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FILE NO: 87-818-16437

OVERBURDEN DRILLING AND GEOCHEMICAL SAMPLING REPORT

on the

ROSE CLAIM GROUP

FILMED

Munro Lake

OSOYOOS MINING DIVISION

NTS 82E/12W/~~13E~~

49°43'36" NORTH LATITUDE

119°55'48" WEST LONGITUDE

owner/operator

ALMADEN RESOURCES CORP.

#807 - 475 HOWE STREET

VANCOUVER, BRITISH COLUMBIA

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,437

prepared by

D. DYLAN WATT, B.SC.

submitted

NOVEMBER 24, 1987

SUB-RECORDER
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VANCOUVER, B.C.

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I. INTRODUCTION:

Between May 29th and August 29th, 1987, Almaden Resources conducted an exploration program consisting of geochemical sampling and overburden sampling on the ROSE claim group. The objective of the program was to test previously defined EM conductors on the ROSE claim and to explore the potential of the ROSE 2 and ROSE 3 claims for hosting silver mineralization. 23 overburden holes (totalling 225m) were drilled in 2 grids to test previously delineated silver anomalies in B-horizon soil, the largest of which coincides with 2 EM conductors. Overburden Drilling Management of Nepean, Ontario was contracted to provide technical expertise and analysis of samples. A report to Almaden Resources by O.D.M. is appended to this report. The geochemical survey consisted of taking 166 silt samples from four creeks on the ROSE 2, and ROSE 3 claims. 167 bank soil samples were taken to follow up anomalous silver values discovered in the creek sampling program.

A. Property:

The ROSE claim group consists of 5 contiguous claims totalling 79 units, as follows: (see fig. 2)

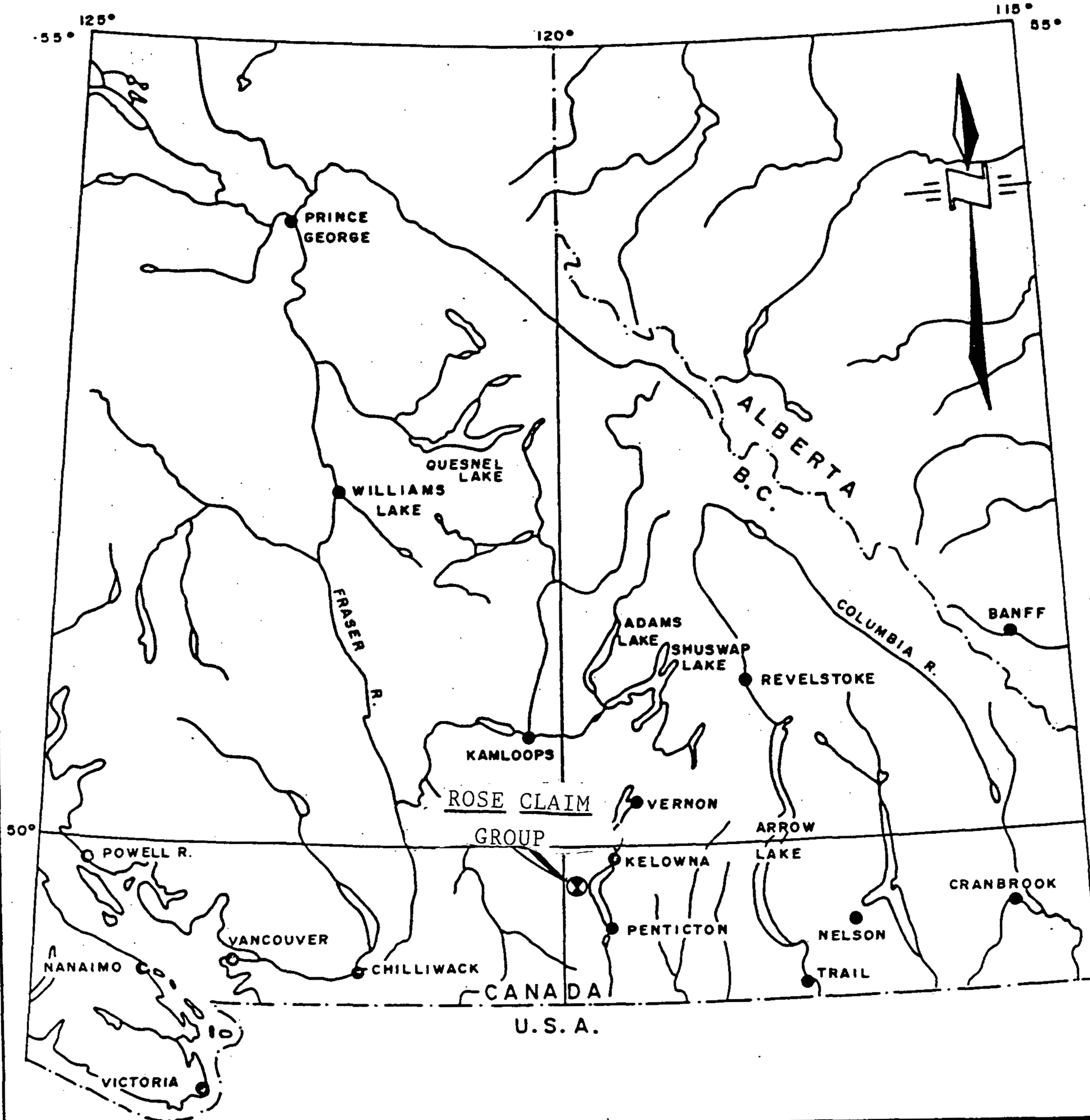
Claim Name	Record No.	Units	Expiry Date
ROSE	2325(9)	20	September 30, 1987
DALE	2346(11)	14	November 5, 1987
LAKE	2347(11)	15	November 5, 1987
ROSE 2	2357(11)	15	November 15, 1987
ROSE 3	2358(11)	15	November 15, 1987

The claims are located in the Osoyoos Mining Division of the Yale Land District.

B. Location and Access:

The ROSE claim group is situated in the Southern Okanagan region of B.C., approximately 40 kms NNW of Penticton and 18 km WSW of Peachland on the west side of Okanagan Lake (see fig. 1). The geographic centre of the property lies at 49°14'03"N and 119°54'38"W.

Access to the property is made by way of Peachland or Summerland on B.C. Hwy 97. A maintained gravel logging road leads north from the property approximately 50 kms to Peachland while a good four wheel drive road connects the property with the Summerland Princeton Highway at Kirton on the C.P.R. railway, approximately 30 kms from Summerland.



ALMADEN RESOURCES CORP.

LOCATION MAP

ROSE CLAIM GROUP

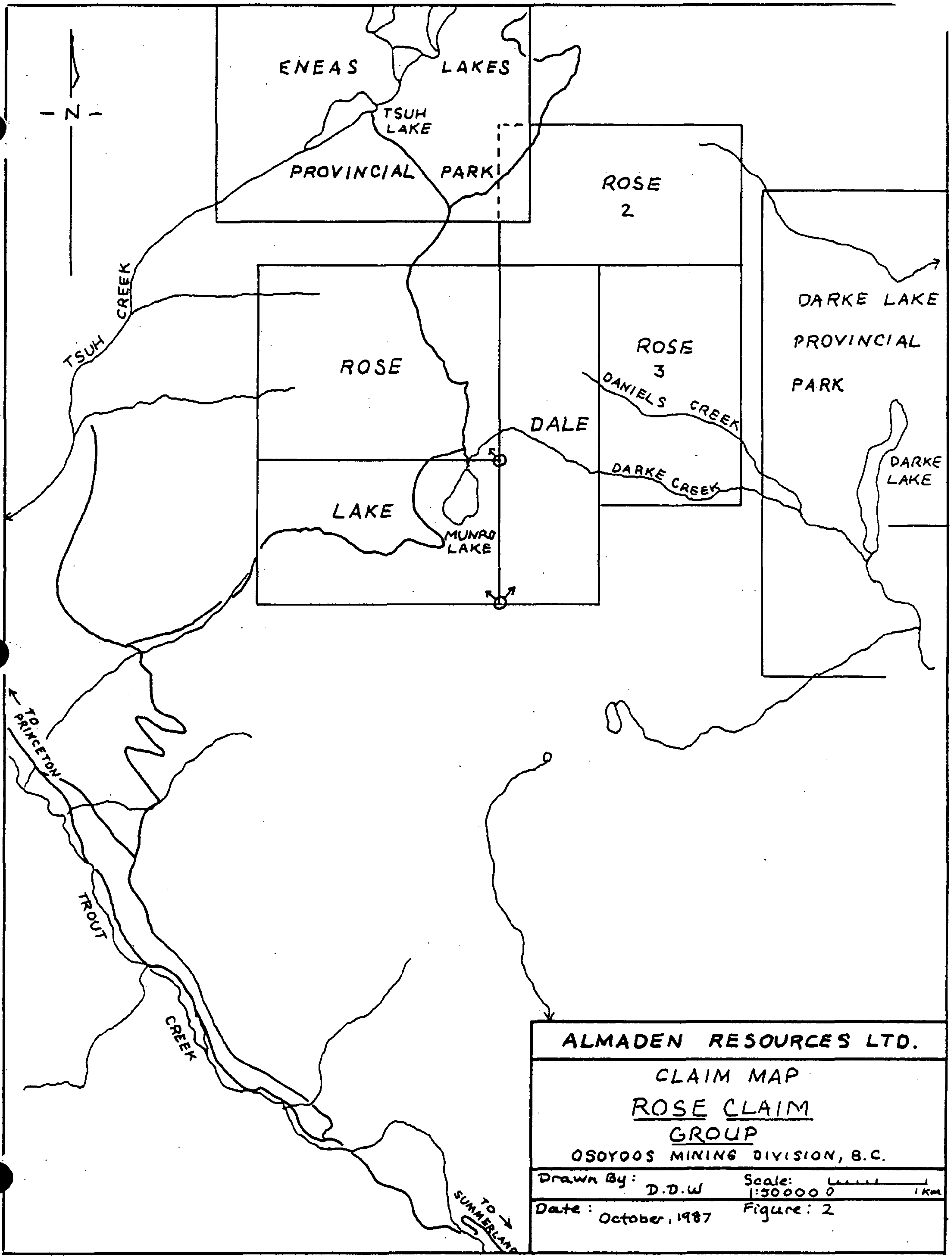
Scale : 1" = 64 Miles DDW 10/87

C. Physiography and Vegetation:

The claims cover portions of a S to SE trending ridge known locally as Baldy Mountain. The west half of the property covers a gentle plateau with elevations of 5000 - 5500' a.s.l. while the east half of the property covers a steep east-facing slope cut by small creeks where elevations drop to 4500' a.s.l..

Vegetation on the claims consists primarily of thick stands of pine, spruce and balsam. Small streams drain swamps which are scattered over the flat portions of the claims. Munro Lake is a small till dammed glacial pond which drains into Darke Lake, beyond the eastern claim boundary.

Most of the property is covered with a thick mantle of glacial till, with outcrop exposures confined mainly to steep bluffs at the eastern claim boundary, and in old trenches on the ROSE claim. The depth of till varies from 0 to 40 m and has been shown to cover a very irregular bedrock surface.



ALMADEN RESOURCES LTD.

CLAIM MAP

ROSE CLAIM GROUP

OSOYOOS MINING DIVISION, B.C.

Drawn By: D.D.W	Scale: 1:50000 0 1 Km
Date: October, 1987	Figure: 2

II. GEOLOGY:

A. Regional

The ROSE claim group is situated on the eastern margin of the Coast Batholith Intrusions. The regional geology west of Okanagan Lake is dominated by granitic rocks of the Jurassic Nelson and Valhalla Intrusive complexes. The ROSE claim group covers a constriction zone between two diorite and granodiorite batholiths of the Nelson complex which has been intruded by a younger Valhalla stock of granodiorite to quartz monzonite composition. Quartz latite dykes and narrow aplite dykes have in turn intruded this constriction zone.

B. Local

Previous mapping by Canadian Occidental combined with recent work by Almaden personnel indicates that most of the property is underlain by granodiorite probably belonging to the Valhalla complex. Exposures on the ROSE claim show porphyritic texture and are weakly foliated, while the bluffs on the ROSE 2 and 3 claims show locally strong NE - SW foliation and a more equigranular texture. Quartz latite dykes were observed cutting the granodiorite in trenches on the ROSE claim and in exposures near the Cache showing, on the ROSE 3 claim. Both occurrences showed similar NE strikes and near-vertical dips. Narrow aplite dykes with local heavy concentrations of white, coarsely crystalline quartz occur over much of the claim area. These dykes show variable orientations but generally follow the overall NE structural trend.

Examination of air photos over the property shows several strong lineaments trending E to NE. A major NW cross fracture offsets at least one of these lineaments in the southern portion of the ROSE claim. Another NW trending structure is expressed in the upper reaches of Daniels Creek which drains portions of the DALE and ROSE 2 claims.

Mineralization on the ROSE claim group occurs in two forms. Weak chalcopyrite-molybolenite mineralization is associated with pyrite in a small calcalkaline porphyry system exposed in trenches on the ROSE claim. Values taken from these trenches averaged 61 ppm Cu and 32 ppm Mo. Quartz veining in silicified shear zones is host to moderate silver values on both the Cache showings, and again south of the Almaden holdings on the Glad showing. Both occurrences show chalcopyrite-pyrite-specular hematite mineralization in altered and silicified granodiorite associated with E to NE trending shears. Samples taken in 1987 from the Cache show gave values up to 3.2 ozs/ton in silver, over narrow widths (0.3 m). The Minister of Mines Annual Report for 1967 reports mention of wire silver shipments from an adit in the vicinity of the Cache showing, however extensive prospecting by Almaden personnel failed to locate this adit.

III. EXPLORATION HISTORY:

The ground now covered by the ROSE claim group has been actively explored by various companies since the discovery, in 1966, of the Brenda Mines Mo-Cu orebody 25 kms to the north. Low grade Cu-Mo mineralization (known as the Jass showing) was discovered on ground now covered by the ROSE claim. Drilling by Lakeland Base Metals and Brenmac Mines Ltd. followed in 1967. In 1966-67 Koporok Mines Ltd. was investigating silver occurrences on their Cache and Glad claims, east of the Jass showing. Soil-sampling, trenching and a small I.P. survey failed to located economic grades of mineralization on the Cache claims. The Cache and Glad claims were surveyed using airborne magnetometer techniques in 1969.

In 1973 the Jass showing was restaked by Canadian Occidental Petroleum, who carried out geological, geochemical, and ground magnetic surveys. Three holes were drilled in 1974 to test the best Cu-Mo-Zn anomalies. Canadian Occidental renewed their interest in the property in 1976 when the GSC released survey results from a large scale stream sediment sampling program which showed significantly anomalous silver values in streams draining the Munro Lake plateau. After reanalysis of all soil and drill core samples for Ag, one diamond drill hole was drilled to test the highest anomaly. In 1977, Canadian Occidental trenched a further Ag-Pb-Zn anomaly in the NW corner of their grid.

The ROSE claims were staked in November of 1985 when Canadian Occidental's claims had lapsed. Approximately 25 line kms of VLF-EM surveys and minor prospecting were completed over the claims in late 1985 and 1986 (Watt, 1986). The VLF survey indicated 2 major conductors coincident with anomalous Ag values in Canadian Occidental's soil samples, while the prospecting program revealed anomalous silver values (up to 7 ozs/t) in a quartz vein outcrop on the ROSE 3 claim.

IV. CURRENT PROGRAM:

Almaden Resources' 1987 exploration program on the ROSE claim group was designed to test the EM conductors discovered on the ROSE claim in 1985-86 and to further explore the potential of the DALE, ROSE 2 and ROSE 3 claims. Since no outcrop occurs in the area of the EM conductors, an overburden sampling program was decided as the best way to test their relation to the large coincident Ag-Cu-Zn-Mo soil anomaly. Stream silt sampling and further prospecting were performed on the DALE, ROSE 2 and ROSE 3 claims.

A. Overburden Sampling (see also Appendix I)

Due the variable depths of overburden encountered by Canadian Occidental in their 1974, and 1977 drilling programs (2-50 m) and the swampy nature of the ground covering the EM anomalies, backhoe trenching was considered too limited to acquire the good samples required for glacial till analysis. Instead, a small self-propelled, track-mounted drill - the Polyhdrill, manufactured by Borros AB of Sweden, and owned by Cor Tech Ltd. of Saskatoon, Sask. - was used to obtain a 2 7/8" core by rotary percussion methods. The core recovered was logged on site and sampled in 1 metre intervals for processing and analysis by Overburden Drilling Management of Nepean Ont.. Processing and analytical techniques are detailed in the appended report to Almaden by O.D.M.

Drill holes were spaced at 100 m intervals on lines spaced 100 m apart, perpendicular to the observed direction of ice transport (see figs 3, 4, 5, 6). Two grids, totalling 43 holes were set up to determine a source of two large Ag anomalies in B-horizon soils on the Canadian Occidental grid.

B. Geochemical Sampling

Four major creeks and one minor creek drain the eastern portions of the ROSE claim group. All five were sampled for stream silts at 100 m intervals and at tributary intersections. Samples were collected from the stream bed, placed in brown kraft paper bags, air dried, and sent to Acme Analytical Labs in Vancouver for analysis by standard techniques i.e. sieveing to 80 mesh, sample digestion in hot HCl-HNO3-H20 solution, and analysis by ICP techniques. Samples were numbered as to the stream (A,B,C,D and E) series and the location (+1, +2). Anomalous samples (>1.1 ppm Ag) were followed up by contour sampling of B-horizon soils on both banks adjacent to and upstream from the anomalous sample. Results of these surveys are shown in figure 6.

V. RESULTS

A. Overburden Sampling

A_total of 84 samples were processed by O.D.M. using the techniques described in the appendixed report. 68 samples were taken from the bottom 3 sample (1 m intervals) from each hole, while 16 were taken from 3 complete holes to examine vertical dispersing of metal values in the till. The following results were obtained from the basal till samples.

1. Silver

All 68 basal till samples are anomalous (> 2 ppm) in silver in the heavy mineral split, while only 15 samples of the -250 mesh split exceeded the 2 ppm threshold. The maximum value obtained from the heavy mineral sample was 160 ppm from sample 87-13-21, while the maximum value for the -250 mesh split was 6.0 ppm from 87-09-02.

2. Zinc

46 of the heavy mineral samples and 57 of the -250 mesh samples exceeded the respective threshold values of the 800 and 200 ppm for Zn. Hole 87-13 was again the highest value with 11720 ppm. Zn from the heavy mineral sample 13-22. Values in Grid 87-1 generally exceeded 3000 ppm while values in Grid 87-2 were noticeably lower with values as low as 325 ppm in the heavy metal component.

O.D.M. noticed a linear relationship between the heavy mineral concentrate zinc and silver values not present in the -250 mesh values. Microscopic and XRD examination of a concentrate split identified sphalerite in concentrations of 1 - 2 % as the zinc-bearing mineral. This, coupled with the obvious association of Zn and Ag values has led O.D.M. to suggest that the silver-bearing mineral occurs as minute inclusions in the sphalerite.

3. Copper

Values of copper in the overburden samples were generally low. Heavy metal concentrates showed a range of 48 - 1018 ppm with only 2 samples exceeding the 800 ppm threshold. -250 mesh results were similar with values of 14-109 ppm. 87-11-01 was the only sample to exceed the 100 ppm threshold. The two highest concentrate samples occurred with the highest zinc and silver values respectively.

4. Lead

None of the basal till samples exceeded the threshold value of 800 ppm for heavy mineral concentrates while only 1 sample showed greater than the 100 ppm threshold for -250 mesh.

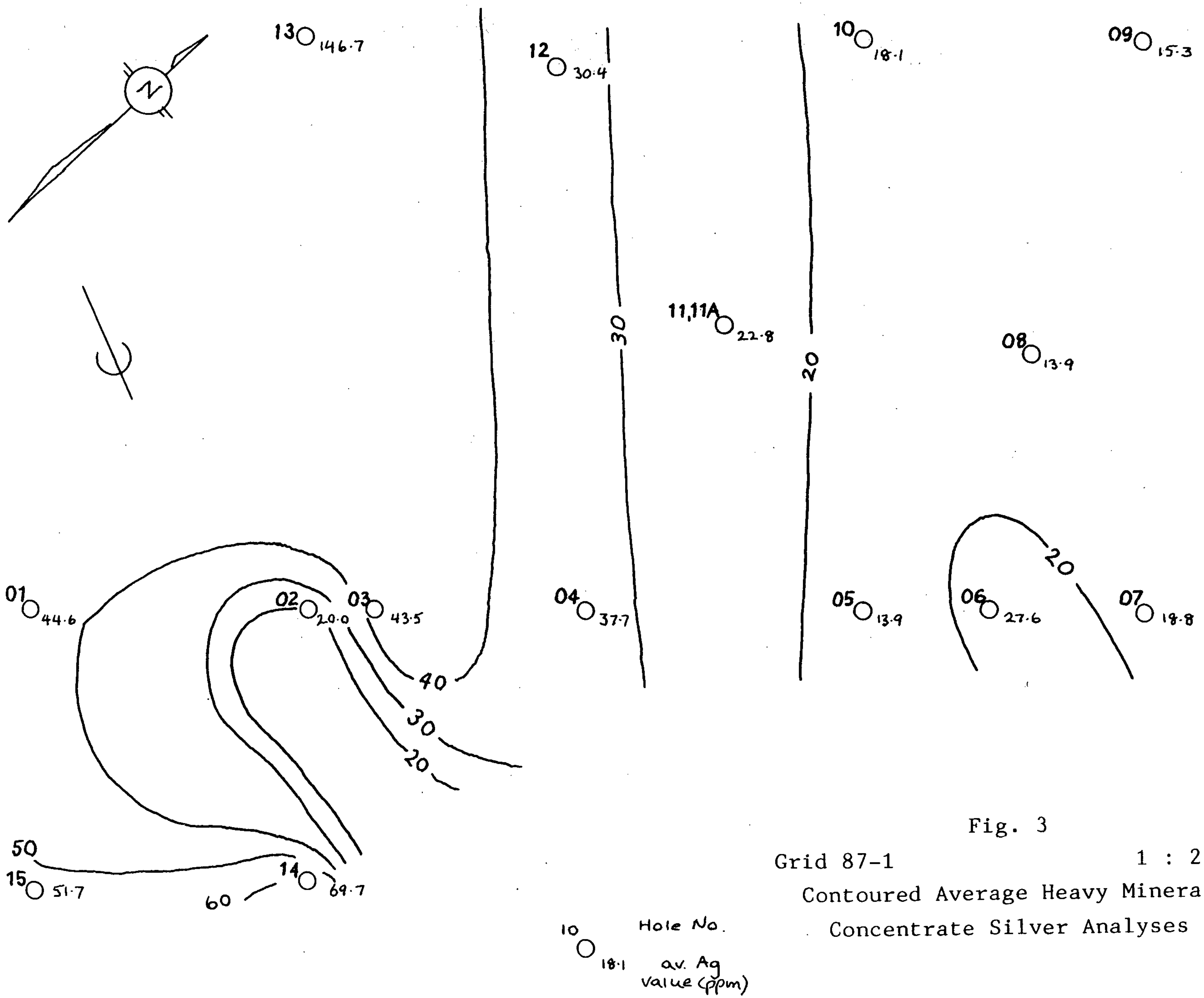


Fig. 3

Grid 87-1 1 : 2,000

Contoured Average Heavy Mineral Concentrate Silver Analyses

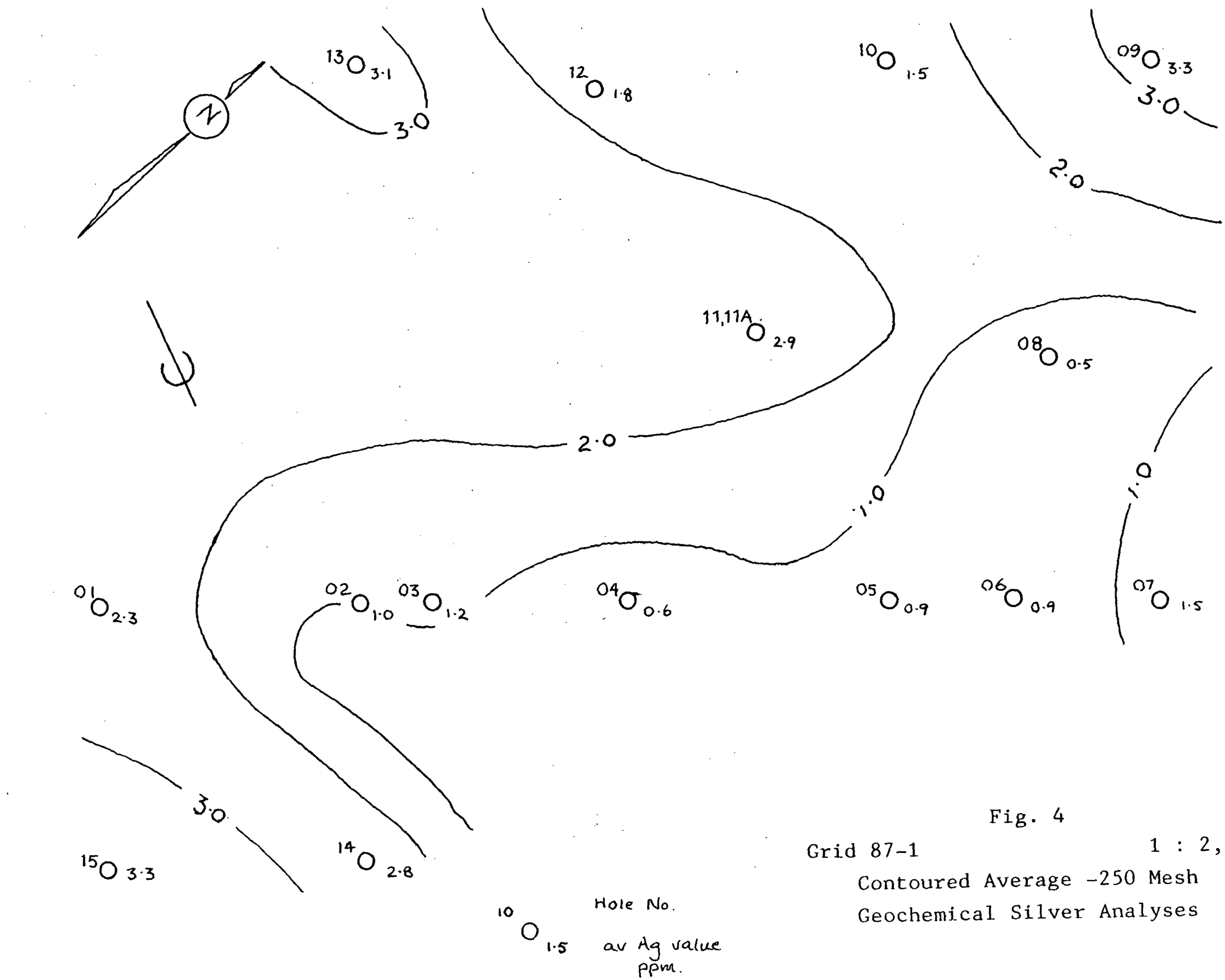
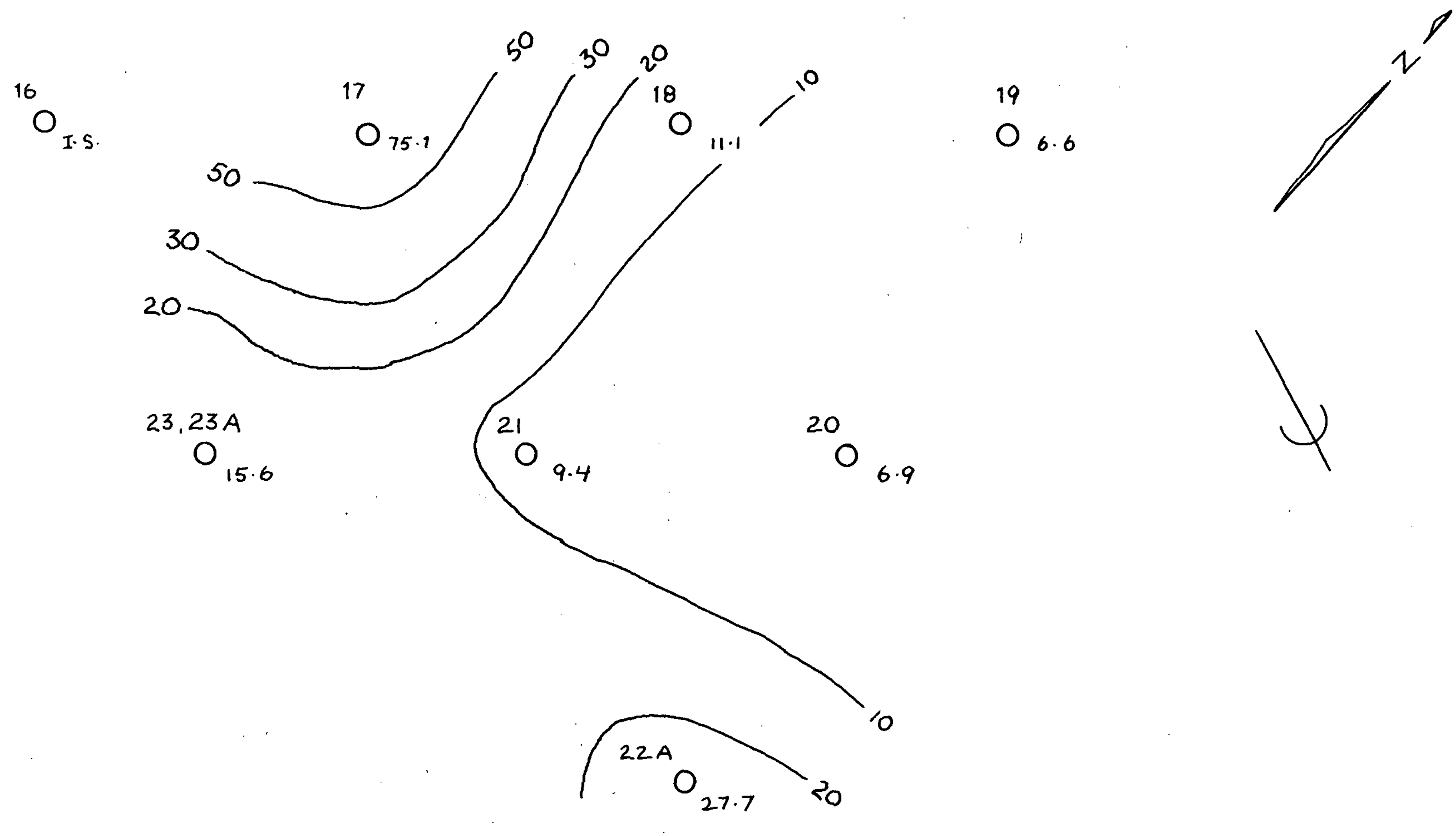


Fig. 4

Grid 87-1 1 : 2,000

Contoured Average -250 Mesh
Geochemical Silver Analyses



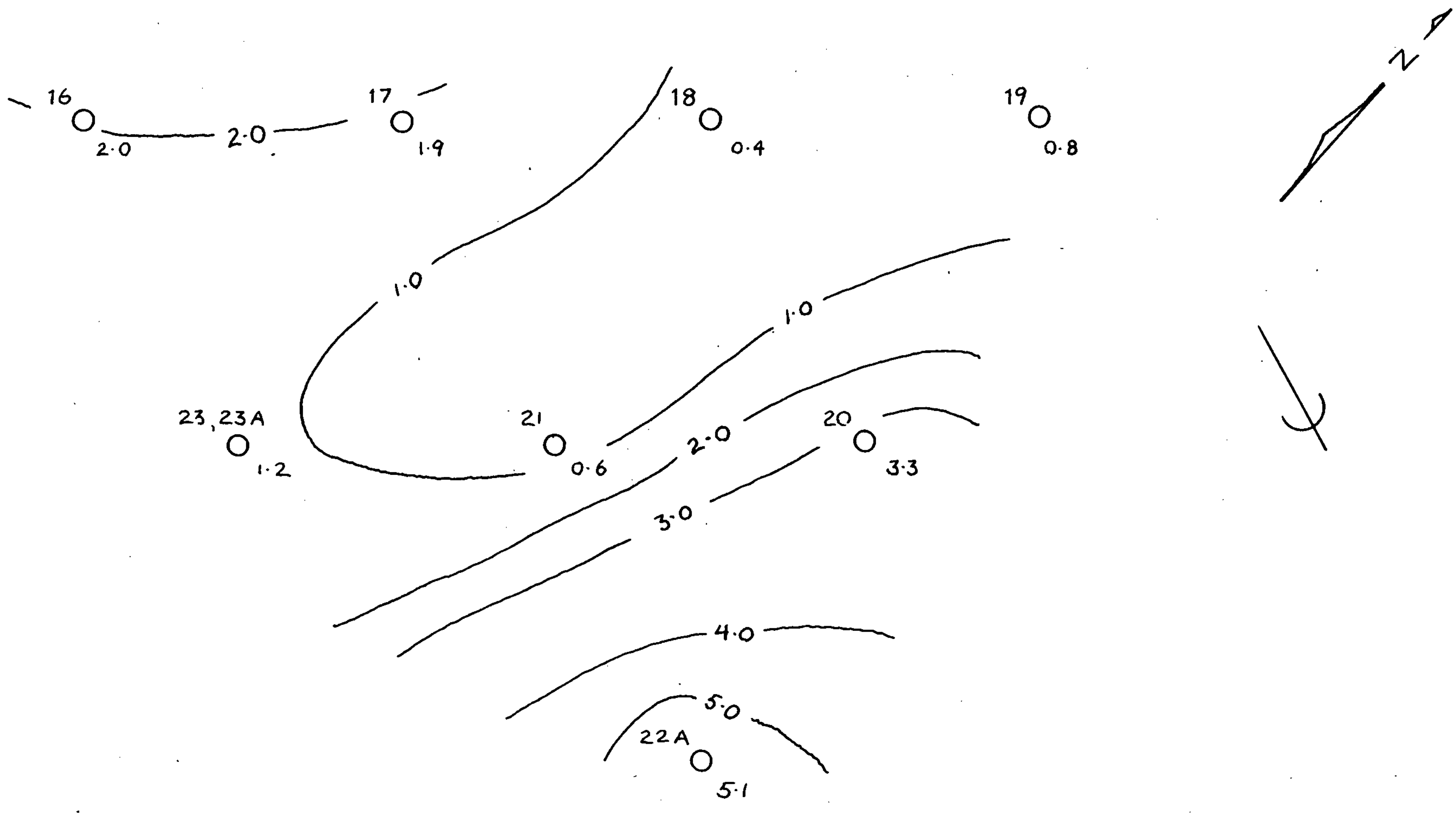
17 O 75.1 — Hole No. / av. Ag value (ppm)

I.S. — insufficient sample

Fig. 5

Grid 87-2 1 : 2,000

Contoured Average Heavy Mineral Concentrate Silver Analyses



17 1·9 — Hole No. / av. Ag value (ppm)

Fig. 6

Grid 87-2 1 : 2,000

Contoured Average -250 Mesh Geochemical Silver Analyses

B. Geochemical Sampling

1. Stream Silts

A total of 166 silt samples were taken from 4 creeks which drain the eastern and central portions of the claim block. The results of the analysis are appended to this report.

a. Silver

Values in silver taken from creek samples ranged from 0.1 to 3.0 ppm. The anomaly threshold was determined to be 1.6 ppm for "definitely anomalous" and 1.1 ppm for "possibly anomalous". 18 samples exceeded the anomalous threshold and 4 of those were determined to be definitely anomalous.

Three areas can be denoted as anomalous (see figure 7). One of these occurs completely within the Canadian Occidental Grid, and can be seen to drain from the same anomalous area tested in Overburden Grid 87-1. Values taken from this stream range up to 1.6 ppm Ag. A second anomalous area occurs in the uppermost reaches of Daniels Creek (B series samples) where three samples were anomalous including one sample containing 2.5 ppm Ag. Two other anomalous areas also occur further downstream on Daniels Creek. Values here range to 1.5 ppm Ag and thus can be considered as possibly anomalous.

The third anomalous area occurs at the southern boundary of the claim group. One small creek draining from the hillside east of Munro Lake down into Darke Creek (A1 series samples) contains possibly anomalous silver values while two smaller creeks immediately to the north contain the two highest silver values encountered in the survey - 2.8 and 3.0 ppm.

Values of 1.1 and 1.2 ppm Ag occur respectively in two creeks draining the eastern edge of the ROSE 2 and ROSE 3 claims. The 1.1 ppm value probably originates from the Cache showing.

b. Base Metals

The samples taken in this survey were also analyzed for Cu, Zn, Pb and As.

Copper values ranged from 3 to 84ppm with most in the range of 10 - 30 ppm. Little correlation exists between Cu and Ag values, but higher Cu values are generally associated with higher Pb and Zn values.

Lead values ranged from 5 - 76 ppm with most in a range of 10 - 25 ppm. Lead shows more correlation with silver than does copper, with elevated lead values associated with the highly anomalous silver values. The highest lead value (76 ppm) occurs with highly anomalous copper (36 ppm) and anomalous silver (1.0 ppm) in a creek draining the trenches over the Cache showing.

Zinc values from stream silts ranged from 74 to 2299 ppm. The two highest values 1742ppm and 2299ppm came from samples where organic contamination was probably present. Most values fall in the range of 100 to 200ppm. A small correlation exists between Ag and Zn values in the silts with anomalous Zn values corresponding to moderately anomalous Ag values. The two highest Zn values do not have corresponding anomalous Ag content.

Arsenic values were analyzed for A, B and C series samples but dropped for D and E when it was realized that no correlation existed between As and any of the other elements. Values rarely exceeded 5ppm, with one sample containing 38 ppm.

2. Bank Soils

167 bank soil samples were taken to follow up the three areas of anomalous silver values in stream silts. The results of the analyses of these samples are appended to this report

a. Silver:

Silver values in soils ranged from 0.2 - 10.2 ppm with 18 samples exceeding the 2.0 ppm threshold. the survey confirmed the presence of anomalous silver values in the drainage in the southern portion of the DALE and ROSE 3 claims, where one sample from the east bank of the creek returned 10.2 ppm Ag. A second anomalous area of silver in soils was discovered north of Daniels Creek where samples ranged up to 8.9 ppm in samples taken from the east bank.

Sampling above the upper reaches of Daniels Creek on lines S14 - 17 failed to disclose a soil source for the three anomalous samples taken in the stream survey in that area.

b. Base Metals:

Copper values in bank soils ranged from 6 - 106 ppm and were generally less than 30 ppm. Some elevated copper values did occur with anomalous silver values, but only a minor correlation exists between the two. The highest copper occurred with the highest silver value in the southern portion of the Dale claim.

Zinc values in bank soils ranged from 107 - 603 ppm with most samples falling below 400 ppm. Zinc and silver values correlated well with each other, as was the case in both overburden and stream samples. The 603 ppm sample was taken from the S6 E line on the upper portion of Daniels Creek and occurred with a 8.9 ppm Ag and 60 ppm Cu value.

Values for lead were again low. Samples generally fell below 30 ppm with one sample reaching 45 ppm which was collected from the east bank of the anomalous drainage on the DALE claim. This sample contained only weakly anomalous silver and zinc values (2.1 and 327 ppm respectively) and moderately anomalous copper (34 ppm).

Arsenic values fell between 2 and 10 ppm, but again, no correlation exists between these values and those of the other elements.

VI. CONCLUSIONS:

The work carried out on the ROSE claim group during the summer of 1987 indicated good potential for the discovery of economic grades of silver mineralization on the property. Overburden sampling recovered exceptionally high silver values (up to 160 ppm) from basal till samples in the central portion of the property which are thought to originate only a few hundred metres up ice or northwest of the sample location. Further reconnaissance overburden coring should be completed over the entire ROSE claim to determine an up-ice truncation of the anomaly train. Geochemical sampling over the ROSE 2, ROSE 3, and DALE claims revealed anomalous silver values in creeks draining the northeast, and central portions of the DALE claim with corresponding anomalous values in bank soils. Targets for backhoe trenching or further overburden sampling should be determined in both of these areas, and especially in the central area on the DALE where silver levels in soil reached 10.2 ppm.

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VII. REFERENCES:

Little, H.W., 1961	Geology Kettle River (West Half); Geol. Surv., Canada, Map 15-1961.
Carr, J.M., 1967	Description of Property of Lakeland Base Metals and Koporok Mines Ltd.; Annual Report of B.C. Minister of Mines, 1967, pp. 213-215
Hendrick, M.P., 1981	Trenching Report on MUN Claims, Private Report to Canadian Occidental Petroleum Ltd.;Assessment Report 10445 Minerals Resource Branch, B.C. Ministry of Energy, Mines, and Petroleum Resources.
Wallis, R.H., 1977	Silver and Gold Geochemistry of the MUN Claim Group; Assessment Report 6399, B.C. M.E.M.P.R.
MacDonald, C.C., 1977	Diamond Drilling on the MUN Claims; Assessment Report 6558, B.C.M.E.M.P.R.
Dawson, J.M., 1985	Private Report on the Munro Lake Silver Property for Almaden Resources Corp.

VIII. AUTHOR'S QUALIFICATIONS:

I, DAVID DYLAN WATT, of Vancouver, British Columbia, do hereby certify that:

1. I am a geologist residing at #309-1996 Trutch Street Vancouver, British Columbia.

2. I am a graduate of the University of British Columbia, holding a Bachelor's Degree in Science (1984) in the field of Geology and I have been employed as an exploration geologist in Canada since my graduation.

3. I have collected, or aided in the collection of, all data and observations in this report.

4. I have no interest in the property described herein.

D. Dylan Watt, B. Sc.

23 November, 1987.

APPENDIX I

REPORT ON OVERBURDEN DRILLING AND

GEOCHEMICAL SAMPLING

ON THE ROSE PROPERTY

ALMADEN RESOURCES CORPORATION
ROSE PROPERTY
OSOYOOS DIVISION OF YALE LAND DISTRICT
BRITISH COLUMBIA

OVERBURDEN DRILLING AND GEOCHEMICAL SAMPLING PROGRAM

PREPARED BY: T.E. BURNS
OVERBURDEN DRILLING MANAGEMENT LIMITED
SEPTEMBER, 1987

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INTRODUCTION

In August 1987, Almaden Resources Corporation conducted a 23-hole overburden coring program in two separate areas on its Rose property in south-central British Columbia. The objective of the drilling was to test the overburden for glacially dispersed silver concentrations indicative of economic bedrock mineralization. Fifteen of the twenty-three holes were drilled to test the priority target; an area in the central portion of the property having previously delineated but untested anomalous silver concentrations in B-horizon soils coincident with two VLF conductors.

Almaden contracted Core-tex Drilling of Saskatoon, Saskatchewan to perform the drilling and Overburden Drilling Management Limited to provide the initial field supervision and technical expertise. Heavy mineral concentrates and -250 mesh sievings were prepared from each sample at ODM's Nepean, Ontario laboratory. Both sample fractions were analyzed at the Ottawa laboratory of Bondar-Clegg for copper, zinc, silver and lead. An evaluation of the drilling program and an interpretation of the overburden analytical results is presented below.

PRINCIPLES OF OVERBURDEN GEOCHEMISTRY IN GLACIATED TERRAIN

During the Pleistocene epoch of the Quaternary period, the crowns of all ore bodies that subcropped beneath the continental ice sheets of North America were eroded and dispersed down-ice in the glacial debris. The dispersion mechanisms were systematic (Averill, 1978) and the resulting ore "trains" in the overburden are generally long, thin and narrow but most importantly are several hundred times larger than the parent ore bodies. These large trains can be used very effectively to locate the remaining roots of the ore bodies.

Because the dispersion trains originated at the base of the ice, they may be either partly or entirely buried by younger, nonanomalous glacial debris. Most trains are confined to the bottom layer of debris deposited during glacial recession-

-the basal till. In fact, the sampling of glacial overburden for exploration purposes is commonly referred to as "basal till sampling". It is important to note, however, that in areas affected by multiple glaciations the bottom layer of debris in the overburden section may be only the lowermost of several stacked basal tills, and that a dispersion train may occur at any level within any one of the basal till horizons. Consequently, the term "basal till sampling" is not synonymous with the collection of samples from the base of the overburden section. Moreover, the term is not strictly correct because significant glacial dispersion trains can occur in formations other than basal till.

From the foregoing statements, it can be seen that glacial dispersion and glacial stratigraphy are interdependent. Consequently, the effectiveness of overburden sampling as an exploration method is related to the ability of the sampling equipment to deliver stratigraphic information from the unconsolidated glacial deposits and in areas of deep overburden drills must be used. Most drills have been designed to sample bedrock and are unsuitable for overburden exploration, but in the last fifteen years rotasonic coring rigs and reverse circulation rotary rigs have been developed to sample the overburden as well as the bedrock. Both drills provide accurate stratigraphic information throughout the hole and also deliver large samples that compensate for the natural inhomogeneity of glacial debris.

Most of the glacial overburden in Canada is fresh, and metals in the overburden occur in primary, mechanically dispersed minerals rather than in secondary chemical concentrations. While ore mineral dispersion trains are very large, they are also weak due to dilution by glacial transport and are difficult to identify from a normal "soil" analysis of the fine fraction of the samples. Consequently, heavy mineral concentrates are prepared to amplify the primary anomalies, and analysis of the fines is normally reserved for areas where significant post-glacial oxidation is evident. The heavy mineral concentrates are very sensitive, and special care must be taken to avoid the introduction of contaminants into the samples.

ROSE PROPERTY LOCATION AND ACCESS

The claim block is located in the Osoyoos mining district of southern British Columbia, about 35 kilometres northwest of Penticton and approximately 10 kilometres southwest of the town of Peachland on the west shore of Okanagan Lake. The geographic center of the property is at 49° 43' north and 119° 55' west.

The claims can be reached by taking Highway 97 north for 15 kilometres from Penticton to Summerland. From here the old Summerland-Princeton highway leads westerly up the valley of Trout Creek for about 28 kilometres to a point near Kirton on the Kettle Valley Railway line (Fig. 1). About one kilometre southeast of Kirton a poorly maintained gravel road leads northerly via the valley of O'Hagan Creek and passes through the property (Dawson, 1985).

PHYSIOGRAPHY AND VEGETATION

The claims cover portions of the crest and southeasterly facing slope of a northerly to northeasterly trending ridge known locally as Baldy Mountain. The western half of the block covers gently rolling terrain varying from 1,737 to 1,554 metres a.s.l. However, the eastern half covers steeply east facing slopes cut by a number of creeks and gullies. Elevations here vary from about 1,676 metres down to approximately 1,097 metres at the eastern boundary.

The property is thickly wooded with balsam, spruce and pine. Occasional swampy areas are found near the headwaters of some creeks where dense clumps of alders are frequently mixed with the conifers (Dawson, 1985).

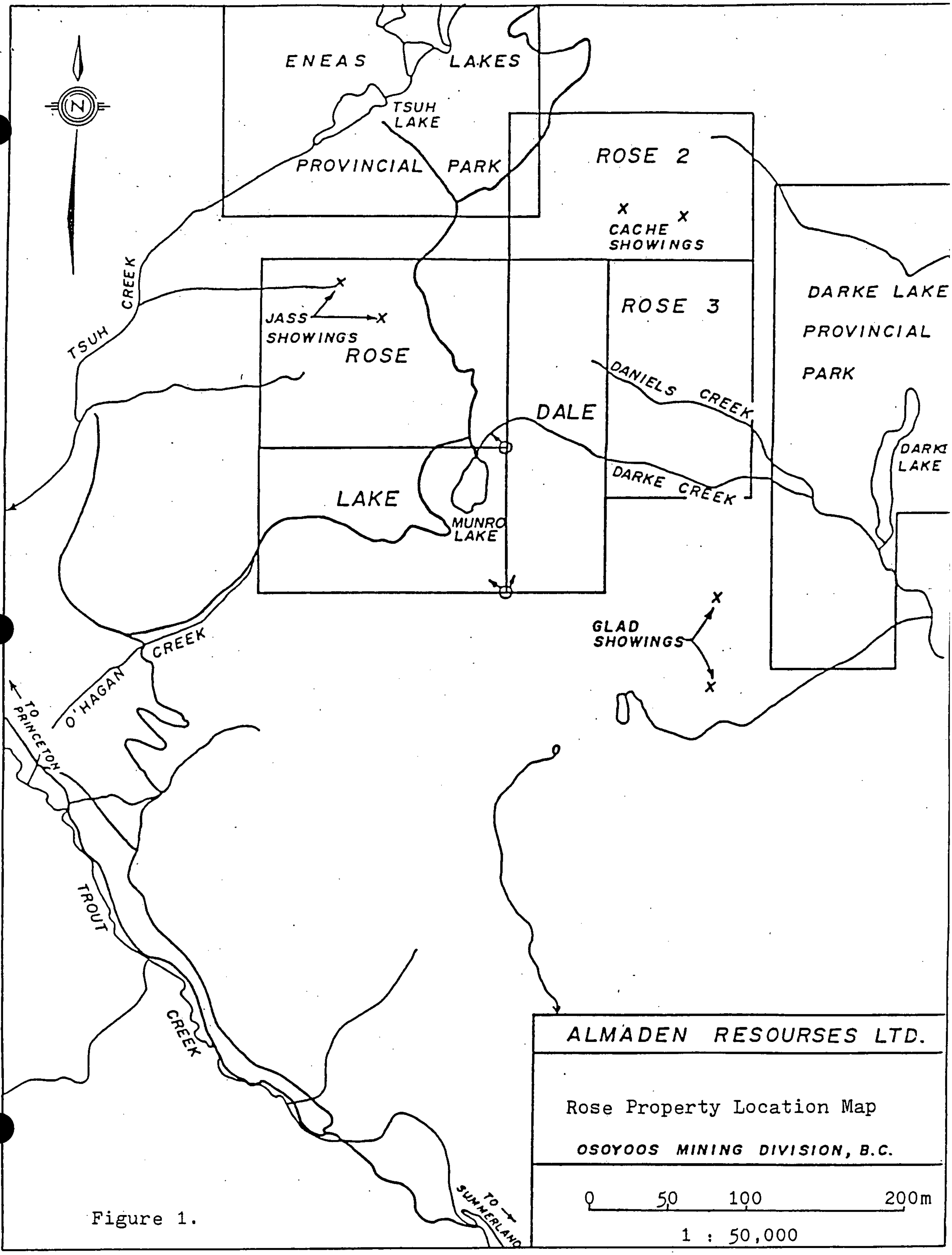

ENEAS LAKES
TSUH LAKE
PROVINCIAL PARK
ROSE 2
CACHE SHOWINGS
ROSE 3
DARKE LAKE
PROVINCIAL
PARK
TSUH CREEK
JASS SHOWINGS
ROSE
DANIELS CREEK
DALE
DARKE LAKE
DARKE CREEK
LAKE
MUNRO LAKE
GLAD SHOWINGS
O'HAGAN CREEK
TO PRINCETON
TROUT CREEK
TO SUMMERLAND
ALMADEN RESOURSES LTD.
Rose Property Location Map
OSOYOOS MINING DIVISION, B.C.
0 50 100 200m
1 : 50,000

Figure 1.

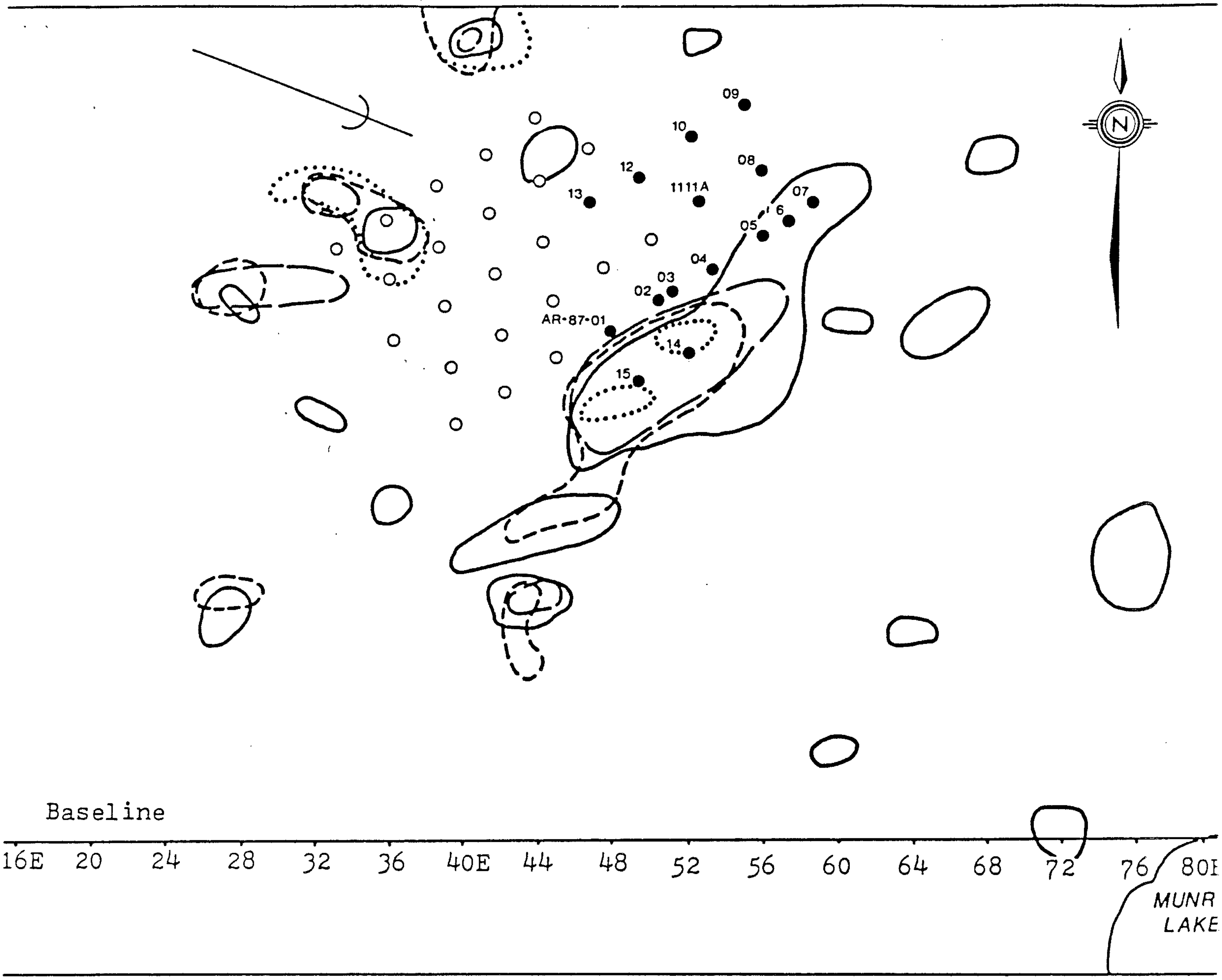
DRILLING AND SAMPLING

Drill Hole Pattern

The main focus of the drilling program was on a 350 x 500m area just north of a silver anomaly in B- horizon soil defined by Canadian Occidental Petroleum in 1977 (Fig. 2). Eighteen drill holes were planned and positioned 100 m apart along three northeast-southwest trending traverses using a traverse separation of 100 m. Holes along the centre traverse were staggered by 50 m. Two of the proposed drill holes at the west end of the centre traverse and one drill hole at the west end of the northern traverse were not drilled due to their inaccessibility.

Within the immediate area of the Rose property small mineralized showings (e.g. Cache; Fig. 1) are controlled by closely spaced easterly or northeasterly trending faults and fractures (Dawson, 1985). As the regional ice flow direction was 110 to 120 degrees (Prest et al, 1968), the northeast-southwest traverse orientation is sub-parallel to any structurally controlled mineralization and nearly perpendicular to the ice path thus maximizing the probability of intersecting a dispersion train. Staggering the holes on the centre traverse narrows the gap across the ice path and should improve exploration coverage.

The 100 m traverse separation is considerably less than that used for Abitibi Belt gold exploration programs where the average length of known dispersion trains is 400 to 800 m (Table 1). The narrower traverse separation was used because silver mineralization on the Rose property would probably occur within narrow veins which would produce relatively short dispersion trains.



CANADIAN OCCIDENTAL PETROLEUM LTD.
SOIL GEOCHEM ANOMALIES

1974	··········	Zinc	200ppm
	- - - - -	Copper	100ppm
	—— ——	Molybdenum	15ppm
1977	————	Silver	2ppm

ALMADEN RESOURCES CORPORATION

AR-87-01 ● August 1987 overburden drill hole No. AR-87-01

○ Proposed overburden drill hole location

Figure 2.

ALMADEN RESOURCES CORPORATION

ROSE CLAIMS
OSOYOOS MINING DIVISION,
BRITISH COLUMBIA

1974, 77 SOIL GEOCHEMISTRY COMPILATION
AND 1987 OVERBURDEN DRILL HOLE LOCATIONS

0 100 200 300 400m
SCALE 1:10,000

PROVINCE	GOLD DEPOSIT	TRAIN LENGTH[1] (m)	
		TRACED	EST. TOTAL
Saskatchewan	Lake "X"[2]	300	300
Saskatchewan	Star Lake	300	800
Saskatchewan	Lake "Y"	500	1000
Saskatchewan	Waddy Lake[2]	600	2000
Ontario	McCool	300	400
Quebec	Cooke Mine[3]	800	1000
Quebec	Golden Pond West	300	400[4]
Quebec	Golden Pond	400	500[4]
Quebec	Golden Pond East	100	1000

1 - Based on minimum 10 gold grains of similar size and shape per 8 kg sample for free gold trains and on coincident high gold and base metal assays for invisible gold trains

2 - Deposit oriented parallel to glacial ice advance

3 - Invisible gold deposit

4 - Train foreshortened by erosion in last ice advance

Table 1 - Heavy Mineral Gold Dispersion Trains Identified by Overburden Drilling Management Limited Laboratory

Drilling Equipment

Core-tex employed a Polhydrill, manufactured by Borrows AB of Sweden. The drill is a self-propelled track-driven vehicle that employs both percussion and rotary forces to obtain a 2 and 7/8 inch overburden core. The feed stroke of the drill is only 1.4 m which only allowed 1.0 m drill rods to be used. The lack of a bit-sub adaptor for the majority of the program prevented the use of a drill bit which severely limited the degree of penetration especially in dry, compact till sections. As a result, a large amount of uncertainty exists as to whether bedrock was ever reached. In addition, the short feed stroke decreased drilling productivity with the increased time taken coupling and uncoupling the rods. Although the narrow width of the drill made it very maneuverable in mature forested areas it also made it very unstable even on moderately sloping terrain and because of this only 15 of the 18 holes planned could be reached.

Logging and Sampling

When the drill had reached its maximum depth of penetration the rods were removed and any cored overburden was extruded in a one-metre long split-tube tray. The entire overburden core was logged according to its lithological characteristics.

Overburden samples were collected on a one-metre interval coincident with each section of drill rod. In the field, the overburden samples were assigned a number denoting the drilling project (AR-Almaden Resources), the year, the position of the hole in the drilling sequence and the position of the sample in the drill hole. Thus a designation such as AR-87-13-22 indicates the twenty-second sample collected from the thirteenth hole drilled in 1987.

As a result of the detailed nature of the drill program it was decided to process and analyze only the bottom three or four samples from each hole. Following collection, the overburden samples were packaged and shipped to the ODM processing laboratory in Nepean, Ontario.

Sample Processing and Analysis

ODM's processing procedures for the overburden samples are illustrated in the flow sheet of Fig. 3 and may be summarized as follows:

The first step is to extract two character samples (250 grams each) from the bulk sample using a tube-type sampler. Both character samples are dried and one is stored for future reference. Approximately 10 to 20 grams of the minus 250 mesh fracture is separated from the other character sample and analyzed to allow comparison with the heavy mineral analyses.

The remainder of the bulk sample is weighed wet and sieved at 1700 microns (10 mesh). The +1700 micron clasts are weighed wet and the -1700 micron fraction is processed on a shaking table to obtain a preconcentrate. The table concentrate and all fractions obtained from it are weighed dry.

After the table concentrate is dried a heavy liquid separation in methylene iodide (specific gravity 3.3) is performed. The light fraction (S.G. less than 3.3) is stored and the heavy fraction undergoes a magnetic separation to remove drill steel and magnetite. The Almaden magnetic separates were checked to ensure that they contained not more than five percent pyrrhotite. The non-magnetic heavy minerals were separated into a 3/4 analytical subsample and a 1/4 library subsample using a riffled microsplitter.

The minus 250 mesh sievings and the 3/4 split heavy mineral concentrates were sent to the Ottawa laboratory of Bondar-Clegg and Company Limited to be analyzed for Cu, Zn, Pb and Ag by atomic absorption to the specifications shown in Table 2.

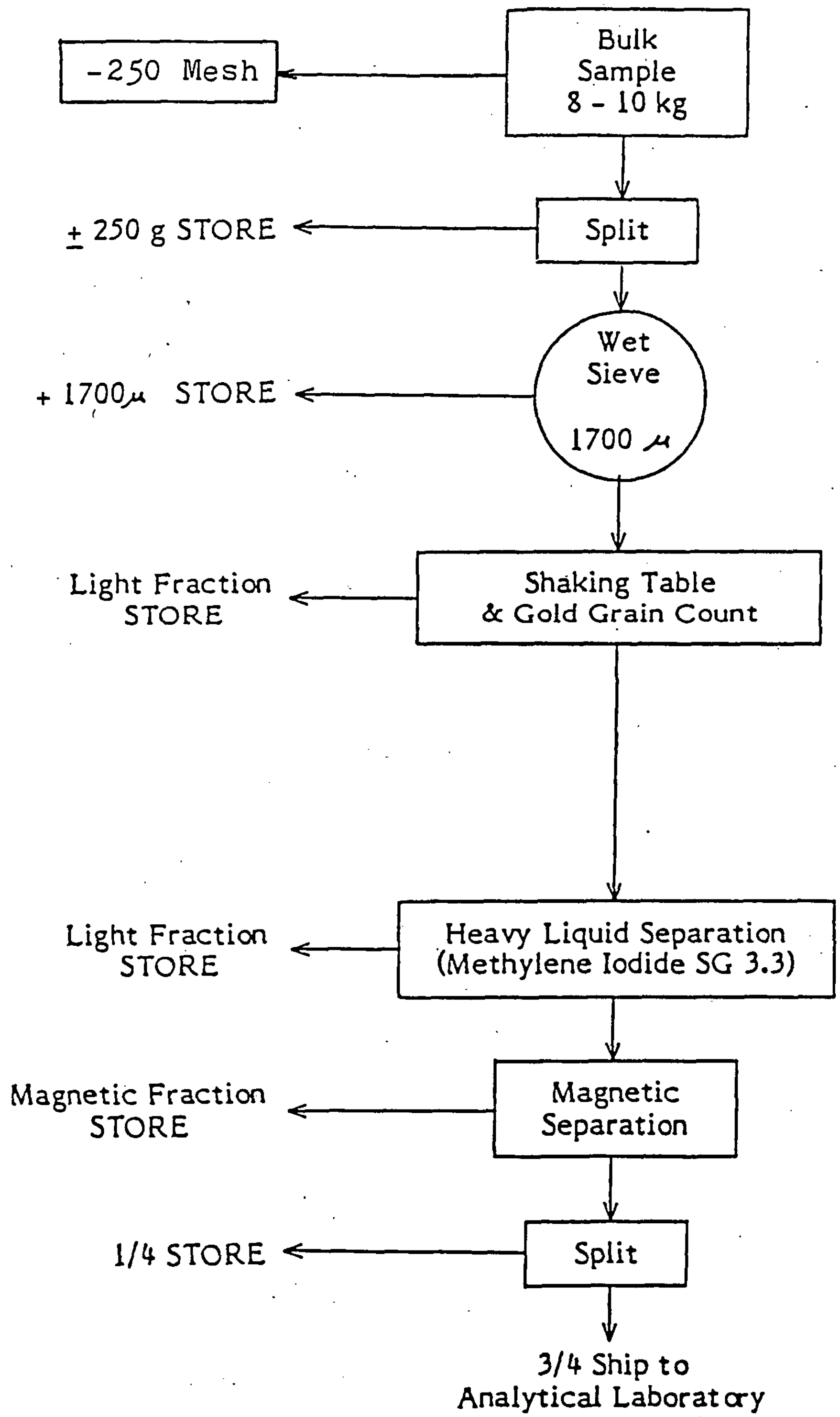


Figure 3 - Sample Processing Flow Sheet

Sample Type	Sample Preparation	Element		Lower Detection Limit		Extraction	Method
Heavy Mineral Concentrate	Pulverize to -200 mesh	Cu	Copper	1	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
		Zn	Zinc	1	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
		Pb	Lead	2	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
		Ag	Silver	0.1	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
-250 Mesh	None, as received	Cu	Copper	1	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
		Zn	Zinc	1	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
		Pb	Lead	2	PPM	HCl-HNO_3, (1:3)	Atomic Absorption
		Ag	Silver	0.1	PPM	HCl-HNO_3, (1:3)	Atomic Absorption

Note: All weight measurements are precise to 0.01 grams

Table 2: Bondar-Clegg Analytical Specifications

OVERBURDEN GEOLOGY

Quaternary History of the Canadian Cordilleran Region

The Pleistocene history of the Canadian Cordillera is much more varied than that of the continental interior or the Abitibi region of northern Ontario and Quebec in particular, in that parts remained unglaciated and other regions were glaciated during one or more periods prior to the last major or Classical Wisconsinan gàlciation. Although not as thick and extensive, the Wisconsinan glaciation did cover the greater part of the Cordillera. In the Okanagan Range of the Cascade Mountains, ice at one time overrode mountains up to 2,590 m whereas the main Wisconsinan ice did not reach over 2,195 m (Prest, 1970).

During Wisconsinan time a system of intermontane, piedmont and valley glaciers developed in the Cordilleran physiographic province and has been termed "The Cordilleran Glacier Complex". Growth of the glacier complex resulted from the condensation of moist Pacific air masses over the various mountain ranges and it is highly probable that extensive alpine glaciation preceded development of the major ice fields. The glaciers probably commenced on the western flanks of all mountain ranges and with continued development would have formed on the eastern flanks which would eventually contribute to the in-filling of interior valleys, plains and plateaux regions (Prest, 1970). For a detailed description of the Cordilleran Quaternary history the reader is referred to papers by Clague (1981) and Fulton and Smith (1978).

Quaternary Geology of the Rose Property

The first ice to enter the Okanagan Valley during the Late Wisconsinan probably flowed from a centre in the Monashee Mountains to the north and east. The southern tributary valleys show little evidence of glaciation which indicates there was minimal tributary ice flow from the adjacent plateauxs and highlands. As the Rose property is positioned on one such plateaux it is assumed that no alpine glacier has affected the area during the Late Wisconsinan. The Okanagan Valley glacier was then joined by a major ice sheet from the Coast and Cascade Mountains which generally spread south and southeast. Glacial bedrock lineations on the Rose property have a 113 degree orientation which is consistent with the major ice-sheet flow direction.

Deglaciation of the Okanagan region was accomplished largely by downmelting and stagnation of the ice mass as a whole, with no clearly defined halts or re-advances (Nasmith, 1962). Except for the deposition of a single till sheet resting directly on bedrock, lowering of the ice surface left the plateaux areas bare. This till sheet is part of the Okanagan Centre Drift as described by Fulton and Smith (1978) and has been tentatively correlated to the Fraser Glaciation of the Coast Mountains and the Vashon Glaciation of Vancouver Island.

The Okanagan Till was the only overburden unit intersected on the Rose Property. Actual till thicknesses are not known due to limitations of the drilling equipment but intersections reach a maximum of 22.4 m in Hole 13. The till matrix consists predominantly of sand with a small silt component that would probably be bedrock-derived as opposed to reworking of glaciolacustrine sediments considering the averagte 1,675 m property elevation and the granitic nature of the bedrock. The derivation of the till from a granitic source is also reflected in the small size of the heavy mineral concentrates. The colour of the matrix is an oxidized beige to gray-beige above 1.5 to 2.0 m and an unoxidized gray below. Clasts show an increase in size and angularity with depth. Ninety percent of the clasts are a slightly to moderately weathered granodiorite.

OVERBURDEN GEOCHEMISTRY

Metal Anomaly Threshold Levels

As early as 1976, ODM recognized that the grade of our concentrates within 1 km of source on base metal and uranium dispersion trains was similar to the grade of the source provided the source was of normal width (5 to 10 metres) and was oriented perpendicular to the direction of glacial ice advance. We have since proved that the same relationship applies to gold dispersion trains and although not proven, it is reasonable to assume that the same relationship would apply to silver dispersion trains.

The base metal background of a heavy minral concentrate, and particularly of a high-density methylene iodide concentrate, is higher than that of a whole sample, ranging up to several hundred ppm, because base metals tend to substitute to a significant extent for other metal ions in the structures of heavy silicate and sulphide minerals such as pyroxene and pyrite. The established anomaly threshold level for Cu and Zn, indicating the presence of ore-type minerals such as chalcopyrite and sphalerite in the sample, is 800 ppm. Because methylene iodide concentrates from dispersion train samples tend to grade the same as the bedrock source mineralization, massive sulphide deposits which typically grade 50,000 ppm (5 percent) combined Cu-Zn often produce anomalies over 10,000 ppm in each metal. The same deposits average 35 ppm (1 ounce/ton) silver, and the silver anomaly threshold corresponding to 800 ppm Cu or Zn is about 2 ppm.

Stratigraphic Properties of a Dispersion Train

Glacial processes are systematic and heavy mineral dispersion trains in tills have specific configurations (Averill, 1978). For example, dispersed material tends to be sheeted progressively upward in the ice with increasing distance from source, causing the trains to rise in the till and thicken down-ice. Lateral spreading, in contrast, is minimal and most trains are tapered ribbons rather than fans.

ODM has traced nine gold dispersion trains (Table 1) and several base metal and uranium trains to source on both new discoveries and known deposits. These trains have had the following properties:

1. At a specific distance from source, the mineralization in adjacent drill holes was at a specific level within a specific till unit.

2. The train was at least two samples (2-3 m) thick unless:
   (a) The host till was very thin.
   or (b) The train was intersected within 100 m of source.

3. The width of the train was not more than twice the cross-ice length of the source mineralization.

4. The maximum length of the train for deposits oriented perpendicular to glaciation was 1 km (gold) to 5 km (base metals/uranium).

Rose Property Silver Anomalies

All 37 heavy mineral concentrates from Holes 01 to 13 are anomalous in silver (greater than 2 ppm) while only 9 of the minus 250 mesh analyses have anomalous silver values (greater than 2 ppm).

The usual procedure for evaluating overburden geochemical anomalies is to delineate trends from the analytical data plotted on overburden cross-sections which show the depth to the bedrock interface. Due to the uncertainty as to the actual overburden depth this method could not be used. Rather than ascertain trends within each drill hole based on only three or four samples, each drill hole was considered to be a single data point as all samples are from the same till unit. An average silver value for each hole for both the heavy mineral concentrates and the minus 250 mesh fraction was calculated, plotted and contoured at intervals of 20, 30 and 40 ppm and 1.0, 2.0 and 3.0 ppm, respectively (Figs. 4 and 5).

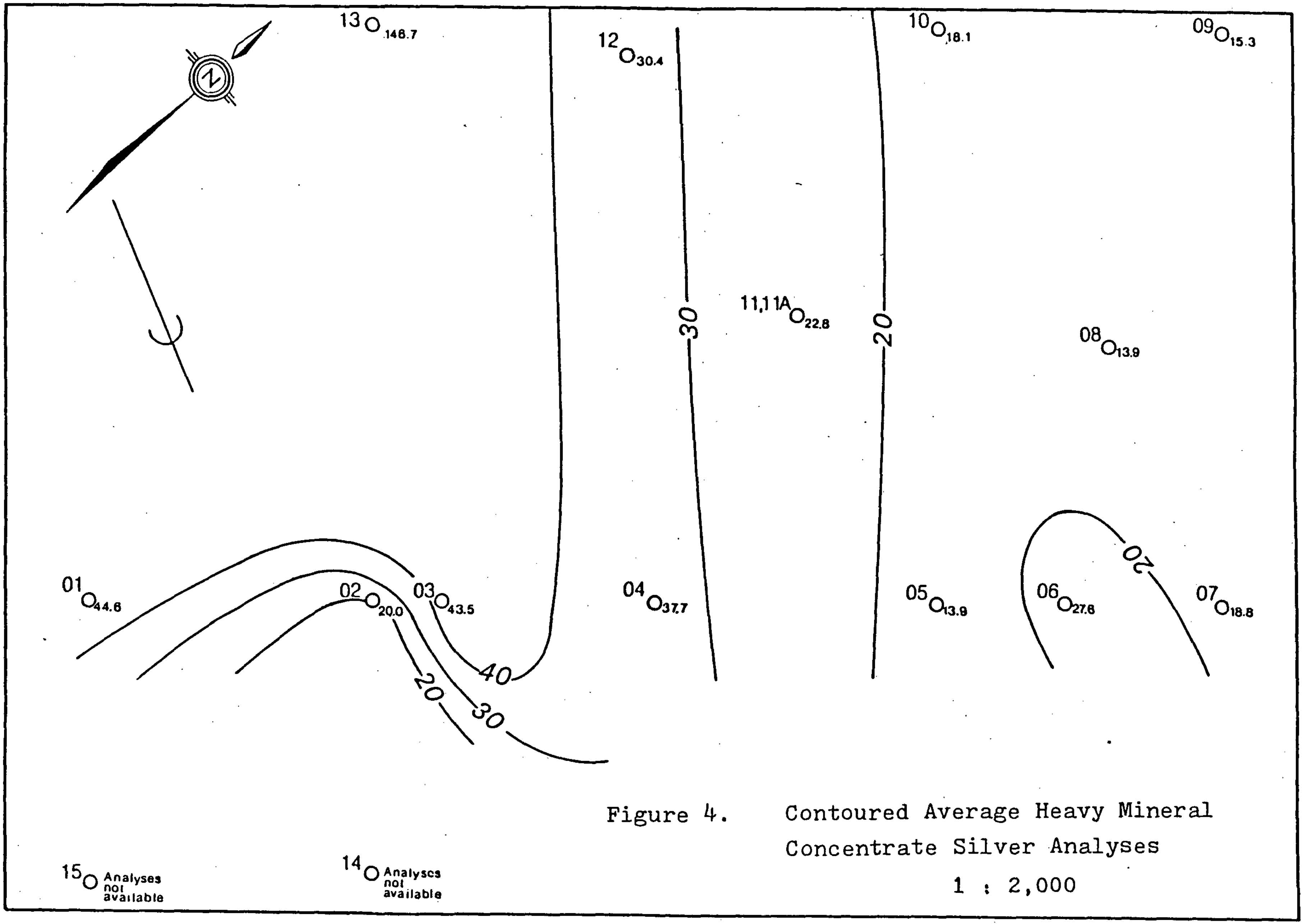


Figure 4. Contoured Average Heavy Mineral Concentrate Silver Analyses

1 : 2,000

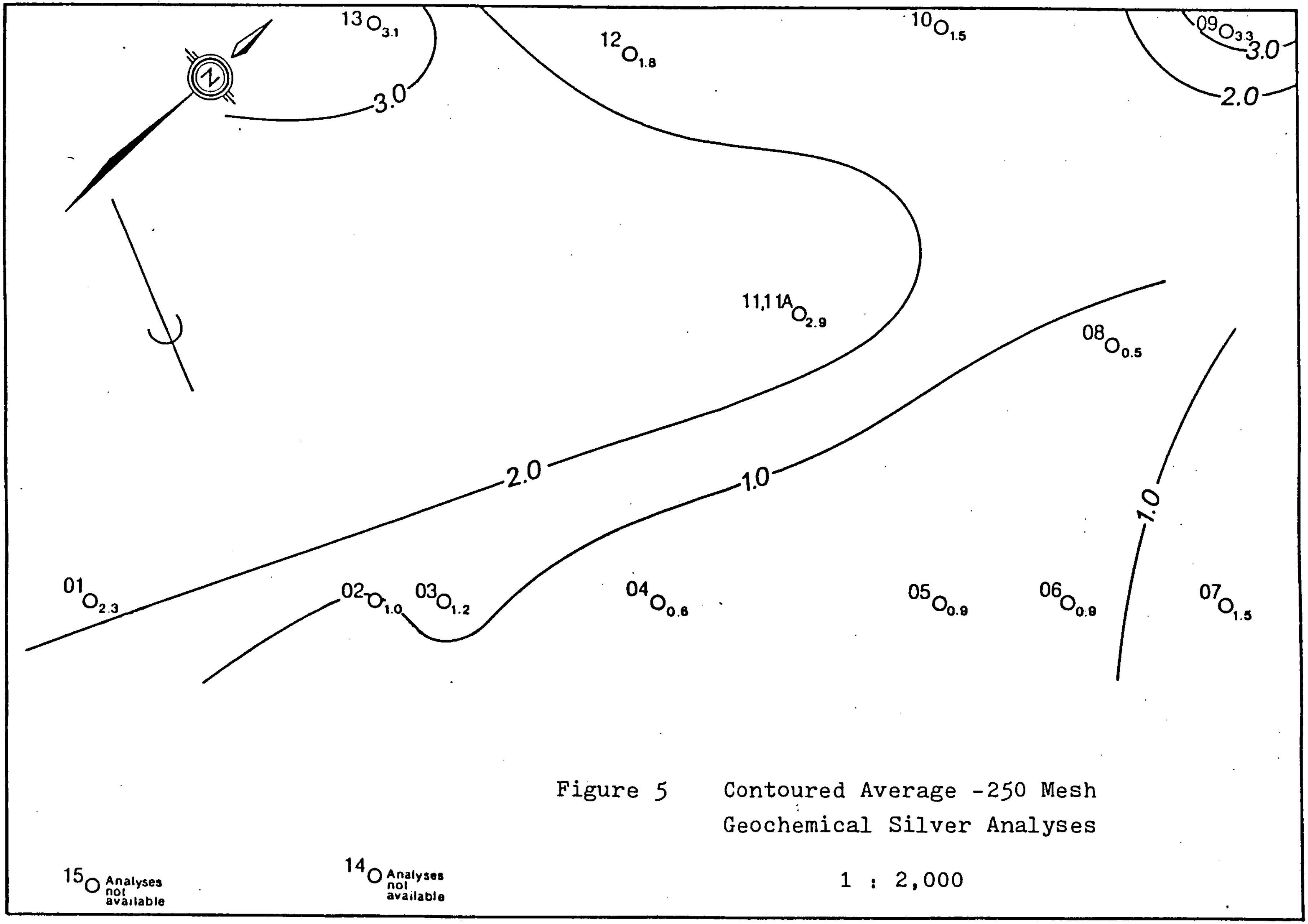


Figure 5 Contoured Average -250 Mesh Geochemical Silver Analyses

1 : 2,000

In the case of the heavy mineral concentrates values range from 3.6 to 160 ppm silver with the highest values in the west and northwestern portions of the drill area. This suggests a high silver background or that all samples were collected from a dispersion train. The east-southeast trend of the contours is sub-parallel to the regional ice-flow direction and possibly represents the core of a dispersion train (Fig. 4).

Examination of the 1/4 concentrate splits tentatively identified fine grained tetrahedrite as the possible silver bearing mineral but was subsequently identified as hematite by X-ray diffraction. Silver bearing minerals are difficult to identify and rarely observed even in a heavy mineral concentrate. Sample 13-21 which returned the highest silver value, would requre only 0.3 percent tetrahedrite to give an analytical result of 160 ppm.

The contoured minus 250 mesh silver values (Fig. 5) also indicate an increase in the overburden silver concentration to the west and northwest of the drill area but the values are erratic and do not show any definative trends.

Rose Property Base Metal Anomalies

Thirty-two of the heavy mineral concentrate and thirty-five of the minus two hundred and fifty mesh geochemical analyses exceeded the anomalous zinc thresholds of 800 and 200 ppm, respectively. With the exception of Hole 13, zinc values for the heavy mineral concentrates are generally below 3,000 ppm while the minus 250 mesh values range between 184 to 792 ppm.

There is a relatively consistent linear relationship between the heavy mineral concentrate zinc and silver values that is not present between the minus 250 mesh zinc and silver values. Microscopic examination of the 1/4 concentrate split for Sample 13-21 identified 1 to 2 percent sphalerite as the zinc bearing mineral and this was confirmed by X-ray diffraction identification. The sphalerite grains are black to dark gray with a frosted and rounded surface that obscures the usual vitreous luster and well developed cleavage. The average size of the sphalerite grains is 150 microns and approximately half of the sphalerite grains contain very fine grained (much less than 25 microns) pyrite inclusions.

The lack of an identifiable discrete silver mineral plus the consistent linear correlation between zinc and silver heavy mineral concentrate values suggests that any silver-bearing mineral (tetrahedrite?) probably occurs as inclusions within the sphalerite.

Only 2 of the heavy mineral concentrates (Samples 13-21 and 13-22) and 1 minus 250 mesh (Sample 11-01) copper analyses exceeded the anomalous threshold limits of 800 and 100 ppm, respectively. The two concentrates with anomalous copper concentrations also returned the two respective highest silver and zinc values. No such metal association is found with the minus 250 mesh analyses.

None of the heavy mineral concentrate or the minus 250 mesh lead analyses exceed the anomalous threshold limits of 800 and 100 ppm respectively. Only a minor trend is observed in the heavy mineral concentrate analyses (Samples 13-21 and 13-22) where elevated lead values (523 and 668 ppm, respectively) are associated with the two highest silver values (160 and 150 ppm, respectively).

CONCLUSIONS AND RECOMMENDATIONS

Silver Potential of the Rose Property

Although the type of drilling equipment used limited the amount of data obtained, the drilling has shown that the property definitely has potential for hosting a significant silver deposit.

The heavy mineral concentrates were able to detect silver enrichment in all drill holes with the highest values being in the vicinity of an down-ice from, Hole 13. Although the minus 250 mesh analyses also indicate the best silver mineralization occurs in the vicinity of Hole 13 the values are more erratic and do not show a definitive trend. As indicated by both sample fractions, the source of the silver mineralization appears to be to the west or northwest of the present survey area.

The lack of a visible silver mineral in the concentrates plus the linear relationship between the zinc and silver analyses suggests that the silver mineral probably occurs as inclusions within the sphalerite.

RECOMMENDED FOLLOW-UP

It is recommended that a reverse circulation drilling/ overburden sampling program extend the present coverage to the west and northwest to define the limits of the silver dispersion (Fig. 1).

All samples should be processed to obtain a heavy mineral concentrate and analyzed only for silver and zinc.

The IP survey currently underway should cover the area of the proposed reverse circulation drilling program.

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CERTIFICATE - THOMAS E. BURNS

I, Thomas E. Burns, residing at 2179 Melfort Street, Ottawa, Ontario hereby certify as follows:

That I attended the University of Western Ontario in London, Ontario and graduated with a B.Sc. (Hons.) in Geology in 1979.

That I have worked continuously in the field of exploration geology since 1979.

That I am a consulting geologist employed by Overburden Drilling Management Limited, 107-15 Capella Court, Nepean, Ontario.

That this technical report is based on data gathered on the subject property by employees of Overburden Drilling Management and interpreted by myself and other employees.

That I have no direct or indirect interest in Almaden Resources Corporation.

Thomas E Burns

Thomas E. Burns

Dated at Ottawa, Ontario this 24th day of September, 1987.

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BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-4158

PROJECT: ROSE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Pb PPM	
AR87-01-05-H		279	1320	48.9	179	
AR87-01-06-H		377	2635	41.9	207	
AR87-01-07-3/4		358	2385	42.9	193	
AR87-02-02-3/4		258	1220	27.9	198	
AR87-02-03-H		244	859	13.7	132	
AR87-02-04-H		268	1040	18.4	334	
AR87-03-03-3/4		178	927	32.9	165	
AR87-03-04-H		237	1610	20.0	192	
AR87-03-05-H		251	1460	32.9	158	
AR87-03-06-H		568	3320	44.0	179	
AR87-04-03-3/4		224	1027	17.2	245	
AR87-04-04-3/4		295	1265	33.9	218	
AR87-04-05-3/4		393	3250	61.9	246	
AR87-05-01-H		108	649	7.8	142	
AR87-05-02-H		172	882	19.9	167	
AR87-06-01-3/4		280	851	29.9	181	
AR87-06-02-H		292	1035	37.9	199	
AR87-06-03-H		151	691	15.1	181	
AR87-07-01-H		142	1538	12.4	685	
AR87-07-02-H		281	1665	11.2	219	
AR87-07-03-H		163	1425	32.9	293	
AR87-08-01-3/4		103	483	13.9	133	
AR87-09-01-H		48	324	3.6	98	
AR87-09-02-H		492	2130	26.9	366	
AR87-10-01-H		96	1355	4.6	123	
AR87-10-02-H		167	921	18.1	288	
AR87-10-03-H		378	1430	31.5	309	
AR87-11-01-H		553	2865	39.9	366	
AR87-11A-01-H		155	648	18.8	186	
AR87-11A-02-H		244	839	19.0	201	
AR87-11A-03-H		165	1200	13.6	211	
AR87-12-01-H		222	1050	24.9	261	
AR87-12-02-H		236	1125	32.4	354	
AR87-12-03-H		270	1635	33.9	253	
AR87-13-21-3/4		957	9560	>100.0	523	(160 ppm Ag)
AR87-13-22-3/4		1002	11720	>100.0	668	(150 ppm Ag)
AR87-13-23-3/4		746	3400	>100.0	304	(130 ppm Ag)

HEAVY MINERAL CONCENTRATES

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BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-4161

PROJECT: ROSE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Pb PPM
AR87-01-05		45	239	3.5	26
AR87-01-06		34	199	1.7	15
AR87-01-07		33	184	1.6	20
AR87-02-02		50	405	1.9	40
AR87-02-03		49	542	0.6	39
AR87-02-04		40	271	0.4	36
AR87-03-03		57	539	1.6	66
AR87-03-04		43	487	1.4	41
AR87-03-05		58	383	0.9	63
AR87-03-06		36	208	0.7	23
AR87-04-03		46	243	0.6	47
AR87-04-04		34	301	0.6	32
AR87-04-05		33	201	0.5	25
AR87-05-01		44	279	1.2	38
AR87-05-02		34	264	0.5	35
AR87-06-01		35	337	1.2	31
AR87-06-02		45	308	0.8	35
AR87-06-03		23	212	0.8	23
AR87-07-01		37	496	1.4	87
AR87-07-02		64	433	1.5	43
AR87-07-03		38	403	1.6	48
AR87-08-01		30	309	0.5	27
AR87-09-01		21	264	0.5	30
AR87-09-02		58	453	6.0	49
AR87-10-01		25	307	0.4	26
AR87-10-02		38	343	0.7	41
AR87-10-03		80	430	3.5	62
AR87-11-01		109	792	3.3	97
AR87-11(A)-01		44	460	1.6	29
AR87-11(A)-02		72	437	4.3	45
AR87-11(A)-03		94	618	2.4	65
AR87-12-01		58	538	1.7	51
AR87-12-02		80	506	1.6	66
AR87-12-03		72	437	2.0	42
AR87-13-21		88	582	3.2	53
AR87-13-22		66	398	1.9	38
AR87-13-23		61	407	4.2	44

MINUS 250 MESH ANALYSES

OVERBURDEN DRILLING MANAGEMENT LIMITED - LABORATORY SAMPLE LOG

ABBREVIATIONS

CLAST:

SIZE OF CLAST:

- G: GRANULES
- P: PEBBLES
- C: COBBLES
- BL: BOULDER CHIPS
- BK: BEDROCK CHIPS

% CLAST COMPOSITION

- V/S VOLCANICS AND SEDIMENTS
- GR GRANITICS
- LS LIMESTONE
- OT OTHER LITHOLOGIES (REFER TO FOOTNOTES BELOW)
- TR ONLY TRACE PRESENT
- NA NOT APPLICABLE

MATRIX:

S/U	SORTED OR UNSORTED				
SD	SAND	Y	YES FRACTION PRESENT	F:	FINE
ST	SILT	N	FRACTION NOT PRESENT	M:	MEDIUM
CY	CLAY			C:	COARSE

COLOR:

- B: BEIGE
- GY: GREY
- GB: GREY BEIGE
- GN: GREEN
- GG: GREY GREEN
- BN: BROWN
- BK: BLACK
- OC: OCHRE
- PK: PINK
- OE: ORANGE

DESCRIPTION:

- BLD: BOULDER CHIPS
- BDK: BEDROCK CHIPS

arlsep.wrl

OVERBURDEN DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 47

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
AR-87																						
14-03	4.0	0.8	3.2	162.8	150.0	12.8	7.5	5.3	0	NA	P	20	80	NA	NA	U	Y	Y	Y	B	B	TILL
-04	4.0	1.0	3.0	153.1	139.4	13.7	7.8	5.9	0	NA	C	10	90	NA	NA	U	Y	Y	Y	B	B	TILL
-05	5.3	1.2	4.1	165.9	150.8	15.1	8.5	6.6	0	NA	C	5	95	NA	NA	U	Y	Y	Y	B	B	TILL
-06	4.2	0.5	3.7	107.6	98.8	8.8	4.4	4.4	0	NA	P	2	98	NA	NA	U	Y	Y	Y	B	B	TILL
-07	4.0	0.8	3.2	86.4	76.8	9.6	4.8	4.8	0	NA	C	2	98	NA	NA	U	Y	Y	Y	B	B	TILL
-01	1.4	0.6	0.8	59.3	58.1	1.2	0.4	0.8	0	NA	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-02	3.0	0.8	2.2	103.9	95.7	8.2	3.6	4.6	0	NA	C	3	97	NA	NA	U	Y	Y	Y	B	B	TILL
15-01	1.9	0.9	1.0	132.0	130.4	1.6	1.2	0.4	0	NA	C	3	97	NA	C	U	Y	Y	Y	GB	BN	TILL
-02	9.8	2.7	7.1	213.6	183.0	30.6	12.7	17.9	0	NA	C	2	98	NA	NA	U	Y	Y	Y	B	B	TILL
-03	4.8	2.3	2.5	119.3	117.9	1.4	0.7	0.7	0	NA	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-04	6.4	2.1	4.3	152.0	130.8	21.2	10.7	10.5	0	NA	C	5	95	NA	NA	U	Y	Y	Y	B	B	TILL
-05	4.0	1.6	2.4	136.8	125.8	11.0	5.8	5.2	0	NA	C	3	97	NA	NA	U	Y	Y	Y	B	B	TILL
-06	5.5	1.8	3.7	150.0	132.4	17.6	9.2	8.4	0	NA	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-07	4.8	1.4	3.4	156.8	141.1	15.7	7.7	8.0	1	276	P	5	95	NA	NA	U	Y	Y	Y	B	B	TILL
16-04	3.8	2.2	1.6	133.3	132.1	1.2	0.4	0.8	0	NA	P	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-06	2.4	0.9	1.5	94.7	93.7	1.0	0.4	0.6	0	NA	P	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
17-04	3.0	1.4	1.6	81.2	75.2	6.0	5.8	0.2	0	NA	P	3	97	NA	NA	U	Y	Y	Y	BBN	BN	TILL
-05	1.2	0.4	0.8	98.3	97.6	0.7	0.6	0.1	0	NA	P	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-06	2.3	0.8	1.5	137.3	134.0	3.3	1.0	2.3	0	NA	P	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
18-05	1.2	0.4	0.8	107.8	106.4	1.4	0.3	1.1	0	NA	P	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-06	2.3	1.0	1.3	135.2	132.9	2.3	0.2	2.1	0	NA	P	2	98	NA	NA	U	Y	Y	Y	B	B	TILL
-07	3.9	0.9	3.0	93.2	88.0	5.2	0.9	4.3	0	NA	C	0	100	NA	NA	U	Y	Y	Y	GB	GB	TILL
19-01	3.0	1.2	1.8	104.5	97.9	6.6	2.4	4.2	1	80	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-02	3.8	1.4	2.4	108.3	101.6	6.7	2.4	4.3	0	NA	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-03	2.6	0.8	1.8	89.3	84.3	5.0	1.5	3.5	0	NA	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
20-03	5.0	0.8	4.2	134.5	121.3	13.2	5.2	8.0	0	NA	P	10	90	NA	NA	U	Y	Y	Y	B	B	TILL
-04	6.7	1.6	5.1	66.5	51.1	15.4	6.0	9.4	0	NA	C	10	90	NA	NA	U	Y	Y	Y	B	B	TILL
-05	3.1	1.0	2.1	112.0	106.7	5.3	1.9	3.4	0	NA	C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
21-04	3.0	0.9	2.1	111.4	106.5	4.9	1.4	3.5	0	NA	C	10	90	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	3.4	1.2	2.2	35.4	30.6	4.8	1.6	3.2	0	NA	C	0	100	NA	NA	U	Y	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

larlsep.wr1 OVERBURDEN DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 47

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
AR-87																						
23A-01	5.1	1.8	3.3	70.8	63.0	7.8	2.7	5.1	0	NA	P	0	100	NA	NA	U	Y	Y	Y	B	B	TILL
-02	3.1	1.0	2.1	35.7	31.8	3.9	1.3	2.6	0	NA	P	2	98	NA	NA	U	Y	Y	Y	B	B	TILL
23A-03	3.0	1.0	2.0	67.2	63.4	3.8	0.9	2.9	0	NA	P/C	0	100	NA	NA	U	Y	Y	Y	B	B	TILL

FOOTNOTES:

A GRITTY CLAY LUMPS PRESENT

B SMOOTH CLAY LUMPS PRESENT

C ORGANICS PRESENT

D SAMPLE HIGHLY OXIDIZED

ABBREVIATIONS

NUMBER OF GRAINS:

T: NUMBER FOUND ON SHAKING TABLE
P: NUMBER FOUND AFTER PANNING

THICKNESS:

C: CALCULATED THICKNESS OF GRAIN
M: ACTUAL MEASURED THICKNESS OF GRAIN

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

alar1sep.wr1
TOTAL # OF PANNINGS 0

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
AR-87													
14-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
15-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	100 X 125	22 C	1						1			
										1	7.7	276	
16-04	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
17-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
18-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
19-01	N	50 X 50	10 C	1						1			

GOLD CLASSIFICATION
==================

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

alarlsep.wrl
TOTAL # OF PANNINGS 0

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS: ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
AR-87													
										1	2.4	80	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
20-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
21-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
22A-01	N	100 X 100	20 C	1						1			
										1	3.8	395	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
23-01	N	NO VISIBLE GOLD											

D CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

alarlsep.wrl
TOTAL # OF PANNINGS 0

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS: ABRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
AR-87													
23A-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
23A-03	N	NO VISIBLE GOLD											

APPENDIX II

OVERBURDEN HOLE LOGS AND

ANALYTICAL RESULTS

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 7 1987

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO 87-01 LOCATION 0+00E G87-1
GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 9:30 - 11:00
DRILL 11:00 - 3:00 10:00 - 11:30
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS high torque at bottom of hole
~~OTHER~~ led to broken sub + lost bit
MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			—	0 - 0.2 above ground.
1			01	0.2-0.6 ORGANICS
2			—	0.6 TILL
			02	- light grey - beige, dry above 1.8m.
3			03	clasts subangular - subrounded ≤ 2cm.
4			04	- medium brown, damp below 1.8m
5			05	clasts subrounded - rounded.
6			06	some Bi flakes visible
7			07	- dark-grey subangular clasts in brown matrix 4.5m - 5.0m.
8				- wet, rounded clasts, dark brown matrix 5.0 - 5.9.
9				
10				- dry, angular clasts, blue-grey matrix (unoxidized) clasts mainly GRDR 5.9 - 8.0m.
11				
12				
13				lost bit + sub @ 8.0m - abandon hole due to high torque
14				another attempt 0.5m N abandoned @ 7.0m. due to high torque
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 8 1987

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO 87-02 LOCATION 1+00E G87-1

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE 11:30 - 3:30

DRILL 3:30 - 7:00

MECHANICAL DOWN TIME 4 hrs to fix fuel pump

DRILLING PROBLEMS tight hole at bottom; drilling

OTHER with broken sub as bit.

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.5 above ground
1				0.5-2.0 ORGANICS
2				2.0 TILL
			01	light brown dry fine sand + silt matrix.
3			02	subround - subangular pebbly clasts ≤ 2cm
4			03	3 cm. dry light grey clay layer @ 3.5m.
5			04	wet sandy till below 4.8 m
6				Fe-oxides prominent.
7				T.D. 6.0 m. hole to tight torque too high
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 9 1987

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO 87-03 LOCATION 1+25E G87-1

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

DRILL _____

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS broken rod. 1.5 hrs fishing.

OTHER drilling w/ sub as bit

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.3 above ground.
1				0.3 - 1.2 ORGANICS
2				1.7 TILL
			01	- sandy matrix, light brown, dry
3				clasts ≤ 1 cm. to 5.0m.
4			02	bldr at 2.7m.
			03	- wet, sl. > silty matrix 5.0m - 6.2m
5			04	then dry, brown → 6.8m
6			05	- grey-blue "lodgement till" 6.8m - 7.0m.
7			06	angular clasts. ≤ 5mm.
8				
9				E.O.H. at 7.0m torque too high to continue
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 9 1987
HOLE NO 87-04 LOCATION 2+00E G87-1
GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____
SHIFT HOURS
____ TO ____
MOVE TO HOLE ____
DRILL ____
TOTAL HOURS ____
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
CONTRACT HOURS ____
OTHER ____
MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.3 above ground
1				0.3 - 1.2 ORGANICS
2				1.2 TILL
			01	light brown, sandy matrix, variably dry to
3			02	damp.
4			03	Clasts generally 2-3 cm mainly GRDR
5			04	Fe-oxides below 3.2 m.
6			05	bldr @ 4.0 (QZ FS PORPH W/ PY)
7				0.2 m. sandy clay layer 5.8 - 6.0 m.
8				light-grey subangular to angular clasts 6.0 - 7.2 m.
9				Clasts mainly black aphanitic (volcanic?)
10				
11				T.D @ 7.2 m.
12				drill binding ← high torque
13				no bedrock recovered.
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 9 1987
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO 87-05 LOCATION 3+00E G87-1
GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE _____
DRILL _____
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS drilling w/ sub as bit
OTHER _____
MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.2 above ground
1				0.2-1.6 ORGANICS
2			01	1.6 TILL
3				sandy brown, wet-damp
4			02	sub angular - round clasts ≤ 3cm.
5				2cm wet grey clay layer on weathered
6				GRDR at 4.2m. poss. bedrock (?)
7				T.D. at 4.2m. torque too high
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO 87-06 LOCATION 3+25E G87-1

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.2 above ground.
1				0.2-1.2 ORGANICS
			01	
2				1.2 TILL
				sandy brown dry till
3			02	>> boulders ≥ 2cm. heterolithic GRDR, MAFIC
4			03	light brown mud layer, wet
5				3.8m - 4.0m.
6				bldrs decrease in size + numbers below 4.0m.
7				muddy brown clay layer
8				4.2-4.8m.
9				T.D at 4.8m in weathered decomposing
10				bedrock.
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 10 1987

HOLE NO 87-07 LOCATION 4+00E G87-1

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS

______ TO ______

MOVE TO HOLE ______

DRILL ______

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2m above ground
1				0.2m - 1.2m ORGANICS
2			01	1.2m TILL
3			02	- dry, fine sand matrix, light brown. clasts ≤ 3 cm.
4			03	2.1m. to bottom - medium brown damp, > silty matrix. clasts ≤ 3cm. decomposing GRDR cobbles larger, > competent rounded clasts. below 3.5m
5				
6				
7				
8				
9				T.D. at 4.2m GRDR, DIOR fragments. bedrock(???)
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 11 1987

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO 87-08 LOCATION 0+90N 3+60E G87-1

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

DRILL 10:00 - 12:00

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
				0-0.2m above ground						
1			01	0.2m-1.3m. TILL						
2				cobbly; fine sand matrix, dry.						
3				1.3-1.6m. BEDROCK (??)						
4				highly weathered GRDR.						
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 11 1987

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO 87-09 LOCATION 4400 E 2400N G87-1

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE ____

DRILL 1:00 -

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0-0.1 above ground.
1				0.1 TILL
2			02	grey-beige fine sandy silt matrix
3				pebbly clasts ≤ 2cm. predom. GRDR.
				sandy sectn 0-0.7m.
4				2.2. T.D. in rubbly GRDR.
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 12 1987

HOLE NO 87-10 LOCATION 3+00E

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS

______ TO ______

MOVE TO HOLE ______

DRILL ______

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 above ground.
1			01	0.2 - 0.8 ORGANICS
2			02	some sand layers.
			03	
3				0.8 TILL
4				light brown - beige fine sand + silt matrix
				pebbly clasts
5				dark brown below 1.7m.
6				
				2.5 T.D. torque too high.
7				bedrock not reached.
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 12 1987

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO 87-11 LOCATION 2+50 E 1+00N

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE 1:30 - 2:00

DRILL 2:00

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS broken rod @ 4.2m.

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.4 above ground.
1				0.4-2.9 ORGANICS + SAND. (no recov.)
2				
3				2.9 TILL
			01	light brown - beige above 3.8m, dark grey - blue below; fine sand and silt matrix pebbly clasts sand content inc 3.4-3.7m.
4				
5				
6				
7				E.O.H @ 4.2m. torque too high -> broken rod bedrock not reached.
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 12 1987

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO 87-11A LOCATION 2+48E 1+00N.

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 above ground
1				0.2 - 1.6 ORGANICS some incorporated sand
2			01	1.4 TILL
3			02	- light brown - beige above 3.4, med - dark grey below; fine sand + silt matrix throughout
4			03	- pebbly clasts angular - sub angular predom. GRDR
5				
6				
7				HEM string (decomp pebble?) at 3.3m.
8				4.4 E.O.H. torque too high bedrock not reached.
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 13 1987

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO 87-12 LOCATION 1+90E 1+90N.

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE 2.5 hr to service rig after overturn

DRILL 1:45 - 2:00 2:15 - 3:30

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS broken rod lost 1 rod + bit/sub.

OTHER use " " for bit

MOVE TO NEXT HOLE 3:30 - 4:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.6m above ground.
1				0.6-1.8m ORGANICS.
2				1.8m. TILL
			01	- brown to 2.5m then beige
			02	- well-sorted sand matrix to 2.5m then sand + silt; poorly sorted
			03	- cobbles below 2.8m, small bldr @ 3.0m.
				- better sorting below 3.2m. silty sand matrix with pebbles, no cobbles; damp clasts rounded - subrounded to 3.2 then subangular
				- grey-blue well sorty silty sand matrix below 3.3m. subangular - angular clasts ≤2mm var. lithology
				E.O.H. at 3.4m. no torque but no penetration prob. not bedrock
				Note: sample 87-12-02 = 3.2m - 3.3m. 87 12 03 = 3.3 - 3.4

Depth scale: 1–17 m.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 13 1987

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO 87-13 LOCATION 2400N 1400E

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS torque too high at 3.5m ∴ wait

OTHER for bit Aug 17

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–17			01, 02, 04, 05, 06, 08, 08, 09, 10, 09, 11, 12, 13, 14, 15, 16, 17, 19	see below

0-0.8 above ground.

0.8 TILL

beige to 2.0m then brown to 2.6 then beige

well-sorted sandy matrix w/ occasional silty sectn

subangular - rounded clasts ≤ 5mm.

sand rich horizon 2.4-2.5

then >> silty matrix w/ > cobbles ≤ 2cm

(predom. GRDR, DIOR)

to 15.6m

clast dec. in size to 15.6m.

15.6 ↓ 18.5 grey-blue fine sands + clays w/ occasional clasts GRDR w/ PY

↓ back to greenish beige silty till

clay inc. 21.2 to bottom

PY xstals common in silt/clay, inc below 19.5

T.D. at 22.4m. in weathered GRDR/DIOR.

note: samples misnumbered

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 12 1987

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO 87-14 LOCATION 1+00E 0+95S G87-1

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE 1.5 hrs.

DRILL 5:30 - 7:00 10:00 - 4:30

MECHANICAL DOWN TIME 0.5 hrs installing swivel 1 hr repair

DRILLING PROBLEMS hydraulic hose

OTHER Occasional spudding to clear hole

MOVE TO NEXT HOLE 4:30 - 5:40

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 5.2m ORGANICS.
1				5.2 FLUVIAL MAT'L
2				sand + gravel w/occasional boulder.
				brown sand matrix well round. clasts ≤ 2cm.
3				5.8 TILL.
4				- grey silty matrix w/ angular clasts.
				mod. well sorted to 6.2m and 7.0 to 8.2.
5				- otherwise beige - light brown sandy clay matrix
6			01	w/ subround - subangular clasts ≤ 4 cm.
7			02	- note PY xstals mod abundant in grey section
8			03	- sand content increases below 8.2m.
9			04	- 2cm clay horizons 10.5m - 11.8m
10			05	11.4 m. subang bldr. w/ abund. PY + CHL.
11			06	prob GRDR
12			07	T.D. at 11.8 m in relatively fresh GRDR.
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 18 1987

HOLE NO 87-15 LOCATION 1+00S 0+00E G87-1

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS ______ TO ______

MOVE TO HOLE 4:30 - 5:40

DRILL 5:40 - 7:00

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.4 above ground
1				0.4-3.4 ORGANICS
2				3.4-3.8 SAND + GRAVEL
3				black very angular clasts ≤1cm in coarse black sandy matrix
4			01	3.8-6.2 TILL
5			02	beige, silty sand matrix; clasts generally ≤1cm round - subangular; poor recovery
6				
7			03	6.2 grey - blue grey gritty silt matrix
8			04	subround - sub angular clasts ≤ 2cm but generally ≤ 5mm.
9			05	number of clasts dec w/ depth
10			06	PY xstals below 7.2 m. to bottom.
11			07	9.2 beige silty sand matrix. w/ darker grey silt layers.
12				clasts round - sub angular ≤1 cm w/ occasional cobbles ≤ 2cm.
13				grey - beige wet clay layer 20cm above bedrock
14				
15				T.D. 10.8 m. in grey DIOR
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 22 1987

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO 87-16 LOCATION 8+00E 1+00N G87-2.

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE 8/19 11:00-1:30 8/21 4:00-6:00

DRILL 6:00 - 7:00

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS tight hole below 4.0m spudding

OTHER every 0.5m.

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
				0-0.3 above ground.						
1			01	0.3-0.5 ORGANICS.						
2			02	0.5 [illegible] TILL (?)						
			03	- V. sandy beige matrix to 1.9m. w/ round - sub angular clasts ≤ 2cm.						
3			04	- 20cm. gravel bed at 1.9m. well rounded clasts sandy matrix.						
4			05							
5			06							
6				- silt content increases below 2.1m						
7				- weathered igneous cobbles increase below 2.5m.						
8										
9				- boulders increase below 3.5m. → lots of rock flour						
10				- minor grey dry clayey till 3.5m + below						
11				- 10cm. grey-blue wet clay layer on bedrock						
12										
13				T.D. at 5.8m. in CHL (SAUSERITIZED ?) GRDR.						
14										
15										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 22 1987

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO 87-17 LOCATION 1+10N 1+00E G87-2
GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 0.5 hrs.
DRILL _____
MECHANICAL DOWN TIME 1.2 hrs broken spindle
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0-0.2 above ground
1			02	0.2-0.5 ORGANICS
2			03	0.5 TILL
3			04	- primarily weathered boulders in gritty silt matrix
4			05	- very intense oxidation (damp) to 2.2m dark brown then dry, beige below
5			06	- most clasts too weathered but some angular - subangular ≥2cm.
6				below 4.8m primarily rock flour derived from boulders.
7				2cm. grey clay layer at 5.5m (poss bedrock contact) with Bi flakes and fine diss. Py.
8				5.7m. T.D. in PORPHYRITIC GRDR minor saussuritization otherwise fairly fresh.
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 22 1987
HOLE NO 87-18 LOCATION 1600N 2400E G87-2
GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS
______ TO ______
MOVE TO HOLE 0.25 hrs
DRILL 4:00 - 6:40

TOTAL HOURS
______
MECHANICAL DOWN TIME ______
DRILLING PROBLEMS ______

CONTRACT HOURS
______
OTHER ______
MOVE TO NEXT HOLE 9:00 a.m - 9:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.6m above ground.
1			01	0.6 ~~m~~ TILL
			02	- primarily decomposing boulders. GRDR/DIOR
2				in clay matrix. green-grey. damp.
3			03	Fe oxides v. abundant.
4			04	- fresh boulders increase below 4.5m.
5			05	→ mixture of till and rock flour
6			06	6.8m. T.D. in GRDR / QZ DIOR
7			07	minor saussuritization of f.s
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 23 1987

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO 87-19 LOCATION 1+00N 3+00E G87-2

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE 9:00 - 9:45

DRILL 9:45

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.4m. above ground
1			01	0.4 - 0.9 ORGANIC
2			02	0.9 TILL
3			03	- boulder rich unit (as before) except boulders > decomposed → Qz grains + Bi flakes in dark brown matrix.
4				- sandy matrix to 1.8 m then sandy silt below
5				
6				
7				- 2 cm. green-grey clay layer on bedrock
8				T.D at 3.3 m. in GRDR (< > kspar than befo
9				
10				
11				
12				
13				
14				
5				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 23 1987

HOLE NO 87-20 LOCATION 0+00N 2+55E G87-2

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS ______ TO ______

MOVE TO HOLE 10:45 - 11:30

DRILL 11:30 - 2:00

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0 - 0.2m above ground
1			02	0.2m TILL
2				- brown-beige; gritty silt matrix with subangular - well rounded clasts ≤ 1cm.
3			03	
4			04	- occasional DIOR/GRDR boulders w/ associated rock flour
5			05	- v. minor beige sandy lenses 3.2 - 4.4m
6				- 3.2m. v. heavy stained bldr → lots of limonite
7				- boulders increase 4.4m to bottom → sl. grey colour
8				T.D. at 4.7m in rel. fresh GRDR.
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 23 1987

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO 87-21 LOCATION 0+00N 1+50E G87-2

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

DRILL _____

MECHANICAL DOWN TIME broken spindle + broken hose

DRILLING PROBLEMS 8/24

OTHER spudding near bottom

MOVE TO NEXT HOLE _____

IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0 - 0.4 m. above ground
1			02	0.4 - 1.5 m. TILL - dark brown silty sand well sorted occasional clasts ≤ 5 mm.
2			03	
3			04	1.5 m. TILL - green grey gritty silt matrix to 2.8 m. then silty clay below - clasts rounded - subangular ≤ 2 cm with occasional boulders to 5.4 m. then primarily boulders below. - 0.8 m boulder at 3 - 4.3 m → rock flour + v. minor clayey till - 5 cm. wet grey clay layer at 4.8 m - primarily boulders with little or no till 5.4 - 6.2 m.
4			05	
5			06	
6			07	
				T.D. at 6.2 m in GRDR
7 – 15				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 25 1987

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO 87-22A LOCATION 1+00S 2+00E G87-2

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE 9:00-10:15

DRILL 10:15-11:45 10:00-

MECHANICAL DOWN TIME 2:0 hrs broken spindle

DRILLING PROBLEMS occasional spudding req'd to

OTHER clear hole.

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0-0.3 m above ground.
1				0.3 TILL
2			02	- beige - dark brown to 2.1m then green-grey.
			03	- well sorted sandy - gritty silt matrix
3			04	- abundant clasts subrounded - subangular generally ≤ 5mm. w/ occasional boulders
4			05	- variable mod - heavy oxidation to limonites increasing below 9.2m.
5			06	- fresh boulder at 2.1 (broken spindle).
6			07	- clay content of matrix increases below 2.3m with occasional sandy layers (2.8m - 3.5m)
7			08	
8			09	- fresh boulders more frequent 5.0 - 7.5m. then back to green-grey till with inc silt in matrix.
9			10	
10			11	
11				- weathered DIOR clasts increasing below 8.0m to 9.2m.
12				
13				- 9.2m - 10.8m almost entirely very heavily weathered DIOR / GRDR with decreasing clayey till to 9.6m.
14				
15				
16				10.8m T.D. in weathered DIOR bedrock(?)
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 27 1987

HOLE NO 87-23 LOCATION 0+00N 0+55E G87-2

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

SHIFT HOURS ____ TO ____

MOVE TO HOLE 11:45 - 1:00

DRILL 1:50 - 2:45

TOTAL HOURS ____

MECHANICAL DOWN TIME 2:45 - 3:45 broken rod.

DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.2 above ground
1				0.2-1.8 ORGANICS w/ occasional sand layers
2			01	
3			02	1.8 TILL. dry, beige to 2.2m then damp brown, sandy silt matrix w/ rounded - sub angular clasts ≤ 5 mm.
4				
5				
6				2.6 QZ DIOR. bldr(?)
7				3.2 E.O.H. (broken rod) moved hole 4 m. W to 87-23A
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Aug 27 19 87

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO 87-23A LOCATION 0+00N 0+51E G87-2

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE 3:45 - 4:00

DRILL 4:00 - 5:40

MECHANICAL DOWN TIME broken hydr. hose cracked spindle

DRILLING PROBLEMS rubbly bedrock

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 above ground
1				0.2 - 1.2 ORGANICS
			01	
2				1.2 - 3.3 TILL (BOULDER RICH)
3			02	- abundant weathered boulders in
			03	green-grey clayey matrix
4				- fair amount of Fe-oxides.
5				- occassional sandy beds ≤10 cm.
6				- matrix becomes > gritty and > grey
7				w/ depth below 2.3 m.
8				3.3 - 3.9 TILL (LODGEMENT)
9				- grey gritty silt matrix w/ very few clasts
10				usually angular ≤5 mm.
11				- occasional fresh DIOR / GRDR boulder
12				one large bldr. 3.5 - 3.7 m.
13				3.9 BEDROCK (WEATHERED)
14				- rubbly highly weathered GRDR
				mod. Fe-oxides
15				4.2 T.D. in fresh GRDR
16				
17				

Bondar-Clegg & Company Ltd.
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BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-4158 (COMPLETE)

REFERENCE INFO: ODM DATA

CLIENT: ALMADEN RESOURCES CORP.
PROJECT: ROSE

SUBMITTED BY: ODM
DATE PRINTED: 8-SEP-87

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Cu	Copper	37	1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
2	Zn	Zinc	37	1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
3	Ag	Silver	37	0.1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
4	Pb	Lead	37	2 PPM	HCl-HNO3, (1:3)	Atomic Absorption

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
HEAVY MINERAL CONC.	37	-200	37	PULVERIZE -200	37

REMARKS: < MEANS LESS THAN.
> MEANS GREATER THAN.
THE AG VALUES MAY HAVE A LOW BIAS DUE TO THE
EXTRACTION TECHNIQUE.

REPORT COPIES TO: 807-475 HOWE ST.
OVERBURDEN DRILLING MGNT.

INVOICE TO: 807-475 HOWE ST.

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Geochemical Lab Report

REPORT: 017-4158

PROJECT: ROSE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Pb PPM
AR87-01-05-H		279	1320	48.9	179
AR87-01-06-H		377	2635	41.9	207
AR87-01-07-3/4		358	2385	42.9	193
AR87-02-02-3/4		258	1220	27.9	198
AR87-02-03-H		244	859	13.7	132
AR87-02-04-H		268	1040	18.4	334
AR87-03-03-3/4		178	927	32.9	165
AR87-03-04-H		237	1610	20.0	192
AR87-03-05-H		251	1460	32.9	158
AR87-03-06-H		568	3320	44.0	179
AR87-04-03-3/4		224	1027	17.2	245
AR87-04-04-3/4		295	1265	33.9	218
AR87-04-05-3/4		393	3250	61.9	246
AR87-05-01-H		108	649	7.8	142
AR87-05-02-H		172	882	19.9	167
AR87-06-01-3/4		280	851	29.9	181
AR87-06-02-H		292	1035	37.9	199
AR87-06-03-H		151	691	15.1	181
AR87-07-01-H		142	1538	12.4	685
AR87-07-02-H		281	1665	11.2	219
AR87-07-03-H		163	1425	32.9	293
AR87-08-01-3/4		103	483	13.9	133
AR87-09-01-H		48	324	3.6	98
AR87-09-02-H		482	2130	26.9	386
AR87-10-01-H		96	1355	4.6	123
AR87-10-02-H		167	921	18.1	288
AR87-10-03-H		378	1430	31.5	309
AR87-11-01-H		553	2865	39.9	366
AR87-11A-01-H		155	648	18.8	186
AR87-11A-02-H		244	839	19.0	201
AR87-11A-03-H		185	1200	13.6	211
AR87-12-01-H		222	1050	24.9	261
AR87-12-02-H		236	1125	32.4	354
AR87-12-03-H		270	1635	33.9	253
AR87-13-21-3/4		957	9560	>100.0	523
AR87-13-22-3/4		1002	11720	>100.0	668
AR87-13-23-3/4		746	3400	>100.0	304

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BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-4161

PROJECT: ROSE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Pb PPM
AR87-01-05		45	239	3.5	26
AR87-01-06		34	199	1.7	15
AR87-01-07		33	184	1.6	20
AR87-02-02		50	405	1.9	40
AR87-02-03		49	542	0.6	39
AR87-02-04		40	271	0.4	36
AR87-03-03		57	539	1.6	66
AR87-03-04		43	487	1.4	41
AR87-03-05		58	383	0.9	63
AR87-03-06		36	208	0.7	23
AR87-04-03		46	243	0.6	47
AR87-04-04		34	301	0.6	32
AR87-04-05		33	201	0.5	25
AR87-05-01		44	279	1.2	38
AR87-05-02		34	264	0.5	35
[illegible]87-06-01		35	337	1.2	31
AR87-06-02		45	308	0.8	35
AR87-06-03		23	212	0.8	23
AR87-07-01		37	496	1.4	87
AR87-07-02		64	433	1.5	43
AR87-07-03		38	403	1.6	48
AR87-08-01		30	309	0.5	27
AR87-09-01		21	264	0.5	30
AR87-09-02		58	453	6.0	49
AR87-10-01		25	307	0.4	26
AR87-10-02		38	343	0.7	41
AR87-10-03		80	430	3.5	62
AR87-11-01		109	792	3.3	97
AR87-11(A)-01		44	460	1.6	29
AR87-11(A)-02		72	437	4.3	45
AR87-11(A)-03		94	618	2.4	65
AR87-12-01		58	588	1.7	51
AR87-12-02		80	506	1.6	66
AR87-12-03		72	437	2.0	42
AR87-13-21		88	582	3.2	53
AR87-13-22		66	398	1.9	38
[illegible]7-13-23		61	407	4.2	44

MINUS 250 MESH ANALYSES

Bondar-Clegg & Company Ltd.
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BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-5005 (COMPLETE)

REFERENCE INFO: ODM DATA

CLIENT: ALMADEN RESOURCES CORP.
PROJECT: ROSE

SUBMITTED BY: ODM
DATE PRINTED: 20-OCT-87

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Cu	Copper	47	1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
2	Zn	Zinc	47	1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
3	Ag	Silver	47	0.1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
4	Pb	Lead	47	2 PPM	HCl-HNO3, (1:3)	Atomic Absorption

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
PREPARED PULP	47	AS RECEIVED	47	AS RECEIVED, NO SP	47

REMARKS: < MEANS LESS THAN.

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Geochemical Lab Report

REPORT: 017-5005

PROJECT: ROSE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Pb PPM
AR87-14-01		19	118	1.6	9
AR87-14-02		36	194	3.4	22
AR87-14-03		51	242	3.1	24
AR87-14-04		56	273	2.2	21
AR87-14-05		62	315	3.5	23
AR87-14-06		53	275	2.9	28
AR87-14-07		52	235	2.1	25
AR87-15-01		185	1136	9.0	129
AR87-15-02		48	295	3.8	32
AR87-15-03		72	563	1.3	17
AR87-15-04		49	366	2.8	18
AR87-15-05		39	227	2.0	17
AR87-15-06		43	336	3.7	16
AR87-15-07		44	249	4.1	16
AR87-16-04		19	120	1.2	6
AR87-16-06		28	76	0.8	6
AR87-17-04		90	8490	3.5	37
AR87-17-05		26	484	1.7	25
AR87-17-06		14	118	0.4	5
AR87-18-05		18	151	0.4	8
AR87-18-06		22	104	0.5	5
AR87-18-07		28	69	0.4	2
AR87-19-01		35	366	0.5	58
AR87-19-02		35	205	1.0	27
AR87-19-03		31	160	1.0	14
AR87-20-03		68	569	4.5	88
AR87-20-04		56	673	4.6	98
AR87-20-05		20	139	0.8	13
AR87-21-04		31	275	0.2	5
AR87-21-05		42	545	0.5	14
AR87-21-06		26	510	0.5	4
AR87-21-07		25	454	0.5	4
AR87-22A-01		24	359	1.4	47
AR87-22A-02		66	463	6.7	76
AR87-22A-03		82	418	2.2	52
AR87-22A-04		75	561	4.1	98
AR87-22A-05		40	489	8.8	81
AR87-22A-06		61	532	7.1	91
AR87-22A-07		50	566	3.2	121
AR87-22A-08		45	286	5.4	44
AR87-22A-09		81	305	8.5	46
AR87-22A-10		78	224	5.6	30
AR87-22A-11		41	123	1.2	15
AR87-23-01		37	277	1.1	21
AR87-23A-01		69	611	1.7	35
AR87-23A-02		48	558	1.0	32
AR87-23A-03		35	338	0.9	12

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-4739 (COMPLETE)

REFERENCE INFO: ODM DATA

CLIENT: ALMADEN RESOURCES CORP.
PROJECT: ROSE

SUBMITTED BY: ODM
DATE PRINTED: 5-OCT-87

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Cu	Copper	41	1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
2	Zn	Zinc	41	1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
3	Ag	Silver	41	0.1 PPM	HCl-HNO3, (1:3)	Atomic Absorption
4	Pb	Lead	41	2 PPM	HCl-HNO3, (1:3)	Atomic Absorption

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
HEAVY MINERAL CONC.	47	-200	47	PULVERIZE -200	47

REMARKS: < MEANS LESS THAN.

REPORT COPIES TO: 807-475 HOWE ST.
OVERBURDEN DRILLING MGNT.

INVOICE TO: 807-475 HOWE ST.

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 017-4739

PROJECT: ROSE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Pb PPM
AR87-14-01-3/4		242	472	14.2	68
AR87-14-02-3/4		300	1390	34.4	121
AR87-14-03-3/4		576	3860	63.7	204
AR87-14-04-3/4		768	4790	68.7	204
AR87-14-05-3/4		1018	11200	88.7	169
AR87-14-06-3/4		726	5510	54.7	241
AR87-14-07-3/4		499	3200	65.7	218
AR87-15-01-3/4		736	1045	22.7	105
AR87-15-02-3/4		339	1700	20.0	255
AR87-15-03-3/4		550	304	10.0	36
AR87-15-04-3/4		444	3425	39.4	187
AR87-15-05-3/4		390	3045	45.7	164
AR87-15-06-3/4		400	3215	55.7	164
AR87-15-07-3/4		420	3955	53.7	171
AR87-16-04-3/4		IS	IS	IS	IS
AR87-16-06-3/4		IS	IS	IS	IS
AR87-17-04-3/4		358	3325	64.7	176
AR87-17-05-3/4		668	7130	85.4	712
AR87-17-06-3/4		IS	IS	IS	IS
AR87-18-05-3/4		194	2075	16.5	212
AR87-18-06-3/4		IS	IS	IS	IS
AR87-18-07-3/4		456	436	5.7	29
AR87-19-01-3/4		113	372	6.8	136
AR87-19-02-3/4		167	462	5.6	110
AR87-19-03-3/4		98	257	7.4	50
AR87-20-03-3/4		202	646	7.6	219
AR87-20-04-3/4		195	990	9.0	369
AR87-20-05-3/4		211	354	4.1	43
AR87-21-04-3/4		174	939	6.8	174
AR87-21-05-3/4		256	1990	12.0	46
AR87-21-06-3/4		IS	IS	IS	IS
AR87-21-07-3/4		IS	IS	IS	IS
AR87-22A-01-3/4		103	325	5.3	65
AR87-22A-02-3/4		221	520	8.5	149
AR87-22A-03-3/4		156	447	7.7	142
AR87-22A-04-3/4		293	608	17.5	305
AR87-22A-05-3/4		250	722	15.5	309
AR87-22A-06-3/4		471	1495	26.6	882
AR87-22A-07-3/4		347	6530	35.6	1075
AR87-22A-08-3/4		418	1515	40.6	866
AR87-22A-09-3/4		248	561	15.7	245
AR87-22A-10-3/4		241	650	20.7	113
AR87-22A-11-3/4		330	492	46.6	8
AR87-23-01-3/4		148	342	10.4	68
AR87-23A-01-3/4		210	596	6.6	95
AR87-23A-02-3/4		596	1375	19.7	176
AR87-23A-03-3/4		451	893	20.5	127

APPENDIX III

STREAM GEOCHEMISTRY RESULTS

ACME ANALYTICAL LABORATORIES
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JUNE 23 1987
DATE REPORT MAILED: July 3/87..

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: STREAM SED - 20 mesh & Pulverizing

ASSAYER: D Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

ALMADEN RESOURCES File # 87-1941 Page 1

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
A+00	9	13	208	.4	3
A+01	13	13	228	.5	3
A+02	10	12	214	.4	5
A+03	13	11	249	.7	2
A+04	15	14	255	.6	3
A+05	12	14	241	.5	4
A+06	20	14	322	.9	3
A+07	16	14	302	.7	5
A+08	13	14	301	1.4	4
A+09	16	15	289	.6	5
A+10	15	13	294	.6	2
A+11	24	20	550	1.0	3
A+12	20	17	504	.9	3
A+13	18	16	430	.6	4
A+14	16	9	368	.6	4
A+15	18	13	446	.9	2
A+16	23	14	537	1.1	4
A+17	18	16	418	.8	2
A+18	16	18	392	.6	2
A+19	17	11	397	.8	3
A+20	13	18	267	.5	2
A+21	17	12	358	.9	5
A-01	12	15	214	.6	2
A-02	11	12	193	.7	2
A-03	12	15	219	.6	2
A-04	12	16	211	.5	2
A-05	12	14	242	.6	4
A1+0	16	19	161	.7	2
A1+1	19	25	209	1.3	2
A1+2	21	22	219	1.5	4
A1+3	19	25	200	1.5	5
A1+4	12	33	154	.7	4
A2+0	30	15	316	2.8	3
A3+0	37	16	261	3.0	2
A4+0	29	17	514	1.4	3
A4+1	26	14	466	1.3	2
STD C	56	38	125	7.0	38

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
A4+2	34	10	741	1.6	3
A4+3	23	5	664	.4	2
A4+4	28	8	744	1.1	2
A4+5	29	15	620	1.2	2
A4+6	24	7	530	.8	3
B+00	10	16	119	.3	2
B+01	9	13	125	.3	3
B+02	12	15	115	.5	3
B+03	13	19	144	.3	3
B+04	84	28	180	.6	38
B+05	12	22	142	.5	2
B+06	16	14	155	.4	2
B+07	9	14	129	.4	2
B+08	8	13	113	.4	2
B+09	11	19	133	.3	3
B+10	12	21	153	.3	3
B+11	12	22	156	.5	2
B+12	16	20	185	.5	5
B+13	12	23	157	.5	3
B+14	13	17	162	.4	2
B+15	13	18	160	.6	3
B+16	12	19	148	.4	3
B+17	13	21	175	.4	5
B+18	14	20	176	.5	2
B+19	17	19	229	.7	2
B+20	19	24	298	.9	2
B+21	18	16	247	.8	3
B+22	15	22	206	1.0	5
B+23	16	19	250	1.2	3
B+24	16	19	207	.8	2
B+25	7	7	139	.5	5
B+26	4	2	91	.1	3
B+28	7	5	130	.3	2
B+29	3	5	74	.1	4
B+30	11	11	204	.1	4
B+31	8	5	221	.1	4
STD C	58	38	132	6.8	40

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
B+32	15	15	280	.2	7
B+33	11	13	230	.1	4
B+34	10	8	113	.2	5
B+35	10	9	113	.1	4
B+36	17	17	138	.3	3
B+37	11	9	103	.2	2
B+38	11	23	97	.1	4
B+39	11	23	104	.3	3
B+40	15	20	129	.4	2
B+41	15	24	135	.3	5
B+42	14	25	141	.3	4
B+43	10	22	128	.3	5
B+44	10	18	121	.2	2
B+45	15	25	221	.8	5
B+46	16	18	213	.8	3
B+47	16	21	209	.8	4
B+48	19	15	225	1.1	6
B+49	20	22	260	1.5	4
B+50	15	20	222	.9	6
B+51	9	11	186	.5	4
B+52	8	12	152	.5	4
B+53	15	19	266	.7	5
B+54	32	46	900	1.4	10
B+55	22	28	695	1.0	8
B+56	58	37	1041	2.5	5
B1+00	7	11	97	1.0	2
B2+00	11	9	125	.3	2
B3+00	12	28	145	.2	4
B4+00	19	23	293	.7	4
B5+00	16	12	110	.5	4
C+00	11	13	136	.2	2
C+01	7	11	109	.1	2
C+02	7	9	114	.1	2
C+03	8	10	117	.2	4
C+03A	9	17	113	.1	3
C+04	10	12	129	.1	3
STD C	58	40	129	6.8	43

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
C+05	17	22	204	.1	2
C+06	13	19	137	.1	2
C+07	7	14	126	.1	2
C+08	8	13	139	.2	2
C+09	10	13	162	.1	2
C+10	10	12	189	.1	2
C+11	8	13	188	.1	2
C+12	13	15	207	.1	2
C+13	12	17	217	.1	3
C+14	10	15	157	.1	2
C+15	9	12	111	.2	2
C+16	11	14	116	.1	2
C+17	11	14	119	.2	3
C+18	12	16	117	.1	4
C+19	10	19	127	.1	2
C+20	5	11	107	.2	2
C1+00	13	27	145	.8	6
C1A+00	30	18	189	1.1	2

ACME ANALYTICAL LABORATORIES
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JUNE 29 1987
DATE REPORT MAILED: July 3/87...

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H20 AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-SOIL P2-SILT

ASSAYER: .... DEAN TOYE, CERTIFIED B.C. ASSAYER

ALMADEN RESOURCES File # 87-2043 Page 1

SAMPLE#	CU PPM	PB PPM	AG PPM
CA 1	43	37	.6
CA 2	18	30	.1
CA 3	43	36	.8
CA 4	18	24	.4
D+00	12	15	.5
E2+00	26	14	.5
E2+01	25	16	.5
E2+02	19	21	.9
E2+03	20	25	.7
E2+04	19	32	.5
STD C	60	42	7.0

ACME ANALYTICAL LABORATORIES
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JUNE 29 1987
DATE REPORT MAILED: July 3/87

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-SOIL P2-SILT

ASSAYER: .... DEAN TOYE, CERTIFIED B.C. ASSAYER

ALMADEN RESOURCES File # 87-2043 Page 1

SAMPLE#	CU PPM	PB PPM	ZN PPM
CA 1	43	37	271
CA 2	18	30	230
CA 3	43	36	276
CA 4	18	24	183
D+00	12	15	107
E2+00	26	14	1742
E2+01	25	16	2299
E2+02	19	21	382
E2+03	20	25	324
E2+04	19	32	304
STD C	60	42	135

SAMPLE#	CU PPM	PB PPM	AG PPM
ADIT	36	76	1.0
D+01	16	15	.1
D+02	18	13	.1
D+03	24	16	.1
D+04	27	14	.1
D+05	73	22	1.2
D+06	16	17	.2
D+07N	13	20	.1
D+07S	26	29	.1
D+08N	23	17	.1
D+09	24	26	.1
D+10	22	20	.1
D1+00	14	18	.2
E+00	19	16	.1
E+01	17	14	.1
STD C	57	40	6.9
E+02	14	17	.1
E+03	22	11	.1
E+04	15	18	.2
E+05	16	17	.2
E+06	18	20	.1
E+07	26	15	.2
E+08	18	15	.1
E+09	26	20	.1
E+10	24	16	.1
E+11	20	15	.1
E+12	19	13	.2
E+13	29	18	.2
E1+00	24	18	.1
E3+00	42	11	.2
L-1	8	10	.1

APPENDIX IV

SOIL GEOCHEMISTRY RESULTS

ACME ANALYTICAL LABORATORIES   DATE RECEIVED: JUL 23 1987
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158   DATA LINE 251-1011   DATE REPORT MAILED: July 31/87

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-5 SOILS P6-HUMUS P7-ROCK

ASSAYER: D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

ALMADEN RESOURCES   File # 87-2645   Page 1

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
S 11+150W	7	13	314	1.0	2
S 11+100W	32	21	499	3.5	4
S 11+050W	42	37	380	3.5	4
S 10+200W	6	15	220	.9	2
S 10+150W	22	13	175	1.0	2
S 10+100W	32	16	247	2.3	2
S 10+050W	16	15	246	1.2	2
S 10+000W	7	20	385	.8	2
S 9+300W	6	4	215	.8	2
S 9+250W	7	11	240	.8	4
S 9+200W	10	20	352	1.7	3
S 9+150W	11	11	227	1.5	2
S 9+100W	15	11	326	1.2	2
S 9+000W	34	45	327	2.1	3
S 8+300W	15	19	380	1.3	3
S 8+250W	10	19	355	1.1	3
S 8+200W	11	22	410	1.2	2
S 8+150W	9	19	339	.7	2
S 8+100W	10	20	309	.8	2
S 8+050W	7	19	265	.6	3
S 8+000W	39	22	363	3.2	2
S 7+150W	10	29	321	.8	4
S 7+100W	11	40	431	1.2	2
S 7+050W	15	38	423	1.1	7
S 7+000W	13	31	407	1.3	4
S 6+150W	11	16	289	.5	4
S 6+100W	13	20	246	.9	2
S 6+075W	13	15	293	.8	3
S 6+050W	14	19	271	1.0	2
S 6+025W	25	16	370	1.3	3
S 6+000W	24	16	257	1.3	3
S 5+200W	12	21	320	1.4	2
S 5+150W	16	19	342	1.4	4
S 5+100W	17	21	269	1.3	3
S 5+075W	16	23	347	1.6	4
S 5+050W	19	19	352	1.8	3
STD C	61	40	132	7.2	39

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
S 5+025W	22	8	358	1.8	6
S 5+000W	29	23	291	1.4	8
S 4+00W	16	8	110	.2	6
S 3+125W	11	21	396	.5	4
S 3+100W	11	27	525	1.0	5
S 3+75W	14	18	429	.6	8
S 3+50W	11	16	321	.8	5
S 3+25W	19	8	329	1.1	5
S 3+00W	15	33	208	.6	5
S 2+50W	19	18	277	.8	6
S 2+25W	36	22	470	2.7	8
S 2+00W	12	15	500	1.0	4
S 1+25W	13	25	470	.7	6
S 1+00W	13	26	426	1.0	6
S 1+00E	13	24	203	.9	5
S 1+25E	8	12	373	.8	5
S 2+00E	11	14	228	.5	3
S 2+25E	11	15	272	.4	3
S 2+50E	13	8	291	.5	4
S 2+75E	17	5	242	.5	3
S 2+100E	13	9	363	.7	5
S 3+00E	13	11	229	.4	4
S 3+25E	13	12	189	.7	5
S 3+50E	11	7	187	.4	2
S 3+75E	11	12	216	.4	5
S 3+100E	13	7	198	.4	5
S 4+00E	22	15	240	1.4	7
S 5+00E	16	21	317	.9	6
S 5+25E	34	16	291	1.5	7
STD C	59	38	130	7.3	39
S 5+50E	18	12	287	1.5	6
S 5+75E	18	16	359	1.2	5
S 5+100E	11	9	132	.3	4
S 5+150E	11	13	209	.3	5
S 5+200E	18	21	257	.5	4
S 6+00E	60	27	603	8.9	10
S 6+25E	22	21	303	1.2	7
S 6+50E	35	15	259	2.2	6

ALMADEN RESOURCES FILE # 87-2645

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
S 6+75E	26	31	403	1.4	3
S 6+100E	12	18	292	.7	2
S 6+150E	16	24	305	.7	2
S 6+200E	18	18	206	.5	2
S 6+250E	21	29	253	1.0	4
S 7+00E	54	30	510	4.0	5
S 7+50E	16	27	284	.7	3
S 7+100E	12	29	325	.8	2
S 7+150E	11	28	247	.4	4
S 7+200E	10	30	266	.5	3
S 8+00E	34	31	403	3.2	2
S 8+50E	22	30	390	1.1	3
S 8+100E	13	26	380	1.1	3
S 8+150E	8	21	428	.7	2
S 8+200E	12	23	341	1.4	2
S 8+250E	11	19	230	.6	3
S 9+50E	19	22	326	1.1	2
S 9+100E	17	15	223	1.3	2
S 9+150E	10	11	107	.5	2
S 9+200E	16	17	382	1.6	4
S 9+250E	10	16	295	2.0	2
S 10+100E	18	29	336	2.2	3
S 10+150E	10	18	214	.4	2
S 10+200E	22	22	423	3.5	2
S 10+250E	13	24	305	1.8	2
S 11+00E	23	24	252	2.0	3
S 11+50E	106	47	591	10.2	8
S 11+100E	18	24	352	1.3	2
S 11+150E	22	28	308	1.6	3
S 11+200E	16	17	181	1.7	2

ACME ANALYTICAL LABORATORIES
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: SEPT 2 1987
DATE REPORT MAILED: Sept. 13/87

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-2 SOIL P3 ROCK

ASSAYER: D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

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SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
S 10A+250W	18	11	326	1.2	8
S 10A+200W	21	8	277	1.7	7
S 10A+150W	48	30	499	4.5	7
S 10A+100W	37	17	403	3.1	11
S 10A+50W	16	12	444	.8	6
S 10A+0W	18	13	300	2.4	5
S 10A+50E	20	14	379	.8	6
S 10A+100E	27	21	495	1.6	6
S 10B+200W	30	16	337	2.6	9
S 10B+150W	10	10	282	1.6	5
S 10B+100W	11	17	492	1.9	7
S 10B+50W	19	13	361	1.4	5
S 10B+0W	17	17	325	1.5	7
S 10B+50E	20	28	295	1.7	7
S 10B+100E	26	23	487	1.4	5
S 11+60E	59	26	460	4.2	5
S 12+00E	40	22	364	2.0	10
S 12+50E	20	34	444	1.1	6
S 12+100E	17	25	353	.6	10
S 12+150E	31	28	464	1.4	8
S 12+200E	19	33	304	.5	10
S 13+50W	16	26	290	.9	9
S 13+00E	19	35	394	1.1	8
S 13+50E	18	30	420	1.3	6
S 13+100E	14	29	452	1.1	8
S 13+150E	14	10	157	.3	3
S 13+200E	17	15	278	.9	7
S 14+100W	18	19	340	1.2	7
S 14+50W	20	23	353	.9	7
S 14+00E	33	31	411	.9	7
S 14+50E	17	18	252	.7	7
S 14+100E	21	23	328	1.9	6
S 14+150E	13	19	246	1.4	6
S 14+200E	17	20	235	.8	8
S 15+250W	24	22	376	1.2	8
S 15+200W	17	16	373	.7	7
STD C	59	41	131	7.2	42

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM
S 15+150W	20	26	383	.4	8
S 15+100W	14	18	265	.6	6
S 15+50W	17	18	348	.9	7
S 15+00E	25	29	338	.8	7
S 15+50E	18	18	269	.8	6
S 15+100E	14	15	233	.3	8
S 15+150E	16	15	175	.4	6
S 15+200E	16	11	212	1.1	3
S 16+300W	20	25	243	.4	6
S 16+250W	17	25	308	.9	6
S 16+200W	15	28	332	1.2	7
S 16+150W	13	24	283	.9	6
S 16+100W	13	16	231	1.2	7
S 16+50W	15	18	228	.5	8
S 16+00E	14	12	222	.6	8
S 16+50E	16	14	236	.7	7
S 16+100E	14	13	172	.2	6
S 16+150E	34	36	325	1.9	5
S 16+200E	22	26	269	.6	6
S 17+300W	17	21	283	.6	4
S 17+250W	16	24	259	.8	7
S 17+200W	12	24	299	.6	6
S 17+150W	18	24	342	1.0	2
S 17+100W	11	13	135	.4	3
S 17+50W	14	20	205	.4	5
S 17+00E	14	10	175	.2	7
S 17+50E	15	16	170	.1	4
S 17+100E	15	10	187	.4	5

APPENDIX V

STATEMENT OF COSTS

STATEMENT OF COSTS

1. OVERBURDEN DRILLING:

Drilling	$27,022.50
linecutters	
17 man days @ $120/man day	2,040.00
Geologist + ass't	
25 days @ $200/day	5,000.00
Room	
" " $35/man/day	1,750.00
Meals	
" " $20/man/day	1,000.00
Materials	
various - sample bags, flagging tape, fuel, etc.	300.00
Sample Preparation & Analysis	
84 samples for Cu, Pb, Zn, Ag by heavy mineral and -250 mesh @ $37.50/sample	3150.00
Consultant	
6 days @$300/day	1800.00
airfare	1100.00

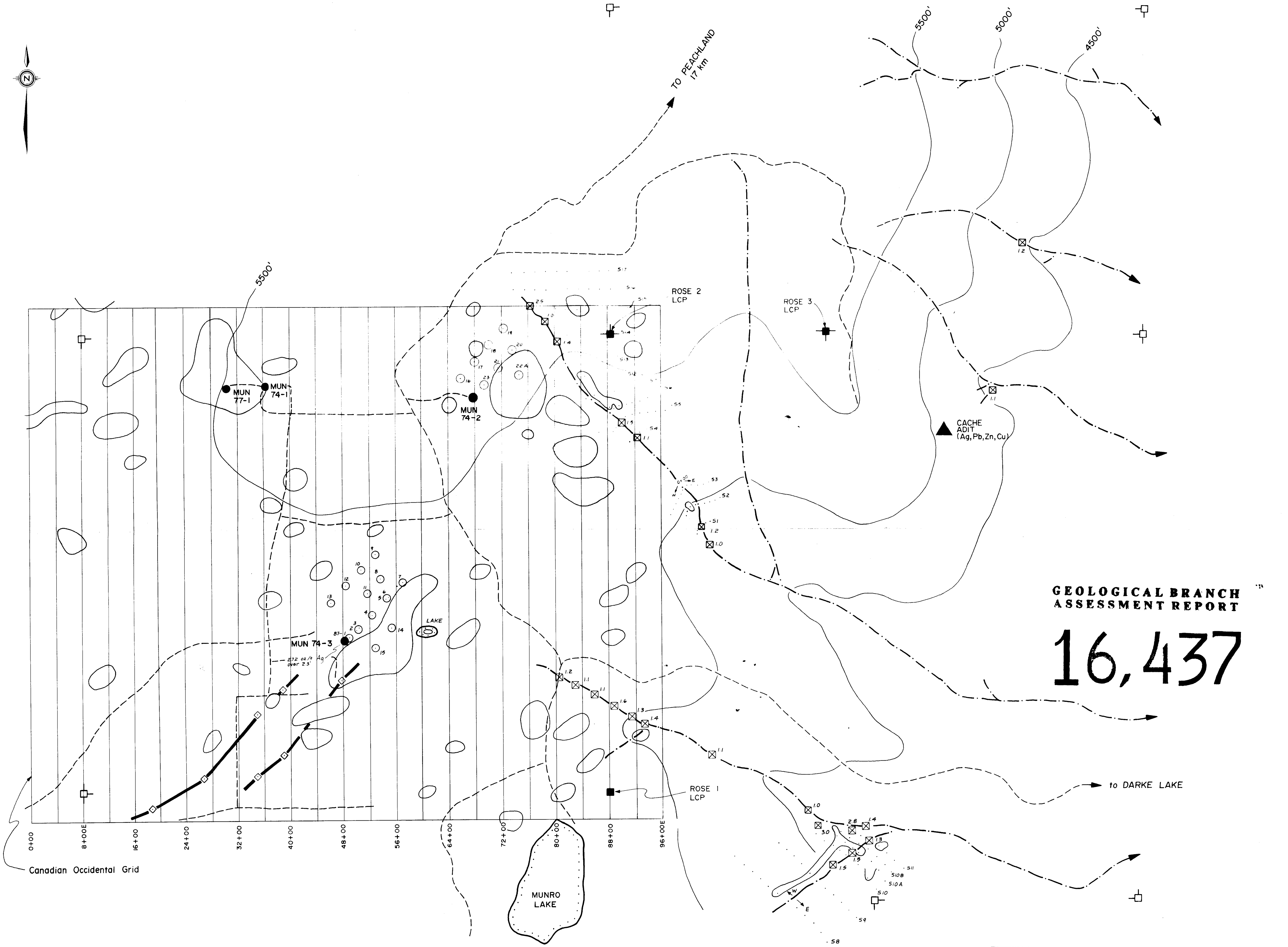
2. GEOCHEMICAL SURVEYS:

Geologist + ass't	
18 days @$200/day	3600.00
Sample Analysis	
293 samples for Cu, Pb, Zn, Ag, As @$6.25/sample	1831.25
40 " " Cu, Pb, Zn, Ag @6.25/sample	250.00
Room	
17 days @$35/man/day	1190.00
Meals	
18 days @$20/man/day	360.00
Material	
various	100.00

3. REPORT PREPARATION:

Geologist	
10 days @$200/day	2000.00
Drafting	265.75
Materials various	26.75
Copying	46.45

TOTAL COSTS	$51,842.70



GENERAL	OVERBURDEN TESTING	GEOPHYSICS	GEOCHEMISTRY
dirt roads	overburden drill hole	VLF-EM crossover / conductor axis	soil sample location
streams	previous ddh's		2 ppm Ag contour in soils
topographic contours (500' interval)			stream sample location
lake			anomalous value in stream sediments ppm Ag
claim corner post			

ALMADEN RESOURCES CORPORATION

ROSE CLAIM GROUP

1987 COMPILATION

200 0 100

Metres

SCALE:	DATE:	N.T.S.	DRAFTED BY:
1:1,000	NOV. '87	82E/13E	BDS/djc