ASSESSMENT REPORT

GUS CLAIM GROUP

DEC. 23, 1994

ORIGINAL

2711

FILMED

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL - GEOCHEMICAL	$ 4315 -

AUTHOR(S) M. A. KAUFMAN SIGNATURE(S) M. A. Kaufman

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED DATE MAILED DEC. 27, 1994 YEAR OF WORK 1994

PROPERTY NAME(S) GUS CLAIM GROUP

COMMODITIES PRESENT GOLD, SILVER, ZINC, LEAD

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN # 62, 257

MINING DIVISION NELSON NTS 82F/3E

LATITUDE 49° 3' LONGITUDE 117° 14' 30"

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

GUS 1-4 (324344 - 324347 INCL.); GUS 5-9 (329946 - 329950 INCL.)

OWNER(S)

(1) M. A. KAUFMAN (2)

MAILING ADDRESS

P. O. BOX 14336
SPOKANE, WA. 99214 U.S.A.

RECEIVED
GOVERNMENT AGENT
JAN 05 1995
NOT AN OFFICIAL RECEIPT
TRANS #

OPERATOR(S) (that is, Company paying for the work)

(1) M. A. KAUFMAN (2)

MAILING ADDRESS

AS ABOVE

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

SEE INTRODUCTION & GEOLOGY. AU-AG MINERALIZATION IS RELATED TO SEVERAL FAULT ZONES TRAVERSING LAIB, NELWAY AND ACTIVE FORMATION PHYLLITES AND LIMESTONES AND SILTSTONES. MINERALIZATION IS SEEN ON THE BLACK BLUFF THRUST FAULT, N. STRIKING, CROSS-CUTTING TRANSVERSE FAULTING, AND ON WNW AND NNE TRENDING FRACTURES.

REFERENCES TO PREVIOUS WORK ASSESSMENT REPT #23438, GSC MAP 1145 A, COMPANY REPORTS FROM LACANA MINING CORP., ORVANA MINERALS, AND OLD BCDM REPORTS

(over)

Gus Claims Assessment Report
Dec. 23, 1994

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Gus Claims Assessment Report
Dec. 23, 1994

INTRODUCTION

The Gus Claim Group comprised of the claims Gus 1-9, is located in the west Kootenays approximately 7.5 km NE of the Canada-USA Nelway border crossing. The centre of the claims is approximately 1.8 Km east of Rosebud Lake.

Access is by the Rosebud Lake road and thence by a rough 4x4 trail starting east of the SE part of Rosebud Lake and going ENE to the old Lone Silver Mine and beyond to the Gus Claims.

Within the Gus Claims are two old mines, the Davne and the Lucky Strike. Both have produced small amounts of high grade gold-silver ores also containing lead, zinc and copper. Past work on these mines is well documented in old BCDM reports. During 1987, Lacana Mining Co. based on my prospecting work acquired a large land position in the area, and subsequently carried out an extensive soils geochemical survey. Lacana then was acquired by Corona Corp., which farmed the property out to Orvana Minerals Corp., which in 1992 drilled one core hole near the center of what are now the Gus Claims. Orvana eventually relinquished its interest and the property reverted to Corona. Corona was then acquired by Homestake Mining Co. which relinquished the property (sight/site unseen), evidently in a cost cutting move.

My original acquisition recommendation was inspired by sampling of the old Lone Silver mine dumps. Here, very ordinary looking limey rock surprisingly returned interesting Au/Ag assays from a mineralized body localized on the Black Bluff fault, part of a regional zone of thrusting. The subsequent soils sampling by Lacana was encouraging in that it detected a significant gold anomaly, among others, in an area of partly exposed bedrock located about 1.1 Km NE of the Lone Silver where the barren-looking limey bedrock would not inspire a prudent man to sample. The single angle hole drilled across this area by Orvana, though it did not cut ore grade, did intersect three anomalous gold zones. It was a good informational hole, but was located more for ease of access to meet an impending assessment deadline.

The work described by this report is a continuation of the work described in previously submitted Assessment Report # 23438, which covered claims Gus 1-4. The work described herein consists of more detailed geological mapping on claims 1-4, additional reconnaissance geological mapping of claims 5-9, and additional compilation of past work pertinent to the enlarged claim group. In addition, a limited geochemical study has been undertaken both on bedrock and in overburden covered areas to determine what approach might be useful for further exploration of the claims. The results are shown on the accompanying 1:10000 and 1:1000 scale geological maps.

As much of the geological work described in Assessment Report # 23438 is still appropriate for this report, it is repeated herein, but changes in interpretation are noted both in the text and on the maps. Generally, most of the outcrop on the claim group is situated within claims 1-4. Only a few new outcrops were found on claims 5-9, so little was learned by the additional geological traverses.

Three orientation geochemical lines were run over different parts of the property, and several samples were taken of swamp sediment after the water dried up during this very dry summer. Results and interpretations are later discussed.

Geological Report

Bedrock over much of the Gus property is masked by glacial overburden. The Gus property is underlain by lower Cambrian Laib formation phyllites and middle Cambrian Nelway formation limestones and dolomites which unconformably overly middle Ordovician Active formation argillites, limes and slates. There are no known intrusive bodies on the claim group other than small "diorite" dikes reported from the Davne workings, and "light gray-green sills or dikes" reported in Orvana's drill log. The structure of the area is extremely complex. According to GSC map 1145A, it is located on the west limb near the nose of the Sheep Creek anticline. The anticline is cut by ENE striking, SE dipping thrust faults, and the thrusts are cut by N striking, steep dipping "transverse" faults. The unconformable contact between the Nelway formation and the underlying Active formation sediments is thought to be the ENE striking SE dipping Black Bluff thrust fault. Another thrust of similar orientation, the Argillite fault, traverses the country immediately north of the claims. Crossing the thrust, the GSC shows the Styx Creek "transverse" fault near the west boundary of the Gus claims. In addition, my mapping indicates possibly significant intermittent WNW fracturing.

The Black Bluff fault is not clearly exposed on the Gus Claims, and, indeed, can only be seen at two localities nearby, one on a roadcut on the highway, and the other at the Lone Silver Mine. The highway cut shows it to be a zone of chaotic shearing and brecciation, and old descriptions of the Lone Silver mineralized zones corroborate this interpretation. It is my opinion that the thrusts in the area are very complex, and that there are likely many zones of imbricate faulting related to them. Most of the bedding features mapped by the GSC probably parallel the general strike of the thrusting and represent complex overturned folding.

The Davne mine followed a roughly N70W steep dipping fissure said to be 5 to 50 centimetres wide. Recorded production was 4 tons of 2.75 opt gold and 42.5 opt silver probably plucked from small shoots. The fissure cuts limey rocks of the Nelway formation. It is not exposed, but the limestone formations in the portal area are intensively sheared and appear structurally chaotic, suggesting that they may be part of an imbricate thrust zone located above the Black Bluff fault.

The Lucky Strike mine also followed a steep N70W fissure said to be of similar width to the Davne. At surface it cuts phyllites of the Laib formation. Its production of 55 tonnes averaging 1.3 opt gold and 35 opt silver likewise must have been taken from erratic shoots. In examining the surface cuts it appears that other smaller quartz veinlets following the phyllitic lineation might also be slightly mineralized. Mineralogically, both the Davne and Lucky Strike shoots, as well as those of the Lone Silver, contained gray copper (tetrahedrite?) with lesser chalcopyrite, galena and sphalerite. Pyrite is present but not abundant.

When one plots the Davne and Lucky Strike structures on a map, it is apparent that they occur on the same WNW trend. There is nothing to suggest that the trend is continually mineralized, but it might contain other high grade shoots. Between the two mine areas is a narrow NE trending swampy depression which I will discuss later.

The Lacana soils geochemical survey detected a number of anomalous areas, but it must be cautioned that the overburden cover in the region is variable, and where it is deep it is doubtful that the soils work is effective. Of principal interest to me is the elongate NE trending area of anomalous gold in soils detected by Lacana near the center of the present Gus Claims, which extends from the north end of the previously mentioned swamp for about 400 metres, at which point deep overburden is encountered. This area is predominantly underlain by light gray, sometimes greenish gray silty limestone generally striking N30E to N40E with variable steep SE dips. Toward the west margin of the outcrop area darker beds of carbonaceous lime are seen. There are frequent zones of WNW steep dipping cross fracturing. These rocks on cursory look do not appear to be altered or mineralized, but, in fact, there are numerous zones of what is probably remobilized carbonate, not unlike what is seen on the Lone Silver dumps. Accompanying the carbonate is sporadic lesser quartz. An unusual alteration feature for a predominantly limey section is the almost ubiquitous presence of sericite(?) along what are probably bedding-fracture planes. There are sporadic, very difficult to see showings of gray copper with minor galena mainly along fractures and in carbonate and/or quartz zones.

If one were to draw a cross section looking east at the center of the Gus Claims, based on GSC mapping it appears that there is a large overturned fold leaving older Laib sediments on top of

younger Nelway sediments. The black Bluff fault should cut this fold forming the contact between older overlying Nelway rocks and younger Active formation sediments. In studying air photos I can not clearly see the Black Bluff fault, nor can I corroborate the GSC's interpretation, but it is probably correct. What can be easily seen though is a very obvious NE linear feature which closely follows the narrow swampy depression mentioned above and can be followed for 2.5 km to the SW. This in all likelyhood represents a strong fault or fracture zone, possibly either the Styx Creek fault (off location from where the GSC shows it) or a branch of this fault.

The previously mentioned Lacana gold anomaly interestingly follows the direction of this linear where bedrock emerges from the swamp. Moreover, I believe that the formational strikes in this outcrop may be dragged from the predominant ENE of the region to NNE. Aside from a few zones of NE phyllitic lineation, there is little evidence of faulting in this outcrop area, but it is possible that the shearing is masked by alteration which has healed the fracturing. My guess is that the anomaly is caused by alteration/mineralization which has mobilized up bedding plane fractures and cross fractures. Interestingly, while some of the stronger anomalous rock contains subtle showings of gray copper or minor galena, in some cases the the anomalous rock appears quite barren.

The Orvana angle hole, which traverses the altered zone immediately north of the swamp intersected "thinly bedded, phyllitic limestone/dolomite, locally carbonaceous, cut by numerous calcite and quartz veinlets both parallel and crossing bedding." Below 58 metres there were numerous "fine grained, greenish brown to gray dykes" which show schistosity or foliation parallel or sub-parallel to bedding. Consistent disseminated pyrite (1-3%) is reported throughout the sediments, and slightly lower pyrite content in the "dykes". Most of the hole was non-anomalous or at best weakly anomalous in gold. However, three zones contained more anomalous values. The interval 143'-150' averaged 1017ppb Au, including 147'-150' at 2158ppb. Unfortunately, 150'-156' was not assayed. But the interval 156'-161' assayed 330 ppb Au. The 147'-150' interval contained minor visible gray copper, sphalerite and galena(?) in quartz-carbonate segregations. The interval from 260'-279' averaged 84ppb Au in an area where there is an abundance of "dyke" rock. And a similar interval from 295'-312' averaged 88ppb. In addition, the interval from 446'-451' assayed 80ppb Au. Here a shear zone contains quartz and low pyrite.

Geochemical Report

Analyses of Past Work

The extensive soils survey carried out by Lacana during 1988 covered two regimes which in places cannot be easily distinguished by surface examination. Most of the survey north of the postulated trace of the Black Bluff thrust fault probably tested relatively deep transported glacial overburden which contains a thick upper layer of fine organic and/or ash material which is impossible to penetrate with ordinary sampling tools. Most of the samples were likely from this upper layer. Samples taken south of the thrust were probably mostly from transported glacial overburden of variable depth, but probably, on average, considerably shallower than the valley overburden north of the fault. Possibly on the higher slopes here, some of the shallow soils might be residual.

The previously discussed gold anomalous area NE of the swamp contains sporadic bedrock, and the soils here are for the most part considerably shallower than in other areas. They are probably residual, in places capped by transported glacial overburden. The anomaly is real as is documented by anomalous bedrock and is detectable in soils due to the shallowness of the cover and the nature of the soils.

Generally gold values in the deep overburden north of the fault, as one might expect, were non detectable. Sporadic anomalous samples were detected, but they are generally single samples. Possibly they may be significant, or more likely they represent exotic grains. Analyses of several lines for zinc indicates a high background averaging 193 ppm, while lead averaged 21 ppm.

An analysis of the Orvana core hole assays provides a look at a bedrock cross section, though it is thought to cross a generally anomalous area. The average of all (62) samples assayed is 57 ppb Au, 67 ppm Pb and 40 ppm Zn. When samples are cut; for example only samples Less than 20 ppb Au, less than 25 ppm Pb and less than 50 ppm Zn are analyzed, the averages are 3 ppb Au, 4ppm Pb and 19 ppm Zn. The core assays indicate that anomalous gold is usually accompanied by at least above threshold Pb-Zn and sometimes Cu and As. Based on analysis of the core assays, I have arbitrarily selected threshold and anomaly numbers for this area of shallow alluvium and bedrock. They are for Au, 10 ppb and 20 ppb respectively; for Pb, 25 ppm and 50 ppm respectively; and for

Zn, 50 ppm and 100 ppm respectively. In comparison to the shallow alluvium area, the deeper overburden areas contain on average much higher Zn and Pb values. This is probably for the most part attributable to the attraction of metallic ions to the upper organic material. However, I have seen evidence in the region of anomalous stratabound mineralization in beds of the Active formation, so high Zn-Pb readings north of the Black Bluff fault cannot be ignored. Arbitrarily, I would place values of +400 ppm Zn and +50 ppm Pb in this regime as possibly significant.

Past work by the writer has shown that showings in the area which contain anomalous Au-Ag, which is usually accompanied by Pb-Zn-Cu, also contain anomalous Hg. For example, one old prospect north of the claim area contains +3000 ppb Hg. Samples from the old Lone Silver dump will run +1000 ppb, and one small pit within the Lacana gold anomaly which is anomalous in gold also contains +500 ppb Hg. Possibly, then, Hg might be used as an indicator for precious metals at depth, particularly in areas of deeper overburden.

1994 Work

All grid references herein are in metres north, south, east or west from the LCP of claims Gus 1,2,3,4 shown on the accompanying maps, the LCP being 0,0. Two E-W lines were run at 20 metre sample spacing across the Lacana anomalous gold area, one at 100N and the other at 280N. Assays were for Au, Pb and Hg. Samples along line 100N were either bedrock or shallow soil, except at the west where overburden cover deepens. Rock samples were composite grabs over areas roughly 5 metres square. Only weakly anomalous gold and lead were found along this line with the stronger golds west of zero. At the west end of the line possibly anomalous Hg values were detected. Line 280N crosses a moderately steep north slope, and all samples were soils. Along the east part of the line moderately anomalous lead, and one strongly anomalous gold (302ppb) were detected. Another line was sampled starting at 280S, 820W (see 1:10000 map). Though the mercury readings here might be slightly elevated, other elements were not anomalous. The swamp sediment sampled is organic muck, probably of considerable thickness. As this area is thought to be possibly underlain by intersecting mineralized structures, several samples were taken to determine whether any metal ions might move up through this material. Samples were assayed for Au, Hg and Zn. Results were non descript and non anomalous, except for one high

mercury reading at the east edge of the swamp.

Discussion

While no ore zones have been encountered by the recent work, the property does merit further exploration. It is particularly interesting that all of the known fault structures in places are mineralized. So areas of structural intersection offer valid drill targets. Under the swamp, the WNW Davne-Lucky Strike fissure zone should intersect the SW extension of the NE structure postulated by the Lacana gold anomaly. And it is likely that at depth both of these structures would intersect the Black Bluff thrust. The target would be significant Au-Ag bearing replacement deposits. Moreover, the whole area of the Lacana gold anomaly should be underlain at depth by the Black Bluff thrust at shallower depth as one moves northward. The anomalous gold found in the Orvana drill hole represents irregular replacement in altered limey formations which comprise the upper plate of the thrust. The hole did not penetrate to the thrust. Possibly the anomalous soils found on the east portion of line 280N might be close to the trace of the thrust.

Continuing work will be carried out, particularly geochemical follow up in areas where anomalous mercury was detected, fill in sampling over the Lacana Au anomaly, and further follow up in the area of line 280N. Another technique will be required to test the areas thought to be covered by deep overburden, possibly bio-geochem sampling.

M. A. Kaufman

M. A. Kaufman

Dec. 23, 1994

Itemized Cost Statement

Manpower

Aug. 18, 1994: M. A. Kaufman reconn. mapping ------- $300

Sept. 8, 1994: M. A. Kaufman reconn. mapping, geochem. sampling ---------- $300

Sept, 20, 1994: M. A, Kaufman geological mapping, geochem follow up ---------- $300

Oct. 25, 1994: M. A. Kaufman geochem sampling, reconn. mapping ---------- $300

Nov. 5, 1994: M. A. Kaufman data compilation and map comp. ---------- $300

Nov. 6, 1994: M. A. Kaufman data analyses and map comp. ---------- $300

Dec. 21 and 23: M. A. Kaufman Report Prep. ----------$300

Total M. A. Kaufman ---------- $2,100 (U.S.)*

Calculation to Canadian funds $2,100x 1.39 = ---------- $2,919 (CDN)

Sept. 10, 1994: Doug Murray geochem sampling ------ $159 (CDN)

Total Manpower costs ---------- $3078 (CDN)

* The amount $300 (U.S.) is what I normally get paid from clients for this type of work.

Assays

Min En Labs ---------- $810 (CDN)

N. A. Degerstrom, inc. Lab ---------- $ 147 (U.S.)
Calculation to Canadian funds $147x 1.39 ---------- $204 (CDN)

Total Assays ---------- $1014 (CDN)

Living Expenses

Aug. 17, 1994	Motel	$ 57.50
	Meals	$ 19.80
Aug. 18, 1994	Meals	$ 7.31
Sept. 8, 1994	Meals	$ 16.39
Sept. 9, 1994	Motel	$ 41.40
	Meals	$ 2.45
Sept. 20, 1994	Motel	$ 57.50
	Meals	$ 20.60

Total Living Expenses ---------- $223 (CDN)

Grand total all expenses ---------- $4315 (CDN)

AUTHOR'S QUALIFICATIONS

I, M. A. Kaufman hereby state that I have worked as a mining geologist and mining engineer for 37 years.

I received an A.B. degree in geology from Dartmouth College in 1955, and an M.S. degree in geology and mining engineering from The University of Minnesota in 1957.

I am currently registered as a Professional Engineer in the province of British Columbia.

From the period 1955 - 1965 I worked for the major companies, Kennecott, Giant Yellowknife (Falconbridge), Kerr-McGee, and Hunting Survey Corp. Ltd. I then worked on my own as a consultant and contractor, mainly for major companies. From 1969 through 1988, I was a principal of the consulting and contracting firm of Knox, Kaufman, Inc. From 1989 to present I have worked as an independent consultant and prospector.

Geochemical Data Analyses Sheet

Orvana Drill Hole (62) samples

Au average of all samples - 57.3 ppb.

Au average of all samples less than 20 ppb (49 samples) - 3.3 ppb

Arbitrary threshold anomaly value - 10 ppb
Arbitrary anomalous value - 20 ppb

Pb average of all samples - 67 ppm

Pb average of all samples less than 25 ppm - 3.7 ppm.

Arbitrary threshold anomaly value - 25 ppm
Arbitrary Anomalous value - 50 ppm

Zn average of all samples - 40 ppm

Zn average of all samples less than 50 ppm - 19 ppm

Arbitrary threshold anomaly value 50 ppm
Arbitrary anomalous value 100 ppm

Lacana Soils Samples

Line 6E, 325N to zero (!4 samples)

Zn, 50 - 100 ppm - 0 samples
100 - 200 ppm - 9
200 - 300 ppm - 5
+ 300 ppm - 0

Pb 10 - 20 ppm - 8 samples
20 - 50 ppm - 6
+ 50 ppm - 0

Average Zn - 190 ppm

Average Pb - 16ppm

Geochemical Data Analyses Sheet

Line 10E, 25N - 500N (20 samples)

Zn 50 - 100 ppm - 0
100 - 200 ppm - 12
200 - 300 ppm 8
+300 ppm - 0

Pb 10 - 20 ppm - 5
20 - 50 ppm - 15
+50 ppm - 0

Averarge Zn - 202 ppm

Average Pb - 25 ppm

Line 15E, 0 - 500N (21 samples)

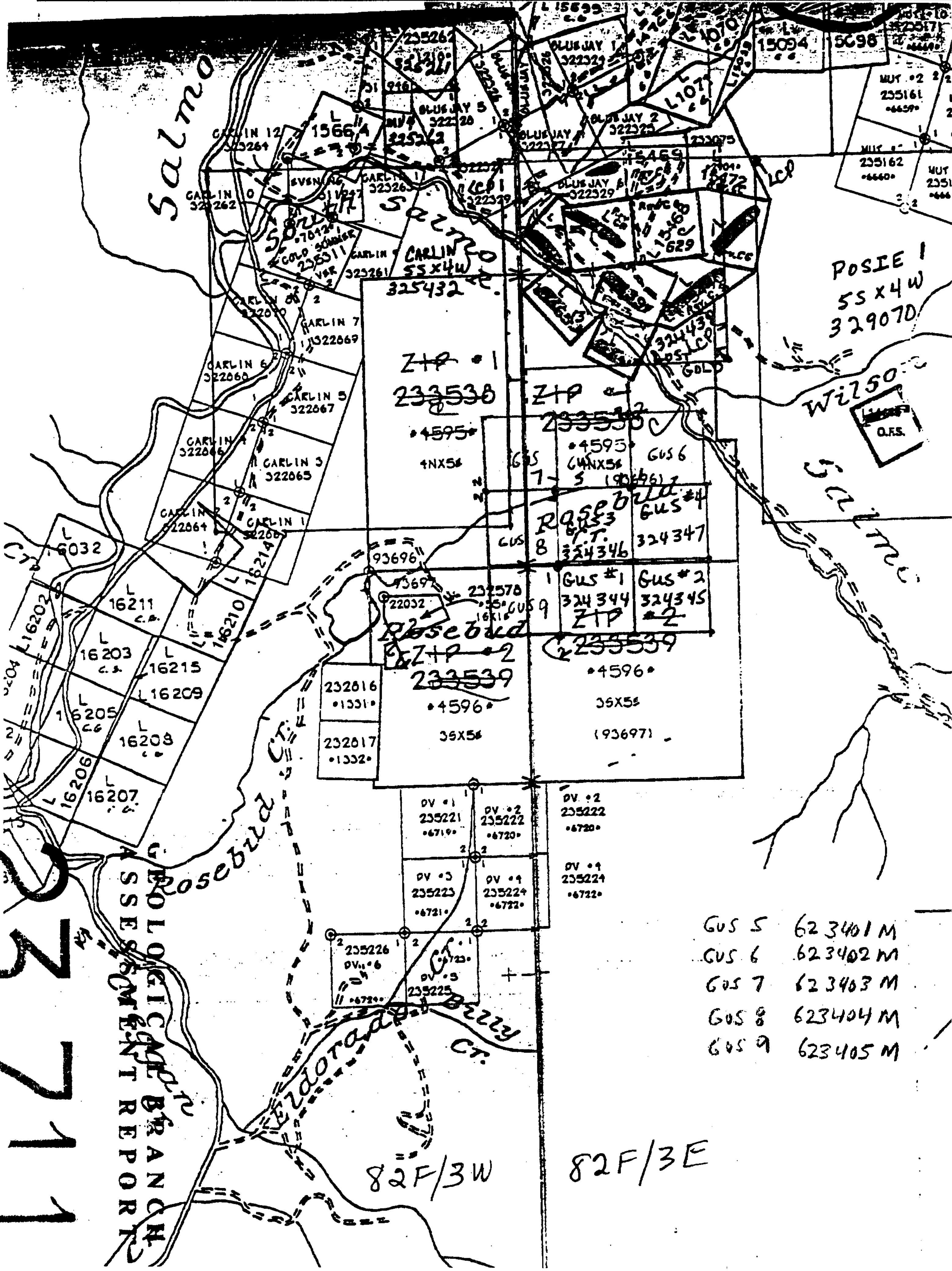
Zn 50 - 100 ppm - 4
100 - 200 ppm - 10
200 - 300 ppm - 6
300 - 400 ppm - 0
+400 ppm - 1

Pb 10 - 20 ppm - 12
20 - 50 ppm - 9
+50 ppm - 0

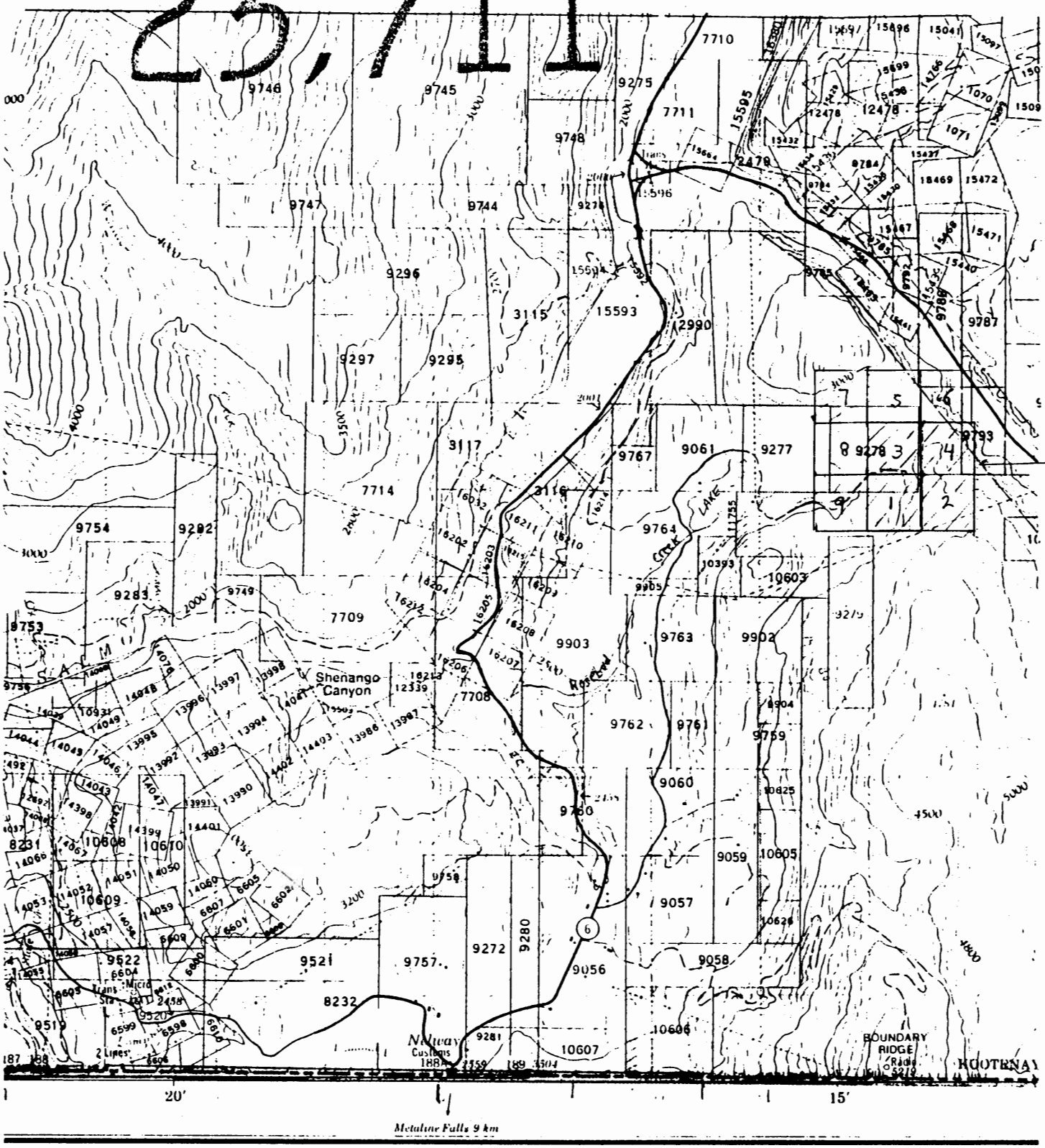
Average of All Lacana Soils Samples Above

Zn - 193 ppm

Pb - 21 ppm



23,711



SALMO

CANADA-UNITED STATES OF AMER

Scale 1:50 000 Échelle

Miles 1 0 1 2

Metres 1000 0 1000 2000 3000

Yards 1000 0 1000 2000 3000

toute saison — dual highway, 2 chaussées séparées — more than 2 lanes, plus de 2 voies

, toute saison — 2 lanes, 2 voies — less than 2 lanes, moins de 2 voies

r, agglomér, toute saison — 2 lanes or more, 2 voies ou plus — less than 2 lanes, moins de 2 voies

ivier, temps sec

ors classe

re

r, percée ou portage

POUR UNE LISTE COMPLÈTE DES SIGNES VOIR AU VERSO

STATEMENT

GUS

DATE SEPT 16 19 94

MR KAISER

BOX 14336 SPOKANE WASH

99214

DATE	DETAILS	DEBIT	CREDIT	BALANCE
SEPT 16	SOIL SAMPLE			150 —
	MILEAGE			9 —
	TOTAL		8	159 —

Westlab

Pd DV. Ch. 2152 Nov 1/94

INVOICE

N. A. DEGERSTROM, INC.

3303 NORTH SULLIVAN ROAD
SPOKANE, WA 99216-1676
(509) 928-2987

INVOICE DATE: October 31, 1994
INVOICE NO.: L94-483

TO:

M.A. KAUFMAN
DOS VULTUROS
P O BOX 14336
SPOKANE WA 99214

JOB NAME: Prepaid Commercial
JOB NUMBER: 8633
DATE STARTED: 10/26/94
DATE COMPLETED: 10/31/94
SOURCE NUMBERS: Trans. #0013: MK-9V-8 - MK-9V-13

DESCRIPTION	RATE	AMOUNT
6 x Sample Prep	@ $3.75/ea.	$ 22.50
6 x Fire Assay Au	@ $8.00/ea.	48.00
6 x DCP Zn	@ $5.00/ea.	30.00
6 x Gold Film Hg	@ $7.75/ea.	46.50
	Total Due:	**$147.00**

Transmittal #: 0013

Job#: 8633

N.A. Degeretrom, Inc.

Date Received: 10/26/94

Date Reported: 10/31/94

Project Name: M.A. Kaufman - D.V. Co.

REPORT OF ASSAY

Sample Number	Au ppb	Hg ppb	Zn ppm			
MK-9V-8	5	60	68			
MK-9V-9	10	60	76			
MK-9V-10	13	260	60			
MK-9V-11	4	60	33			
MK-9V-12	7	80	32			
MK-9V-13	6	- - -	- -			

Michael E. Coleman, Lab Manager

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SMITHERS, B.C. CANADA V0J 2N0
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I N V O I C E

TO: M. KAUFMAN

BOX 14336
SPOKANE, WA 99214

INVOICE No 00031245
PAGE No 1
DATE 09/23/94

ACCOUNT K030

ATTENTION: M.A. KAUFMAN
PROJECT: GUS

FILE No: 4V-0946

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
26	SAMPLE PREP - SOIL	1.25	32.50
6	SAMPLE PREP - ROCK	3.75	22.50
32	GEOCHEM - AU FIRE	8.50	272.00
31	GEOCHEM - PB	9.50	294.50
31	GEOCHEM - HG	6.00	186.00
1	GEOCHEM - AG	2.50	2.50

SUB TOTAL 810.00

* TOTAL * 810.00

THESE ARE PROFESSIONAL SERVICES AND ARE PAYABLE WHEN RENDERED.
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Geochemical Analysis Certificate

4V-0946-SG1

Company: **D.V.CO**
Project: GUS
Attn: M.A.KAUFMAN

Date: SEP-19-94
Copy 1. D.V. Co., Mr. A. Kaufman, Vancouver, BC

We hereby certify the following Geochemical Analysis of 24 soil samples submitted SEP-13-94 by M.A. Kaufman.

Sample Number	Au-Fire PPB	Pb PPM	Hg PPB
LB 0+00E	1	26	100
LB 0+20E	2	23	105
LB 0+40E	1	24	115
LB 0+60E	1	24	110
LB 0+80E	2	25	95
LB 1+00E	1	26	85
LB 1+20E	4	27	145
LB 1+40E	5	20	65
LB 1+60E	2	21	80
LB 1+80E	2	24	75
LB 2+00E	1	26	80
280M.N. 0.E.W.	3	33	75
280M.N. 0+20E	1	32	75
280M.N. 0+40E	6	48	100
280M.N. 0+60E	302	92	85
280M.N. 0+80E	2	118	75
280M.N. 1+00E	4	54	70
280M.N. 20W	1	34	90
280M.N. 40W	2	33	95
280M.N. 60W	1	34	70
280M.N. 80W	5	39	80
D 100N 80E	2	36	60
D 100N 40W	23	44	85
D 100N 60W	26	39	100

Certified by _____

MIN-EN LABORATORIES

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SMITHERS LAB.:
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FAX (604) 847-3005

Geochemical Analysis Certificate

4V-0946-RG1

Company: **D.V.CO**
Project: GUS
Attn: M.A.KAUFMAN

Date: SEP-19-94
Copy 1. D.V. Co., Mr. A. Kaufman, Vancouver, BC

We hereby certify the following Geochemical Analysis of 6 rock samples submitted SEP-13-94 by M.A. Kaufman.

Sample Number	Au-Fire PPB	Ag PPM	Pb PPM	HG PPB
D 100N 0	18		105	45
D 100N 20E	6		54	35
D 100N 40E	5		59	45
D 100N 60E	5		62	30
D 100N 20W	38		57	45
D MK-94-5	10	3.5		

Certified by _____

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

4V-0946-SG2

Company: **D.V.CO**
Project: GUS
Attn: M.A.KAUFMAN

Date: SEP-19-94
Copy 1. D.V. Co., Mr. A. Kaufman, Vancouver, BC

We hereby certify the following Geochemical Analysis of 2 soil samples submitted SEP-13-94 by M.A. Kaufman.

Sample Number	Au-Fire PPB	Pb PPM	Hg PPB
D 100N 80W	5	34	245
D 100N 100W	6	44	145

Certified by _____

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ANALYTICAL PROCEDURE FOR WHOLE ROCK ANALYSIS

SiO_2, TiO_2, Al_2O_3, MnO_2, MgO, Fe_2O_3, CaO, Na_2O, K_2O, P_2O_5, Ba, & Sr

PREPARATION

Samples are dried @ 60 C and when dry are crushed on a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to - 1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized on a ring pulverizer to 95% - 150 mesh rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

ANALYSIS

a) Weigh 0.1000 g sample into a shell vial and mix well with 0.300 g of $LiBO_2$

b) Pour the mixture into the graphite crucible which is lined with 0.300 g of $LiBO_2$

c) Fuse at 1200 C for 5 minutes and pour into bottle containing 50 ml of 10% HNO_3. (Maximum: 10 samples at a time)

d) Shake for 2 hours and analyze the resulting solutions by ICP.

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PROCEDURE FOR SAMPLE PREPARATION

Samples are dried at 60 Celsius and when dry are crushed in a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary rolll crusher to reduce it to - 1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized on a ring pulverizer to 95% minus 150 mesh rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

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PROCEDURE FOR Au GEOCHEM FIRE ASSAY

Samples are dried @ 65 C and when dry the Rock & Core samples are crushed on a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to 1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized on a ring pulverizer to 95% - 150 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Soil and stream sediment samples are screened to - 80 mesh for analysis.

The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the precious metal beads are transferred into new glassware, dissolved with aqua regia solution, diluted to volume and mixed.

These resulting solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 2 standard deviations of its known or the whole set is re-assayed.

10% of all assay per page are rechecked, then reported in PPB. The detection limit is 1 PPB.

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ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK: PROCEDURE FOR GEOCHEM Ag, Cu, Pb, Zn

Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, using the following procedures.

After drying the samples at 65 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

0.5 gram of the sample is digested for 2 hours with an aqua regia mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by AA.

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TRACE LEVEL GEOCHEMISTRY

PROCEDURE OF MERCURY - Hg PPB

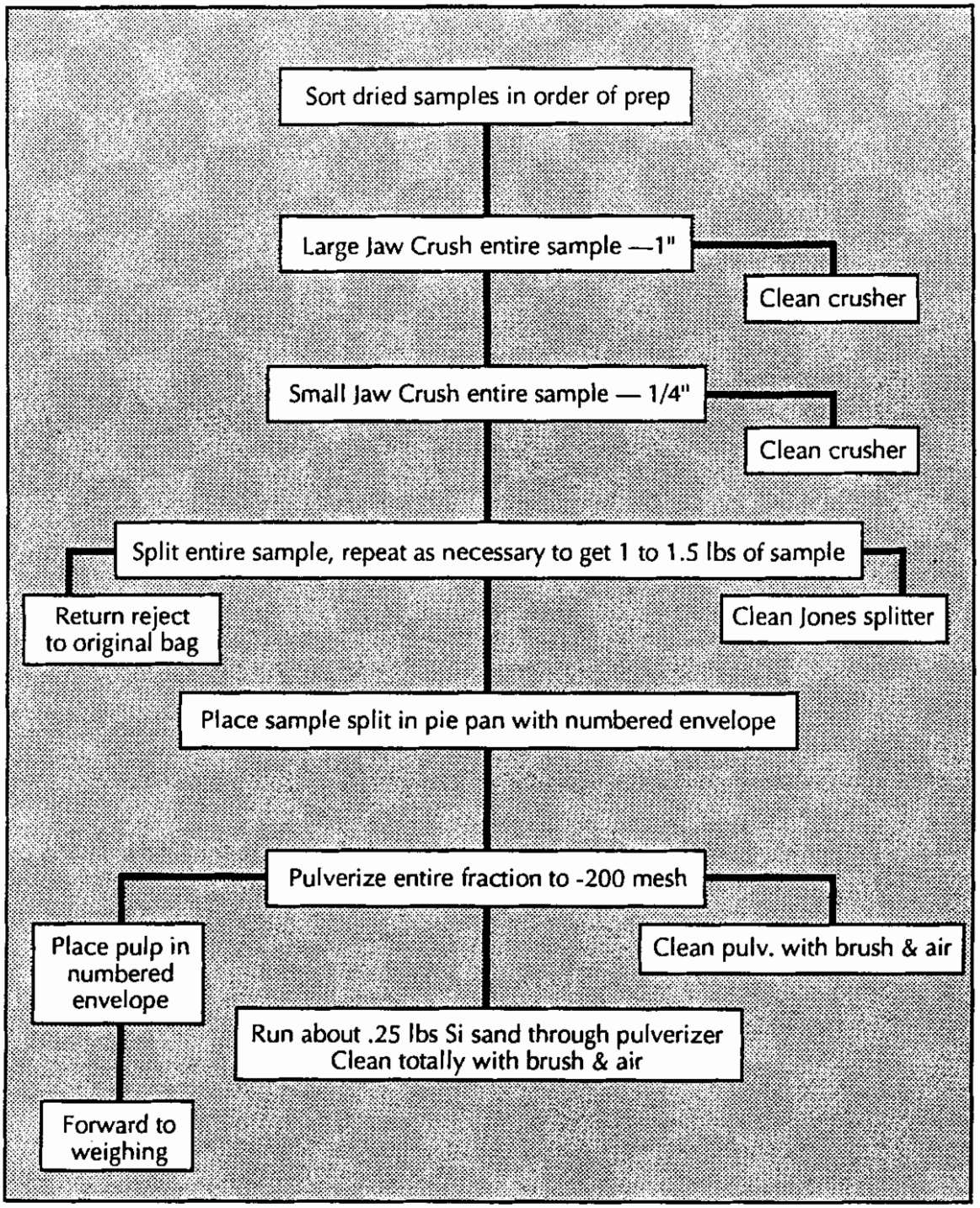
Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples by air or under 50 C , soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

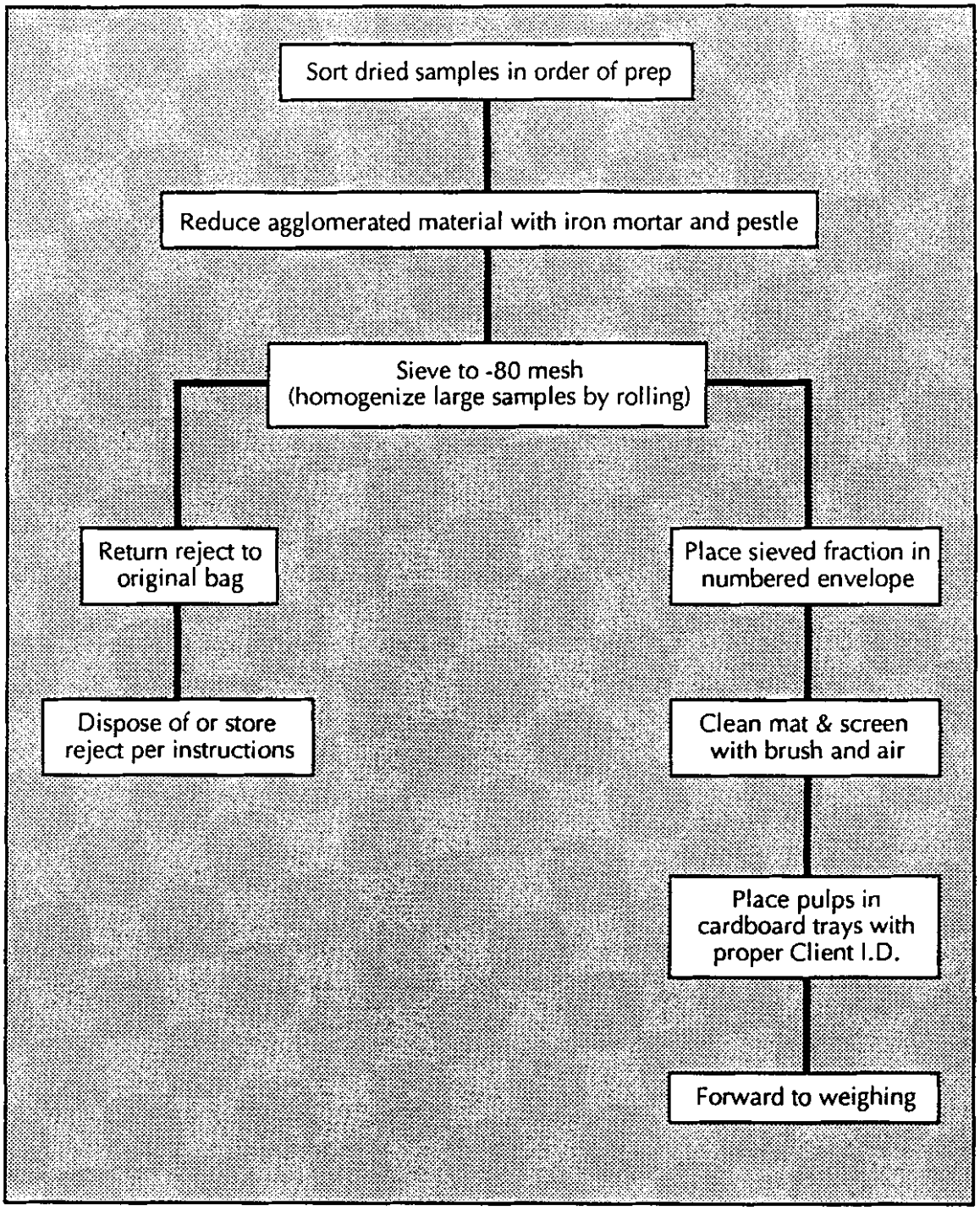
Samples are digested with aqua-regia solution for 2 hours then cold vapour AA finish.

N. A. DEGERSTROM, INC.

ROCK AND DRILL CORE PREPARATION



STREAM SEDIMENT AND SOIL PREPARATION



SPECIFIC METHODOLOGY

The specific methodology utilized by N.A. Degerstrom, Inc. will be the most reliable, yet cost-efficient methods that we have been able to develop. As time goes on, and our technical staff generates new data on methodology, minor, and sometimes major, changes will take place in the various components of our analytical routines.

Users of an analytical facility should have access to not only general, but specific details of the analytical routines used by the laboratory. Particularly when utilizing more than one lab for like analysis, the lab client should be aware of the differences and similarities in methodology between labs, since no two methods of performing a particular analysis can be expected to yield exactly the same results. Although general anomalies should correlate in data generated by more than one lab, only very closely uniform methods will yield a very consistent data base.

N.A.D. encourages the users of lab services to take a close look at lab quality control and assurance programs, as well as specific methods utilized to be assured that the data you are receiving is indeed data you can rely on.

Although compilation of all specific information on Q.C./Q.A. data and lab methodology would be much too lengthy and time consuming to include in any but our in-house manuals, N.A.D. would be most happy to provide that data for specific areas of interest to those who would find it useful. Please let us know if we can provide that service.

N.A. Degerstrom, Inc.
(509) 928-2987
North 3303 Sullivan Rd. • Spokane, WA 99216

PRECISION AND ACCURACY

N.A. Degerstrom, Inc.

Precision is defined in the laboratory as the deviation from the mean value of a set of determinations for a particular parameter. That is, under similar conditions, utilizing similar methodology; how closely can results be duplicated when run repeatedly?

Various types of analyses performed at N.A. Degerstrom, Inc. have inherently different standard deviation factors. Generally, precision criteria at N.A.D. calls for no greater error than ±10% of the mean at ten times the Minimum Detection Limit. Below ten times the MDL, deviation should be limited to one or two units of measure. Past experience has shown us that a 95% confidence level is realistic in terms of maintaining this standard deviation factor. In other words, in any one set of determinations, lab results of repeats can not vary by more that 10% from the mean value established for that series of repeats, more than 5% of the time. Many determinations have better precision criteria than this, however, no set of analysis will be allowed to be reported if it has not achieved at least this level of precision.

Reruns constitute 5% of all routine analysis.

Accuracy is defined in the laboratory as the deviation from the known value of a standard. That is, under similar conditions, utilizing like methodology, how closely can results be duplicated to certified results obtained elsewhere?

The first step in assuring accuracy is to use dependable standard and control materials. Standards are either purchased as certified standards materials or made from high purity certified materials with analytical reagent grade chemicals. Controls are materials that have been certified or have had recommended values established by U.S. Geological Survey, National Bureau of Standards, or Canadian Certified Reference Materials Project. In-house generated controls have had recommended values established by comparison with the above materials and by duplicate analysis by at least two other laboratories.

Standards are run with each set of analyses to establish analytical curves, and rechecked every ten or twenty samples during the course of a run to assure consistent instrument performance. New sets of standards are checked against old sets and against controls before going on line for routine analysis.

Controls constitute at least 5% of all routine analysis.

Specific data for particular types of analyses can be obtained upon request. Because of the large volume of data that accumulates for the many types of determinations performed, publication of all precision and accuracy data is impractical as a general procedure.

INSTRUMENTATION

N.A. Degerstrom, Inc.

Instrumental analysis is the most predominant form of analysis utilized at N.A. Degerstrom, Inc. Low detection limits, high efficiency and versatility are primary reasons for preferring instrumentation over colorimetric, titrimetric and other modes of analysis. In those cases where wet chemical methods are still preferable, from the standpoint of quality analyses, these methods are used.

N.A.D. has two Instrumentation Laboratories spectrophotometers which provide low limits of detection and good precision for single and two element determinations, as well as elements run by emission, such as Na.

An increasingly used mode of analysis is Direct Current Plasma Emission Spectroscopy. Samples can be run for single elements, like A.A., with this instrumentation, however, its real advantage lies in performing multi-element analyses. Many spectral interferences can be compensated for with the aid of computerization. This allows for multi-element analyses which are rapid and quantitative. The argon plasma excitation source is also advantageous. Its high temperature and "clean" matrix helps produce lower readable limits of detection while eliminating some background interferences encountered with flame sources.

Other types of instrumental analysis used at N.A.D. include IR Spectrophometry, Specific Ion Electrodes, Jerome Mercury Analyzers, Conductivity meter, photometry to aid colorimetry.

DIGESTIONS

Since many of the analyses performed by N.A. Degerstrom, Inc. are accomplished by spectrophotometrically examining a sample that has been put into solution, the process of getting those elements of interest into solution properly is very important.

Those metals that are easily leached or that occur naturally in easily separable mineral matrices are generally attacked with either concentrated or diluted aqua regia, HCl or HNO_3 acids. Since metals which can cause major inter-element interferences, such as Al, are relatively insoluble here, only minor corrections, if any, are needed during instrumental analysis.

The more refractory metals often require a harsher attack method. This may also be the case where the metal of interest is fairly soluble, but the fact that it might be tied up with refractory or silicate minerals is of importance. In these cases a total digestion is utilized. This generally consists of an attack with HF, $HClO_3$ and HNO_3, or concentrated aqua regia acids. Interfering elements introduced into the solution matrix must be corrected for or eliminated during instrumental analysis.

For solid samples containing minerals which are highly resistant to acids, fusion or heat sintering with a suitable flux is used to release the elements. Examples of specific extractions include fire assay fusion for precious metals, particularly gold, and ammonium iodide sublimation for tin. Once in dissolved or fused form, elements of interest can be determined by a variety of analytical techniques.

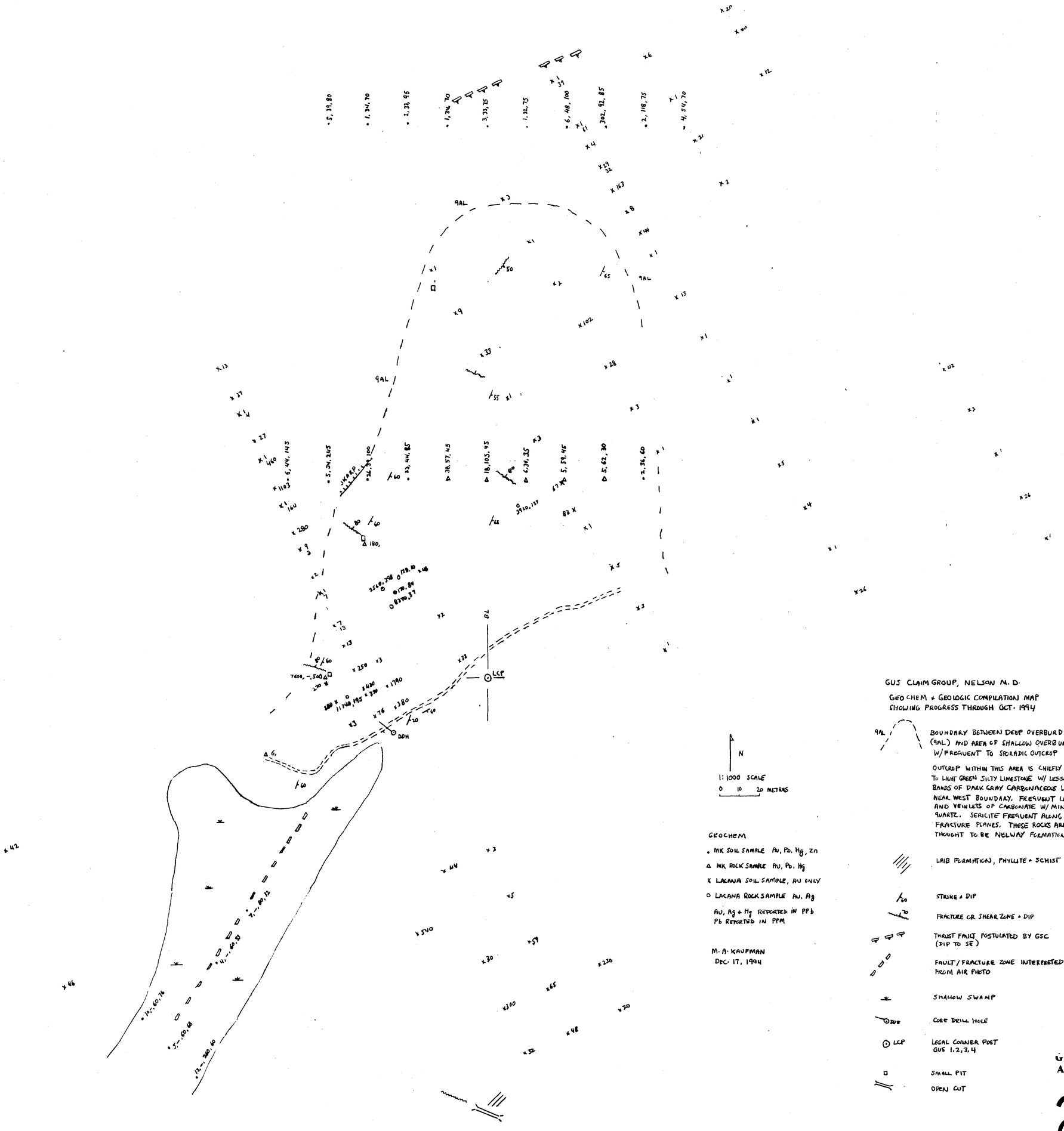
The following are the most common general digestion methods used at N.A.D. Where some elements appear in more than one column, experience has shown that determination to be done equally effectively with more than one digestion procedure.

PARTIAL / AQUA REGIA			
Sb	As	Bi	B
Cd	Ca	Co	Cu
Au*	Fe	La	Pb
Mg	Mn	Hg	Mo
Ni	Nb	Ag	Se
Te	Sn**	Zn	V

TOTAL / MULT. ACIDS			
Al	Ba	Be	Cr
Ca	Cr	Fe	Li
Sc	Na	Sr	Ti
W	V	Zr	

*In some cases, chelating of metals is necessary to achieve the best possible results. Much of the interference caused by other metals can be reduced, and chelating may help to reconcentrate the metal of interest from a dilute solution to enhance readability. Chelating functions are performed on gold analysis with MIBK.

**Subsequent to sublimation.



GEOCHEM

- MK SOIL SAMPLE AU, Pb, Hg, Zn
- △ MK ROCK SAMPLE AU, Pb, Hg
- X LACANA SOIL SAMPLE, AU ONLY
- O LACANA ROCK SAMPLE AU, Ag

AU, Ag + Hg REPORTED IN PPb
Pb REPORTED IN PPM

M. A. KAUFMAN
DEC. 17, 1994

GUS CLAIM GROUP, NELSON N. D.

GEOCHEM + GEOLOGIC COMPILATION MAP SHOWING PROGRESS THROUGH OCT. 1994

9AL — BOUNDARY BETWEEN DEEP OVERBURDEN (9AL) AND AREA OF SHALLOW OVERBURDEN W/ FREQUENT TO SPORADIC OUTCROP

OUTCROP WITHIN THIS AREA IS CHIEFLY GRAY TO LIGHT GREEN SILTY LIMESTONE W/ LESSER BANDS OF DARK GRAY CARBONACEOUS LIME NEAR WEST BOUNDARY. FREQUENT LENSES AND VEINLETS OF CARBONATE W/ MINOR QUARTZ. SERICITE FREQUENT ALONG FRACTURE PLANES. THESE ROCKS ARE THOUGHT TO BE NELWAY FORMATION.

LAIB FORMATION, PHYLLITE + SCHIST

60 — STRIKE + DIP

FRACTURE OR SHEAR ZONE + DIP

THRUST FAULT POSTULATED BY GSC (DIP TO SE)

FAULT / FRACTURE ZONE INTERPRETED FROM AIR PHOTO

SHALLOW SWAMP

DDH — CORE DRILL HOLE

LCP — LEGAL CORNER POST GUS 1,2,3,4

SMALL PIT

OPEN CUT

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
M. A. KAUFMAN
Expiry Date Dec. 31, 1994

M. A. Kaufman

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,711

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,711

GUS CLAIMS, NELSON M.D.
PRELIM. GEOLOGIC MAP

AFTER GSC MAP 1145 A

9 ACTIVE FM., ARGILLITE, SLATE, LIMESTONE

8B NELWAY FM., LIMESTONE, CALCAREOUS ARGILLITE.

7C LAIB FM., PHYLLITE & SCHIST SOME LIMEY

THRUST FAULT, DIP SE

POSTULATED THRUST FAULT

MAK MAPPING & COMPILATION

8BL NELWAY FM., MOSTLY DARK GRAY CARBONACEOUS LIMESTONE. LIGHT GRAY-GREEN LIMEY SILTSTONE AT EASTERN PART OF Au ANOMALY NE OF SWAMP

STRIKE & DIP, AIR PHOTO INTERP

STRIKE/DIP MAPPED

FAULT OR FRACTURE ZONE MAPPED SHOWING DIP DIRECTION

FAULT OR FRACTURE ZONE; AIR PHOTO INTERP.

GOLD SOILS ANOMALY

Zn SOILS ANOMALY

SMALL PITS, MINERALIZED ROCK. OPEN CUT

ADIT

LCP GUS 1,2,3,4

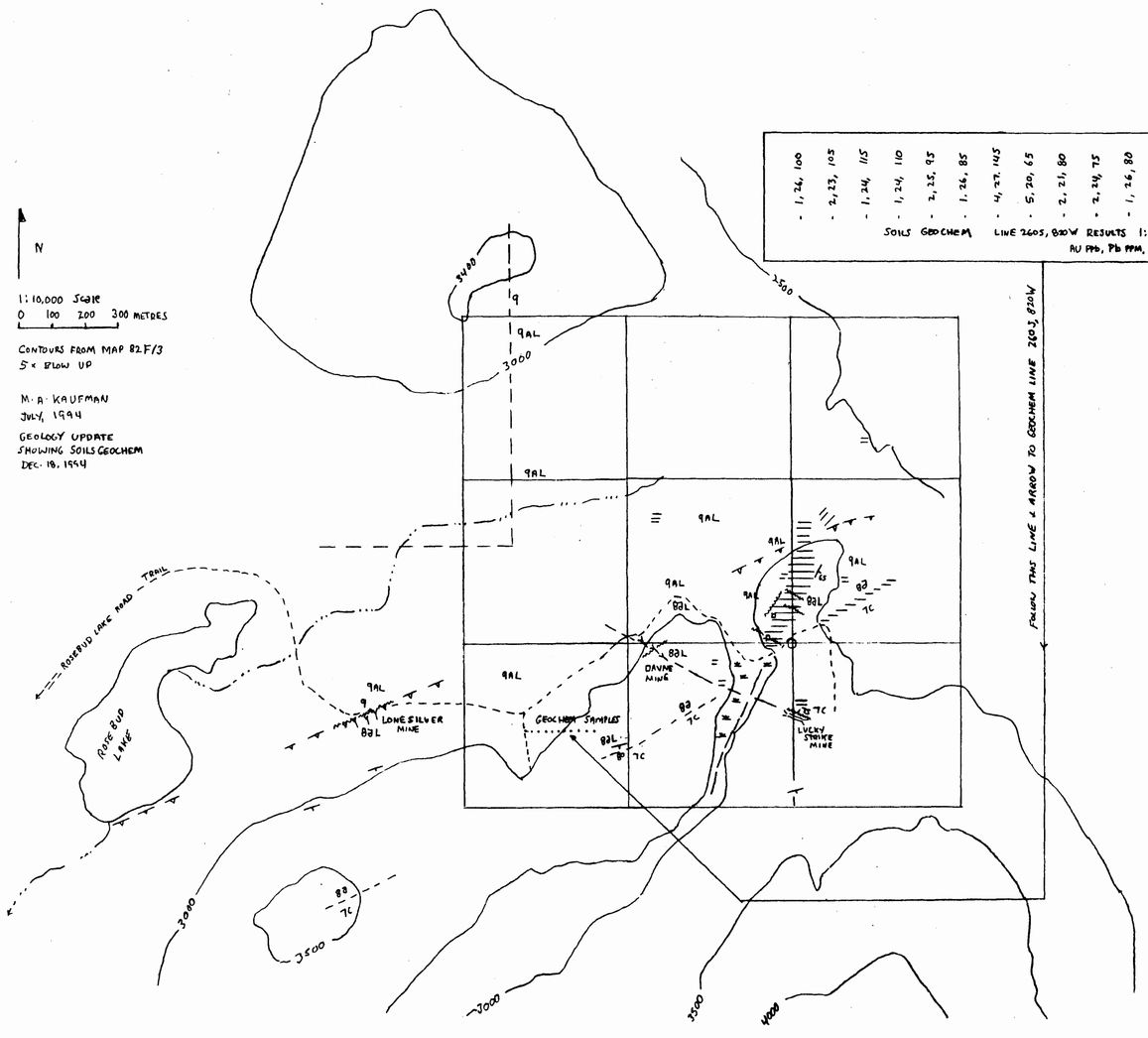
N

1:10,000 SCALE
0 100 200 300 METRES

CONTOURS FROM MAP 82F/3
5× ENLARGED

M. A. KAUFMAN
JULY, 1994

GEOLOGY UPDATE
SHOWING SOILS GEOCHEM
DEC. 18, 1994



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Expiry Date Dec. 31, 1994

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