ASSESSMENT REPORT

GEOCHEMISTRY

OF

THE ALEC PROPERTY

CLAIM: ALEC, RECORD NO. 8642

OWNER: ATNA RESOURCES LTD
OPERATOR: ATNA RESOURCES LTD.

SMITHERS MAP SHEET
93 L/5

LATITUDE 54 22 N
LONGITUDE 127 45 W

OMINECA MINING DIVISION

WRITTEN BY COLIN HARIVEL

NOVEMBER 1988

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

INTRODUCTION:

The claim was staked in July, 1987 as a result of regional checking on old recorded claims.

Preliminary sampling and mapping was done in the months following staking and is summarized in this report.

LOCATION AND ACCESS:

The claim is 65 km WSW of Smithers in the Kitnayakwa River watershed (Figure 1) and lies near the headwaters of Tuun Creek, a west-flowing tributary to Kitnayakwa River. Access is by helicopter from Terrace or Smithers. Logging roads pass to the north about 12 km and connect to the Copper River Forestry Road.

HISTORY OF THE PROPERTY:

The property was originally staked by Alec Clore, a Terrace area prospector, in June 1949 and was visited by Atna representative Pat Suratt during examination of old recorded claims.

CLAIMS AND OWNERSHIP:

Claim	No of Units	Record No.	Expiry	Owner
Alec	20	8642	07/08/88	Tom Richards

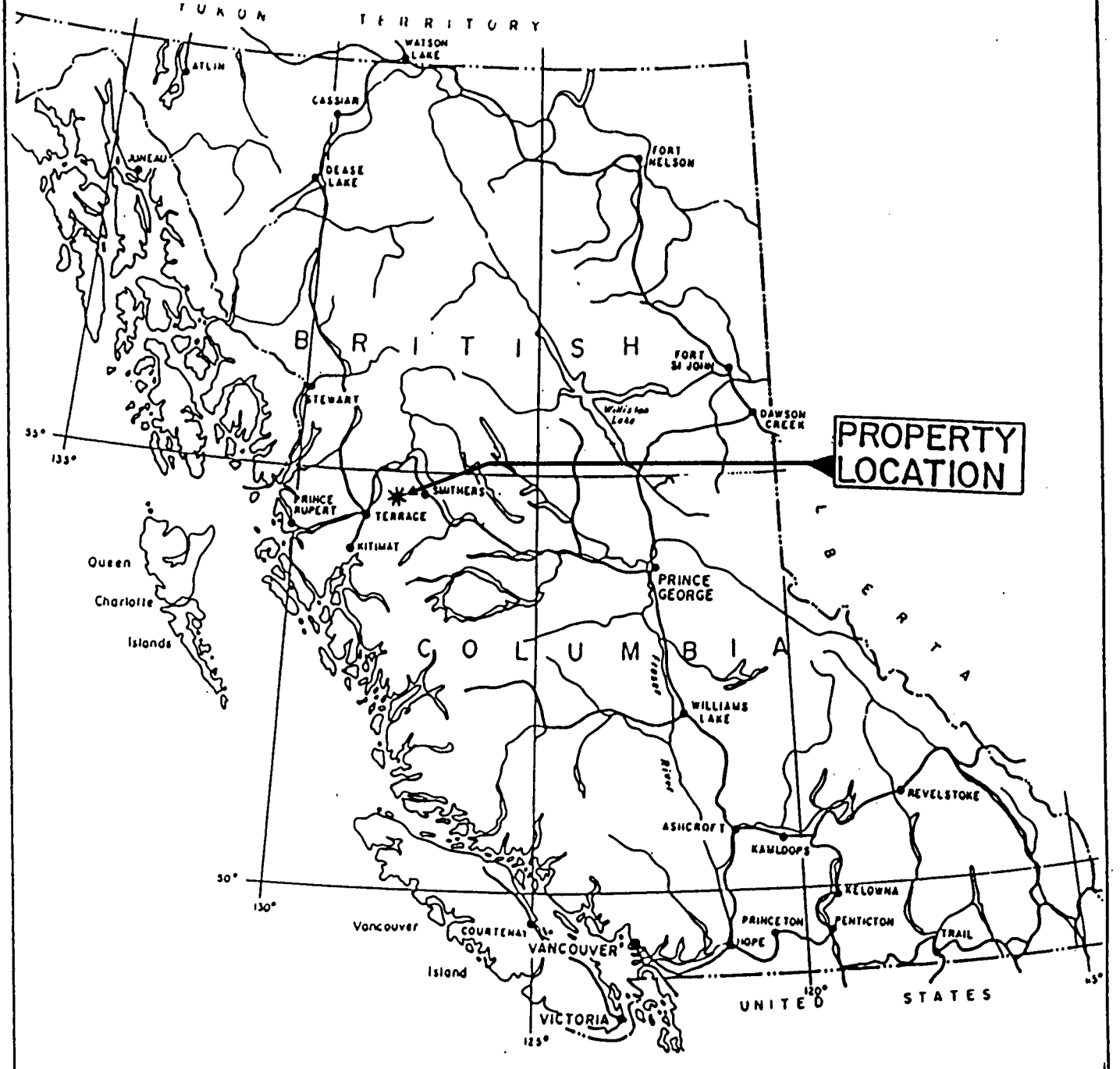
(See Fig. 2)

ECONOMIC ASSESSMENT:

Gold values from base metal sulphide-bearing quartz veins are high and warrant further investigation. These veins, while in themselves do not constitute sufficient tonnages to justify development, are indicative of the regional potential for precious metal mineralization.

REGIONAL GEOLOGY:

The region is situated along the west-central part of the Stikine Terrane. Stratified and plutonic rocks range in age from Upper Paleozoic to Early Tertiary, with rocks of Jurassic age and younger being dominant.



LOCATION MAP
ALEC PROPERTY

NTS 93L/5	DATE:
SCALE AS SHOWN	FIGURE Nº. 1

Four major tectono-stratigraphic elements dominate the region.

The Lower and Middle Jurassic Hazelton Group comprises a marine and non-marine arc assemblage that is the preponderant rock assemblage in the area of interest. These strata are mainly non-marine rhyolitic to andesitic flows, pyroclastics and hypabyssal intrusives comprised of interfingering assemblages of flows, ignimbrites, lahars, air fall tuffs and breccias, volcaniclastic sediments and high level intrusive units. Consanguineous with the volcanics are diorite to granite plugs and stocks of the Topley Intrusions.

The interval between Upper Jurassic and Early Upper Cretaceous time is occupied by two sedimentary assemblages that appear to have little bearing on mineralization in this area.

To the immediate north of the area of interest, Upper Jurassic to mid-Lower Cretaceous Bowser Lake Group comprise a northwardly thickening wedge of deltaic-foredeep deposits. The source of the sediments was the Hazelton Group to the south and the depositional basin is known as the Bowser Basin. The locus of the strand lines across the southern limit of the Bowser Basin defines a structure known as the Skeena Arch, one of the most intensely mineralized belts in the Canadian Cordillera.

Between the mid-Lower Cretaceous and early Upper Cretaceous, the Skeena Group sediments were deposited across the entire region. This unit represents a continental margin clastic wedge, whose sediments were derived from the east, off the Omineca Terrane.

The late Upper Cretaceous to Eocene time is represented by a suite of continental transtensional arc volcanics that were deposited in an array of down-drop volcanic basins within the Stikine Terrane from latitude 55 30'N southward. These volcanics (the Kasalka and Ootsa Lake Groups) and their coeval intrusives (Bulkley, Babine, Nanika) are associated with the development of basin and range geomorphology that typifies this segment of the Stikine Terrane.

Post-Eocene time was one of uplift, erosion and local deposition of basalt. It served to expose mineralization.

Early and Middle Jurassic age arc-related mineralization is widespread and precious metals based. Included within this epoch is the Toodoggone gold silver camp, and the major deposits of Silbak-Premier, Big Missouri and Granduc along the east flank of the Coast Range. Mineralization in the Smithers-Whitesail area likely of this epoch includes the Dome Mountain deposits and those of the Topley-Richfield area.

0 1 2 3 4

Scale in Kilometers

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PROJECT: ALEC PROPERTY

CLAIMS LOCATION

FIG 2

SCALE	DRAWN	DATE

Late Cretaceous - Early Tertiary aged mineralization in the Skeena Arch is presently the most varied, widespread and significant of the two epochs. All the copper, molybdenum, tungsten and gold-bearing porphyries belong to this stage. Precious metals properties include Equity Silver, New Nadina,

Silver Standard, Cronin and a host of smaller properties. Most of these deposits are related to the evolution of down-drop basins and calderas associated with volcanism, related plutonism and the development of a basin-and-range geomorphology. These deposits range from low temperature epithermal to high temperature mesothermal types.

PROPERTY GEOLOGY:

The Alec claim is underlain by maroon, reddish and purple, massive bedded volcanics of the Jurassic Hazelton Group. To the immediate northwest, within 4 km, a large stock of Jurassic Topley Intrusions cut the volcanics. Diorite dykes or sills intrude the volcanics in the area of the main showing, with sharp to migmatitic contacts.

The claims lie along the west flank of the Howson Range, a large, northwesterly trending horst block. This block is defined by a strong set of northwest trending step-faults that parallel the Kitnayakwa valley, and its extension northward along the Zymoetz (Copper) River. Minor faults on the claim are splays from these structures.

MINERALIZATION:

Five areas with mineralization were noted on the property, one of which represents the main, or discovery showing.

The discovery showing is located in the west-central part of the claim. It is represented by an intermittent alignment in a shear zone of quartz and quartz-carbonate veins and stringers, and areas of quartz and carbonate altered rock in talus and felsenmeer. The zone is traceable for in excess of 300 meters. Northward the exposures terminate in steep cliffs, and southward, the zone appears to tail out in diorite. Highly anomalous gold is found throughout the trace of the structures with values up to 60,410 ppb (1.952 oz/t). Composite chip samples across a 2 meter section of the structure, comprising the parallel quartz veins in bleached, ankeritic altered rock, gave a value of 0.268 oz/t Au. Silver, from grabs, assayed up to 10.39 oz/t. Three old,

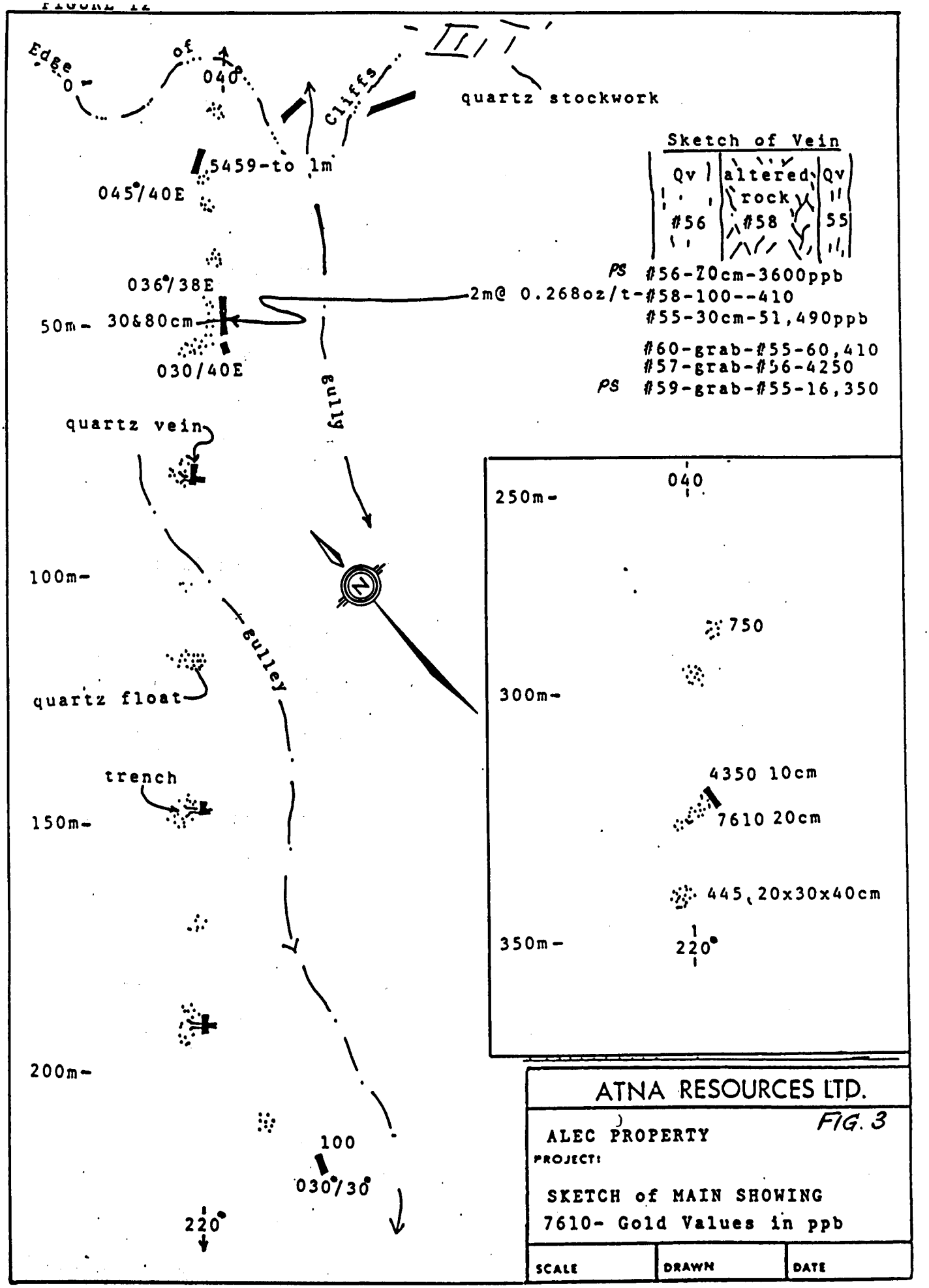
Edge of
0
040
Cliffs
quartz stockwork
Sketch of Vein
Qv
altered rock
Qv
#56
#58
55
5459-to 1m
045°/40E
036°/38E
50m-
30&80cm
030/40E
2m@ 0.268oz/t-#58-100--410
#55-30cm-51,490ppb
#60-grab-#55-60,410
#57-grab-#56-4250
PS #56-20cm-3600ppb
PS #59-grab-#55-16,350
gully
quartz vein
100m-
gulley
quartz float
trench
150m-
200m-
100
030°/30°
220°
040
250m-
750
300m-
4350 10cm
7610 20cm
445, 20x30x40cm
350m-
220°
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FIG. 3
ALEC PROPERTY
PROJECT:
SKETCH of MAIN SHOWING
7610- Gold Values in ppb
SCALE
DRAWN
DATE

hand dug trenches were noted on the structure, although there is no government record of this property. Fig. 2 is a sketch of the sampling done in the old trenches.

To the immediate east of the north end of the discovery zone, across a prominent fault gully, a quartz vein - stockwork system is exposed for up to 200 meters. Of seven grabs, one sample gave 370 ppb Au, and 12 ppm Ag associated with minor sphalerite and galena.

To the east, near the central part of the claims, two flat-lying quartz veins up to 40cm wide are exposed. Silver values to 69 oz/t, associated with chalcopyrite and a sulphosalt, and gold to 885 ppb were returned. For both the stockwork system and the flat vein system, their extension into the north basin is not known.

Reconnaissance prospecting discovered two areas of float train with highly anomalous gold. From talus from the northwest corner of the claims a grab of 3480 ppb Au (0.106 oz/t) was noted associated with quartz and barite, with little other supporting geochemistry. From talus off the east-central part of the claims, two samples gave 1880 and 2940 ppb Au and 45.2 and 40.8 ppm silver in association with chalcopyrite and galena.

GEOCHEMISTRY:

Rock samples were collected from in the course of prospecting traverses and from old hand trenches. A total of 36 samples were collected and the locations are plotted on Figure .

Analyses were conducted by Vangeochem Labs, Vancouver and the results are included as an appendix. Samples were analysed using ICP techniques for 28 elements and by Fire Assay and Atomic Absorption Spectrophotometer finish.

Chip samplings Au results from old trenches are reported on Figure 5.

CONCLUSIONS AND RECOMMENDATIONS:

The results of chip sampling in the area of the hand trenches are sufficient to warrant further work. The veins are not sufficiently large or lengthy to provide significant tonnage for a mining operation but indicate an area of substantial potential.

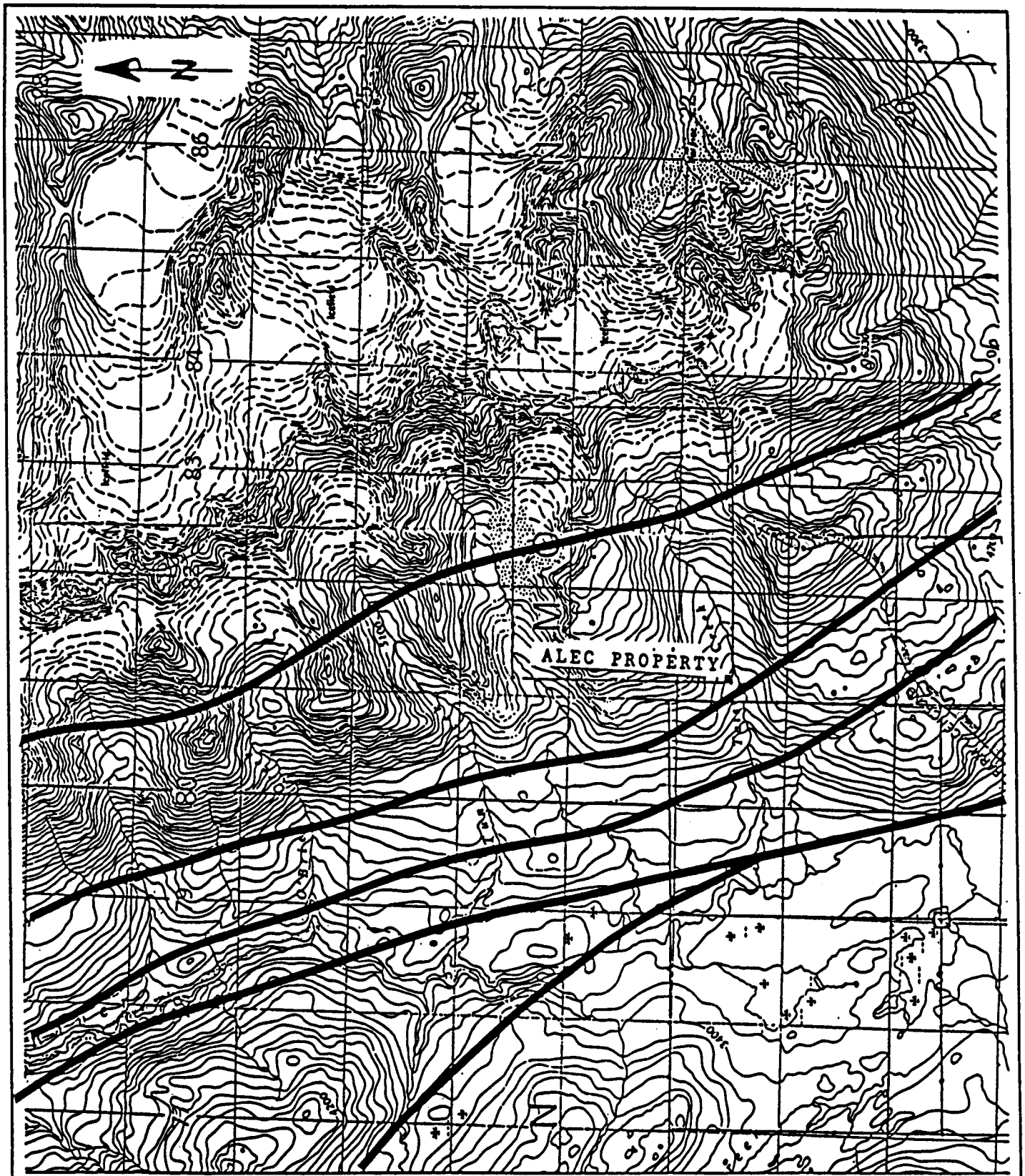
The first phase of further work should include the following objectives;

1. Outline, map, expose and sample the main showing.

2. Sample, in detail, the quartz stockwork zone; both rock and soil.

3. Detailed prospecting of the entire claim area and its surroundings, following up on high gold samples previously discovered.

4. Define drill targets.



0 .1 2 3 4

Scale in Kilometers

Major Fault Zones

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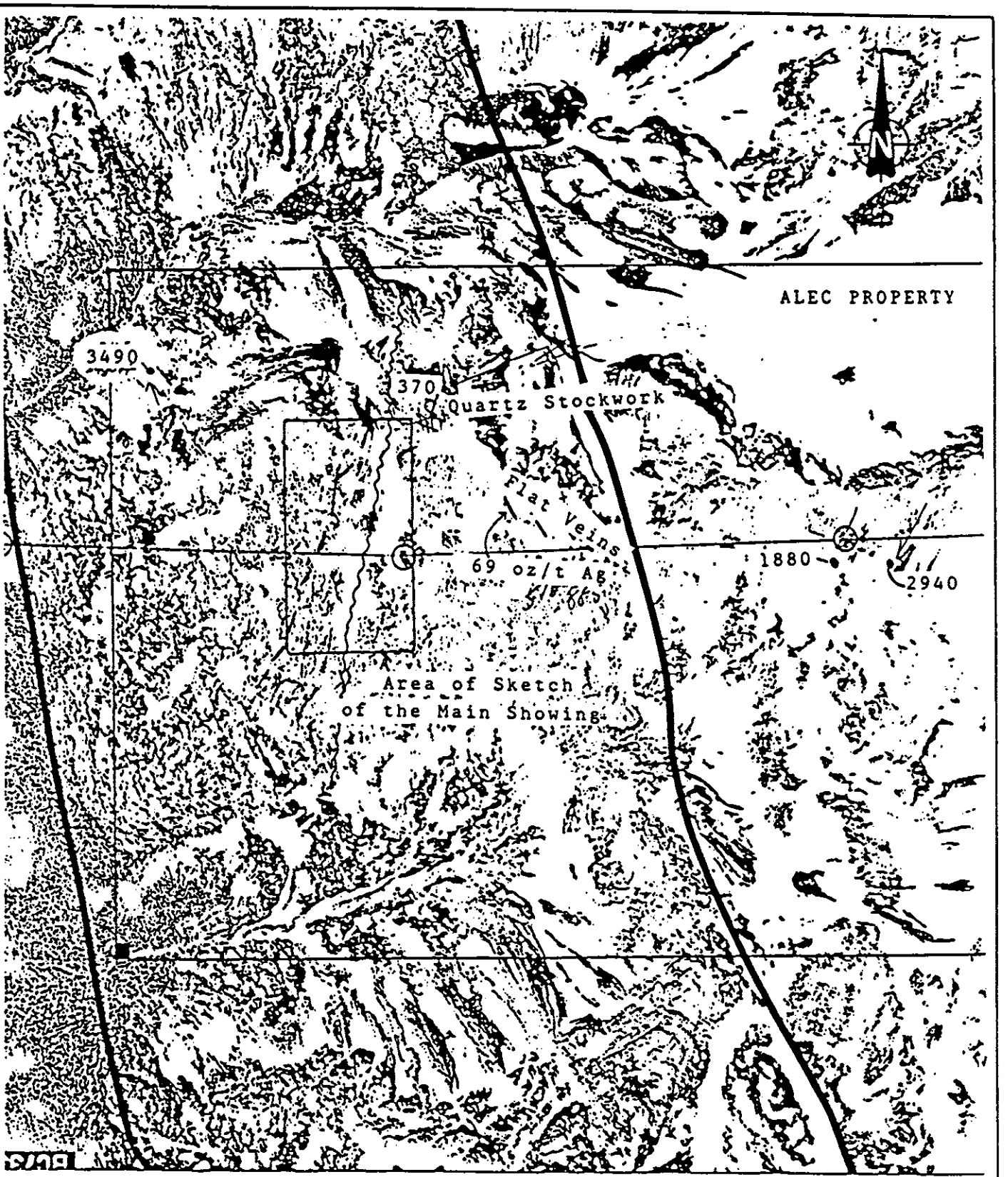
PROJECT: ALEC PROPERTY

STRUCTURAL SETTING

FIG 4

SCALE	DRAWN	DATE



0 250 500 1000

Scale in Meters

3490----Gold in ppb

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SETTING and ROCK GEOCHEMISTRY

FIG. 5

SCALE	DRAWN	DATE

ALEC PROPERTY

STATEMENT OF COSTS:

Personnel		
	Tom Richards, Geologist July 20 0.3 days @ $400/day	$133
	Pat Suratt, Prospector July 20, Oct 9 1.3 days @ $250/day	$325
	Larry Hewitt, Prospector July 20 0.3 days @ $200/day	$60
	Brian Dahl, Prospector July 20, Oct 9 1.3 days @ $200/day	$260
	Colin Harivel, Geologist Oct 9 1 day @ $350/day	$350
	Tom Bell, Prospector Oct 9 1 day @ $200/day	$200
	Subtotal	$1328
Geochemistry (Vangeochem Labs Reports 87039,741,864,865)		$630
Helicopter 1.4hrs July 20 1.6hrs Oct 9 @ 3.0hrs x $550/hr		$1650
Report Prep		$500
Supplies (expended)		$100
Office, Telephone, etc		$200
Motel		$150
		$4558

AUTHOR'S STATEMENT

I, Colin Harivel, do hereby state the following;

1. I am a mineral exploration geologist with business address P.O. Box 233, Smithers, B.C. Postal Code V0J2N0.

2. I graduated from the University of British Columbia in 1972 with a B.Sc. in geology and I have since then practised my profession in Australia, Canada and the United States of America.

3. I am a Fellow of the Geological Association of Canada.

4. I have explored for ore deposits of the type that may be contained in the Alec Property, the subject property in this report.

5. I visited the property on July 20, and on October 9, 1987. This report is based on a literature review and on observations made by me and by associates who were present on that date.

Signed:

COLIN HARIVEL, B.Sc., F.G.A.C.

APPENDIX 1

TB R136 Δ137

TB 133 Δ

S-45

BD 203 Δ PS 2,3,4,5

PS 55-59 detailed sampling shown on Fig. 6

PS 55 Δ

CH110 Δ CH109 Δ CH108 Δ CH 104 Δ CH 105 Δ CH 107 Δ CH 106

BD 204 Δ

BD 205 Δ

PS 297 Δ

PS 296 Δ

PS 293-5 Δ

LCP ALEC

PS 292 Δ

N

0 1000m

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ALEC PROPERTY

SAMPLE LOCATIONS

FIG. 5

DATE: Oct. 88 NTS: 93L/5

Pat S.

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(604) 251-5656

REPORT NUMBER: 870739 GA JOB NUMBER: 870739 ATNA RESOURCES PAGE 1 OF 1

SAMPLE #	Au ppb	
PS-47R	440	
PS-48R	650	
PS-49R	100	
PS-50R	750	
PS-51R	nd	
PS-52R	4350	0.126
PS-53R	7610	.222
PS-54R	445	
PS-55R	≃ 51490	1.50oz
PS-56R	3600	
PS-57R	4250	0.124
PS-58R	410	
PS-59R	≃ 16350	0.477
PS-60R	≃ 60410	0.762
PS-61R	5450	0.160
PS-62R	130	
PS-63R	40	
PS-64R	35	
PS-65R	40	
PS-66R	200	
PS-67R	510	
PS-68R	380	
PS-69R	500	
PS-70R	260	
PS-71R	≃ 57360	
PS-72R	1710	
PS-73R	780	
PS-74R	470	
PS-75R	10	
PS-77R	5100	

NANIKA

Parrott Lakes Area

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

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ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR SR,MN,FE,CA,P,CR,MG,BA,PB,AL,NA,K,W,PT AND SR. AU AND PD DETECTION IS 3 PPB.
INSUFFICIENT SAMPLE, ND= NOT DETECTED, -= NOT ANALYZED

COMPANY: ATNA RESOURCES
ATTENTION:
PROJECT: SMITHERS REGIONAL

REPORT#: PA
JOB#: 870739
INVOICE#: NA

DATE RECEIVED: 87/07/16
DATE COMPLETED: 87/07/23
COPY SENT TO:

ANALYST G. J. Ross

SAMPLE NAME	MO PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	U PPM	W PPM	ZN PPM
PS-R47	1.2	.04	ND	ND	17	ND	.11	1.1	6	47	179	8.31	.05	.02	822	2	.01	3	.03	194	ND	ND	3	ND	5	6	7	62
PS-R48	>100	.06	70	ND	520	ND	.75	12.6	12	26	2924	2.12	.08	.03	785	15	.01	5	.01	1327	ND	ND	959	ND	22	5	3	388
PS-R49	61.5	.11	58	ND	1007	ND	3.12	15.3	19	41	1622	2.29	.10	.07	955	6	.01	9	.02	43	ND	ND	1267	ND	88	ND	ND	385
PS-R50	11.1	.34	ND	ND	1165	ND	.07	.6	2	14	1885	1.63	.10	.08	135	3	.01	2	.01	184	ND	ND	23	ND	34	9	205	59
PS-R51	.1	1.20	ND	3	245	ND	3.59	.1	25	9	883	5.91	.17	2.16	1135	2	.15	13	.22	4	ND	ND	3	ND	145	ND	ND	64
PS-R52	84.5	.03	ND	ND	26	40	.03	4.1	4	35	16775	3.62	.04	.01	43	11	.05	19	.01	18138	ND	ND	11	ND	13	ND	3	271
PS-R53	70.5	.02	6	7	11	ND	.03	12.8	13	44	26497	7.96	.07	.02	1913	23	.01	11	.01	4527	ND	ND	8	ND	82	ND	ND	1686
PS-R54	4.5	.17	ND	ND	528	ND	.24	.8	3	21	402	1.36	.08	.01	869	1	.01	1	.03	747	ND	ND	5	ND	13	6	4	101
PS-R55	>100	.06	12	46	21	111	.01	2.9	2	50	10304	4.72	.06	.01	57	3	.06	4	.01	14731	ND	ND	10	ND	5	ND	ND	269
PS-R56	20.2	.20	ND	ND	169	8	.36	27.2	5	24	5421	4.12	.19	.03	1157	2	.01	3	.03	4951	ND	ND	7	ND	87	ND	ND	907
PS-R57	>100	.01	ND	ND	23	7	.01	14.1	2	56	4859	1.97	.04	.01	5.	3	.01	6	.01	30187	ND	ND	22	ND	5	5	ND	469
PS-R58	1.2	.43	ND	ND	585	ND	2.27	6.9	16	4	372	5.10	.16	.73	2029	ND	.05	3	.07	806	ND	ND	ND	1	113	ND	ND	360
PS-R59	>100	.06	5	36	22	24	.01	5.9	4	66	28815	5.37	.04	.01	53	3	.10	7	.01	9615	ND	ND	4	ND	4	ND	ND	355
PS-R60	>100	.07	15	22	10	386	.01	2.5	5	216	1712	7.58	.06	.01	32	9	.11	7	.01	28826	ND	ND	25	2	10	ND	ND	313
PS-R61	17.1	.02	ND	4	311	14	.01	.1	1	214	277	1.27	.05	.01	39	1	.01	3	.01	1454	ND	ND	11	ND	76	7	304	63
PS-R62	2.1	.71	339	ND	129	11	.38	.1	12	54	433	8.39	.10	.17	126	6	.16	ND	.03	495	ND	ND	6	5	6	ND	ND	142
PS-R63	.4	.38	44	ND	106	ND	.04	.1	ND	97	65	5.94	.07	.07	51	2	.12	1	.05	120	ND	ND	6	4	3	ND	ND	20
PS-R64	.1	1.52	4	ND	61	4	.28	.1	13	35	22	4.75	.05	1.28	551	1	.09	2	.04	51	ND	ND	ND	ND	18	ND	ND	51
PS-R65	.8	1.75	6	ND	50	15	.04	.1	2	87	378	5.29	.07	1.09	948	4	.11	22	.04	37	ND	ND	ND	6	5	ND	ND	78
PS-R66	17.6	.13	126	ND	14	17	.01	.1	5	179	1621	7.79	.07	.02	76	69	.14	6	.01	24	ND	ND	9	1	1	ND	ND	187
PS-R67	37.1	.34	137	3	12	250	.03	.1	4	105	11001	16.31	.10	.04	99	55	.31	5	.01	74	ND	ND	8	5	1	ND	ND	457
PS-R68	18.5	.08	29	11	5	14	.07	173.1	10	57	635	42.85	.22	.04	3220	7	.01	1	.01	69	ND	ND	9	29	1	ND	ND	26644
PS-R69	7.3	.44	22	ND	19	4	.01	.2	29	53	108	6.56	.10	.04	79	3	.12	6	.01	10	ND	ND	5	2	ND	ND	ND	164
PS-R70	11.6	.38	43	ND	44	17	.01	1.1	2	62	84	1.41	.19	.03	903	5	.01	2	.01	500	ND	ND	5	ND	1	6	14	278
PS-R71	78.1	.08	1771	31	9	106	.01	682.2	10	179	1481	2.06	.03	.01	712	19	.01	9	.01	1514	ND	ND	11	ND	ND	ND	152	57456
PS-R72	55.2	.05	87	20	3	119	.01	>1000	39	133	259	6.78	.02	.01	2379	42	.01	14	.01	11236	ND	ND	7	ND	ND	ND	1294	>10%
PS-R73	6.1	.15	5	ND	8	3	.32	15.8	45	218	2451	6.55	.06	.06	154	788	.01	5	.01	99	ND	ND	6	5	2	ND	ND	2258
PS-R74	.5	.44	20	ND	37	3	.28	5.4	13	54	48	2.95	.10	.10	157	19	.01	11	.07	50	ND	ND	5	ND	27	9	3	829
PS-R75	.3	.91	56	ND	43	4	.40	6.8	23	96	69	5.47	.15	.19	213	76	.01	17	.12	64	ND	ND	6	ND	62	10	ND	1023
PS-R77	1.3	.3-	ND	ND	375	5	.07	1.1	5	182	46	.93	.06	.17	136	8	.01	7	.02	84	ND	ND	7	ND	17	10	8	175
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1

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(604) 251-6656

REPORT NUMBER: 870741 GA JOB NUMBER: 870741 ATNA RESOURCES

SAMPLE #	Au ppb
CH 48 (ROCK) – NJV	15
CH 70 (SOIL) SILVER HILL	120
CH 71 (SOIL)	500
CH 78 (SOIL)	nd
CH 79 (ROCK)	≈ 11140
	SIWASH FEED.
CH 80 (ROCK)	10
CH 81 (ROCK)	nd
CH 82 (SOIL)	50
CH 83 (SOIL)	nd
CH 84 (ROCK)	5
	ALEC.
CH 85 (SOIL)	nd
CH 86 (SOIL)	nd
CH 87 (ROCK)	nd
CH 89 (ROCK)	5
CH 90 (SOIL)	10
CH 91 (ROCK)	nd
CH 92 (ROCK)	nd
CH 93 (SOIL)	80
CH 94 (ROCK)	60
CH 95 (SOIL)	140
CH 96 (ROCK)	nd
CH 97 (ROCK)	nd
CH 98 (ROCK)	nd
CH 99 (ROCK)	10
CH 100 (ROCK)	25
	LADY MAY
CH 101 (ROCK)	nd
CH 102 (SOIL)	nd
CH 103 (SOIL)	10
CH 104 (ROCK)	370
CH 105 (ROCK)	nd
CH 106 (ROCK)	5
CH 107 (ROCK)	15
CH 108 (ROCK)	15
CH 109 (ROCK)	10
CH 110 (ROCK)	nd
CH 111 (SOIL)	nd
CH 112 (SOIL)	45
CH 113 (SOIL)	5
CH 114 (SOIL)	nd
	NEW.
DETECTION LIMIT	5

nd = none detected -- = not analysed is = insufficient sample

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ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL-TO-HNO3-TO-H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR SR,MN,FE,CA,P,CR,MG,BA,TI,AL,NA,K,W,ZR AND SR. AU AND PB DETECTION IS 3 PPM.
IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -- NOT ANALYZED

COMPANY: ATNA RESOURCES LTD.
ATTENTION:
PROJECT:

REPORT#: PA
JOB#: 870741
INVOICE#: NA

DATE RECEIVED: 87/07/16
DATE COMPLETED: 87/07/22
COPY SENT TO: SMITHERS B.C.

ANALYST

SAMPLE NAME	AG PPB	AL %	AS PPM	AU* PPB	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPB	PT PPB	SB PPM	SN PPM	SR PPM	U PPM	W PPM	ZN PPM
CH-68 NJV	.2	.20	40	ND	38	ND	2.37	.1	4	126	24	2.33	.10	.08	604	ND	.07	24	.01	15	ND	ND	11	2	14	ND	ND	61
CH-70 SILVERKILL	.1	.53	ND	ND	855	ND	3.83	2.1	41	71	32	6.37	.12	.56	4650	ND	.22	59	.08	22	ND	ND	5	4	219	ND	ND	431
CH-71	.1	.58	ND	ND	450	ND	2.11	3.5	38	78	56	6.85	.13	.40	2397	ND	.36	62	.08	26	ND	ND	6	5	153	ND	ND	567
CH-78 BYMAN	.1	2.84	23	ND	121	ND	.12	.1	12	30	23	4.83	.02	.64	906	3	.17	20	.10	15	ND	ND	ND	5	11	ND	ND	162
CH-79	5.4	.80	19	ND	64	3	.68	3.2	12	24	444	4.94	.10	.28	353	10	.17	5	.07	42	3	ND	3	ND	16	ND	ND	195
CH-80 LEFTY	28.2	.71	3	ND	60	ND	.01	.1	7	24	8624	4.51	.05	.32	559	54	.19	4	.01	101	ND	ND	ND	4	551	ND	ND	152
CH-81	.4	.17	ND	ND	1914	ND	.30	.6	1	110	78	1.23	.10	.01	423	4	.02	2	.01	9	ND	ND	4	1	29	ND	ND	71
CH-82	.1	2.77	ND	ND	254	ND	1.63	.1	33	61	84	4.80	.13	.28	1013	1	.08	ND	.12	11	ND	ND	ND	10	73	ND	ND	74
CH-83	.1	3.04	5	ND	195	ND	4.30	.1	34	58	78	4.54	.13	.38	1442	1	.07	85	.12	4	ND	ND	ND	9	96	ND	ND	58
CH-84 KITSAKA LAKE	.1	.39	ND	3	150	ND	21.33	.8	22	41	24	4.17	.01	1.08	2266	ND	.22	30	.01	55	ND	ND	ND	5	113	ND	ND	225
CH-85	.1	2.06	ND	ND	151	ND	9.63	.1	27	49	69	3.95	.04	.50	1556	ND	.08	ND	.07	15	ND	ND	ND	7	132	ND	ND	91
CH-86	.1	3.39	ND	ND	1185	ND	1.86	.1	26	62	100	6.24	.11	2.25	6691	1	.20	94	03	4	ND	ND	ND	7	293	ND	ND	84
CH-87	.5	.38	125	ND	85	ND	.22	.1	3	26	64	2.33	.07	.02	75	5	.05	3	.01	26	ND	ND	6	2	28	ND	ND	71
CH-89 LEFTY	.5	.60	9	ND	150	ND	.28	.8	6	114	9	2.37	.08	.35	500	5	.10	6	.04	10	ND	ND	3	ND	38	ND	ND	201
CH-90	.1	1.37	9	ND	101	ND	.04	.1	7	25	334	7.23	.12	.26	294	2	.19	5	.08	18	ND	ND	ND	5	110	ND	ND	70
CH-91	.2	.08	ND	ND	2560	ND	.19	.1	2	22	225	5.20	.10	.20	245	2	.12	4	.02	6	ND	ND	4	2	81	ND	ND	44
CH-92	.1	4.00	ND	ND	27	ND	2.58	.1	2	26	65	.88	.08	.24	165	1	.02	ND	.01	6	ND	ND	ND	8	213	ND	ND	37
CH-93	.1	3.60	ND	ND	39	ND	1.41	.1	5	11	164	1.58	.08	.24	420	2	.04	5	.03	6	ND	ND	ND	7	166	ND	ND	40
CH-94 SIMON	.6	1.10	18	ND	61	6	.68	.1	18	19	74	6.27	.08	.77	465	1	.14	4	.17	2	ND	ND	ND	ND	29	ND	ND	47
CH-95	.1	3.52	20	ND	49	5	.05	.1	25	10	244	6.89	.08	3.23	570	1	.20	6	.17	2	ND	ND	ND	1	90	ND	ND	75
CH-96	.5	.97	11	ND	20	ND	.56	.1	10	61	63	7.50	.11	.48	555	2	.17	5	.13	4	ND	ND	'	ND	36	ND	ND	52
CH-97	.1	3.90	ND	ND	143	ND	2.02	.1	8	24	51	3.35	.13	.77	560	2	.01	3	.05	4	ND	ND	'	7	341	ND	ND	68
CH-98	.6	1.39	3	ND	29	ND	.69	.1	4	62	38	5.62	.13	.51	397	10	.15	4	.10	16	ND	ND	'	ND	53	ND	ND	63
CH-99	.3	.17	ND	ND	73	ND	.20	.1	3	37	3	.68	.10	.02	324	ND	.01	4	.02	ND	ND	ND	3	ND	11	6	3	22
CH-100 D'BRIAN	.2	.25	ND	ND	52	ND	.13	.1	2	96	3	2.83	.12	.02	629	3	.03	2	.06	5	ND	ND	5	ND	5	3	ND	16
CH-101	.4	.19	ND	ND	91	ND	.04	.1	1	25	19	1.16	.12	.01	264	ND	.01	1	.01	ND	ND	ND	4	ND	5	7	ND	15
CH-102	.1	2.65	ND	ND	628	ND	.93	.1	14	46	84	2.75	.16	1.13	3745	2	.14	42	.25	28	ND	ND	ND	4	66	ND	ND	238
CH-103	.1	2.49	ND	ND	259	ND	.34	.1	15	63	37	3.45	.13	1.51	1269	2	.13	50	.14	15	ND	ND	ND	2	38	ND	ND	177
CH-104	12.1	1.12	ND	ND	3582	ND	.94	9.5	5	37	555	2.27	.12	.27	967	2	.54	4	.08	9076	ND	ND	5	ND	258	ND	ND	1382
CH-105	.1	.46	ND	ND	164	ND	.02	.1	ND	66	6	2.86	.13	.17	76	1	.03	2	.01	54	ND	ND	3	1	5	6	ND	20
CH-106	.4	.32	ND	ND	260	ND	.01	.1	ND	75	5	.91	.12	.02	37	(27)	.01	1	.01	106	ND	ND	3	ND	5	5	ND	21
CH-107 ALEC	.2	.48	ND	ND	324	ND	.01	.1	ND	10	1	1.43	.12	.12	51	ND	.01	1	.01	12	ND	ND	3	ND	8	7	ND	15
CH-108	.1	3.09	3	ND	43	ND	1.20	.1	15	22	44	4.70	.08	1.29	1160	2	.13	9	.02	20	ND	ND	ND	ND	35	ND	ND	93
CH-109	.1	1.16	ND	ND	261	ND	1.12	.1	9	9	16	3.27	.17	.66	773	1	.10	3	.06	7	ND	ND	3	1	40	ND	ND	92
CH-110	.6	.68	ND	ND	343	ND	1.45	.2	7	12	46	2.56	.17	.39	569	4	.06	1	.03	14	ND	ND	10	1	41	ND	ND	71
CH-112 ?	.1	.89	5	ND	146	ND	.08	.2	6	69	38	2.79	.11	.24	2419	1	.13	4	.06	42	ND	ND	8	ND	1	4	ND	ND	239
CH-113	.1	.60	ND	ND	129	ND	.07	.1	4	57	33	2.33	.12	.16	1506	ND	.11	4	.05	49	ND	ND	3	4	ND	3	4	ND	232
CH-114	.1	1.37	ND	ND	78	ND	.22	.1	10	39	15	3.65	.08	.63	1307	1	.14	8	.06	23	ND	ND	ND	ND	8	ND	ND	193
CH-115 HERD DOME	87.8	.22	8	ND	365	ND	.08	.4	1	49	2579	2.31	.10	.01	351	ND	.08	4	.02	36	ND	ND	4	ND	6	3	ND	148

Solids to ?

SEP 09 '87 11:47 VANGEOCHEM LAB (604)251-5656

P.05

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 870864 GA JOB NUMBER: 870864 ATNA RESOURCES PAGE 1 OF 1

SAMPLE #	Au ppb
PS-82	nd
PS-83	2740
PS-84	80
PS-85	nd
PS-86	nd
PS-87	140
PS-88	nd
PS-89	10
PS-90	nd
PS-91	70
PS-92	3150
PS-93	610
PS-94	300
PS-95	610
PS-96	100

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N.VANCOUVER B.C. V7P 2S3 PH:(604)986-5211 TELEX:04-352578
BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH:(604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR SR,MN,FE,CA,P,CR,MG,BA,PB,AL,NA,K,W,PT AND SR. AU AND PD DETECTION IS 3 PPM.
IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -= NOT ANALYZED

COMPANY: ATNA RES. LTD.
ATTENTION:
PROJECT: SMITHERS REGIONAL

REPORT#: PA
JOB#: 870864
INVOICE#: NA

DATE RECEIVED: 87/07/28
DATE COMPLETED: 87/08/04
COPY SENT TO: VANCOUVER & SMITHERS

ANALYST W. Reeves

SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	U PPM	W PPM	ZN PPM
PS-82	.1	.37	ND	ND	1190	4	1.81	7.2	8	10	128	3.40	.07	.47	2032	ND	.15	3	.05	23	ND	ND	ND	ND	82	ND	4	398
PS-83	76.1	.04	37	ND	32	40	.02	.1	3	23	2804	6.53	.01	.01	383	3	.25	3	.01	23798	ND	ND	19	ND	9	4	ND	591
PS-84	1.2	.34	ND	ND	276	5	2.09	49.9	6	20	1324	2.81	.12	.33	2607	ND	.28	2	.05	539	ND	ND	ND	ND	53	ND	ND	937
PS-85 (CORE)	.1	2.45	25	ND	44	9	1.51	.3	19	31	155	4.17	.01	1.11	1119	1	.10	28	.12	198	ND	ND	5	ND	31	ND	ND	89
PS-86 (CORE)	.1	.25	7	ND	21	7	.12	.2	1	37	20	.56	.03	.18	359	ND	.01	2	.01	61	ND	ND	4	ND	2	15	10	18
PS-87 (CORE)	32.3	.53	ND	ND	1450	32	.04	.1	10	18	8184	7.07	.01	.38	898	4	.15	8	.01	89	ND	ND	7	ND	64	ND	18	96
PS-88	1.3	2.13	62	ND	17	9	.01	.1	23	28	38330	12.20	.01	.62	1302	33	.28	ND	.02	24	3	ND	11	ND	2	ND	ND	135
PS-89	.1	.52	10	ND	120	4	.02	6.4	8	85	598	3.80	.06	.13	3889	5	.32	11	.02	210	ND	ND	8	ND	3	14	ND	1031
PS-90	.1	1.44	11	ND	83	3	.62	6.6	8	93	3508	4.61	.04	.50	1917	8	.41	3	.02	36	ND	ND	4	ND	3	ND	ND	1295
PS-91	.1	.26	4828	ND	68	ND	1.48	.1	7	92	106	1.95	.09	.25	542	4	.03	7	.08	18	ND	ND	5	ND	91	ND	5	39
PS-92	>100	.14	74878	4	23	8	.04	.1	7	133	582	6.89	.02	.01	38	10	2.65	6	.02	11370	ND	ND	166	ND	13	ND	ND	9982
PS-93	>100	.24	30308	3	27	17	.51	.1	13	106	4078	6.00	.02	.22	278	9	4.76	11	.04	24499	ND	ND	77	ND	46	ND	ND	10406
PS-94	70.0	.75	8038	ND	71	ND	1.23	.1	7	85	141	2.99	.10	.40	774	5	.30	5	.09	1061	ND	ND	35	ND	111	ND	ND	1015
PS-95	12.2	.83	16268	ND	160	ND	.83	.1	16	67	661	6.44	.15	.25	1035	4	.48	12	.18	1346	ND	ND	29	ND	113	ND	ND	1555
PS-96	.3	.35	6906	ND	80	ND	.97	.1	10	151	38	3.49	.09	.21	630	8	.07	10	.09	64	ND	ND	8	ND	59	ND	ND	86
LH-32	1.1	.39	75	ND	77	4	.06	.1	ND	18	29	.53	.13	.04	318	ND	.01	2	.01	91	ND	ND	4	ND	7	15	11	29
BB-53	.1	.12	24	ND	126	3	.02	.1	3	147	48	2.04	.05	.01	74	9	.03	5	.02	7	ND	ND	4	ND	2	13	6	10
BB-54	>100	.19	5	ND	613	ND	7.50	3.3	41	36	11995	4.75	.01	1.35	1489	ND	.20	38	.01	2	ND	ND	ND	ND	64	ND	ND	322
BE-270	.6	1.02	57	ND	180	ND	.04	.1	5	148	364	4.16	.05	.33	1884	7	.13	4	.01	77	ND	ND	5	ND	3	5	ND	243
CH-133	.1	.37	49	ND	87	ND	3.17	.1	10	36	46	3.66	.14	1.18	699	3	.05	15	.23	7	ND	ND	ND	ND	66	ND	ND	83
CH-126	6.6	2.98	72	ND	27	ND	.04	.4	23	57	>10%	15.21	.01	1.33	2249	25	.46	13	.03	153	4	ND	ND	ND	1	ND	ND	257
CH-127	>100	.06	27876	6	7	25	.01	107.1	12	23	5714	13.75	.01	.02	42	10	9.13	13	.01	27089	ND	ND	192	ND	2	ND	ND	34923
CH-128	66.2	.06	2503	ND	69	33	.03	.1	1	40	548	1.86	.04	.01	50	2	.23	4	.01	6232	ND	ND	43	ND	7	8	5	746
CH-130	.9	.29	458	ND	43	ND	.81	.1	3	165	76	1.98	.05	.17	567	8	.05	6	.04	172	ND	ND	ND	ND	55	3	7	94
CH-132	7.5	.25	4576	ND	17	ND	.07	20.9	2	22	367	1.06	.06	.03	800	4	1.43	4	.01	1130	ND	ND	26	ND	3	ND	ND	5184
CH-133	.3	.56	42	ND	54	ND	.22	.2	ND	123	424	.34	.08	.02	142	5	.01	3	.01	48	ND	ND	3	1	179	13	10	56
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1

*suggest verification of Pd numbers.

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-6211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 870865 GA JOB NUMBER: 870865 ATNA RESOURCES

SAMPLE #	Au ppb
LH-160 – ALEC	10
LH-161 – [redacted] SIMON	nd
LH-162	15
LH-163	20
LH-164 – Lefty	10
LH-165	25
LH-166	20

DETECTION LIMIT 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM L 3 LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N.VAN. /ER B.C. V7P 2S3 PH:(604)986-5211 TELEX:04-352578
BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH:(604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN,FE,CA,P,CR,MG,BA,TI,B,AL,NA,K,W,PT AND SR. AU AND PD DETECTION IS 3 PPM.
IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -- NOT ANALYZED

COMPANY: ATNA RES. LTD.
ATTENTION:
PROJECT: SMITHERS REGIONAL

REPORT#: PA
JOB#: 870865
INVOICE#: NA

DATE RECEIVED: 87/07/28
DATE COMPLETED: 87/08/04
COPY SENT TO: VANCOUVER & SMITHERS

ANALYST W. Rowe

SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	W PPM	V PPM	ZN PPM
LH-160	.1	.24	143	ND	32	ND	.07	.1	1	188	94	1.09	.01	.05	160	9	.02	4	.01	24	ND	ND	3	ND	6	ND	5	39
LH-161	2.0	.83	14	ND	6	38	.05	.1	7	53	79	7.01	.01	.15	303	4	.13	5	.05	16	ND	ND	4	4	59	ND	ND	22
LH-162	.1	.53	12	ND	320	ND	.05	.2	2	162	1486	1.00	.01	.14	567	10	.06	5	.01	7	ND	ND	5	ND	4	ND	7	96
LH-163	13.9	.99	324	ND	11	3	.01	1.1	37	89	44698	13.25	.01	.14	147	103	.38	4	.01	762	ND	ND	7	ND	1	ND	ND	335
LH-164	2.5	1.20	28	ND	27	7	.02	.1	14	108	11695	4.94	.04	.19	347	91	.12	4	.01	60	ND	ND	6	ND	3	ND	ND	115
LH-165	14.1	.49	1118	ND	7	ND	.01	9.2	18	133	16644	7.89	.01	.04	84	42	.29	4	.01	864	ND	ND	16	ND	7	ND	ND	497
LH-166	.3	1.49	84	ND	253	ND	.02	.1	4	127	1487	4.02	.05	.31	957	21	.07	3	.01	52	ND	ND	8	ND	6	ND	ND	8
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1