GEOLOGICAL SUMMARY REPORT

ON THE

SPEC GROUPS OF CLAIMS
(Spec I - Spec 1, 2, 3, 4, & 7)
(Spec II - Spec 5 & 6)

NTS 104G/2 & 7

MOUNT EDZIZA AREA

NORTHWESTERN BRITISH COLUMBIA

BY

MOHAN R. VULIMIRI, M.S., FGAC

FOR

ALASKA FERN MINES LTD

&

NORANDA EXPLORATION COMPANY, LIMITED

VANCOUVER, B.C. DECEMBER, 1990

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APPENDICES

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INTRODUCTION

Field work was carried out on the Spec Group of claims, Mount Edziza area, Northwestern British Columbia, by Mohan R. Vulimiri, John F. Mirko, David E. Blann, Harvey F. Stark and R. Redavid on behalf of Noranda Exploration Company Ltd. during a period August to October, 1990. Exploration consisted of mainly prospecting and geological mapping. The work was concentrated mainly on the Spec 1 and Spec 7 claims (Spec I). Minor work was carried out on the Spec 5 Claim (Spec II).

The expenditures incurred on Spec I are $ 12834.00 and on Spec II are $ 4526.50 for a total of $ 17360.50.

LOCATION, ACCESS AND PHYSIOGRAPHY

The Spec Property is located approximately 345 kilometres northwest of Smithers, B.C. and is centred at 57°15' north latitude and 130°40' west longitude in the NTS map sheets 104G 2 and 7. The claims are situated at the headwaters of More Creek (Fig. 1).

Access is by fixed wing aircraft to either Galore Creek Camp, or Bob Quin Airstrip from Smithers, then by helicopter to the Property. Bob Quin Airstrip is located about 40 kilometres to the southeast on the Stewart-Cassiar Highway.

The claims lie on the western margin of the Stikine Plateau at elevations of 1500 to 2000 metres above sea level. The rugged Coast Mountains lie to the west.

The property covers an area which is plateau-like to the west and rugged mountains to the east. Outcrop exposure is sparse on the plateau, and excellent on the steep slopes.

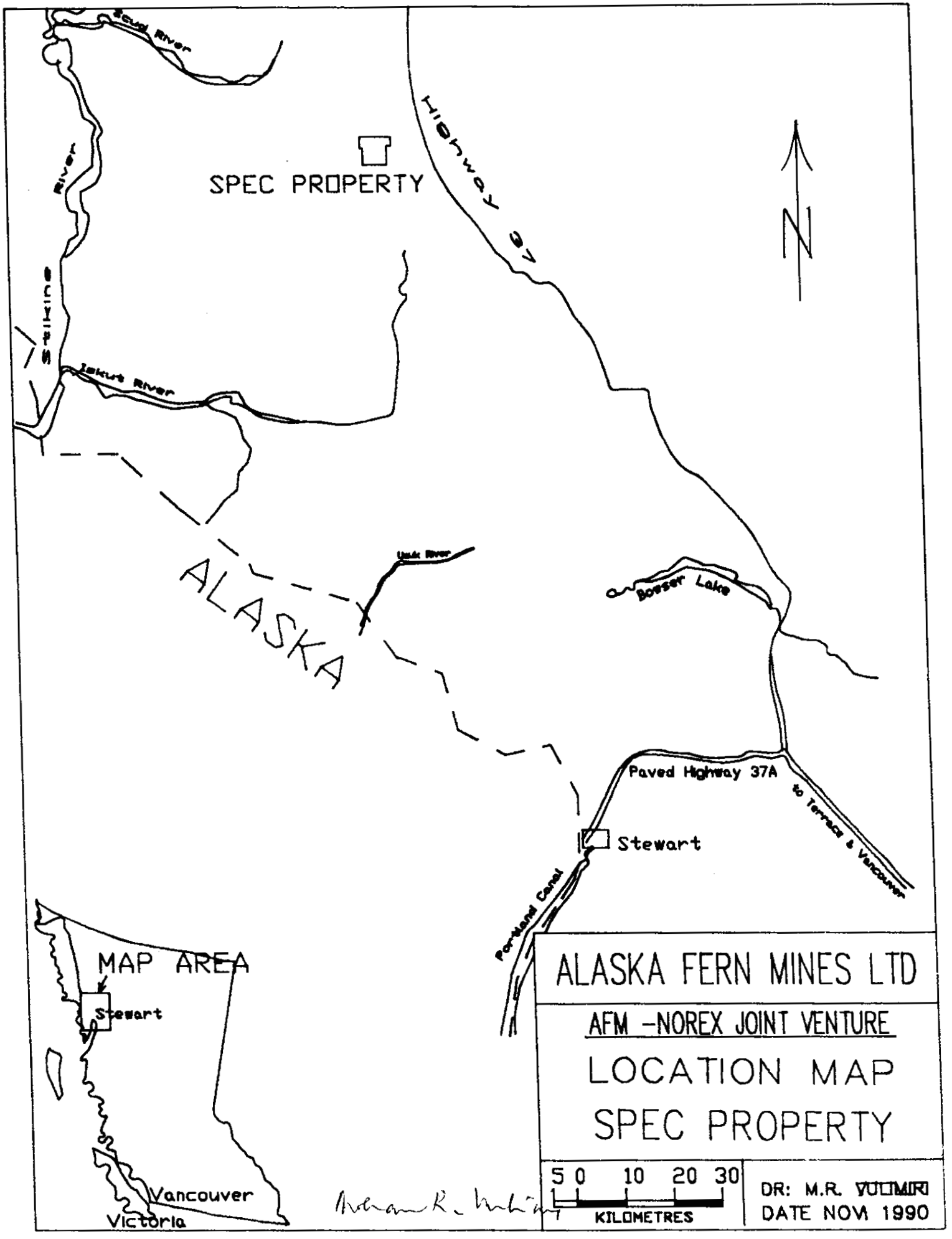
PROPERTY DESCRIPTION

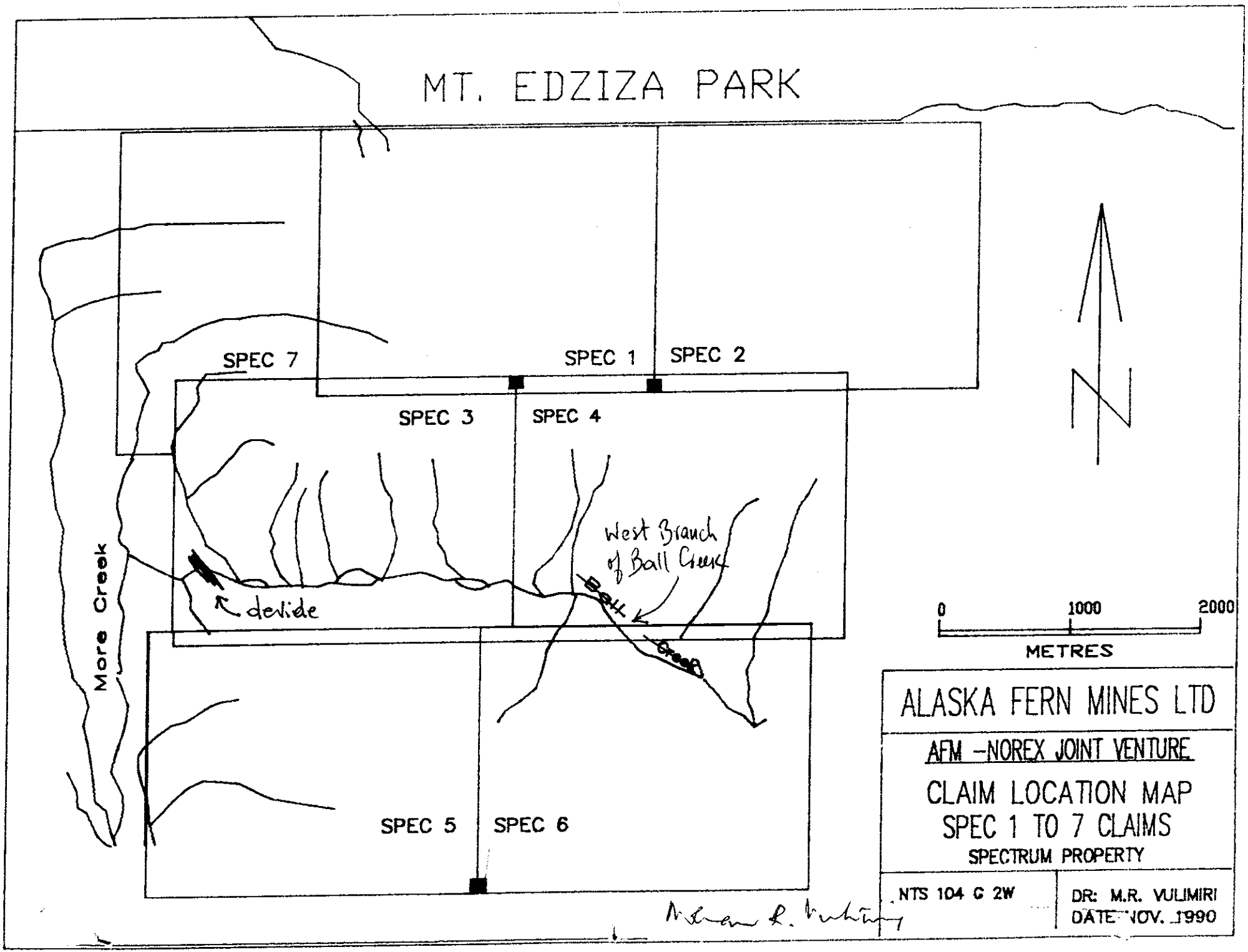
The property is owned by Noranda Exploration Company, Limited and operated by Alaska Fern Mines Ltd, under an option. The property consists of the following claims (Fig. 2).

Claim	Record No	Units	Expiry Date*
Spec 1	6511	20	October 5, 1991
Spec 2	6512	20	October 5, 1991
Spec 3	6513	20	October 5, 1991
Spec 4	6514	20	October 5, 1991
Spec 5	6515	20	October 5, 1991
Spec 6	6516	20	October 5, 1991
Spec 7	6524	15	February 22, 1992

* valid upon acceptance of the assessment work.

The claims are grouped into two groups. The claims Spec 1, Spec 2, Spec 3, Spec 4 and Spec 7 form one group (Spec I), and claims Spec 5 and Spec 6 form the second group (Spec II).


Iskut River
Stikine River
Iskut River
SPEC PROPERTY
Highway 37
N
ALASKA
Unuk River
Bowser Lake
Paved Highway 37A
to Terrace & Vancouver
Stewart
Portland Canal
MAP AREA
Stewart
Vancouver
Victoria
ALASKA FERN MINES LTD
AFM -NOREX JOINT VENTURE
LOCATION MAP
SPEC PROPERTY
5 0 10 20 30
KILOMETRES
DR: M.R. VULMER
DATE NOV 1990



ALASKA FERN MINES LTD

AFM -NOREX JOINT VENTURE

CLAIM LOCATION MAP
SPEC 1 TO 7 CLAIMS

SPECTRUM PROPERTY

NTS 104 G 2W

DR: M.R. VULIMIRI
DATE: NOV. 1990

PROPERTY HISTORY

Exploration for porphyry copper and copper/molybdenum deposits has been carried out intermittently over the last 30 years in the area. Newconex Ltd., carried out a reconnaissance program on the More Creek drainage in 1976. Some of the mineral showings on the property were discovered at that time.

Edziza Resources and Skylark Resources carried out geophysical, geochemical and prospecting work during 1980 and 1988 seasons respectively. Emphasis was only placed on a spectacular narrow high grade massive sulphide showing on the southern part of the Spec 1 Claim.

GEOLOGY

Regional Geology

The Telegraph Creek Map Sheet (NTS 104 G) was mapped by J.G. Souther of the Geological Survey of Canada during the period 1956 to 1969 (GSC Paper 71-44).

According to Souther, the More Creek area is underlain by sedimentary and volcanic rocks of Triassic and Jurassic age (map units 5, 7, 8, 9 and 13). These rocks are intruded by granitic plutons and rhyolite dykes of Triassic and/or Cretaceous age (map units 17 and 20) Basaltic rocks of the Mt. Edziza area of Tertiary and Quaternary age are the youngest rocks in the area.

Recent work by Read et al in the Forrest Kerr and Lower More Creek areas (GSC Open File 2094) suggests the Triassic and Jurassic sedimentary and volcanic rocks are part of the Stuhini Group.

Local Geology

Geological mapping mainly on the western area of the Spec 1 and eastern margin of the Spec 7 claims has shown the area to be underlain by several phases of Syenite intrusions. These plutonic rocks intrude calcareous and quartzose sedimentary and interbedded sedimentary and andesitic volcanic rocks.

The sedimentary rocks have been extensively converted to garnet-diopside-K-feldspar-epidote skarns. Epidote-diopside-K-feldspar endoskarn have also been observed in the syenitic intrusions.

The syenite intrusions are characterized by various sizes of very large K-feldspar phenocrysts. The matrix is fine grained and the colour varies from dark brown to pink. Minor narrow quartz veins are also present.

The sedimentary and volcanic rocks predominantly trend north and dip steeply to east. North trending rhyolite dykes intrude all the rocks on the Spec 2 and 4 claims and the eastern part of Spec 1 claim. Minor geological mapping was carried out along the western and

northern boundary of the Spec 5 Claim towards the Ball Creek drainage. Here, lesser syenite intrusive rocks are present. The dominant plutonic rocks are of granodiorite to quartz-diorite compositions. These rocks intrude calcareous sedimentary, thus resulting in garnet-diopside skarns (both endo and exoskarns).

MINERALIZATION AND ALTERATION, VARIOUS ZONES

Butte, Spar, Pup and View Zones (Spec I, Figures 3 & 4)

The Butte, Spar and Pup zones are situated with an area of 200 metre radius near the northern boundary of the Spec 1 Claim. Preliminary information indicates the Pup Zone is located inside the Mt. Edziza Park close to the southern park boundary. The View zone is approximately 200 metres to the south. This area is covered extensively by Mt. Edziza basalts and glacial debris. Outcrop exposure is poor.

Mineralization in the Butte, Spar, Pup and View zones consists predominantly of chalcopyrite, malachite, azurite, minor bornite, minor pyrite and pyrrhotite in garnet-diopside-K-feldspar-epidote endo and exoskarns. Chalcopyrite also occurs in fractures and matrix in K-feldspar porphyritic syenite.

Extremely rich chalcopyrite mineralization is exposed over an area 30 metres by 30 metres on the Butte Zone. Gold values are erratic, with values up to 100 ppb gold.

The View Zone mainly consists of chalcopyrite, malachite and azurite in fractures in epidote endoskarn in Syenite porphyry. Two samples taken over an area 20 metres by 20 metres returned 0.25% copper, and 300 and 600 ppb gold respectively.

Assays and sample descriptions are given in the Appendices 1 and 2.

Sphaler Creek Area, Sphaler and Canyon Zones (Spec I, Figures 3 & 5)

Two mineral showings, Sphaler and the Canyon showings are situated on the Sphaler Creek, near the southern boundary of the Spec 1 Claim.

The Sphaler Showing is a north-trending narrow massive sulphide in the calcareous sediments near the contact with a porphyritic syenite intrusion. The sulphides consist of bands dark brown sphalerite, chalcopyrite and pyrite, with minor galena. Mineralization is approximately 30 centimetres wide. The surrounding sediments are converted to low grade calcsilicate skarn. Assays are spectacular with values up to 7.6% copper, 8.6% silver, 1.42% lead and 6.5% zinc.

The Canyon showing is situated approximately 200 metres downstream from the Sphaler Showing. Mineralization consists of chalcopyrite and malachite associated with fractures in dark brown syenite porphyry. Values up to 2600 ppm copper were obtained. Assays and sample descriptions are given in the appendices.

Spec 5 Claim, Ball Creek area (Spec II, Figures 6 & 7)

Minor prospecting and geological mapping was carried out on the northern and western boundaries of the Spec 5 Claim.

The geology consists of mainly calcareous sediments and minor andesitic volcanic rocks intruded by granodiorite to quartz diorite intrusions on the northern boundary of the Spec 5 Claim. Both epidote-diopside-minor garnet endo and exoskarns occur at the contacts. Chalcopyrite, pyrite with malachite and azurite mineralization is present in the skarns. Several samples have been sent for assay. Geochemical analyses and sample descriptions are given in Appendices 1 and 2.

Syenitic intrusive rocks are exposed on the northwestern corner of the Spec 5 Claim. These rocks are highly altered to K-feldspar with pyrite in narrow quartz stringers. Calcareous sedimentary rocks are converted to diopside-epidote-minor garnet skarns near the contacts.

POTENTIAL

The geological environment on the Spectrum Property, based on the minimal amount of work carried out to date, appears to be very similar to the Galore Creek porphyry copper-gold deposits associated with syenite intrusions.

Copper mineralization on the Spectrum Property is present both within the syenite intrusive rocks as well as in the epidote-diopside-garnet exo and endoskarns near the contacts. Several phases of syenite intrusive rocks with various sizes of K-feldspar phenocrysts are present. Very little outcrop is exposed in the area, and therefore the extent of mineralization is not known. This mineralization is exposed on the northern boundaries of Spec 1 and Spec 7 claims, and appears to extend into Mt. Edziza Park.

Intrusive-related copper mineralization is also present near the northern and western boundary of the Spec 5 Claim.

RECOMMENDATIONS

An exploration program consisting of geophysical induced polarization, magnetometer and VLF-EM surveys, and geochemical soil and silt sampling is required on the property.

Any resulting anomalies have to be interpreted in conjunction with geology, followed by diamond drilling of the anomalies.

Mohan R. Vulimiri
December 15, 1990

CERTIFICATE OF EXPENDITURES

The following expenditures were incurred on the Spectrum Property.

Spec 1 and 7 Claims (Spec I - Spec 1, 2, 3, 4 & 7 claims - 95 units)

Wages (August 9 to 13, 1990)

M. R. Vulimiri 4 days at $350.00/day 1 day travel	$ 1750.00	
J. Mirko 4 days at $250.00/day 1 day travel	$ 1250.00	
R. Redavid 2 days at $140.00/day	$ 280.00	
Transportation		
Helicopter: 6.7 hrs. at $702./hr incl. fuel)	$ 4703.00	
Mob. and Demob.	$ 1500.00	
Room and Board		
10 man-days at $140/man-day (Galore Camp)	$ 1400.00	
Equipment and Supplies	$ 200.00	
Geochemical Analyses and Assays		
32 rocks at $14.25/sample (ICP)	$ 456.00	
10 rocks Assays for Cu, Ag, Au at 12.50	$ 125.00	
Shipping of samples	$ 120.00	
Report	$ 600.00	
Drafting, Typing and Computer Time	$ 450.00	
	$12834.00	$12834.00

Spec 5 Claim (Spec II - Spec 5 and 6 claims - 40 units)

Wages (October 1, 1990)

M. R. Vulimiri, 1 day at $350.00/day	$ 350.00	
H. Stark, 1 day at $200.00/day	$ 200.00	
D. Blann, 1 day at $200.00/day	$ 200.00	
Transportation		
Helicopter: 2.6 hrs. at $702/hr.(incl. fuel)	$ 1825.00	
Mob. and Demob. (pro rata)	$ 650.00	

Room and Board		
3 man-days at $140.00/man-day (Galore Camp)	$ 420.00	
Equipment and Supplies	$ 100.00	
Geochemical Analyses and Assays		
22 rocks at $14.25 per sample (ICP)	$ 313.50	
Shipping of rocks	$ 80.00	
	$ 4176.50	
Report	$ 200.00	
Drafting, Typing and Computer Time	$ 150.00	
Sub Total	$ 4526.50	$ 4526.50
Total Expenditures		$ 17360.50

REFERENCES

Read, P.B. et al, 1989: Open File Map on the Forrest Kerr and Lower More Creek Areas, Northwestern British Columbia. Geological Open File Report No. 2094.

Sawyer, J.B.P., 1980: Geological, Geochemical and Geophysical Report on the More Creek Property, an Assessment Report for Edziza Resources.

Souther, J.G., 1972: Telegraph Creek Map Area, British Columbia (Report and Map 11-1971), Geological Survey of Canada Paper 71-44

CERTIFICATE OF QUALIFICATIONS

I, Mohan R. Vulimiri, hereby certify that:

I am a Consulting Geologist, with business address at 822 East 12th Street, North Vancouver, B.C. V7L 2L1.

I am a graduate of Indian Institute of Technology, Kharagpur, India with a B.Sc. Honours in Geological Sciences.

I received a Master of Science degree in Economic Geology from the University of Washington, Seattle, U.S.A.

I am a Member of Society of Economic Geologists, Member of Society of Mining Engineers and a Fellow of the Geological Association of Canada.

I have practised my profession as a Geologist since 1970, and in responsible positions since 1974, in British Columbia, Yukon, Saskatchewan, Washington, Idaho and South Western U.S.A.

I have personally carried out and supervised the field work on the Spectrum Property conducted during August to October, 1990.

Dated at Vancouver, B.C., this 10th day of December 1990.

Mohan R. Vulimiri

APPENDIX 1

Sample No.	Description of Rock Samples
	Spec I - Spec 1 and 7 Claims
View 1, 2	fracture-controlled Chalcopyrite mineralization in endoskarn
Spar 1,	chalcopyrite fracture in endoskarn
Spar 2, 3	diss. chalcopyrite in quartz-garnet-K-feldspar endoskarn.
Butte 1	chalcopyrite-mal-az stringers in limy skarn
Butte 2	diss. chalcopyrite in garnet-quartz-diopside skarn
SP-1	endoskarn
SP-2	garnet-k-feldspar-diop.-epidote endoskarn with limy layers.
SP-6	quartz vein
SP-7	mal., chalcopyrite in quartz-magnetite skarn
SP-8	epidote skarn
SP-13	chalcopyrite in endoskarn-syenite
SP-24	diss. chalcopyrite in skarn
SP-13A	syenite next to skarn
SP-14	epidote-garnet skarn
SP-15	syenite with dark grey matrix
SP-16	diss. chalcopyrite & mal. in fine grained syenite
SP-16A	syenite with greenish matrix
SP-17	megacrystic syenite
SP-18	chalcopyrite-mal-az in epi-diop-gt endoskarn
SP-20	K-feldspar fracture in syenite
SP-22	chlorite-altered syenite
SP-23	K-feldspar altered syenite
SP-25	diss. chalcopyrite in syenite float
SP-25A	dark brown syenite with chalcopyrite
SP-26	dark brown syenite
SP-27, 28	fracture-controlled chalcopyrite in syenite
Sphaler 1	banded massive sulphide with sphalerite, chalcopyrite, galena and pyrite.
	Spec II - Spec 5 Claim
SP-51, 52	K-spar, quartz in syenite intrusion with pyrite
SP-53	altered syenite intrusion with diss. pyrite
SP-54	altered granodiorite
SP-55	epidote skarn
SP-59	syenite
SP-60	epidote-diopside-garnet skarn
SP-61, 63	skarny sediments with malachite
SP-64	skarned limestone
SP-66	epidote skarn
SP-67	malachite in skarn
SP-68	siliceous sediment with diss. pyrite
SP-69	hornfels with quartz stringers and malachite
SP-70,72,73,76	granodiorite endoskarn with chalcopyrite and mal.
DB-2F	dark brown syenite float
DB-3F	epidote-garnet endoskarn
~~MO-1~~	~~quartz vein with pyrite~~

APPENDIX 2

RASSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : ALASKA FERN MINES,
822 EAST 12TH ST.,
NORTH VANCOUVER, B.C.
PROJECT : SPEC
TYPE OF ANALYSIS : ASSAY

CERTIFICATE # : 90447
INVOICE # : 10558
DATE ENTERED : 90-09-14
FILE NAME : AFM90447.A
PAGE # : 1

PREFIX	SAMPLE NAME	% Cu	oz/t Ag	% Pb	% Zn
A	BUTTE 1	8.12	7.70		
A	BUTTE 2	1.10			
A	PUP 1	2.45	0.75		
A	SP 13	6.42	2.45		
A	SP 25	2.00			
A	SPAR 1	8.00	8.65		
A	SPAR 2	3.50	0.62		
A	SPAR 3	1.28			
A	SPHALER 1	7.60	8.60	1.42	6.50
A	ZINC 1	2.20	5.70		
A	ZINC 2		2.40	4.30	4.64
A	ZINC 3		0.74		

CERTIFIED BY : Rassbacher

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,785

ROSSBACHER LABORATORY LTD.

2225 S. Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-6910 Fax:299-6252

CERTIFICATE OF ANALYSIS

TO : ALASKA FERN MINES,
822 EAST 12TH ST.,
NORTH VANCOUVER, B.C.
PROJECT : SPEC
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 90447
INVOICE # : 10558
DATE ENTERED : 90-09-14
FILE NAME : AFM90447
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM MO	PPM CU	PPM PB	PPM ZN	PPM AG	PPM NI	PPM CO	PPM MN	% FE	PPM AS	PPM U	PPM AU	PPM HG	PPM SR	PPM CD	PPM SB	PPM BI	PPM V	% CA	% P	PPM LA	PPM CR	% MG	PPM BA	% TI	PPM B	% AL	% NA	% SI	PPM W	PPM BE	PPB Au AA
A	BUTTE 1	27	75260	1854	906	279.9	65	24	543	8.52	9	5	ND	ND	264	25	16	266	163	1.73	0.20	24	55	1.22	47	0.32	90	1.13	0.01	0.01	29	1	140
A	BUTTE 2	3	10890	38	118	16.6	6	3	293	1.73	20	5	ND	ND	195	3	14	37	251	2.53	0.05	18	48	0.08	28	0.08	15	0.14	0.01	0.01	10	6	30
A	PUP 1	2	22430	53	643	28.0	75	27	494	4.41	28	5	ND	ND	365	27	12	16	135	3.94	0.27	15	20	1.18	122	0.20	36	0.77	0.02	0.01	16	4	30
A	PUP 2	2	6078	59	231	7.5	80	15	615	3.01	29	5	ND	ND	405	9	10	24	135	5.54	0.22	15	21	1.34	426	0.24	15	0.86	0.03	0.01	14	4	5
A	SP 1	2	7844	127	93	4.9	8	3	287	2.00	11	5	ND	ND	100	1	9	45	378	0.91	0.02	10	15	0.17	40	0.12	10	0.23	0.01	0.01	6	7	5
A	SP 6	3	763	21	11	3.8	11	3	145	0.38	18	5	ND	ND	75	1	7	37	16	0.58	0.03	5	52	0.03	33	0.01	5	0.03	0.01	0.01	1	1	5
A	SP 13	49	61010	387	664	99.2	9	9	425	6.56	8	5	ND	ND	665	25	11	35	71	2.84	0.04	19	1	0.26	40	0.13	50	0.63	0.01	0.01	17	1	100
A	SP 16	2	3042	12	71	4.8	108	12	337	2.06	22	5	ND	ND	478	2	5	12	88	2.40	0.23	11	6	0.69	30	0.28	5	1.58	0.01	0.01	5	2	5
A	SP 25	3	18160	13	583	7.6	82	42	353	4.12	8	5	ND	ND	39	5	4	8	178	0.32	0.24	20	26	2.25	67	0.10	5	1.79	0.01	0.01	6	4	5
A	SP 25A	5	2793	37	103	2.9	21	15	1029	4.05	18	5	ND	ND	147	2	8	14	295	3.20	0.10	24	1	0.87	224	0.08	5	1.14	0.01	0.01	9	6	5
A	SP 27	2	2674	234	333	2.0	40	15	896	4.27	18	5	ND	ND	267	4	2	3	232	2.03	0.20	19	9	1.27	87	0.16	5	1.43	0.02	0.01	3	6	5
A	SP 28	2	4444	78	107	4.3	12	14	309	2.35	12	5	ND	ND	147	1	5	14	141	0.70	0.14	19	10	0.55	95	0.06	5	0.83	0.01	0.01	1	3	5
A	SPAR 1	32	78010	765	979	331.4	35	14	568	8.22	9	5	ND	ND	549	39	8	177	164	2.81	0.09	14	4	0.76	36	0.31	70	0.80	0.01	0.01	19	1	200
A	SPAR 2	5	34440	242	382	24.4	2	2	355	3.31	9	5	ND	ND	142	5	5	10	242	2.15	0.04	20	3	0.02	25	0.07	30	0.13	0.01	0.01	5	5	30
A	SPAR 3	2	12680	54	133	11.6	6	2	377	2.11	15	5	ND	ND	201	1	4	38	431	2.04	0.02	25	18	0.17	30	0.11	15	0.20	0.01	0.01	2	9	30
A	SPHALER 1	424	65270	12653	51130	304.0	157	236	1281	8.30	10	5	ND	ND	168	612	69	583	244	5.95	0.01	9	1	0.50	18	0.10	65	0.93	0.01	0.02	N/A	2	60
A	VIEW 1	7	3780	35	457	3.5	212	29	840	4.40	22	5	ND	ND	172	5	2	5	154	3.07	0.22	12	52	2.35	75	0.34	10	2.36	0.01	0.01	4	3	650
A	VIEW 2	4	5771	58	217	7.8	179	23	911	4.16	22	5	ND	ND	140	3	2	12	234	4.36	0.34	22	29	1.33	65	0.28	10	1.65	0.01	0.01	5	5	430
A	ZINC 1	15	21680	1094	4398	215.7	145	27	2924	7.51	5075	5	ND	18	39	55	3383	2	37	3.94	0.06	6	1	2.20	21	0.01	120	0.36	0.01	0.01	12	1	20
A	ZINC 2	13	1786	26484	39440	90.7	54	17	3741	10.48	65467	5	10	12	77	654	243	2	20	8.86	0.01	8	1	4.06	21	0.01	195	0.21	0.01	0.01	N/A	2	690
A	ZINC 3	3	3594	1182	679	28.5	9	4	115	2.25	2369	5	ND	ND	2	9	20	21	16	0.09	0.01	1	30	0.13	26	0.01	35	0.31	0.01	0.01	1	1	40

GEOLOGICAL BRANCH
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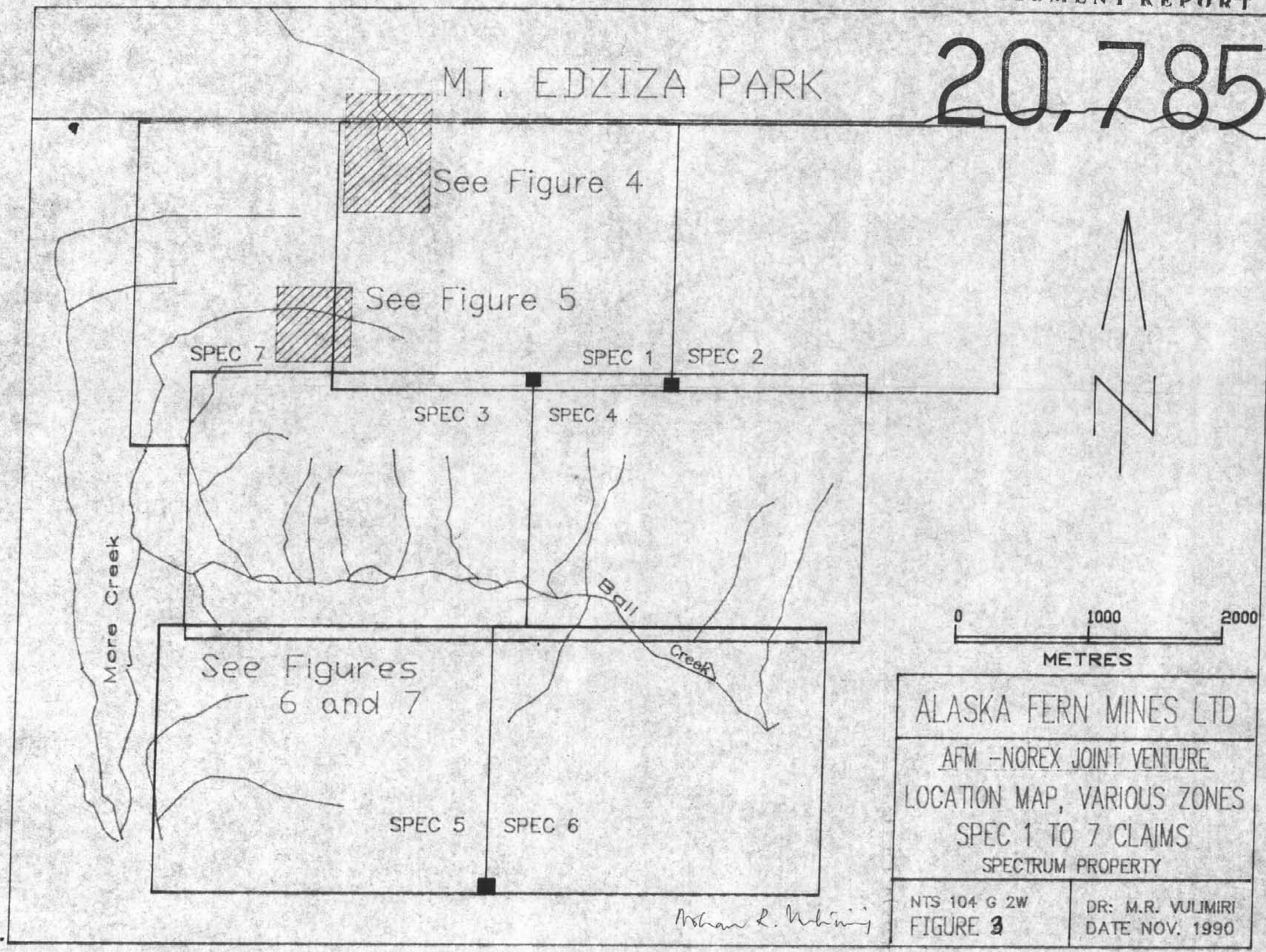
CERTIFICATE OF ANALYSIS

TO : ALASKA FERN MINES,
822 EAST 12TH ST.,
NORTH VANCOUVER, B.C.
PROJECT :
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 90599
INVOICE # : 20150
DATE ENTERED : 90-12-20
FILE NAME : AFM90599.I
PAGE # : 1

PRE FIX	SAMPLE NAME	PPM MO	PPM CU	PPM PB	PPM ZN	PPM AG	PPM NI	PPM CO	PPM MN	% FE	PPM AS	PPM U	PPM AU	PPM HG	PPM SR	PPM CD	PPM SB	PPM BI	PPM V	% CA	% P	PPM LA	PPM CR	% MG	PPM BA	% TI	PPM B	% AL	% NA	% SI	PPM W	PPM BE	PPB Au AA
A	SP-2	1	878	60	8	1.0	1	1	215	0.70	2	5	ND	ND	467	1	9	6	90	10.49	0.03	13	14	0.02	14	0.09	5	0.13	0.01	0.03	7	2	5
A	SP-7	3	5660	101	55	10.5	7	6	804	2.11	9	5	ND	ND	468	2	4	2	140	5.31	0.16	17	57	0.58	327	0.12	10	0.43	0.01	0.01	7	3	5
A	SP-8	2	1273	177	70	1.4	24	14	552	2.16	12	5	ND	ND	371	1	4	2	105	3.22	0.14	8	34	0.74	40	0.27	5	0.76	0.01	0.01	2	2	5
A	SP-13A	81	1355	204	77	2.8	7	5	265	1.35	18	5	ND	ND	167	3	4	14	30	1.79	0.02	18	18	0.11	51	0.04	5	0.34	0.01	0.01	1	1	40
A	SP-14	3	51	12	19	0.2	41	8	222	1.77	8	5	ND	ND	130	1	2	2	115	3.91	0.14	7	43	0.54	25	0.18	5	1.16	0.02	0.01	1	2	5
A	SP-15	6	514	144	40	1.2	5	18	257	1.27	9	5	ND	ND	175	2	2	2	34	1.53	0.02	24	16	0.17	83	0.03	15	0.50	0.01	0.01	1	1	5
A	SP-16A	1	59	20	20	0.3	19	5	856	1.85	4	5	ND	ND	388	1	3	2	112	6.94	0.15	14	42	0.46	32	0.16	10	0.33	0.02	0.01	4	2	5
A	SP-17	2	51	86	177	0.4	3	5	912	2.21	6	5	ND	ND	122	2	2	2	143	0.89	0.03	23	21	0.36	118	0.07	10	0.54	0.01	0.01	1	3	5
A	SP-18	2	2632	2	153	2.0	71	29	978	3.91	6	5	ND	ND	113	1	2	2	100	1.98	0.11	5	76	2.60	134	0.21	10	2.45	0.01	0.02	1	2	20
A	SP-20	1	130	19	27	0.1	13	6	296	1.04	6	5	ND	ND	290	1	3	2	48	1.93	0.06	12	28	0.54	33	0.13	10	0.93	0.01	0.02	1	1	5
A	SP-21	2	314	13	21	0.7	9	9	225	1.41	10	5	ND	ND	403	1	3	7	100	1.56	0.20	13	26	0.31	66	0.18	5	0.62	0.01	0.01	4	2	5
A	SP-22	2	108	69	79	0.8	4	8	475	2.00	9	5	ND	ND	122	1	4	13	130	0.47	0.04	18	24	0.24	167	0.07	5	0.47	0.01	0.02	4	3	5
A	SP-23	2	30	92	50	0.7	7	11	540	1.05	7	5	ND	ND	84	1	2	4	57	0.79	0.09	11	28	0.88	73	0.12	5	0.89	0.01	0.02	1	1	5
A	SP-24	1	1577	2	87	1.2	111	27	643	2.76	13	5	ND	ND	662	1	2	2	77	3.69	0.16	10	70	2.13	19	0.29	5	2.09	0.01	0.02	1	2	5
A	SP-26	2	69	9	71	0.3	7	15	644	3.46	9	5	ND	ND	96	1	2	2	221	1.50	0.16	20	33	0.89	115	0.15	5	0.89	0.01	0.01	1	4	5
A	SP-51	27	21	19	13	0.4	4	4	54	1.70	8	5	ND	ND	8	1	2	11	6	0.04	0.01	10	36	0.03	87	0.01	20	0.15	0.01	0.01	1	1	5
A	SP-52	4	10	9	20	0.2	4	4	277	1.53	6	5	ND	ND	5	1	3	10	4	0.02	0.01	25	45	0.01	91	0.01	20	0.17	0.01	0.01	1	1	5
A	SP-53	4	5	11	8	0.2	3	3	65	1.75	6	5	ND	ND	4	1	2	5	4	0.01	0.01	15	24	0.01	21	0.01	10	0.17	0.02	0.02	1	1	5
A	SP-54	3	43	3	27	0.2	3	6	937	2.17	13	5	ND	ND	72	1	2	2	83	2.75	0.13	6	19	0.32	11	0.26	10	0.64	0.02	0.01	3	1	5
A	SP-55	1	14	2	80	0.3	68	14	1606	4.54	6	5	ND	ND	94	1	2	2	125	3.80	0.09	2	74	1.20	30	0.19	5	1.71	0.02	0.01	1	2	5
A	SP-59	3	13	23	15	0.4	5	5	749	1.31	7	5	ND	ND	55	1	3	11	119	1.66	0.03	17	23	0.22	84	0.17	5	0.75	0.01	0.01	4	2	5
A	SP-60	7	156	8	153	0.3	16	15	1221	3.42	58	5	ND	ND	143	1	2	2	325	2.40	0.13	16	44	1.61	119	0.02	20	1.48	0.01	0.02	1	5	50
A	SP-61	3	149	9	53	0.1	23	9	1007	1.62	11	5	ND	ND	265	1	5	2	94	6.01	0.16	12	47	0.70	31	0.18	10	0.81	0.03	0.01	5	2	5
A	SP-63	99	174	616	115	3.0	26	7	2221	6.93	71	5	ND	ND	672	1	2	2	748	10.26	0.15	18	56	1.94	35	0.11	50	1.73	0.02	0.02	1	12	110
A	SP-64	27	48	346	19	0.6	1	1	2648	2.89	33	5	ND	ND	1654	1	4	2	169	21.07	0.09	110	20	0.23	70	0.03	30	0.17	0.02	0.01	4	4	120
A	SP-66	5	319	30	59	0.4	8	12	851	3.05	11	5	ND	ND	563	1	3	26	601	1.33	0.30	65	40	0.70	223	0.21	5	1.01	0.01	0.04	3	9	5
A	SP-67	4	125	58	65	0.2	1	12	985	3.84	7	5	ND	ND	96	1	2	2	125	2.25	0.17	10	28	1.01	62	0.26	5	1.66	0.02	0.03	1	2	5
A	SP-68	3	28	14	39	0.2	2	28	820	2.31	12	5	ND	ND	145	1	6	22	85	3.19	0.06	12	23	0.64	193	0.03	5	0.81	0.01	0.02	5	2	5
A	SP-69	3	354	12	87	0.2	1	10	855	4.76	10	5	ND	ND	186	1	3	15	585	4.05	0.14	11	28	0.53	25	0.26	5	1.55	0.02	0.04	5	10	5
A	SP-70	1	3419	9	83	3.0	1	4	1959	6.40	16	5	ND	ND	650	1	2	18	4925	8.19	0.54	87	40	0.62	37	0.29	5	1.02	0.02	0.04	9	70	5
A	SP-72	1	2491	5	96	0.8	2	9	684	3.76	7	5	ND	ND	61	1	4	2	266	0.85	0.02	8	30	0.56	47	0.13	5	0.97	0.01	0.02	1	5	50
A	SP-73	1	5443	25	77	1.2	2	9	686	3.35	8	5	ND	ND	155	1	2	5	432	1.58	0.04	17	29	0.33	34	0.20	5	0.72	0.01	0.02	4	7	5
A	SP-76	2	2985	3	173	2.9	6	17	1226	4.80	8	5	ND	ND	96	1	2	2	393	0.66	0.14	12	38	1.21	37	0.20	5	1.40	0.02	0.03	1	7	5
A	DB-1F	2	75	6	40	0.1	2	13	368	4.99	13	5	ND	ND	63	1	2	2	55	0.35	0.08	2	33	0.77	9	0.24	20	0.90	0.02	0.02	1	1	60
A	DB-2F	1	306	5	59	0.8	2	7	660	3.44	11	5	ND	ND	147	1	2	2	338	1.24	0.03	16	26	0.32	93	0.23	20	0.56	0.01	0.02	1	5	5
A	DB-3F	2	2071	4	52	0.2	1	11	645	4.20	6	5	ND	ND	318	1	2	2	650	1.30	0.01	9	29	0.48	59	0.33	5	0.86	0.01	0.01	1	10	5

CERTIFIED BY :



ALASKA FERN MINES LTD

AFM -NOREX JOINT VENTURE

LOCATION MAP, VARIOUS ZONES
SPEC 1 TO 7 CLAIMS
SPECTRUM PROPERTY

NTS 104 G 2W FIGURE 3	DR: M.R. VULIMIRI DATE NOV. 1990

PUP ZONE

3042 Cu
4.8 Ag
5 Au
12 Pb
71 Zn

Dark Grey syenite

Endoskarn with gt & K-spar

Dark Grey syenite

Gt-Epi-Diop Skarn w Cpy

59 Cu
0.3 Ag
5 Au
20 Pb
20 Zn

samples SP-16 & 16A

samples PUP 1 and 2

6078 Cu
7.5 Ag
5 Au
59 Pb
231 Zn

22430 Cu
7.5 Ag
30 Au
53 Pb
643 Zn

MT. EDZIZA PARK

syenite

Gt-Epi-Endoskarn

sample SP-14

54 Cu
0.2 Ag
5 Au
12 Pb
19 Zn

5500

SPEC 1

78010 Cu
765 Pb
979 Zn
331.4 Ag
200 Au

34440 Cu
242 Pb
382 Zn
24.4 Ag
30 Au

Syenite epidote fractures and clots

Epidote skarn

samples SP-13 & 13A

61010 Cu
99.2 Ag
100 Au
387 Pb
664 Zn

1355 Cu
2.8 Ag
40 Au
204 Pb
77 Zn

7844 Cu
4.9 Ag
5 Au
127 Pb
93 Zn

SPAR ZONE

BUTTE ZONE

calcite vein

epi-diop skarn

Cpy up to 7%

CREEK

Endoskarn, with calcite stringers
Diss. or fract. Cpy. & Mal.
Minor chloritic shears

Basaltic Lavas

SP-6
763 Cu
3.8 Ag
5 Au
21 Pb
11 Zn

SP-5
no assay

SP-4 (same as SP-1)

sample SP-1

sample SP-2

samples Spar 1 & 2

SP-3.

Garnetite

Endoskarn with epidote limy zones

Rhyolite Dyke

Samples Butte 1 and 2

75260 Cu
1854 Pb
906 Zn
279.9 Ag
140 Au

Garnet-Diop Skarn

Feldspar megacrystic intrusion

10890 Cu
16.6 Ag
30 Au
38 Pb
118 Zn

878 Cu
1.0 Ag
5 Au
60 Pb
8 Zn

Skarn with gt, K-spar, hed and limy fragments
samples SP-17, SP-20

51 Cu
0.4 Ag
5 Au
86 Pb
177 Zn

130 Cu
0.1 Ag
5 Au
19 Pb
27 Zn

Syenite with large zoned k-spars

△ Sample location with assay
Values in ppm for Cu, Pb, Zn, Ag and ppb for Au

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,785

0 25 50 75 100
METRES

55 Zn
101 Pb
5660 Cu
10.5 Ag
5 Au

SP-7 Endoskarn sample SP-7

Qtz Feld Porphyry
minor qtz. stringers

sample SP-6

763 Cu
3.8 Ag
30 Cu
60 Pb
8 Zn

skarny sediments

epidote endoskarn

5600

Epidote Skarn
sample SP-8

1273 Cu
1.4 Ag
5 Au
177 Pb
70 Zn

Syenite

syenite

samples SP-22, SP-23

30 Cu
0.7 Ag
5 Au
92 Pb
50 Zn

108 Cu
0.8 Ag
5 Au
69 Zn
79 Pb

VIEW ZONE

BUTTE, SPAR, PUP & VIEW ZONES

Figure 4

3780 Cu
3.5 Ag
650 Au
35 Pb
457 Zn

sample View 1

syenite

2632 Cu
2.0 Ag
20 Au
2 Pb
153 Zn

sample SP-18

sample SP-24

1577 Cu
1.2 Ag
5 Au
2 Pb
87 Zn

sample View 2

5771 Cu
7.8 Ag
430 Au
35 Pb
457 Zn

Epi-K-spar Endoskarn

18160 Cu
7.6 Ag
5 Au
13 Pb
583 Zn

5700

Sample SP-25 located
300 metres to southeast

Graham R. Vulimiri

ALASKA FERN MINES LTD

AFM - NOREX JOINT VENTURE

DETAILED GEOLOGY
SPEC 1 & 7 CLAIMS
SPECTRUM PROPERTY

NTS 104 G 2W	DR: M.R. VULIMIRI
SCALE 1:1000	DATE NOV. 1990

5200

5000

5100

SPEC 7

SPEC 1

shear zones

Rhyolite

Syenite

Rhyolite

Syenite

Rhyolite

Rhyolite

Epi–Diop Skarn

Epi–Diop Skarn

Dark Brown Syenite with
Coarse K–feldspar phenocrysts
and mal. along fractures

sample SP–25A

2793 Cu
2.9 Ag
5 Au
37 Pb
103 Zn

Bands of gt–epi–diop
Skarn

Syenite with lesser coarse
K–feldpar phenocrysts
Chlorized matrix and
mal. along fractues

sample SP–29

no assay

sample SP–28

sample SP–26

4444 Cu
4.3 Ag
5 Au
78 Pb
107 Zn

sample SP–27

2674 Cu
2.0 Ag
5 Au
234 Pb
333 Zn

Sphaler Creek

SPHALER SHOWING

altered limy sediments

syenite with epi. fractures

massive sulphides (30 cm. wide)

calcite and quartz veins

limonite fractures

Sphaler 1

Assay	
65270	Cu 7.8%
12653	Pb 1.42%
51130	Zn 6.50%
304	Ag 8.6 oz/t
40	Au

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,785

0 25 50 75 100

METRES

SPHALER CREEK AREA

Figure 5

ALASKA FERN MINES LTD

AFM –NOREX JOINT VENTURE

DETAILED GEOLOGY
SPEC 1 & 7 CLAIMS

SPECTRUM PROPERTY

NTS 104 G 2W	DR: M.R. VULIMIRI
SCALE 1:1000	DATE NOV. 1990

Sp-27 Sample Number and location
All values in ppm except Au (ppb.)

Mohan R. Vulimiri

SPEC 7

SPEC 1

SPEC 2

SPEC 3

SPEC 4

5500

5000

4500

Ball Creek

More Creek

5000

5500

6000

4500

Area of Sampling
(see Fig.)

SPEC 5

SPEC 6

0 25 50 75 100
METRES

Figure 6

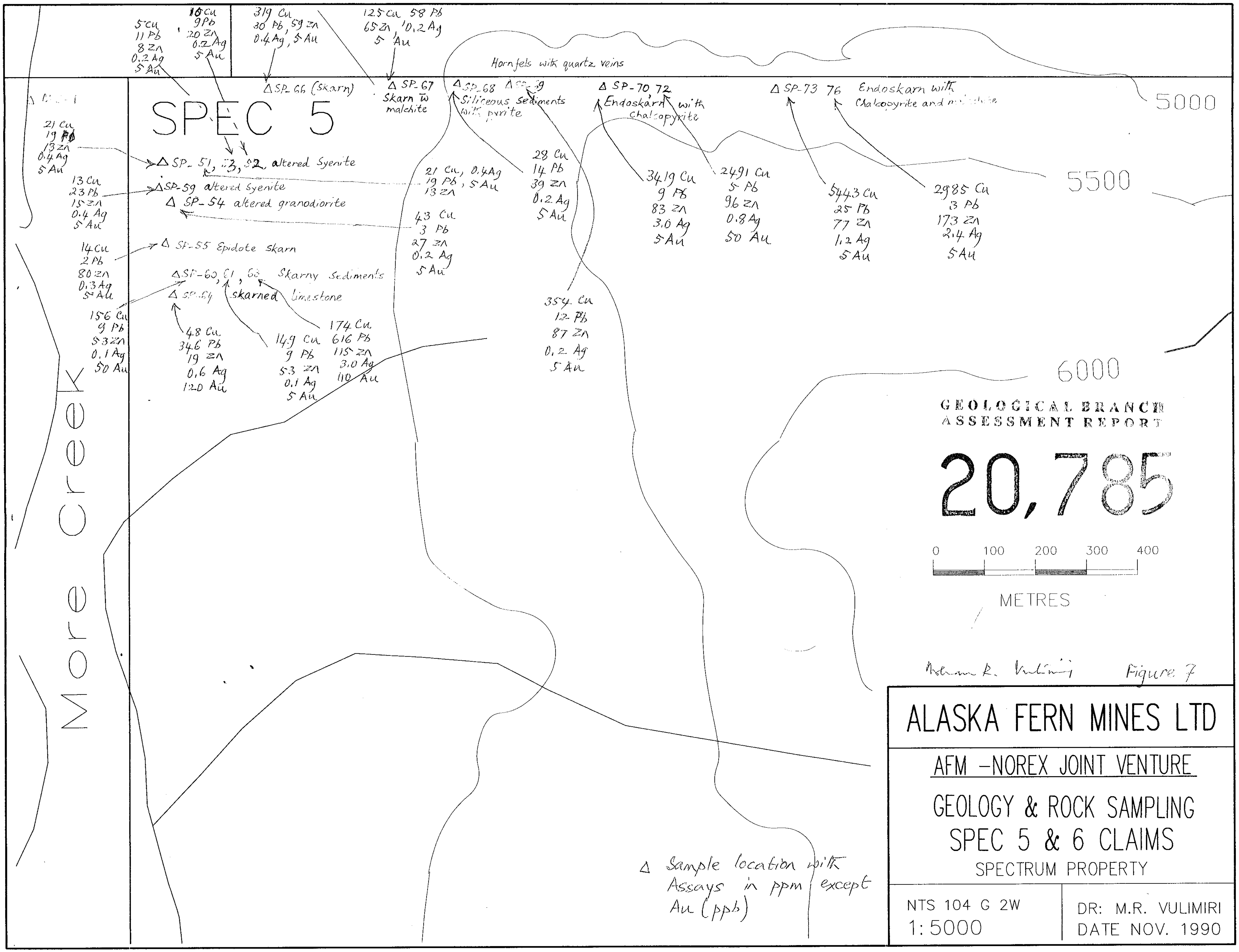
ALASKA FERN MINES LTD

AFM –NOREX JOINT VENTURE

GEOLOGY & ROCK SAMPLING
SPEC 5 & 6 CLAIMS
SPECTRUM PROPERTY

NTS 104 G 2W
1:10,000

DR: M.R. VULIMIRI
DATE NOV. 1990


SPEC 5
More Creek
Hornfels with quartz veins
5000
5500
6000
SP-51, 53, 52 altered Syenite
SP-59 altered Syenite
SP-54 altered granodiorite
SP-55 Epidote skarn
Skarny Sediments
skarned limestone
SP-66 (Skarn)
SP-67 Skarn w malchite
SP-68 Siliceous Sediments with pyrite
SP-70 72 Endoskarn with Chalcopyrite
SP-73 76 Endoskarn with Chalcopyrite
319 Cu 30 Pb, 59 Zn 0.4 Ag, 5 Au
12.5 Cu 58 Pb 65 Zn, 10.2 Ag 5 Au
21 Cu, 0.4 Ag 19 Pb, 5 Au 13 Zn
28 Cu 14 Pb 39 Zn 0.2 Ag 5 Au
43 Cu 3 Pb 27 Zn 0.2 Ag 5 Au
3419 Cu 9 Pb 83 Zn 3.0 Ag 5 Au
2491 Cu 5 Pb 96 Zn 0.8 Ag 50 Au
5443 Cu 25 Pb 77 Zn 1.2 Ag 5 Au
2985 Cu 3 Pb 173 Zn 2.4 Ag 5 Au
354 Cu 12 Pb 87 Zn 0.2 Ag 5 Au
48 Cu 346 Pb 19 Zn 0.6 Ag 120 Au
149 Cu 9 Pb 53 Zn 0.1 Ag 5 Au
174 Cu 616 Pb 115 Zn 3.0 Ag 110 Au
156 Cu 9 Pb 53 Zn 0.1 Ag 50 Au
14 Cu 2 Pb 80 Zn 0.3 Ag 5 Au
13 Cu 23 Pb 15 Zn 0.4 Ag 5 Au
21 Cu 19 Pb 13 Zn 0.4 Ag 5 Au
5 Cu 11 Pb 8 Zn 0.2 Ag 5 Au
10 Cu 9 Pb 20 Zn 0.2 Ag 5 Au
GEOLOGICAL BRANCH ASSESSMENT REPORT
20,785
0 100 200 300 400
METRES
Δ Sample location with Assays in ppm except Au (ppb)
Figure 7
ALASKA FERN MINES LTD
AFM -NOREX JOINT VENTURE
GEOLOGY & ROCK SAMPLING
SPEC 5 & 6 CLAIMS
SPECTRUM PROPERTY
NTS 104 G 2W
1: 5000
DR: M.R. VULIMIRI
DATE NOV. 1990