retreadresources.com)

98/05/10

Richard E. Fischer  
Calgary, Alberta

Dear Richard:

**RECEIVED**

**MAY 20 1998**

**Geological Survey of Canada  
Vancouver, B.C.**

Re: Letter of transmittal, Site Visit Report — Lime Claims, Cassiar,  
B.C.

Attached, please find a copy of our site visit report for your Lime claim group in the Cassiar, B.C. area. The report was prepared by one of our senior geologists, Ms. Georgia Hoffman, P. Geol. who visited this location accompanied by yourself and others, last summer.

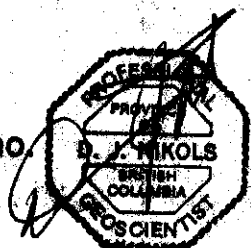
Ms. Hoffman is currently away from the office on an assignment and regrets not being able to present this report herself. I trust I have assembled the supporting information well enough to meet her high standards.

We are disappointed that Mr. Hardy, P. Geol. was unable to complete the petrographic study of the Lime and other samples. Unfortunately the photographic system he was using is being repaired. He was able to provide hand drawn (old technology) representations of the sections to meet this report deadline and will forward a completed document with photographs as soon as the system is repaired.

I trust the report meets your requirements. If you or any other reader has a question or desires a more detailed explanation of our findings please do not hesitate to contact me.

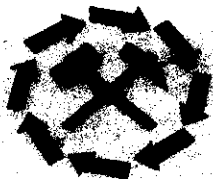
Yours truly,

Dennis J. Nikols, P. Geol.  
President



**GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT**

**25,520**



## **Retread Resources Ltd.**

215 Cedarwood Road SW, Calgary, Alberta T2W 3G8

Phone/fax 403-281-5622, e-mail: nikolsd@cadvision.com

visit: [www.retreadresources.com](http://www.retreadresources.com)

### **Introduction**

On 10 to 13 July 1997, I (on behalf of Retread Resources Ltd.) traveled to Cassiar, British Columbia (Figure 1) and visited the Lime and Rattler claims (Figure 2), which are held by Mr. Richard E. Fischer of Calgary. We also examined adjacent points of interest for which Fischer was negotiating to acquire. I was accompanied by Mr. Richard E. Fischer, Mr. Russ Reifel and Mr. Don Jablonski. The objectives of the visit were:

- to examine the condition of the roads and trails that provide access to the claims and the surrounding area;
- to examine some of the areas that had been drilled and/or trenched by Shell for the purposes of evaluating the land for further exploration;
- to take "grab" samples; and
- to make whatever geological observations might be possible within the limited time frame of the visit.

### **1 Access**

Figure 3 shows part of the Lime and Rattler Claims; roads and trails that were travelled during the July 1997 visit are highlighted. The road to the Cassiar townsite was in good condition, although the town itself was in the process of being dismantled. From the townsite, the Lime Claims were reached by crossing Troutline Creek on an existing bridge to reach the airstrip. From there, a network of trails is used that originates at the western end of the airstrip. The trails were generally passable by four wheel drive vehicles, except at crossings along Granite Creek where culverts have been removed. Areas beyond the crossings were reached on foot.

To reach the Rattler Claims, permission to cross Chrysolite's holdings, which are fenced, must be obtained. We spoke to their representative on site, Mr. Jim Doucette, who told us that access and gate keys could be arranged when needed. We decided to collect geological samples during the July 1997 visit, and did not proceed with the assessment report at that time.

25.520

## **2 Geological Observations and Sampling**

The author took three "grab" samples of mineralized material, and submitted one of them to Loring Laboratories Ltd. in Calgary. Results and the original Certificates of Assay are attached as Appendix A.

### **2.1 Lime Ridge**

We examined the remains of Shell's trenches at the switchbacks along Limestone Ridge, between Granite and Troutline Creeks (Figure 3). Mineralization was apparent, but geological relationships could not be discerned due to the collapsed state of the trenches. The mineralization was black, fine grained and strongly magnetic, with scattered 1-2 mm crystals of galena.

### **2.2 The Granite Creek Showing**

We examined the remains of Shell's drill sites along Granite Creek in an area called the Granite Creek Showing on one of the Lime Claims. Mineralization exposed in a small area of the creek bed included 2-3 mm crystals of iron sulfides, probably pyrite and pyrrhotite. Grab sample CS 97-03 was taken from this material. Mr. Robert Hardy, P. Geol. is preparing a petrographic report on this and other samples, his work is not yet complete however, the two pages of Figure 4 are self explanatory.

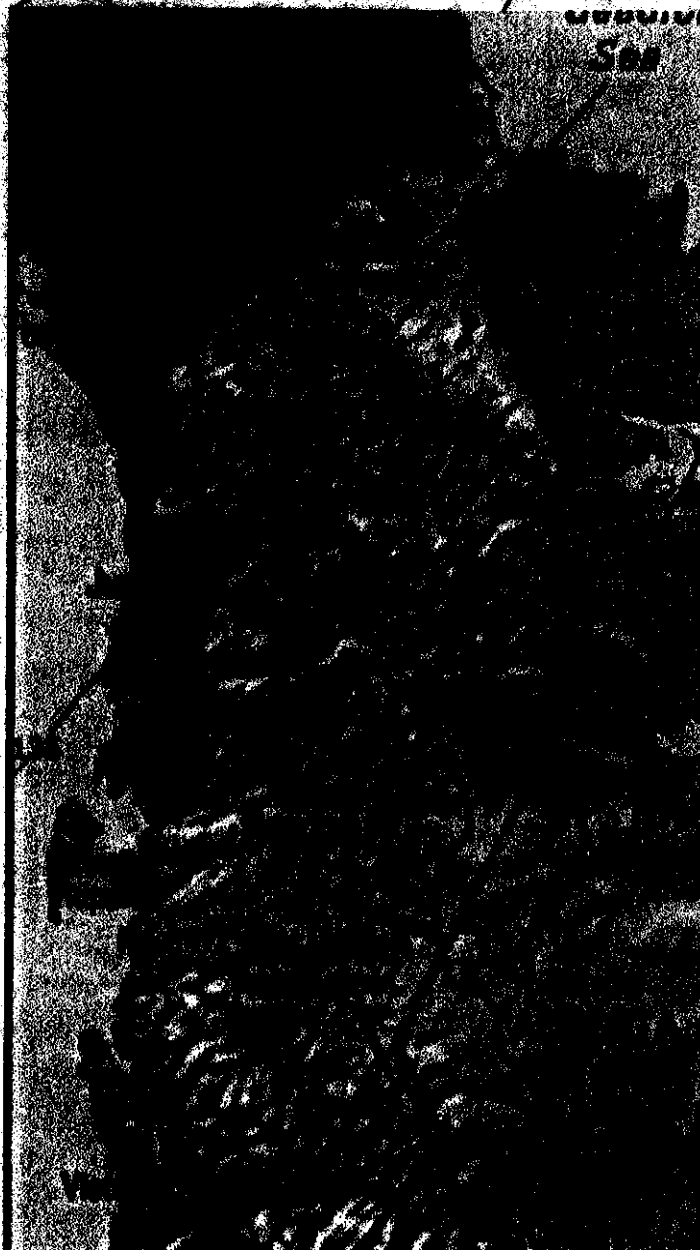
### **2.3 Granite Creek Headwaters Area**

The remains of Shell's camp and drill sites near the headwaters of Granite Creek were examined. The country rock was coarse-grained quartz monzonite. No major mineralization was seen at the surface, and no grab samples were taken.

### **3 Conclusions and Recommendations**

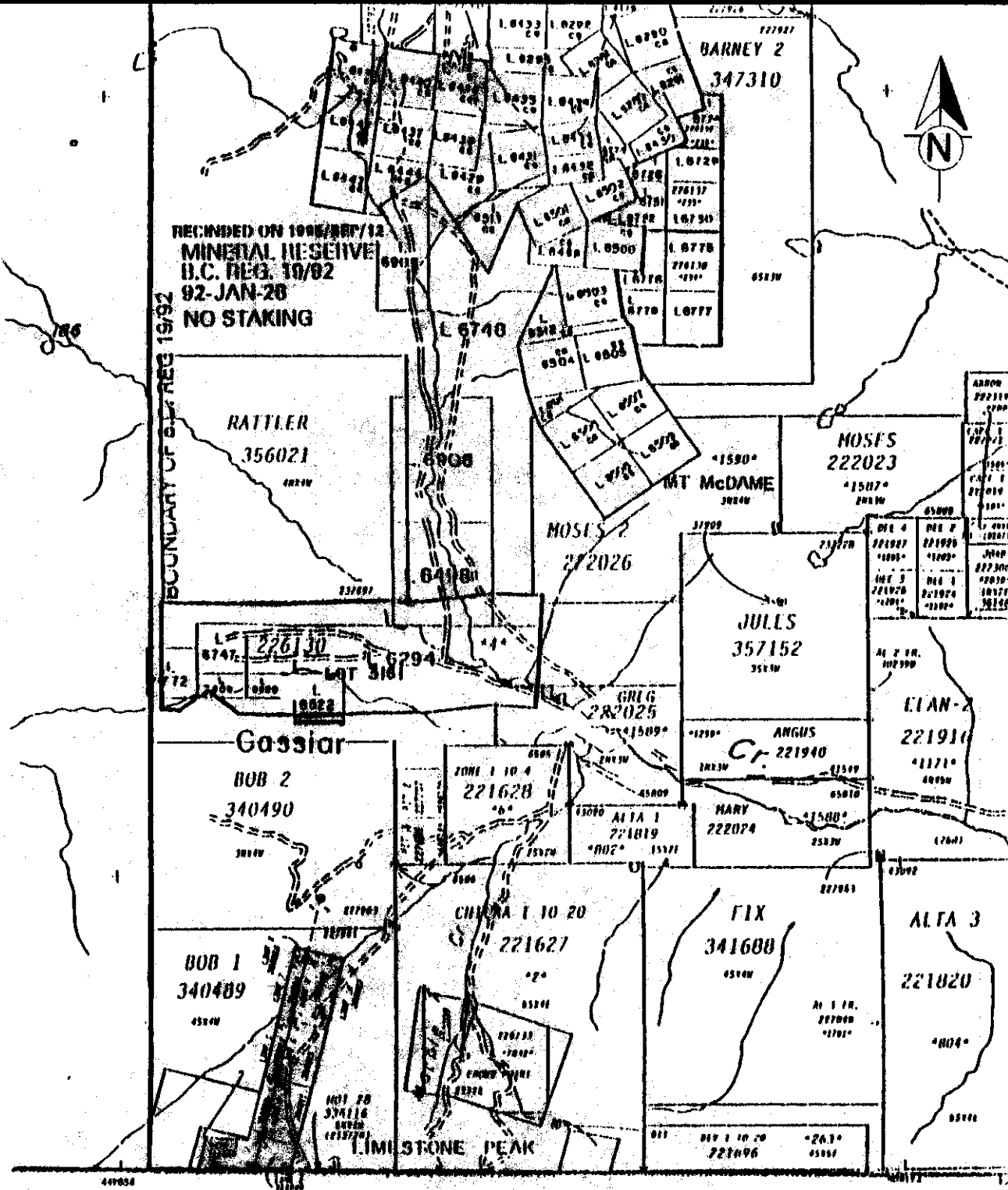
1. The existence of mineralized zones was confirmed
2. Further exploration work will be required to access the extent and value of the mineralization.
3. The locations the claim posts for the Lime Claims were verified.
4. A program of diamond drilling and trenching should be undertaken in the upcoming year.
5. Substantial road and trail upgrading will be required to bring diamond drills onto the property.
6. Machinery will be required to open the collapsed trenches as well as create new trench and drill locations.
7. Detailed geological mapping and re-evaluation of existing geophysical data are needed.

Georgia Hoffman, P. Geol.

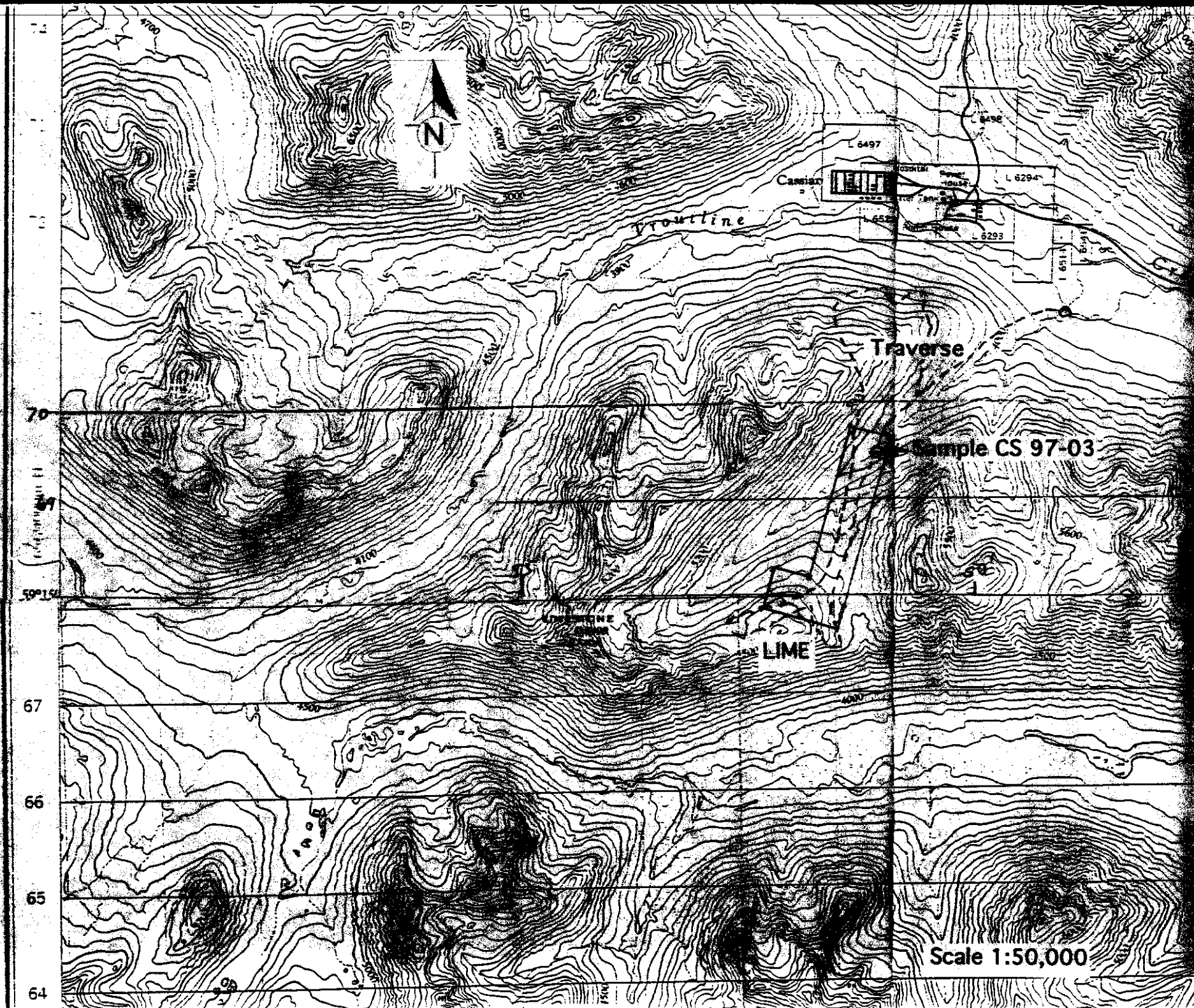


Location Map  
Cassiar, British Columbia

FIGURE 1









## **EARTHWORKS GEOSCIENCE CORP.**

**GEOLOGY-GEOCHEMISTRY**

**Exploration-Research**

**9826-80th Avenue**

**Edmonton. AB.**

**T6E 1T1**

**PH/Fax: 403-436-7516**

**e-mail: erth4wrk@planet.eon.net**

### **Petrology Study for Retread Resources Ltd.**

**Submitted To: Dennis Nikols, P. Geo.**

**Prepared by: Robert Hardy, P. Geol.**

### **Polished Mount Analysis**

This study is a preliminary investigation of the mineralogical composition of three polished mounts submitted to Earthworks Geoscience for analysis and description. Included with this analysis are diagrams of the polished mounts and recommendations for additional detailed work.

The three samples investigated are: Rattler #1; Granite Creek #2; Granite Creek #4.

### **GRANITE CREEK #2**

The sample is composed primarily of dark burgundy-black massive euhedral to subhedral sphalerite. The sphalerite is predominantly equigranular, hypidiomorphic with relatively smooth inter-granular contact. The rock is however, complicated by a zone composed of inter-grown sphalerite, quartz and minor magnetite. This material is fine grained with an approximate average grain size of 0.25 mm. At a near cryptocrystalline level, the material appears as penetrative, intergrowth textures including the three main components. It was not possible at this time to complete the mineralogical separation of these intergrowth textures.

Galena exists as a late penetrative intergrowth within the sample and is hosted by the sphalerite. The galena intergrowth also contains rounded and euhedral globules of sphalerite. Additionally in the galena, is a very minor chalcopyrite fraction, which in most locations is in direct association (contact) with the sphalerite. The galena is relatively pristine, while the sphalerite is generally fractured. Portions of the rock are infilled with a late fracture replacement of calcite.

**Recommendations:** Additional petrological and chemical work with this rock may include:

(1) Due to the complex nature of the sample, additional polished thin sections of the remaining rock would aid in classifying the mineralogy. A photo-micrographic suite at various magnifications will be required to identify the relationships between the sphalerite, quartz, magnetite, chalcopyrite and galena.

(2) Multi-element analysis would assist in identifying the overall chemistry of the sample. In addition, x-ray diffraction would aid in separating the mineralogy and microprobe work on the polished thin sections would clarify the chemical relationships between the various elements.

(3) A reconnaissance study of the sphalerite and quartz would identify workable fluid inclusions which could be studied to enhance the understanding of the relationship between these minerals.

#### **GRANITE CREEK #4**

The sample appears to be composed entirely of magnetite. Due to the nature of the polished block, and the massive granular and weathered texture of the rock, it is difficult to exercise any confidence in the analysis of this material from a reflective microscopic process. From primitive mineralogical identification on the material, magnetite is the major known component, however it is highly possible that the rock is a composite of magnetite and psilomelane or possibly jacobsonite. The most effective procedure for identifying the makeup of this material would be to perform X-ray diffraction analysis.

## GRANITE CREEK #2

### Known Mineralogy

Major: Sphalerite

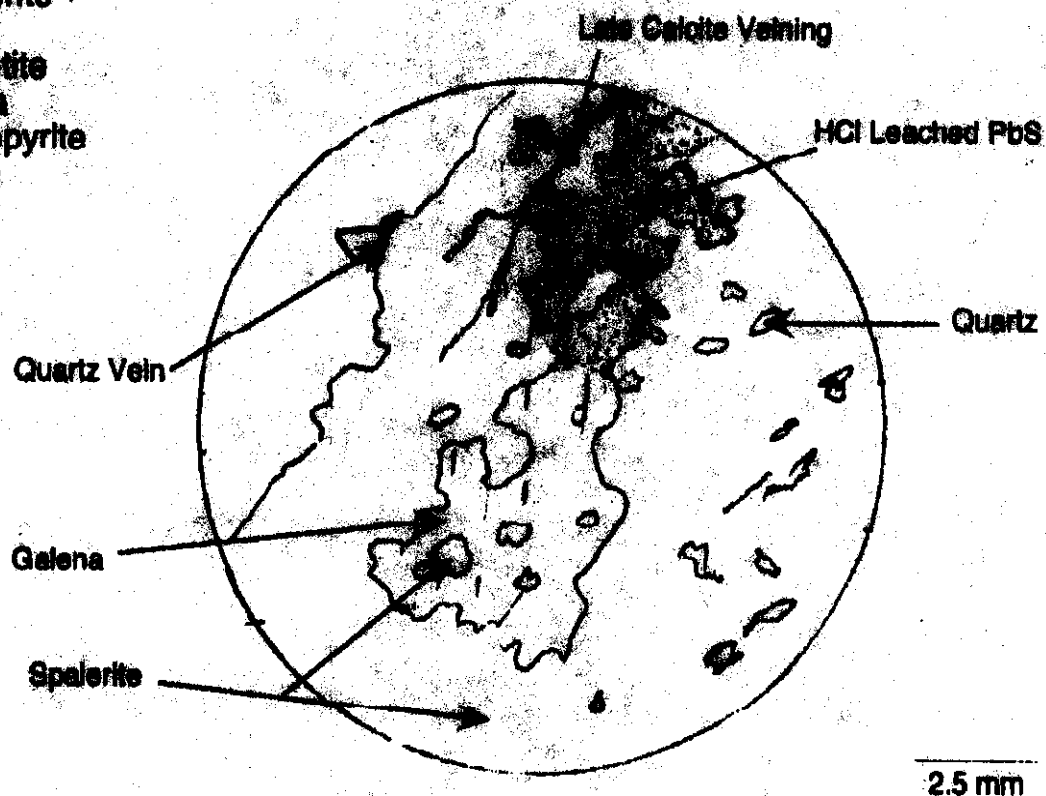
Quartz

Magnetite

Minor: Galena

Chalcopyrite

Calcite



~ 40 X Reflected Light

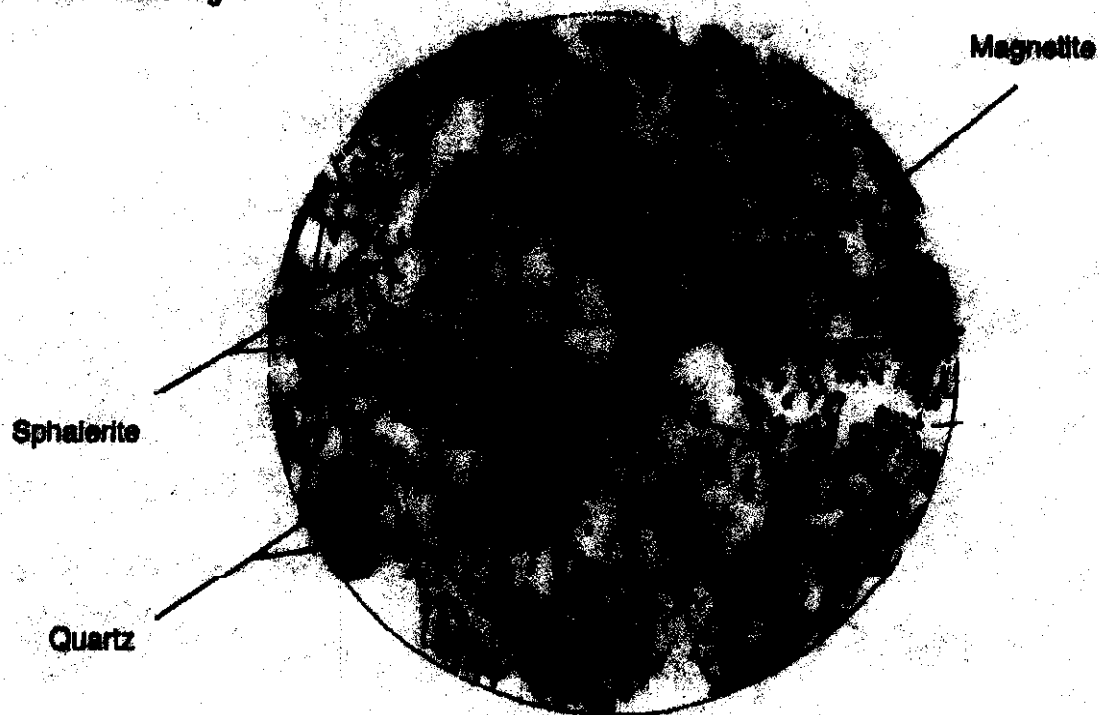


FIGURE 4

## GRANITE CREEK #2

### Known Mineralogy

Major: Sphalerite

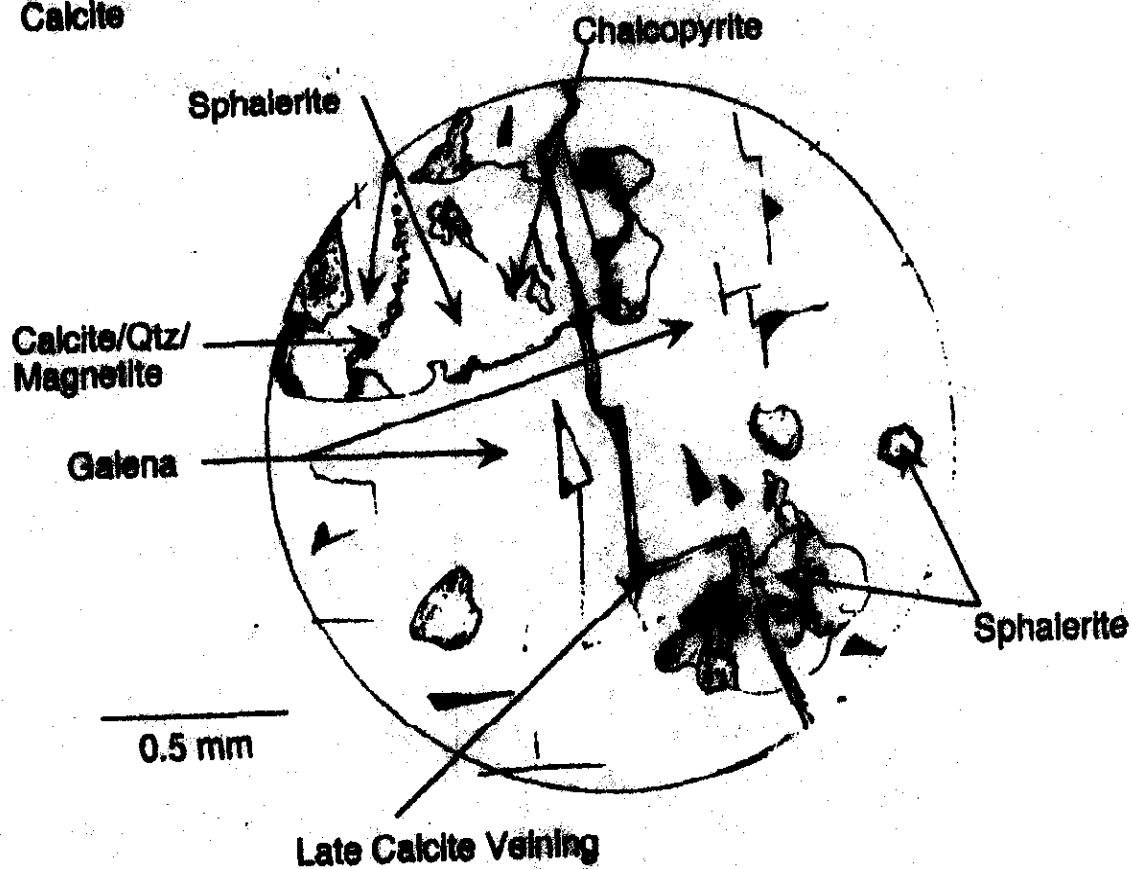
Quartz

Magnetite

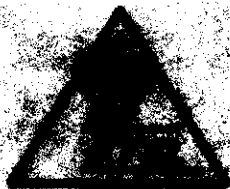
Minor: Galena

Chalcopyrite

Calcite



~ 100 x Reflected Light



# Lowell Laboratories Ltd.

629 BEAVERDALE ROAD N.E., CALGARY, ALBERTA T2K 4W7

TEL: (403) 274-2779 FAX: (403) 275-0541

B.B.T. No. R103305856

39308

INVOICE

TO: **Empress Inc. Corp.**

2000 - 120th Avenue S.W.

Calgary, Alberta

DATE July 31/97

T2W 3J5

P.O. #

ATTN: Richard Fischer

8 rock

SAMPLES

Project:

9	Sample Preparations	@	9.00	81.00
9	30 Element ICP Analyses	@	9.00	81.00
	Surcharge (less than 10 samples)	@		10.00
7	Lead Assays	@	8.00	56.00
5	Zinc Assays	@	8.00	40.00
2	Manganese Assay	@	11.50	23.00
8	Particle Size Determination	@	30.00	240.00
9	Gold and Silver Assays	@	15.00	135.00
		@		
	Subtotal	@		625.50
			G.S.T.	\$ 43.79
TERMS - 30 days			TOTAL	\$ 669.29



# Loring Laboratories Ltd.

629 Beavertown Road N.E.,  
Calgary Alberta T2K 4W7  
Tel: 274-2777 Fax: 275-0541

TO: EVEREADY RESOURCES CORP.  
FILE # 39308

DATE: July 25, 1997

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	La	Mn	Mn	Mo	Na	Ni	P	Pb	Sb	Sr	Th	Ti	U	V	W	Zn
SAMPLES	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
CS97-01	15	0.01	616		143	10	46	0.39	155	8	6	439	4.11	0.02	17	0.1	4556	2	0.01	39	0.030	1156	17	1	143	<0.01	<1	<1	<1	8578
CS97-02	9	0.02	<1		14	15	28	0.07	139	9	7	22	4.03	0.02	19	0.1	>10000	4	0.01	49	0.020	2562	22	38	150	<0.01	<1	<1	<1	3700
CS97-03	49	0.04	38		14	16	27	0.18	86	6	12	14	4.00	0.01	20	0.1	>10000	1	0.01	52	0.010	>10000	33	32	146	<0.01	<1	<1	<1	3680
KN-97-01	1310	0.02	>10000		79	9	67	0.01	114	4	47	87	1.93	0.01	1	0.0	1260	1	0.02	104	0.020	>10000	3184	10	12	<0.01	<1	<1	<1	1016
KN-97-02	1180	0.01	876		95	2	31	0.03	1674	2	32	174	2.11	0.02	1	0.0	1480	0	0.01	14	0.010	>10000	2582	15	13	<0.01	<1	<1	<1	>10000
KN-97-03	79	0.00	127		41	1	5	0.01	1558	6	166	72	2.15	0.02	1	0.0	278	4	0.01	11	0.030	>10000	95	1	11	0.01	<1	<1	<1	>10000
KN-97-04	224	0.01	58		50	3	8	0.01	1420	6	208	134	1.97	0.03	1	0.0	440	1	0.01	11	0.010	>10000	215	2	8	<0.01	<1	<1	<1	>10000
KN-97-05	624	0.07	445		47	19	26	0.02	544	4	134	67	1.95	0.03	1	0.0	126	5	0.01	13	0.004	>10000	347	15	15	<0.01	<1	<1	<1	>10000
SMALL VEIN	690	0.05	591		129	11	15	0.02	2618	11	412	222	3.11	0.01	3	0.0	458	2	0.01	23	0.002	>10000	586	4	34	<0.01	<1	<1	<1	>10000
KN-97-01	1109	0.02	>10000		83	3	66	0.01	116	4	48	88	1.83	0.01	1	0.0	1286	1	0.02	111	0.006	>10000	3322	10	9	0.02	<1	<1	<1	1101

To: Eveready Res. Corp.  
2816 - 126th Avenue S.W.  
Calgary, Alberta  
T2W 3V6  
ATTN: Richard Fischer



File No : 39308  
Date : July 31/97  
Samples : 9 rock  
Project :  
P.O.#

**Certificate of Assay**  
**Loring Laboratories Ltd.**

629 Beaverdam Road, NE Calgary, Alberta  
Tel: (403)274-2777 Fax: (403)275-0541

Sample No.	Pb %	Zn %	Mn %	Au oz/ton	Ag oz/ton
<del>ANALYST'S NAME</del>					
CS-97-01	-	-	-	0.008	0.56
CS-97-02	-	-	7.20	0.002	0.20
CS-97-03	2.42	-	-	0.01	1.85
KN97-01	55.20	-	-	0.1	89.08
KN97-02	48.80	15.00	-	0.062	74.60
KN97-03	1.45	16.85	-	0.054	2.43
KN97-04	4.63	14.55	-	0.286	7.36
KN97-05	12.35	5.12	-	0.075	20.46
SMALL VEIN	12.80	35.40	-	0.054	22.89

I HEREBY CERTIFY that the above results are those assays  
made by me upon the herein described samples :

  
Assayer

Rejects and pulps are retained for one month unless specific arrangements are made in advance.



# Retread Resources Ltd.



215 CEDARWOOD ROAD SW  
CALGARY, ALBERTA  
T2W 3G8

PHONE OR FAX (403) 281-5622

E-mail: [nikolsd@cadvision.com](mailto:nikolsd@cadvision.com)

Geoscience and Waste Management Consultants

**INVOICE**

NUMBER: 97-07-01

DATE: 98-05-10

OFFICE: Alberta

CLIENT:

Richard E. Fischer

GST # 89951 0960

Lime Claim Group Mapping & site visit

Time for Georgia Hoffman

4 days at \$680/day

\$ 2,720.00

Petrographic analysis by Robert Hardy

\$ 80.00

GST

\$ 196.00

**Total**

**\$ 2996.00**

Prepared by: DN

**COST SUMMARY  
LIME CLAIMS 3 - 10  
# 356010 thru 356017  
July 10 - 13, 1997**

<b>Description of work</b>	<b>\$ amount</b>
field prospecting - G.Hoffman	\$2,720.00
petrographic analysis - R. Harding	\$50.00
assays - Loring Laboratories	\$47.00
<b>Total</b>	<b><u>\$2,817.00</u></b>

## GEORGIA L. HOFFMAN, P.Geol.

### EXPERIENCE AND SKILLS:

Career in geology has focused on definition and assessment of reserves. This has required participation in all aspects of data collection in the field (geological mapping, drilling, geophysical surveys, geotechnical data collection, etc.), interpretation of the resulting data, deposit modelling, and participation in mining feasibility studies. Experience has centred on coal, coalbed methane and oil sands, and also includes base and precious metals, and a variety of industrial minerals.



#### Expertise includes:

- ▲ interpretation of downhole geophysical logs for coal, oil sands and minerals, including interpretation of geotechnical and ore quality parameters;
- ▲ application of surface geophysical techniques, especially shallow seismic, electromagnetic and electrical, to solving geological problems and aiding reserve definition; and
- ▲ interpretation of geology in structurally complex areas.

#### Projects have included:

- ▲ mapping and interpreting geologic structures and sedimentary facies, at reconnaissance to detailed scales, in many areas of the Cordillera, Western Canada Basin, San Juan Basin, Canadian Shield, and Appalachians;
- ▲ management of coal exploration projects, coordinating geologic mapping teams, two drills, seam trenching, and shallow seismic surveys, with a peak manpower of 15 people;
- ▲ geotechnical data collection in outcrop, drill core, pit walls and underground, for studies of pit-wall, slope and underground opening stability, for coal and hard-rock mining, and for civil engineering projects such as bridge construction;
- ▲ part of the management team for design and implementation of a 3-year, multi-company research project with a budget of up to \$350,000/year, investigating practical applications of surface geophysical techniques at a variety of sites throughout the Alberta and British Columbia Poothills; and
- ▲ participated in a series major research projects concerning interpretation and practical application of downhole geophysical logging, including production of a handbook that became a standard in the coal industry; a project on deriving coal quality parameters from downhole logs; and a multi-company, 4-year project on deriving geotechnical parameters from logs.

**GEORGIA L. HOFFMAN, P.Geol.**

#### **ACADEMIC AND PROFESSIONAL QUALIFICATIONS**

1966-1970 University of Pennsylvania, Philadelphia;  
B.A. Geology (honours).

1970-1975 University of Alberta, Edmonton;  
Graduate Studies, Geology.

#### **MEMBER**

Association of Professional Engineers, Geologists &  
Geophysicists of Alberta  
Canadian Society of Petroleum Geologists  
Canadian Institute of Mining and Metallurgy  
Mineral and Geotechnical Logging Society of SPWLA  
Geological Society of America.

#### **SUMMARY OF EXPERIENCE**

Career has focussed on resource assessment and exploration for undiscovered deposits. Experience ranges from data collection (geologic mapping, management of drilling and geophysical programs) to interpretation of the resulting data (interpretation of geologic structure, three-dimensional modelling of deposits, assessment of bed thickness and ore grade).

#### **PROFESSIONAL HISTORY**

1989-Present Senior Geologist, Retread Resources Ltd., Sharwood Park, Alberta. Responsible for project management and field work on Retread's geological, geotechnical and environmental projects, as well as report preparation and technical editing.

1987-1989 Senior Project Geologist, Coal Mining Research Company, Devon, Alberta. Responsible for several research projects on downhole and surface geophysics. The downhole geophysics includes interpretation of coal and oilsands geophysical logs for geotechnical information and coal quality parameters. The surface geophysics projects focus on practical application of shallow seismic, electromagnetic and electrical techniques to structural and stratigraphic problems in coal geology.

1979-1987 President, G. Hoffman Consulting Services Ltd., Calgary, Alberta. Work as an independent consultant included a wide range of experience in coal, oilsands, geophysics, and geotechnical work. Clients included Alberta Research Council, Norwest Resource Consultants Ltd., Gulf Canada Resources Ltd., Crows Nest Resources Ltd., Coal Mining Research Company, Kohn Leonoff Consulting Engineers, Idemitsu Kosan Co. Ltd., and others.

1978-1979 Senior Geologist, Shell Canada Resources Ltd., and Crows Nest Resources Ltd.; Calgary, Alberta. Responsibilities included planning of coal exploration projects, supervision of diamond drilling and other field activities, and preparation of geological reports. Undertook major reinterpretation of heavily thrust-faulted areas in southeastern British Columbia.

1975-1978 Geologist, Denison Mines Ltd.; Calgary, Alberta. Exploration of coal in northeastern British Columbia and the Alberta Foothills included supervision of diamond drilling and other field activities. Extensive experience in geological mapping, air-photo interpretation and core logging. Responsible for the discovery of significant new coal reserves in several areas, particularly at Denison's Balcourt property.

#### SELECTED PUBLICATIONS

Hoffman, G.L. and Lungenberg, C.W. (Editors) 1993. Foothills surface geophysics project: final report. Alberta Research Council, Information Series No. 121.

Bickford, C.G.C., Wilson, R.A. and Hoffman, G.L. 1992. Geology, mineability and coalbed gas potential of the Douglas coal zone in the Nanaimo coalfield, Vancouver Island. In: Proceedings, Canadian Coal and Coalbed Methane Geoscience Forum, Parksville, B.C., Feb. 2-5, 1992, p. 293-310.

Henderson, J.D., Sartorelli, A.N., Fenton, M.M., Pawlowicz, J.G. and Hoffman, G.L. 1991. Surface geophysics for Plains coal exploration and reserve definition: recent research. In: Peters, D.C. (Editor), EMD Volume on Geology in Coal Resource Utilization; American Association of Petroleum Geologists.

Hoffman, G.L., Fenton, M.M. and Pawlowicz, J.G. 1990. Downhole geophysics project, 1986-1990: final report. Alberta Research Council, Info. Series No. 110, 306 p.

Hoffman, G.L. and Wilson, R.A., 1989. Determination of coal quality parameters from downhole geophysical logs. In: Advances in Western Canadian Coal Geoscience - Forum Proceedings; Alberta Research Council, Information Series No. 103, p. 361.

Wright, P.L. and G.L. Hoffman (Editors) 1985. Measurement and Control of Mining Subsidence: A Handbook for Western Canada. Coal Mining Research Company, Devon, Alberta; 223 p.

Hoffman, G.L. and Jordan, G.R., 1984. The coalfields of the northern foothills of the Canadian Rocky Mountains. In: Stott, D.F., and Glass, D.J. (Editors), Mesozoic of Middle North America; Canadian Society of Petroleum Geologists, Memoir 9, p. 541-549.

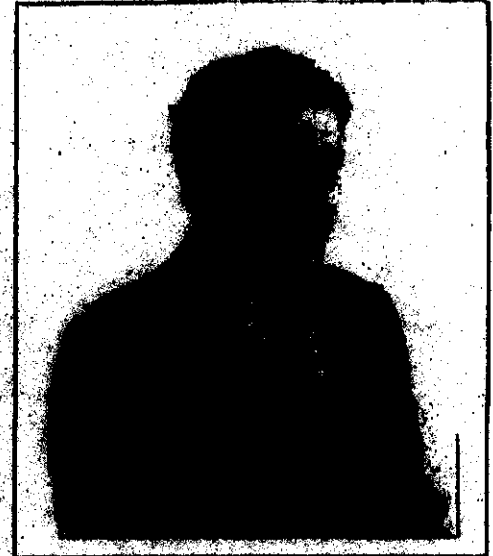
Hoffman, G.L., Jordan, G.R. and Wallis, G.R., 1984. A Geophysical Borehole Logging Handbook for Coal Exploration. Coal Mining Research Company, Devon, Alberta; 270 p.

## DENNIS J. NIKOLS, P.Eng.

### EXPERIENCE AND SKILLS:

Career in geology began with field experience on exploration projects and in operating mines. Duties included geological mapping, core description, sampling, geochemical and geophysical surveys, and air-photo interpretation.

Responsibilities have included mine planning, pit design, production scheduling, equipment selection, blast design, ore dressing, and reserve reporting. Work has also included design and development of large databases for coal and minerals; integration of databases with Geographic Information Systems; selection and implementation of software for mine planning and other functions; calculation of reserves and ore quality variations by geostatistics and other methods; and coordination of multidisciplinary industry/government resource research projects.



Management experience has included responsibility for project selection and design, budgeting, budget control, scheduling, personnel selection, and supervision of staff and contractors.

Experience has encompassed a wide variety of commodities: coal and coalbed methane; iron ore; conventional petroleum and natural gas; heavy oil; oilseeds; base and precious metals (copper, lead, zinc, uranium, gold, silver, and platinum group elements); and industrial minerals such as garnet, magnetite, leonardite/humalite, clays, and aggregate.

#### Projects have included:

- ▲ long-range planning, fuel supply planning and mine geology at open-pit coal mines producing in excess of 13 million tonnes/year;

- ▲ geological control and ore grade management at iron ore mines producing more than six million tonnes/year;

- ▲ design, supervision and quality control of implementation for several large geoscience databases;

- ▲ selection and implementation of mine planning software for major mining operations;

- ▲ calculation of reserves and resources for commodities ranging from coal, coalbed methane and iron ore, to leonardite and ammonite;

- ▲ management of a government department with a staff of 18 and a budget of over \$2 million/year;

- ▲ management of industry-government co-sponsored applied research projects, with budgets of over to \$600,000/year;

- ▲ management of coalbed methane studies in Alberta, British Columbia and the Ukraine;

- ▲ supervision of multi-disciplinary project teams, including professionals from other countries;

- ▲ developing new projects, strategic proposals and plans for regional resource evaluation; and

- ▲ organizing and leading field trips, such as international technical tours for industry and government; technical presentations; seminars and workshops, such as courses on Geographic Information Systems.

## SELECTED PUBLICATIONS:

- Hoffman, G.L., Nikols, D.J., Stuebs, S. and Wilson, R.A. 1993. *Evaluation of leonardite (humalite) resources of Alberta*. Alberta Research Council, Open File Report 1993-18.
- Nikols, D.J. and Treasure, S. 1991. *Coal quality variations in Alberta Tertiary coals: a detailed analysis of a mining pit at Highvale Mine*. Alberta Research Council, Open File Report 1990-21.
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