

REPORT ON GEOLOGICAL WORK DONE ON BLACK BEAR,
ALDEBARAN, AND I'LL CHANCE IT CLAIMS, ALICE ARM
AREA. B. C. IN 1981.

Skeena Division, Cassiar District.

Claims located on NTS Aiyansh Sheet, 102 F/6.
Group centered on $54^{\circ} 29' 30''$ N and $128^{\circ} 29' 24''$ W

Claims now owned by Aldebaran Silver Mines Inc., but
formerly the Esperanza, Lori or ABB Syndicate group
or part thereof.

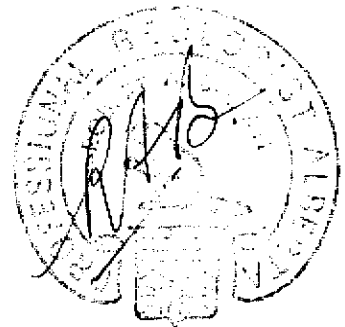
work done by ABB under contract with Aldebaran Silver
and under the supervision of Robert A. Brown, Ph.D, P. Geol.

10,154

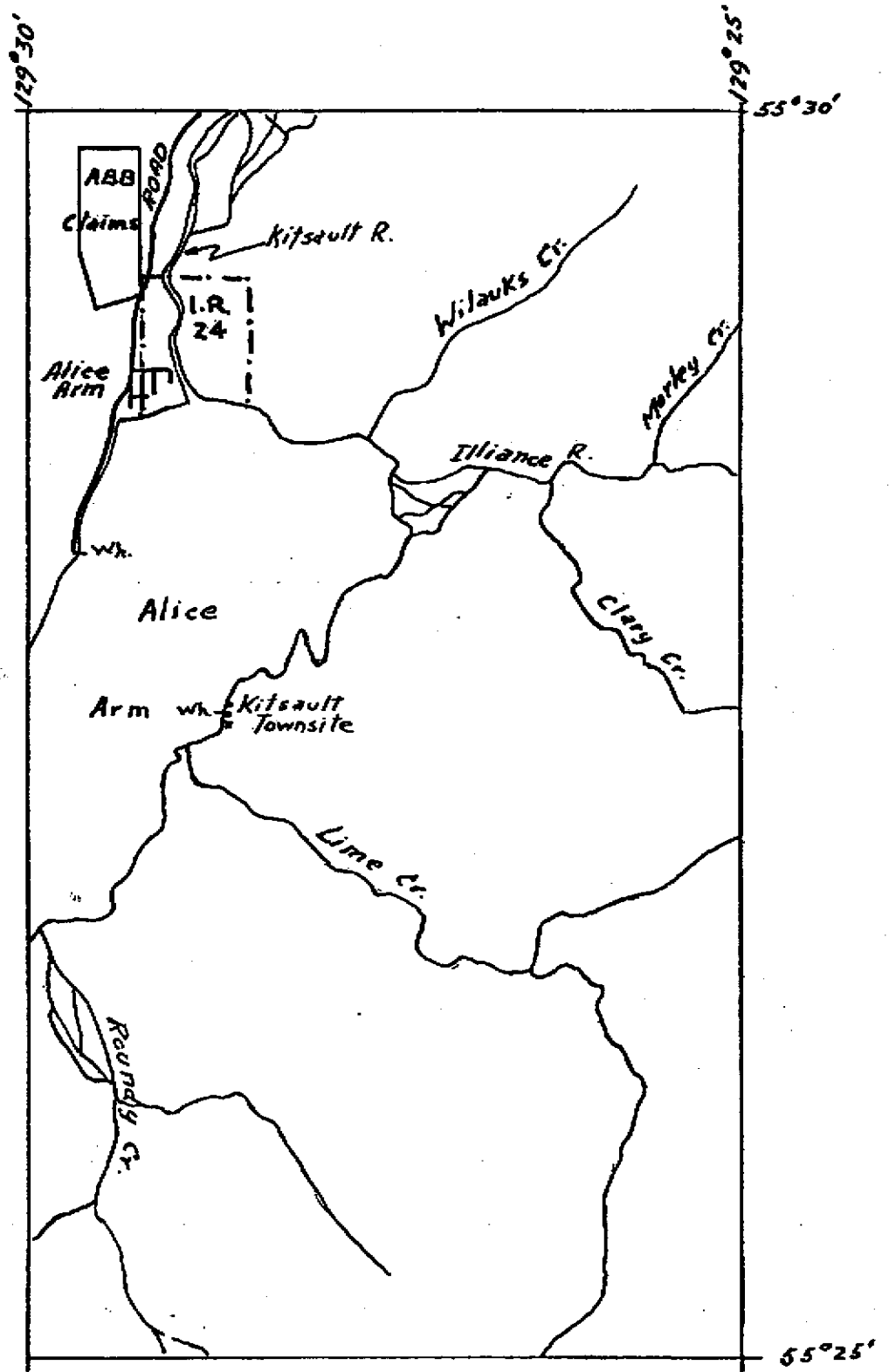


Robert A. Brown, P. Geol.
Consultant and author.

Victoria,
British Columbia,
February 1982.



FRONTISPIECE



0 0.5 1 mile

0 1000 2000 metres

1:50,000

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Robert A. Brown

GEOLOGIST

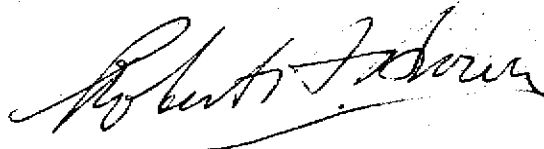
798 Langham Court,
Victoria, British Columbia
Canada
V8V 4J2

February 16, 1982.

DECLARATION

I, Robert A. Brown, declare the following:

- 1.. I am a professional geologist, a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta since July 1971.
- 2.. I hold the degree of Ph.D. from McGill University.
- 3.. I have actively practised the profession of geology since 1939 as a mine geologist, a petroleum geologist, and a consultant. Since 1970 I have been an instructor in geology at University of Victoria.
- 4.. I am a member of ABB Syndicate, and a shareholder and President-manager of Aldebaran Silver Mines Inc.
- 5.. I have personal knowledge of the claims reported on herewith by reason of having performed work on them in 1975, 1976, and 1981 myself, and having planned and supervised the work done in 1980.



Robert A. Brown, Ph.D.
P. Geol.



INTRODUCTION

Location.

The group of claims here reported on is in the Skeena Mining Division, the group being centered on $54^{\circ} 29' 30''$ N and $128^{\circ} 29' 24''$ W. The south boundary of the group is approximately two km. north of the Alice Arm government wharf and the east boundary is approximately 100 m. west of the road leading north up the west bank of Kitsault river to the Dolly Varden Mine (the Dolly road). (See Index Map, Frontispiece.)

Geography.

The claims are on the west wall of the Kitsault river valley so that their surface slopes generally eastward. The slopes are steep, up to 40° in places.

Second growth mixed timber is dense and there is heavy undergrowth.

Outcrops are not abundant except along Bear creek. Bedrock is generally covered by up to six feet or more of soil, till, and scree.

Several small creeks flow eastward across the claims. Bear creek is the only one with a fairly uniform summertime flow. It flows in a small gorge with vertical walls some tens of feet high and there are numerous falls and cascades along its course across the claims.

Access.

Access to Alice Arm is by commercial airline or barge from Prince Rupert some 140 km. to the south; the former provides passenger and light freight service, the latter freight service only. In the summer of 1981 helicopters were based at Kitsault and were available for charter service within the area.

From Alice Arm access to the claims is by the gravelled allweather Dolly road to a trail that branches from the road at a point 0.24 km. south of the southeast corner of the group. The trail is now passable only on foot. The

portion lying in Aldebaran and I'll Chance It was improved in 1968 to a four-wheel-drive track but has since deteriorated because of blowdown, small landslides and minor washouts. Access to Black Bear is by the old packhorse trail running north from the South fork of Bear creek. (See accompanying compilation map.)

History.

The claims were staked in 1908 and surveyed in 1911. The surveyed boundaries are not now readily recognizable.

The three claims here discussed have passed through several ownerships including the Esperanza and Lori organizations. After Lori ceased active operations about 1969 the claims reverted and were then acquired by Angelo Lorinde who had been a principal owner of Lori. In 1974 Lorinde formed a partnership with G.S. Brown and R.A. Brown (the ABB Syndicate) and while retaining registered ownership of the claims gave an undivided one-third interest in the claims to each of the other partners.

Starting soon after the staking of the claims the various owners did development work on them. Most of the work was done on Aldebaran and the adjacent part of Black Bear. Nine adits and two small open cuts were opened on Aldebaran and two adits on Black Bear. Stopes were opened on most of the longer adits. The largest volume of rock was stoped from adit 4 upward to adit 2a. (See accompanying compilation map.) In addition small amounts of rock were blasted out of the walls of the Bear creek gorge and from the cliff face running northward from the north portal of adit 3 to a point in the creek below the adit 1 portal. The 1931 Annual Report of the B.C. Department of Mines mentions adit 9 but does not give its location. The author has been unable to find any map or report that does give a location for adit 9. It may be the short adit located north of adit 1, though Inge Fiva (personal communication) says that adit was driven shortly after the discovery of the property by

the original stakers. Angelo Lorinde (personal communication) thinks that adit 9 may have been driven below adit 3 or 4 and that the portal is now buried below one of the dumps.

In 1942 W.H. Mathews examined the adits and dumps to evaluate the possibility of producing scheelite as a byproduct of silver extraction. Scheelite is a minor accessory mineral in the silver ore but not in amount sufficient to warrant attempts at its recovery according to Mathews. In his unpublished report he mentions that a small mill was on the property at that time. An earlier letter (unsigned) from a "resident engineer" to the secretary treasurer of Esperanza recommends the building of a small mill on the property. This letter is dated 3rd February 1925. The 1935 annual report of the Department of Mines states that a small mill was built that year.

In 1968 the most comprehensive study that had been done up to that date was done for Lori by McDonald Consultants Limited. Their geologist, Wober, spent a short period on the claims concentrating his investigation on the area around the workings on Black Bear and Aldebaran. He compiled the results of previous work with his own. His map shows adits 1 through 8 and the area immediately adjacent to them.

In 1969 McDonald consultants logged the six holes that been drilled on Aldebaran that year and produced a number of cross sections through the drill holes.

One other diamond drill hole is said to have been drilled from just inside the portal of adit 4. In a letter from a James Bush to a Mr. Harris, dated July 12, 1958 the former states that sludge samples from this hole assayed 90 ounces of silver per ton. There is no further record of this drilling.

The mill does not seem to have operated after 1969. Only the foundations now remain, and a small dump of crushed ore lies nearby.

In 1968 the pack trail was improved to make it

passable for a Jeep and an additional piece of road was constructed to a point above the west drift of adit 4 to give access to the site of drill hole 69-4.

From 1911 to 1955 B.C.D.M. Annual Reports record shipments of selected highgrade ore from the property to various smelters. If shipments were made after 1955 the author has not been able to find a record of them. Up to 1955 a total of 4987 tons was shipped. This tonnage yielded 143155 ounces of silver and 257 ounces of gold as well as minor amounts of lead, zinc and copper. Much more than this tonnage was mined from the stopes on Aldebaran and the adits on Black Bear most of which is now in the North Main and Waste dumps. The Annual Report of 1924 and the above mentioned letter from Resident Engineer both state that the average silver content of the dumps is 16 ounces per ton.

No work was done on the claims from 1969 until 1975 when G.S. and R.A. Brown of the newly formed ABB Syndicate visited them and located the two dumps now designated Main and Waste dumps and sampled them.

In 1976 these two men again sampled the Main dump and located the dump at the mill site and another very small dump between the mill and Main dumps which they also sampled. They also made a chain and compass survey of the trail from the Dolly road to the South fork of Bear creek and took character samples from several exposures in the vicinity of the northern adits. In each year they slashed out the underbrush that had grown up on the trail to make it more easily passable on foot.

In 1980 the claims were optioned for two years to Messers Treyvaud and Bertschmann representing Chimo Boreal mining company. Chimo then contracted with ABB to do exploration and prospecting of Black Bear and I'll Chance It as almost nothing was known or recorded about the

geology of these claims. Numerous exposures of veins not previously known to ABB were found and grab sampled. Other geologic observations were made and an approximate chain and compass and altimeter survey was run.

In 1981 ABB was again hired by Chimo Boreal to carry out a more detailed examination of Black Bear and Aldebaran. The veins which the 1980 and earlier work had shown to carry silver values of interest were revisited and channel sampled where possible. More chain and compass surveys were run to tie the latest findings to the resurvey of the east boundary of the claims which had been done for Dolly Varden Company in 1980. The North dump was sampled as previous attempts to locate it had been foiled by the dense underbrush which now covers it. The core from the 1969 drilling was relogged and resampled. The small dumps at adits 1, 7, and 8 were sampled.

In October 1981 negotiations were completed between ABB and the representatives of Chimo for the latter to take over ownership of the claims. They formed a new company, Aldebaran Silver Mines Inc. and ownership has now been transferred to this company.

TECHNICAL DATA

As has been previously noted by other workers, notably Carter and Wober (see Bibliography), the claims are on the west limb of a major anticlinal fold as most of the observed bedding planes in the "argillite" country rock dip towards the west. A poorly defined syncline trends north-northwest through Black Bear and Aldebaran. Dips on the North fork of Bear creek and near adits 6 and 7 indicate short anticlinal axes lying some 35 to 75 metres west of the north and south ends of the synclinal axis respectively. These are probably drag folds on the limb of the major anticline.

There are three types or forms of vein on the property. The vein present in adits 3 and 4 is in the form of a southward plunging anticline roughly coincident with the synclinal drag fold in the country rock. Numerous other veins are closely concordant with the bedding planes in the "argillite". All these veins are predominantly quartz with minor carbonate and carry various sulphides including pyrite, arsenopyrite, chalcopyrite, galena and others along with sparse scheelite. Ruby silver is fairly common and some native silver has been found in the veins. Traces to very small amounts of gold occur with the silver in most veins, but on the North fork of Bear creek some veins carry richer amounts of gold, in one case 4+ ounces per ton.

A third set of veins tends to strike northeast and to dip at 40° or steeper. These veins cut the bedding plane veins at several localities and are probably younger than them in all cases. These steeply dipping veins are generally barren or nearly so. They tend to be vuggy and to carry only pyrite and limonite in addition to the quartz.

The veins have probably been emplaced in openings produced by stresses of different orientations acting at different times. The bedding plane veins are probably penecontemporaneous with the development of the large regional folds.

Mineralization in the first two sets of veins is likely to have derived from the large batholithic body known to lie less than five km. west of the claims. The third barren set may be related to some younger intrusive that did not give off mineralizing emanations in this area.

Geological Compilation Map No. 8 (see bibliography) shows the area of the claims to be underlain by rocks of Middle and Upper Jurassic age described as "siltstone, greywacke, sandstone, conglomerate, and minor limestone".

In several reports dealing with the claims the country rock has been identified as argillite but little or no true argillite has been observed by the author. The rock is sandstone to siltstone in grain size and close to greywacke in composition with a fairly high content of dark colored minerals. Beds are generally regular and of moderate thickness. The rock is well indurated but not obviously metamorphosed.

Some basic dykes identified as lamprophyres by Wober and others are younger than the veins. They may be from the same igneous episode as the dyke swarms shown on Map No. 8.

The sampling and structural observations made in 1981 revealed that there may be two ore zones each 500 to 600 hundred feet (155 to 185 m.) long extending from the South to the North fork of Bear creek. (See Fig. 12.) The zones are nearly parallel to each other and to the regional northwesterly strike. They are about 38 m. apart at the north end and about 16m. apart at the south end.

Using arithmetic averages of the values shown by both grab and channel samples taken from exposures along the zones silver content of from 3.26 to 42.45 ounces per ton and gold values of from 1.258 to 0.046 ounces per ton have been calculated for different portions of the zones. Assuming a stope width of three feet and mining to a depth of 100 feet on the vein the two zones would produce 27,500 tons of muck of which from 16.6% to 33.3% would be ore. The ore might contain 95,555 ounces of silver and 2,246 ounces of gold.

The above calculations are extremely rough but they do indicate that this portion of Black Bear merits further investigation. To this end a drilling program

of three holes from a location midway along the zone and west of it has been recommended (see compilation map and Figs. 7, 8, and 9).

Re-evaluation of the information derived from the 1969 drilling and the latest cross sections based on surface and underground data confirm the author in his opinion that a considerable area between adit 4 and drill hole 69-2 may contain a continuation of the vein in adit 4 or a downdip extension of the vein in adit 4a and the stringer zone at locality B-13-81. Further testing of this possibility has also been recommended.

The recorded assays of sampling done prior to 1980 and the assays of the 1980 and 1981 sampling are all listed in Appendix I. The localities from which the samples were taken are shown on the accompanying geologic compilation map and on Figs. 10 and 11.

Appendix II lists the assay results of samples collected in 1981 including samples from the old drill core and from the North dump.

The samples from the dump were taken from two trenches dug to a depth of about 0.3 m., one trench running about east-west down the center of the dump and the other running about north-south midway between the top and bottom. Each sample represents material taken from a 2-, 3-, or 5-foot length of the trench.

The dump is at least four feet deep, though probably deeper, with lateral dimensions of 50 x 102 feet. Using the volume to ton value of 13.2 cubic feet per ton the dump contains 2782 tons. The average silver content is 2.38 ounces per ton. Old reports and letters as mentioned in the section on History (page 4) suggest that the above estimate of tonnage and grade is very conservative.

In addition to the geologic work done in 1981 a minor amount of chain and compass surveying was done to tie localities in the vicinity of adits 1 and 4 to the resurveyed east boundary of the claims at the southeast boundary of Black Bear.

Underbrush was again slashed out from the trail through the claims.

A condensed log of the 1981 fieldwork is as follows:

- June 12. R. Brown and K. deMill travel Victoria to Prince Rupert. Report to Mine Inspector's and Forestry Department offices.
- June 13 Arrive Alice Arm. Establish field office.
- June 14 Preliminary examination of North dump
- June 15 Logged core from 1969 drilling.
- June 16-18 Clearing underbrush and trenching North dump.
- June 19 Rain. office work.
- June 20-22 Completed trenching and sampling of North dump.
- June 23 Rain. office work.
- June 24 Completed logging and sampling of drill core.
- June 25 Rain. office work.
- June 26 Examined adits 7 and 8; sampled veins and dumps in vicinity.
- June 27 Rain. office work.
- June 28-
July 6 Examined and sampled veins on North fork, in vicinity of No. 1 and Discovery adits, in vicinity of adit 4a, and at localities B-10, -11, and -13 - 81.
- July 7-8 G. Brown arrives. Check Wolf claim to determine relationship to I'll Chance It.
- July 9 R. Brown returns to Victoria.
- July 10-15 G. Brown and K. deMill do tie-in survey to surveyed point on east boundary. Attempt to trace veins north from Discovery adit. Do additional sampling of exposures on Bear creek.

July 16 G. Brown and K. deMill return to Victoria.
 July 17-
 Oct. 19 R. Brown and K. de Mill do microscopic and other
 studies of samples, prepare maps and cross
 sections and write report on 1981 fieldwork.

EXPENSES OF 1981 FIELDWORK

Fee K. deMill, contract geologist.	
9 2/7 weeks at \$300.00/week	\$2785.72
Fee, R. Brown, consultant, 132 hours	6600.00
Fee, G. Brown, consultant, 52 hours	1820.00
Travel expense, 3 round trips Victoria- Alice Arm, taxis, and hotel	1230.00
Food supplies	498.71
Fuel, tools, survey and first aid supplies	599.09
Camp rental, 4 months at \$200.00	800.00
Postage, telephone, telegraph	46.88
Reproduction	40.77
Insurance	32.00
Trucking and casual labour	75.00
Assaying	1596.00
Miscellaneous	114.36
	<hr/>
	16238.53
Management fee 10% of total	1623.85
Total	<hr/> <u>17862.38</u>

BIBLIOGRAPHY
(With annotations)

- B.C. Minister of Mines. Annual Reports; the reports for 1914, 1916, 1918 to 1931 incl., 1933 to 1937 incl., 1941, 1945, 1947, 1948, 1968, 1969, and 1976 all mention the property which includes the claims here discussed, the work done on it, and ore shipped from it. Changes in ownership and acquisition of additional claims to be grouped with the original three are mentioned.
- Brown, R.A.; Reports of work done in 1975 and 1976 are filed with B.C.D.E.M.R.
- Bush, James; July 12, 1958. A letter to Mr. Harris mentions purchase of mining equipment, an examination of the property by an engineer (unnamed), the drilling of one diamond drill hole from which the sludge assayed 90 ozs. Ag/ton, and a small shipment of ore. Bush was apparently vice-president of Esperanza which held the claims at the time.
- Carter, N.; Personal communications; and contributions to several of the above Annual Reports, especially that for 1969.
- Carter, N., and Grove, E.W.; Geological Compilation Map of the Stewart, Anyox, Alice Arm, and Terrace Areas. Preliminary Map No. 8 of B.C.D.M. and P.R., scale 1:250,000. Not dated.
- Fiva, I.; Personal communications. Mr. Fiva, a long time resident of Alice Arm, worked on the claims several times between the 1920's and 1969. He worked both as a miner and as mine foreman. He has provided information about when and how work was done.
- McDonald Consultants Ltd.; 1969 or 1970. Maps and cross sections showing the 1969 drilling, core assays, and correlation with the veins in the adits are on file with B.C.D.E.M.R.

Mathews W.H.; September 1942. An unpublished report of B.C.D.E.M.R. dealing with the possibility of recovering scheelite from the ore in place and the dumps of Aldebaran. A mill was on the property at the time but Mathews concluded that the scheelite content of the ore and the nature of the mill would make the recovery impractical. There are some diagrams of the "roll structures" in the veins .

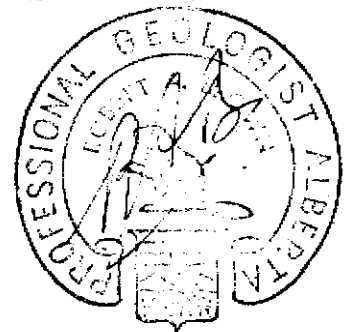
"Resident Engineer"; Feb. 3, 1925. An unsigned copy of a letter to R. Armour, secretary-treasurer of Esperanza Mines, recommends building of a 10-ton-per-day mill. Two dumps are mentioned which are estimated to contain 2000 tons averaging 16 ounces of silver per ton.

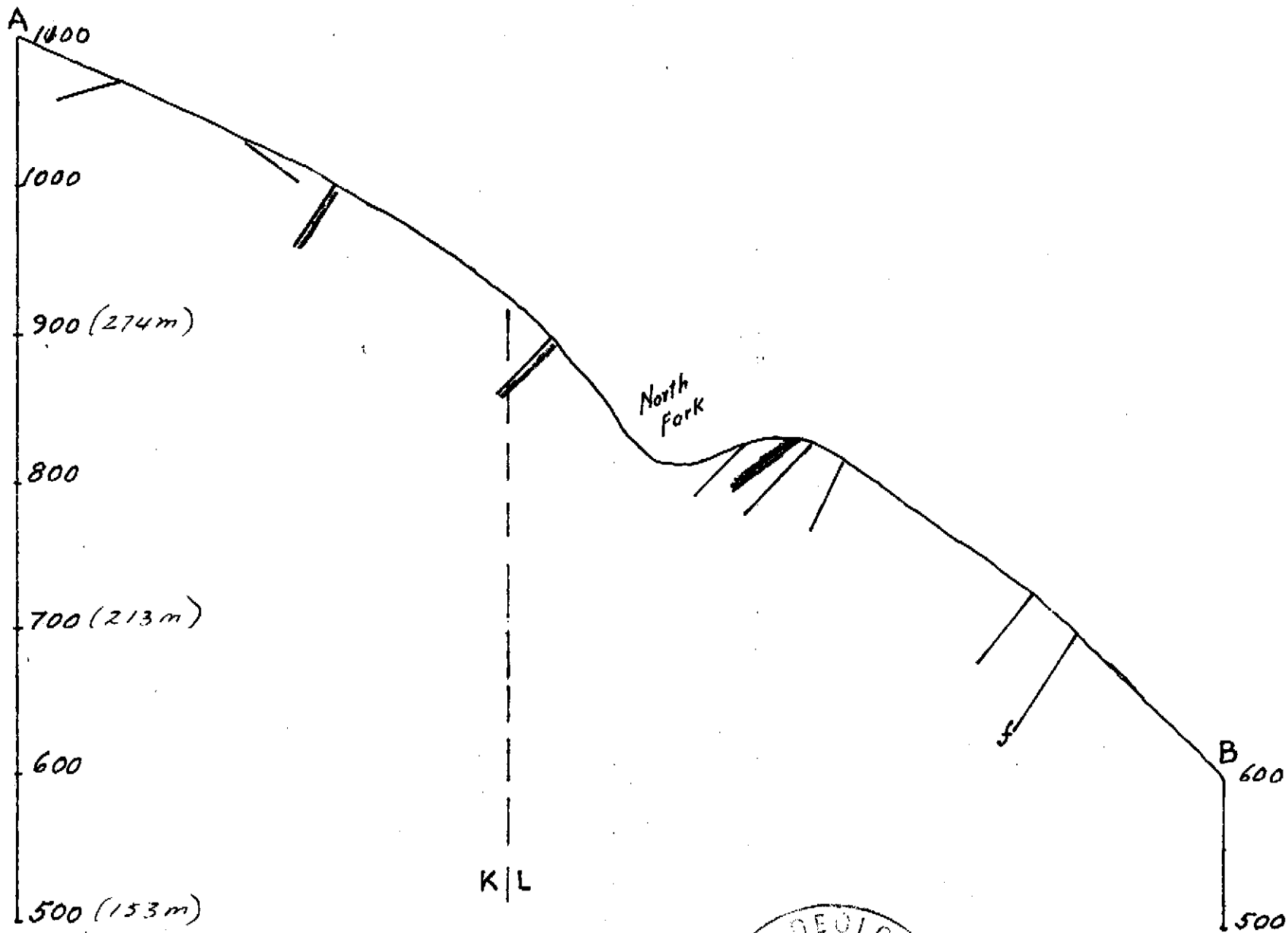
Wober. H.; Oct.29. 1968. "Report on the Mineral Claims and Mineral Leases Held by Lori Exploration Ltd. (N.P.L.) in the Area of Alice Arm, B.C. by McDonald Consultants Ltd."

This report deals with the survey made by Wober on Sept. 23 - 26, 1968 and with his "extensive study of bibliographic references" available at that time. The accompanying map covers only the portion of the claims where adits had been driven and shows almost no outcrop data. The map compares very closely with that accompanying Carter's report in the B.C.D.M. Annual Report for the same year.

Robert A. Brown

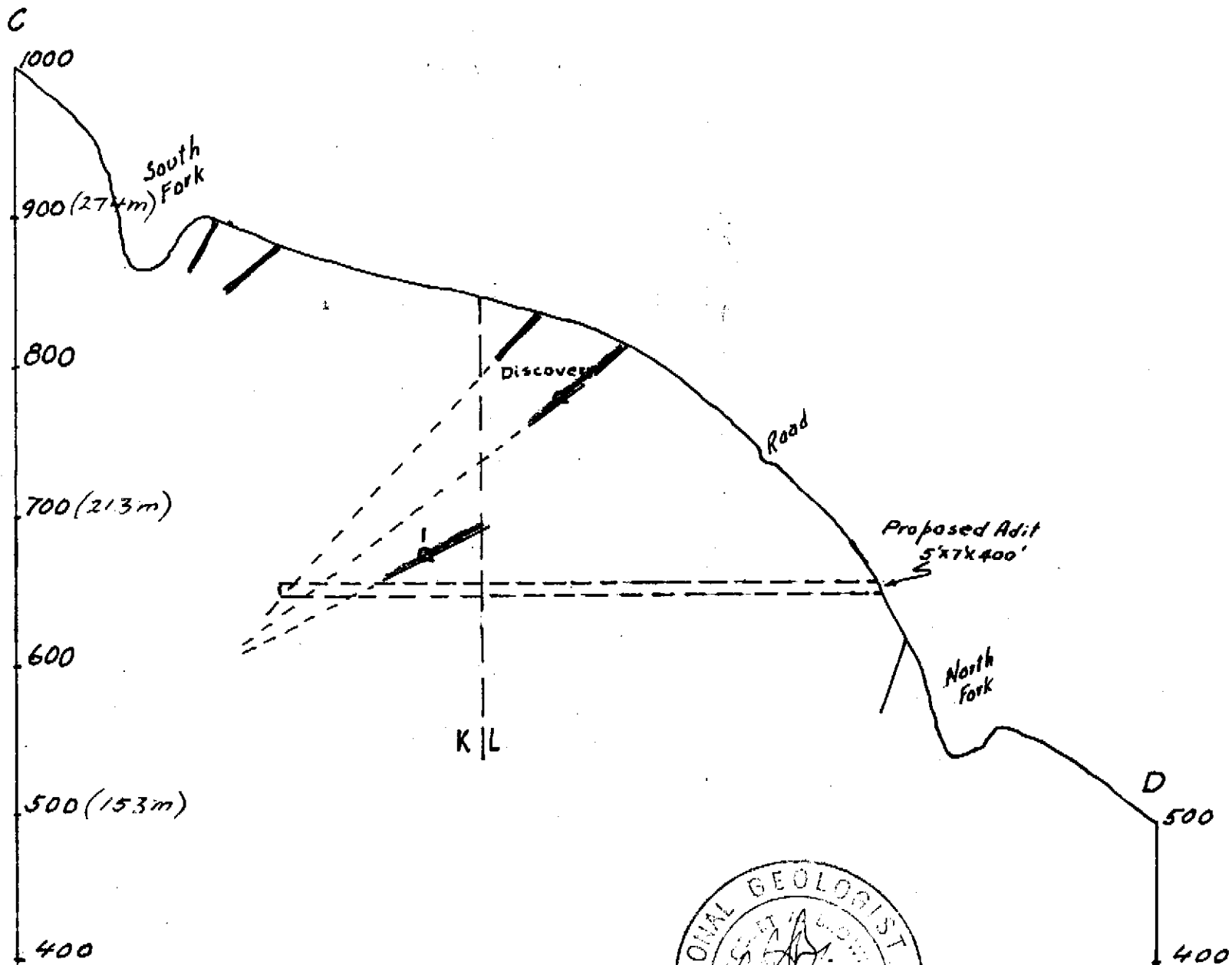
Robert A. Brown Ph.D.
P. Geol.





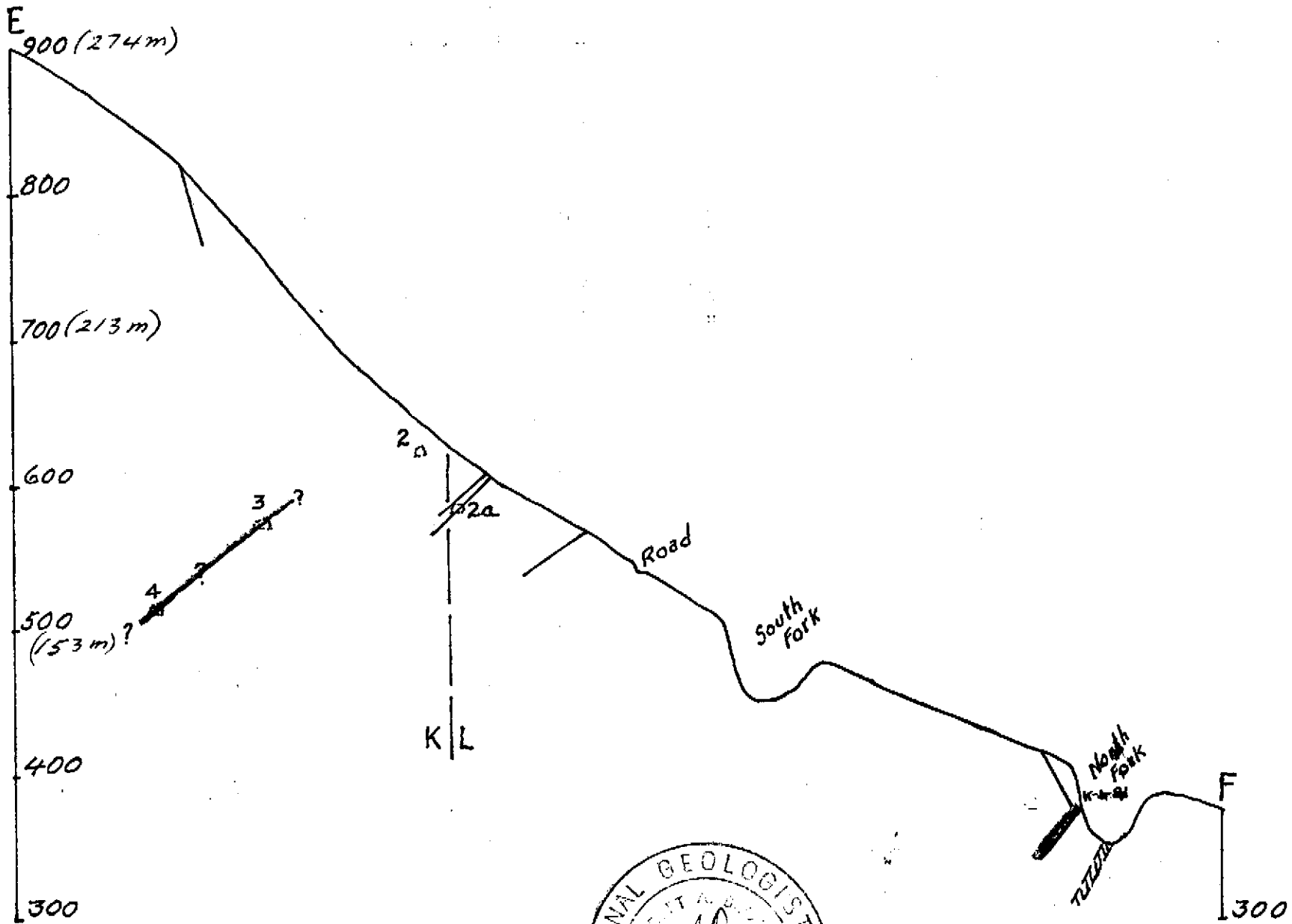
Cross section AB
 Scale 1"=100' (1:1200) Fig. 2.....

14
 16.....



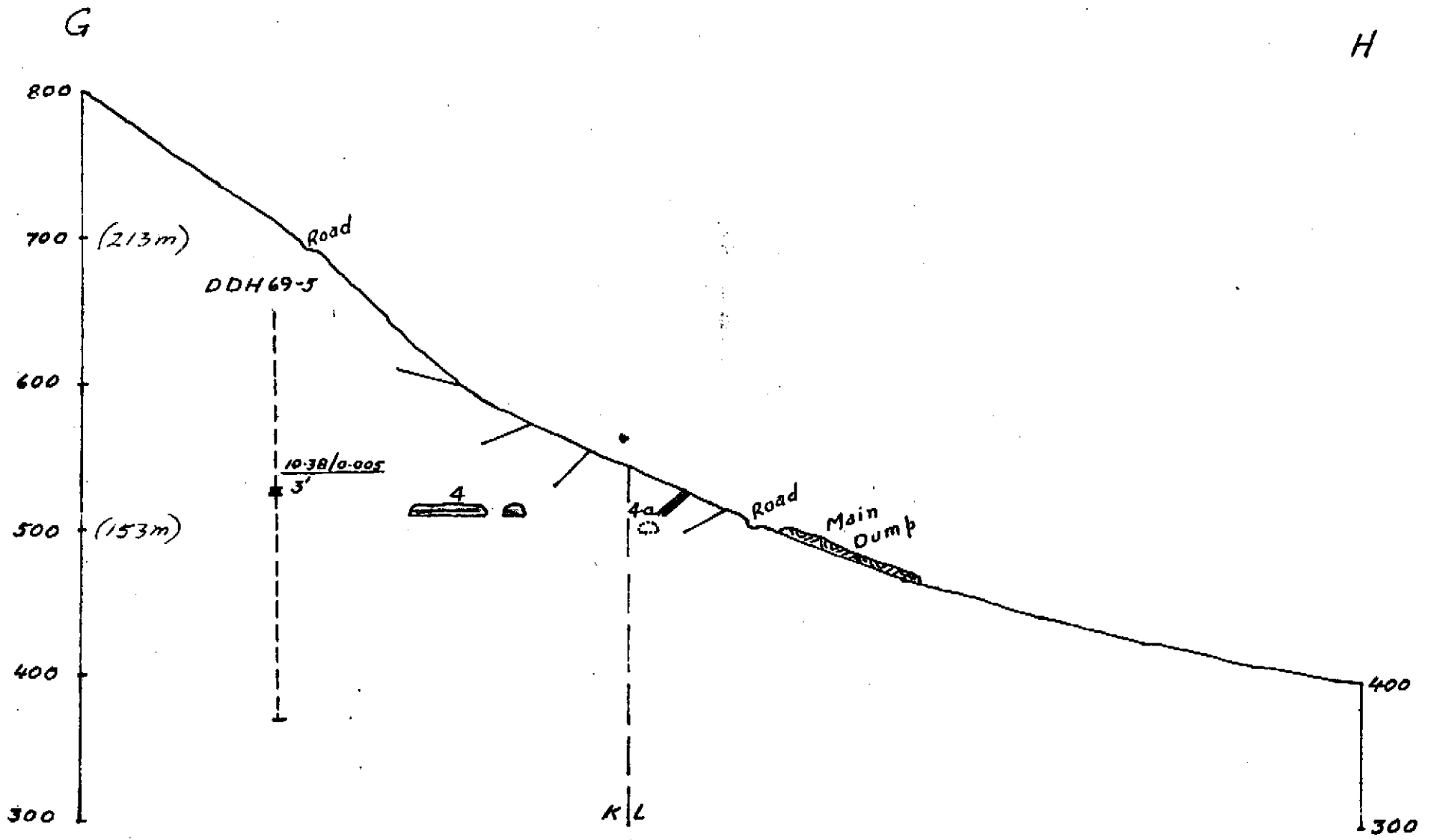
Cross section C D
 Scale 1"=100' (1:1200) Fig. 3...

1/19/...



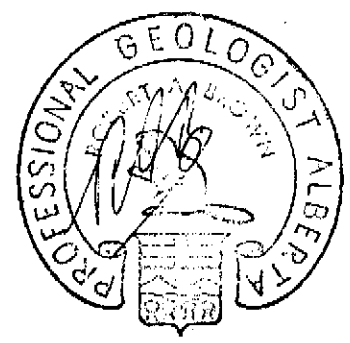
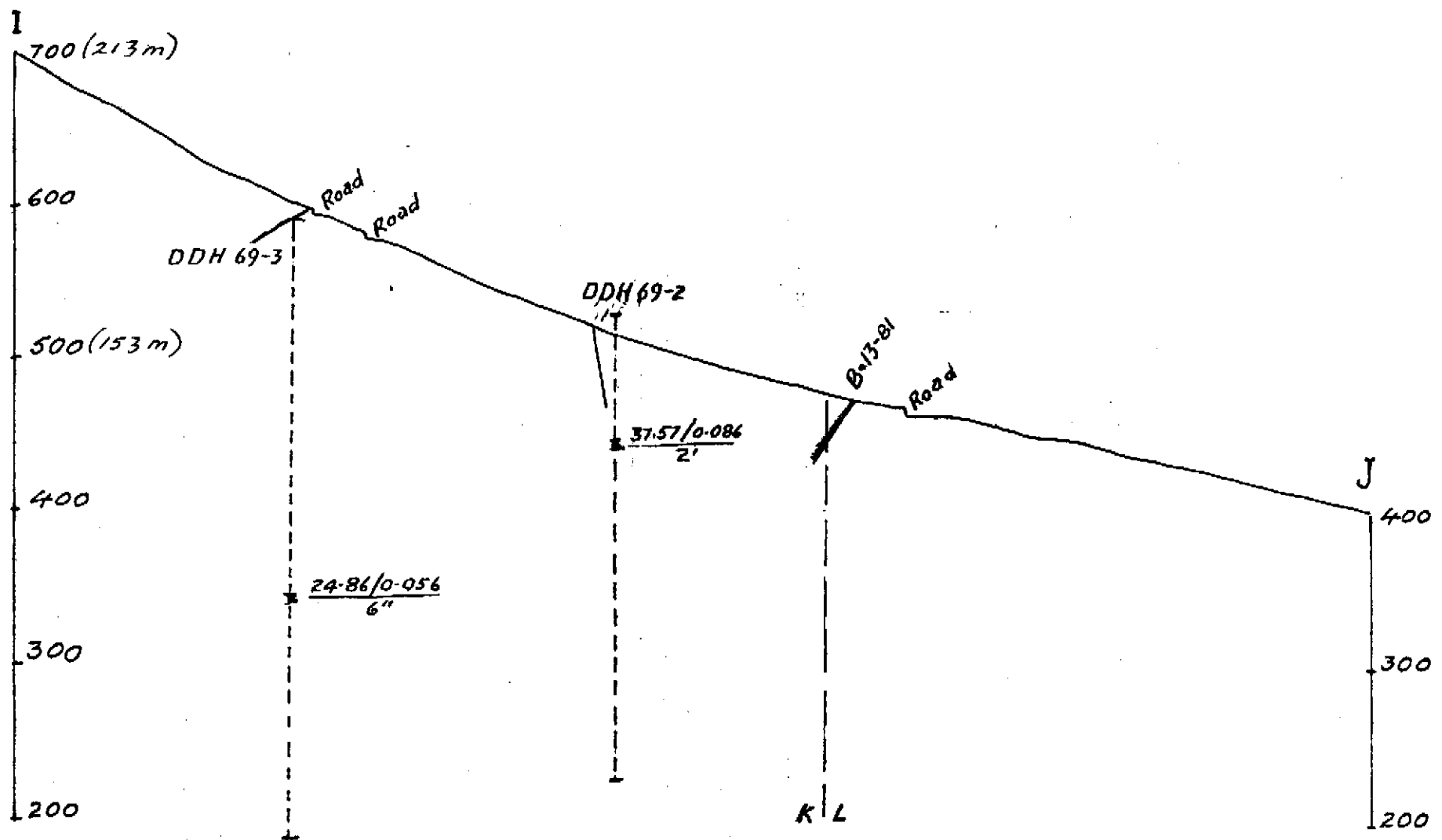
Cross section EF
 Scale 1"=100' (1:1200) Fig. 4.....

16.....



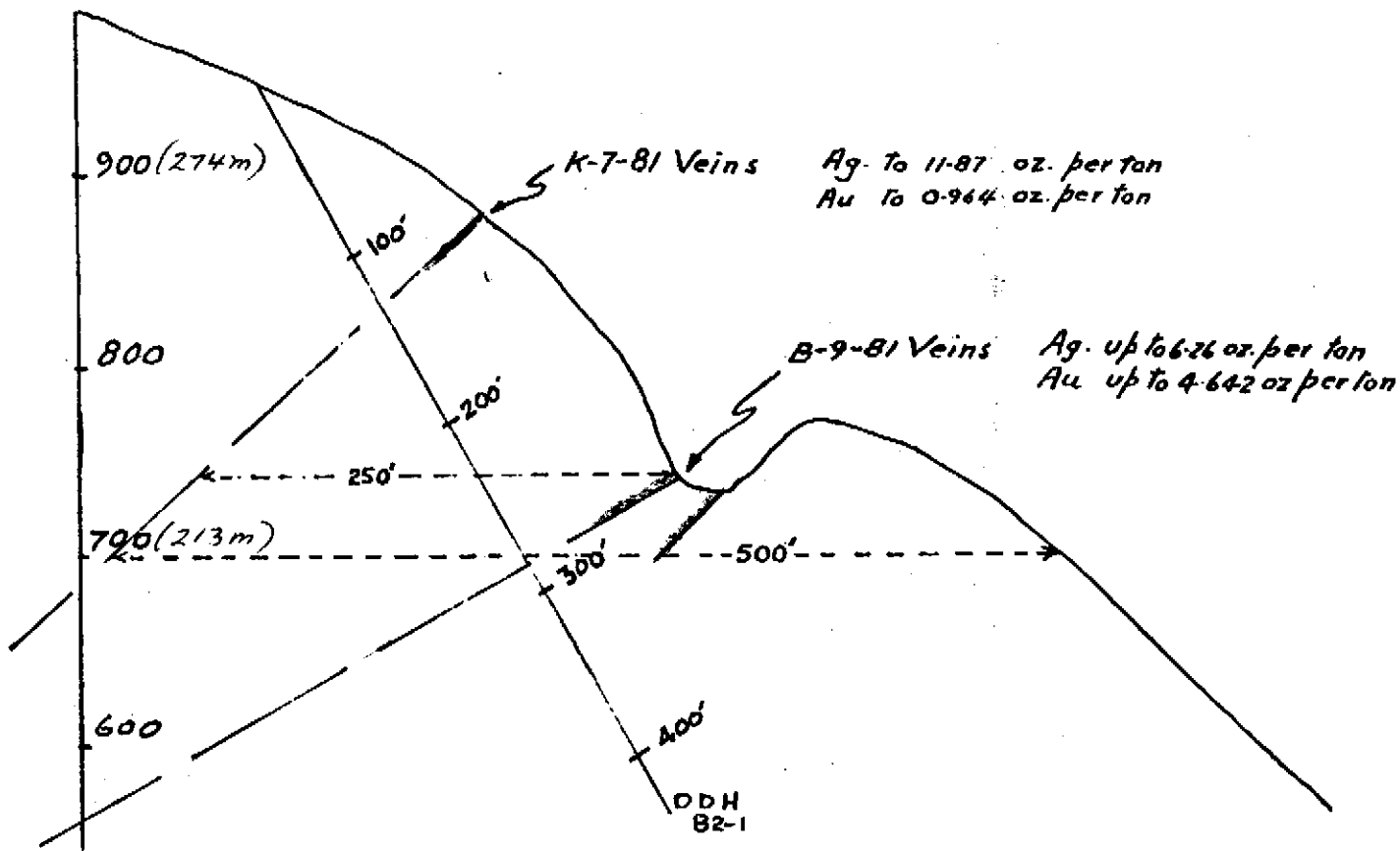
Cross section GH
 Scale 1" = 100' (1:1200) Fig. 5...

17
 1964



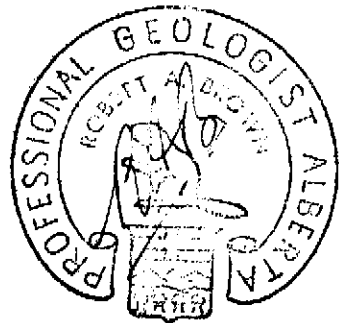
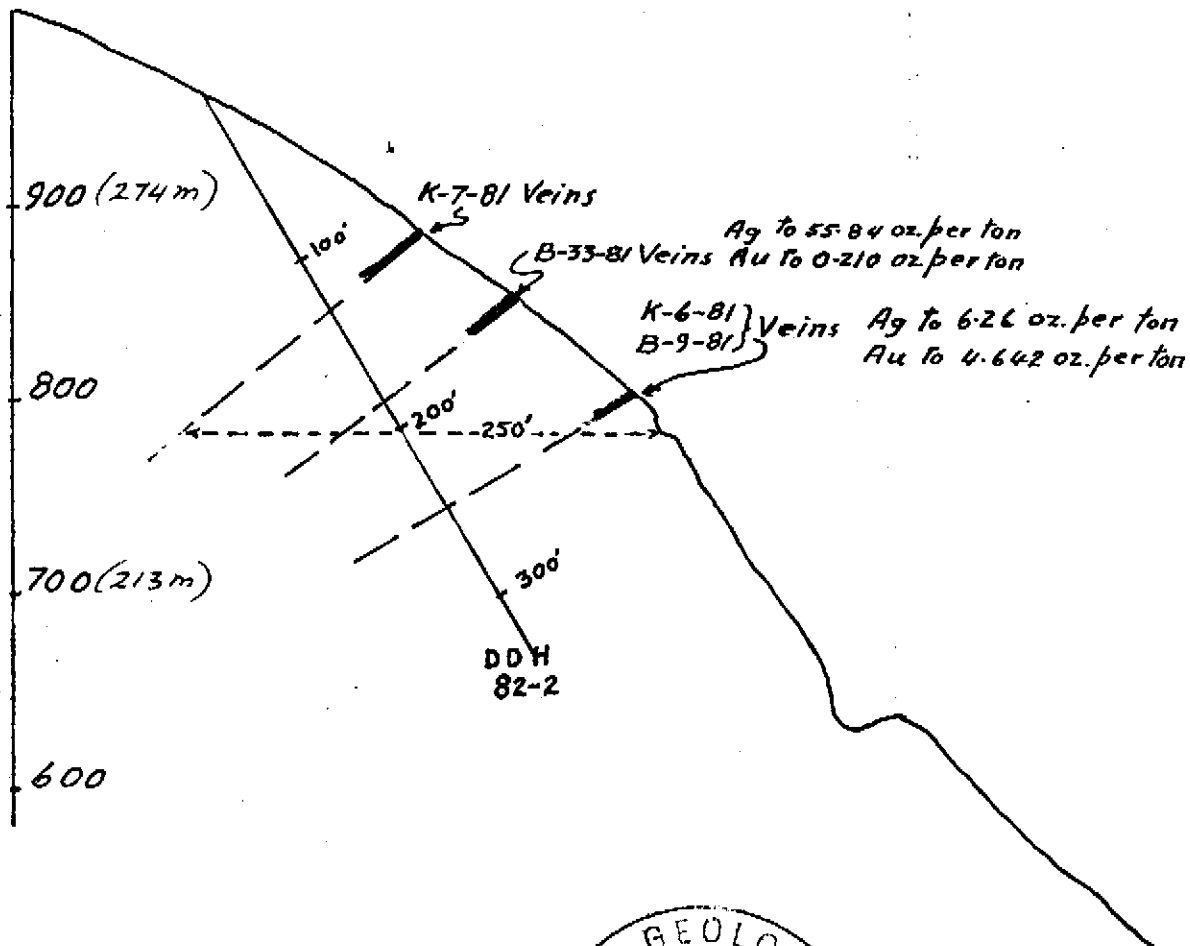
Cross section IJ
 Scale 1"=100' (1:1200) Fig. 6

20
 18



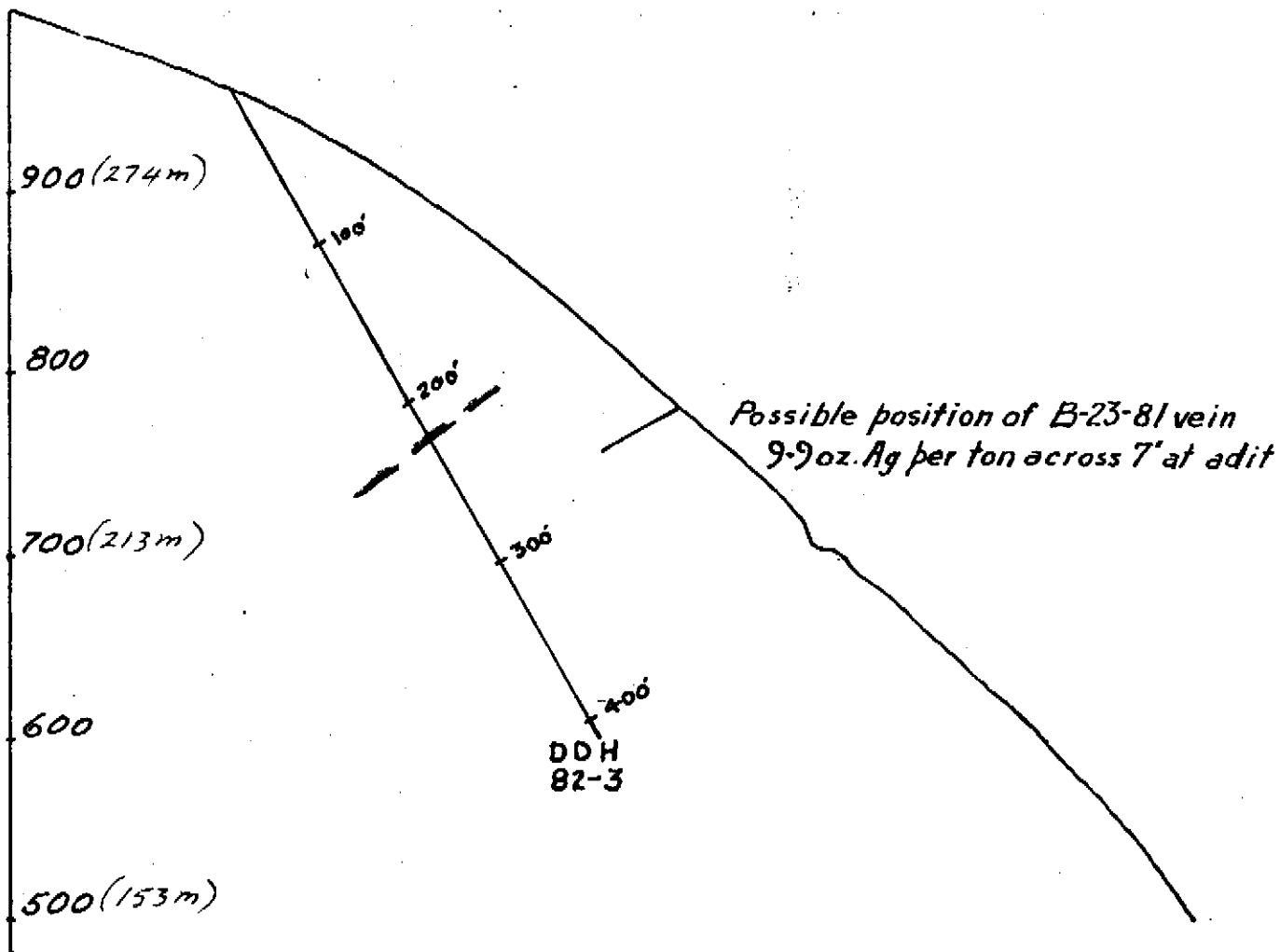
Section in plane of proposed
 DDH 82-1. Bng. of hole 58°, angle -60°
 Fig. 7.....
 Scale 1" = 100'

19.....



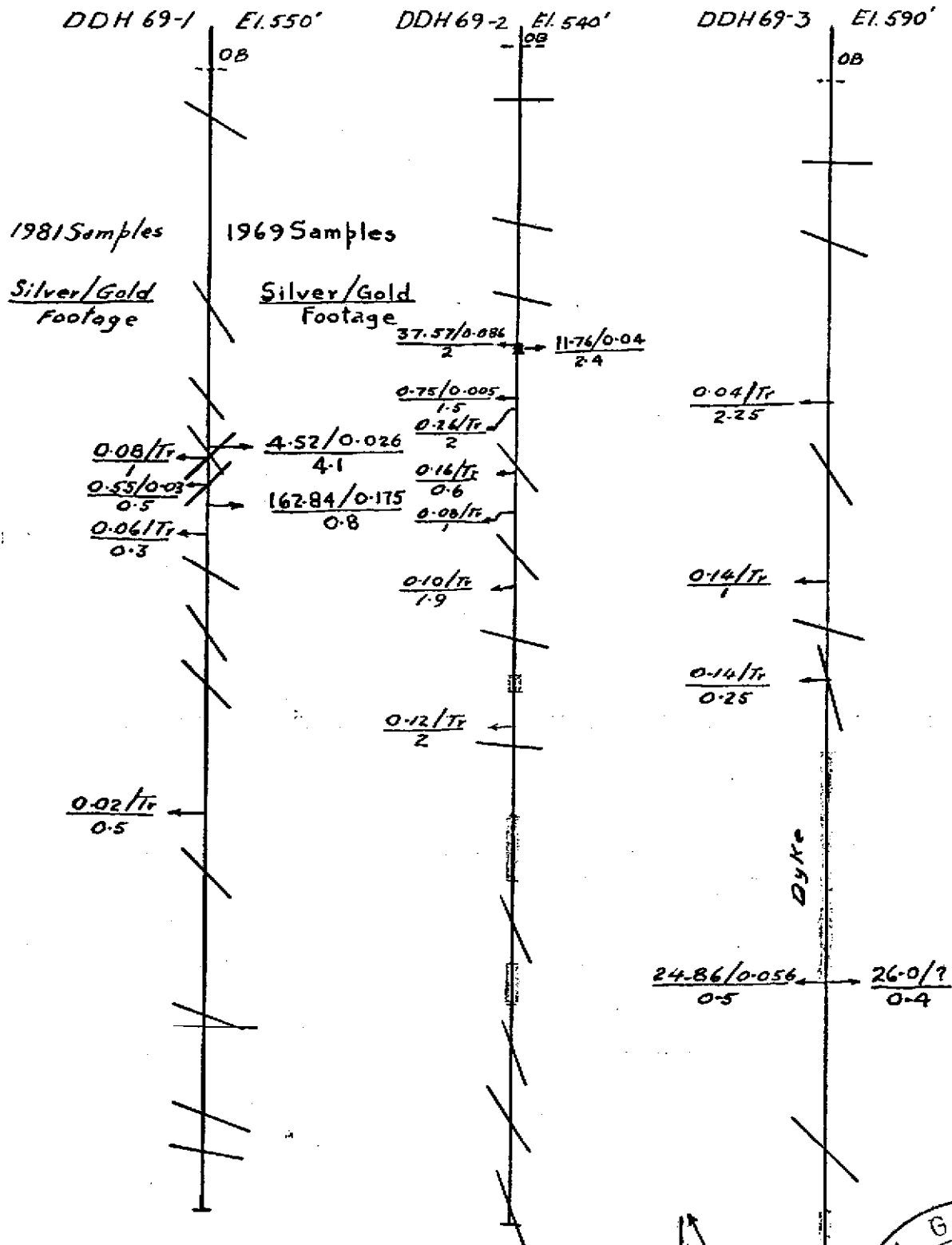
Section in plane of proposed DDH 82-2
 Bng. of hole 87°, angle -60°
 Scale 1" = 100' Fig. 8

22.....
 20



Section in plane of proposed DDH 82-3.
 Bng. of hole 121° , angle -60°
 Scale $1"=100'$ Fig... 9.....

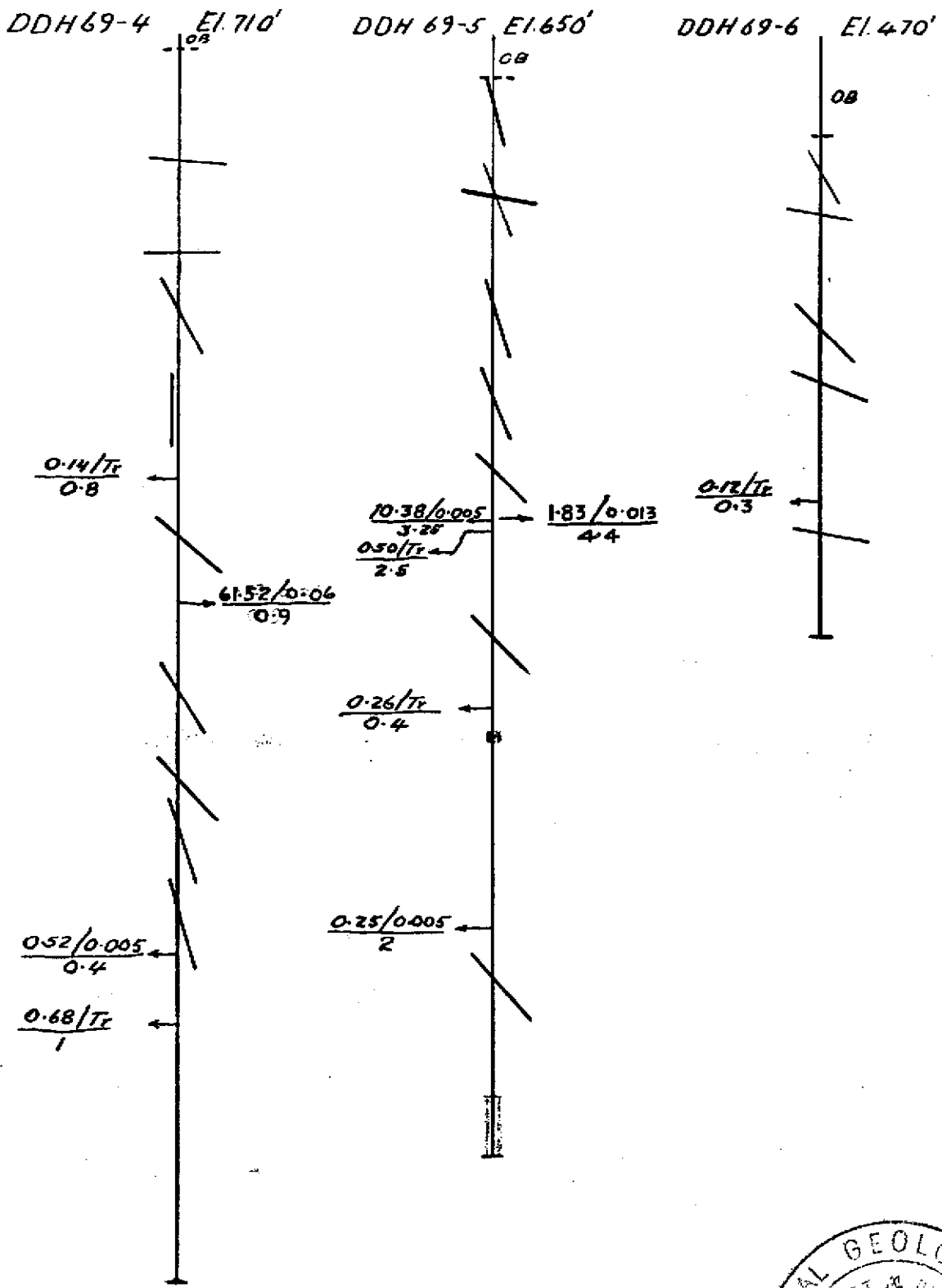
23.....
 21



Scale 1" = 40'
Dip angles measured from core axis.



Fig. 10



Scale etc. as Fig. 10

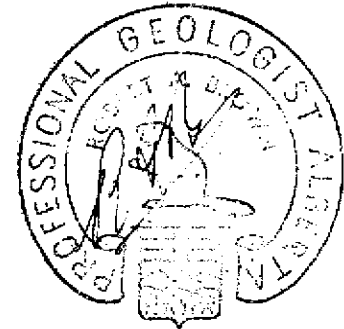
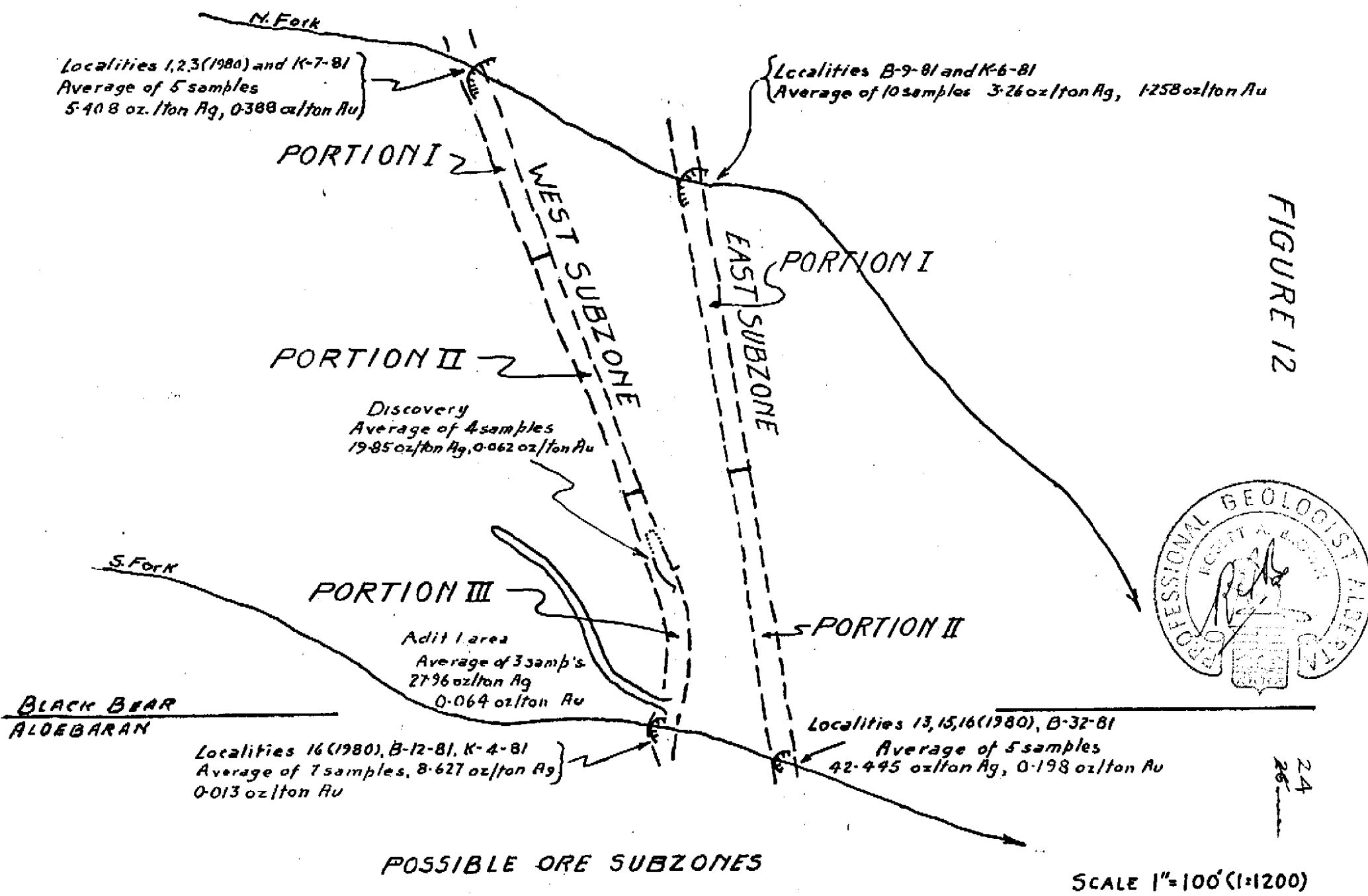


Fig 11

FIGURE 12



<u>Locality</u>	<u>Sample Number</u>	<u>Oz/ton Ag.</u>	<u>Oz/ton Au</u>	<u>Vein Width (feet)</u>	<u>Remarks</u>
420	420	0.200	0.010	0.67	Samples 420 to 805 are channel samples reported in 1947 B.C. Minister of Mines Annual Report.
421	421	2.300	0.010	0.75	
422	422	9.300	Tr	0.92	
423	423	30.100	0.100	0.75	
424	424	42.800	0.080	0.50	
425	425	80.800	Tr	0.92	Samples taken in adits and stopes
426	426	27.300	Tr	1.33	
427	427	17.100	0.030	0.75	
428	428	75.300	0.150	0.33	
429	429	0.600	Tr	0.33	
802	802	Tr	Tr	0.75	
803	803	1.200	0.050	0.58	
804	804	1.000	0.010	0.42	
805	805	Tr	0.000	0.58	
966	966	10.650	0.030	1.30	
967	967	16.700	0.030	0.40	
968	968	23.050	0.075	0.70	
969	969	3.550	0.040	0.60	Samples taken in adits and stopes
970	970	0.250	0.005	1.00	
971	971	24.600	0.055	1.00	
972	972	385.400	0.510	0.20	
977	977	10.900	0.090		
1	1	0.440	0.064	0.25	Samples 1 to 39 were taken in 1980. All are grab samples.
2	2	9.680	0.398	0.25	
3	3	4.280	0.964	0.17	
9	9	0.160	Tr	0.42	
10	10	0.120	Tr	0.67	
13	13	159.460	0.732	0.29	
15	15	9.840	0.062	0.29	
16	16	0.880	0.024	0.54	
18	18	0.940	0.026		
19	19	25.320	0.038	0.13	
20	20	0.360	Tr	0.25	Same locality as K-1-81

<u>Locality</u>	<u>Sample Number</u>	<u>Oz/Ton Ag.</u>	<u>Oz/Ton Au</u>	<u>Vein Width (feet)</u>	<u>Remarks</u>
23	23	6.260	4.642	0.25	Same locality as B-9 & K-6-81
24	24	0.020	Tr	0.25	
28	28	2.800	0.010	0.38	
35	35	6.740	0.226	0.29	
36	36	0.260	0.014	0.13	Same locality as B-11-81
38	38	0.140	Tr	0.58	Same locality as B-33-81
39	39	55.840	0.210	2.00	Same locality as B-22-81
B-3-81	ABB-26-81	46.00	0.036		Selected ore from North dump
B-7-81	-27-	1.63	0.008		Random samples, Adit 7 dump
B-7-81	-28-	0.10	Tr		Qtz. stringer in Adit 7
B-8-81	-29-	14.74	0.003		Random samples, Adit 8 dump
B-8-81	-30-	1.25	0.008		Vein, Adit 8
B-9-81	-31-	7.96	0.834	0.25	
B-10-81	-32-	0.20	Tr	1.10	Shear zone
B-11-81	-33-	0.14	Tr	0.25	Shear zone
B-12-81	-34-	14.54	0.020	0.83	Channel sple across vein at 2
B-12-81	-35-	13.92	0.020	0.83	points 7 feet apart
B-12-81	-36-	11.39	0.050		Random samples, Adit 1 dump
B-12-81	-37-	0.92	Tr	1.0	Vein divides into 2 veins 50 ft. S
B-12-81	-38-	28.09	0.030	0.29	of sample 35.
B-12-81	-39-	29.69	0.062		Random samples, Adit 1 dump
B-13-81	-40-	32.99	0.028	3.0(?)	Qtz. stringers cutting bedding
B-13-81	-41-	1.38	0.014	1.0	Shear zone, qtz. impregnated
B-23-81	-42-	18.12	0.020	3.0	Hanging wall stringer zone
B-23-81	-43-	4.76	0.016	3.0	Vein
B-23-81	-44-	0.68	0.003	1.0	Footwall stringer zone
B-23-81	-45-	0.34	Tr	0.25	Cross vein intersecting main vein
B-23-81	-46-	0.16	Tr	0.25	Cross vein intersecting main vein
B-25-81	-47-	0.34	Tr	0.33	Cross vein cutting main vein
B-25-81	-48-	34.42	0.102	2.0	Hanging wall stringer zone
B-25-81	-49-	8.83	0.028	0.5	Main vein
B-25-81	-50-	0.38	Tr	0.33	Cross vein cutting stringer zone
B-25-81	-51-	0.34	Tr	0.33	Cross vein cutting stringer zone

<u>Locality</u>	<u>Sample Number</u>	<u>Oz/Ton Ag.</u>	<u>Oz/Ton Au</u>	<u>Vein Width (feet)</u>	<u>Remarks</u>
B-26-81	-52-	0.14	Tr		Grab sample of stringers
B-32-81	-53-	0.14	Tr	3.0	Shear zone, 50% qtz. stringers
B-32-81	-54-	0.34	Tr	0.08	Cross vein cutting shear zone
B-33-81	-55-	0.20	Tr	0.75	Channel across 7" vein + 2" wall rock
K-1-81	ABB-56-81	0.10	0.034	1.0	Channel across shear zone, 30% qtz.
K-3-81	-60-	0.24	Tr		Grab spls. of qtz. from stringer zone that is 20% vein material
K-3-81	-61-	0.02	Tr	7.0	
K-4-81	-62-	0.40	Tr	4.0	Channel sple. stringer zone 20% qtz.
K-4-81	-63-	1.64	Tr	0.25	Vein 5' above stringer zone
K-5-81	-64-	1.43	0.050	2.0	Channel across vein
K-6-81	-65-	0.04	Tr	1.4	Channel across vein
K-6-81	-66-	1.62	0.918	0.25	Channel across vein
K-6-81	-67-	1.79	0.730	0.25	Channel across vein Same vein
K-6-81	-68-	0.06	0.003	5.0	Channel across vein-stringer zone
K-6-81	-69-	6.52	2.352	0.5	Above vein 20' N of -66-
K-6-81	-70-	6.83	3.008	0.5	Above vein 5' N of -69-
K-6-81	-71-	0.31	0.066	0.06	Stringer in hanging wall
K-6-81	-72-	0.21	0.030	0.06	Same stringer 10' to S. of -71-
K-7-81	-73-	11.87	0.450	0.5	Qtz. vein, N. wall of creek
K-7-81	-74-	0.77	0.068	0.5	Same vein, 30' S of previous sple.
B-6-81	ABB-134-81	0.34	Tr		Loose qtz. beside D.D.H. 69-1



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II 1.....

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TELEX: 043-52597

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CERTIFICATE OF ASSAY

TO : ABB SYNDICATE
798 LANGHAM CRT.
VICTORIA, B.C.
V8V 4J2

CERT. # : A8113111-C01-A
INVOICE # : I8113111
DATE : 31-AUG-81
P.C. # : NONE

APPENDIX II

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
ABB 01-81	207	0.08	<0.003	--	--	--	--
ABB 02-81	207	0.55	0.030	--	--	--	--
ABB 03-81 <i>DDH 69-1</i>	207	0.06	<0.003	--	--	--	--
ABB 04-81	207	0.02	<0.003	--	--	--	--
ABB 05-81	207	37.57	0.086	--	--	--	--
ABB 06-81	207	0.75	0.005	--	--	--	--
ABB 07-81	207	0.26	<0.003	--	--	--	--
ABB 08-81 <i>DDH 69-2</i>	207	0.16	<0.003	--	--	--	--
ABB 09-81	207	0.08	<0.003	--	--	--	--
ABB 10-81	207	0.10	<0.003	--	--	--	--
ABB 11-81	207	0.12	<0.003	--	--	--	--
ABB 12-81	207	0.04	<0.003	--	--	--	--
ABB 13-81	207	0.14	0.003	--	--	--	--
ABB 14-81 <i>DDH 69-3</i>	207	0.14	<0.003	--	--	--	--
ABB 15-81	207	24.86	0.056	--	--	--	--
ABB 16-81	207	0.34	<0.003	--	--	--	--
ABB 17-81	207	0.14	<0.003	--	--	--	--
ABB 18-81 <i>DDH 69-4</i>	207	0.52	0.005	--	--	--	--
ABB 19-81	207	0.68	0.003	--	--	--	--
ABB 20-81 <i>621-81</i>	207	10.38	0.005	--	--	--	--
ABB 22-81	207	0.50	0.003	--	--	--	--
ABB 23-81 <i>DDH 69-5</i>	207	0.26	<0.003	--	--	--	--
ABB 24-81	207	0.25	0.008	--	--	--	--
ABB 25-81 <i>DDH 69-6</i>	207	0.12	<0.003	--	--	--	--
ABB 26-81	207	46.00	0.036	--	--	--	--
ABB 27-81	207	1.63	0.008	--	--	--	--
ABB 28-81	207	0.10	<0.003	--	--	--	--
ABB 29-81	207	14.74	0.003	--	--	--	--
ABB 30-81	207	1.25	0.008	--	--	--	--
ABB 31-81	207	2.96	0.834	--	--	--	--
ABB 32-81	207	0.20	<0.003	--	--	--	--
ABB 33-81	207	0.14	<0.003	--	--	--	--
ABB 34-81	207	14.54	0.020	--	--	--	--
ABB 35-81	207	13.92	0.020	--	--	--	--
ABB 36-81	207	11.39	0.050	--	--	--	--
ABB 37-81	207	0.92	<0.003	--	--	--	--
ABB 38-81	207	28.09	0.030	--	--	--	--
ABB 39-81	207	29.69	0.062	--	--	--	--
ABB 40-81	207	32.99	0.028	--	--	--	--
ABB 41-81	207	1.38	0.014	--	--	--	--

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CERTIFICATE OF ASSAY

TO : ABB SYNDICATE
 798 LANGHAM CRT.
 VICTORIA, B.C.
 V8V 4J2

CERT. # : A8113111-002-A
 INVOICE # : I8113111
 DATE : 31-AUG-81
 P.O. # : NONE

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
ABB 42-81	207	18.12	0.020	--	--	--	--
ABB 43-81	207	4.76	0.016	--	--	--	--
ABB 44-81	207	0.68	0.003	--	--	--	--
ABB 45-81	207	0.34	<0.003	--	--	--	--
ABB 46-81	207	0.16	<0.003	--	--	--	--
ABB 47-81	207	0.34	<0.003	--	--	--	--
ABB 48-81	207	34.42	0.102	--	--	--	--
ABB 49-81	207	8.83	0.028	--	--	--	--
ABB 50-81	207	0.38	<0.003	--	--	--	--
ABB 51-81	207	0.34	<0.003	--	--	--	--
ABB 52-81	207	0.14	<0.003	--	--	--	--
ABB 53-81	207	0.14	<0.003	--	--	--	--
ABB 54-81	207	0.34	<0.003	--	--	--	--
ABB 55-81	207	0.20	<0.003	--	--	--	--
ABB 56-81	207	0.10	0.034	--	--	--	--
ABB 57-81	207	5.14	0.003	--	--	--	--
ABB 58-81	207	0.28	<0.003	--	--	--	--
ABB 59-81	207	8.23	0.008	--	--	--	--
ABB 60-81	207	0.24	<0.003	--	--	--	--
ABB 61-81	207	0.02	<0.003	--	--	--	--
ABB 62-81	207	0.40	<0.003	--	--	--	--
ABB 63-81	207	1.64	<0.003	--	--	--	--
ABB 64-81	207	1.43	0.050	--	--	--	--
ABB 65-81	207	0.04	<0.003	--	--	--	--
ABB 66-81	207	1.62	0.918	--	--	--	--
ABB 67-81	207	1.79	0.730	--	--	--	--
ABB 68-81	207	0.06	0.003	--	--	--	--
ABB 69-81	207	6.52	2.352	--	--	--	--
ABB 70-81	207	6.83	3.008	--	--	--	--
ABB 71-81	207	0.31	0.066	--	--	--	--
ABB 72-81	207	0.21	0.030	--	--	--	--
ABB 73-81	207	11.87	0.450	--	--	--	--
ABB 74-81	207	0.77	0.068	--	--	--	--
ABB 75-81	207	0.48	<0.003	--	--	--	--
ABB 76-81	<i>NORTH</i> 207	1.93	0.005	--	--	--	--
ABB 77-81	207	0.30	<0.003	--	--	--	--
ABB 78-81	<i>DUMP</i> 207	0.22	<0.003	--	--	--	--
ABB 79-81	207	0.42	0.003	--	--	--	--
ABB 80-81	207	0.58	0.003	--	--	--	--
ABB 081-81	207	1.54	0.003	--	--	--	--

B. Swales

.....
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II 3....

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TELEX: 043-52597

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798 LANGHAM CRT.
VICTORIA, B.C.
V8V 4J2

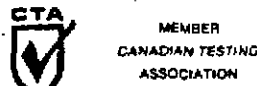
CERT. # : AB113111-003-A
INVOICE # : 18113111
DATE : 31-AUG-81
P.C. # : NCNE

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
ABB 082-81	207	1.32	<0.003	--	--	--	--
ABB 083-81	207	2.00	0.005	--	--	--	--
ABB 084-81	207	1.70	<0.003	--	--	--	--
ABB 085-81	207	34.25	0.026	--	--	--	--
ABB 086-81	207	1.24	<0.003	--	--	--	--
ABB 087-81	207	2.76	<0.003	--	--	--	--
ABB 088-81	207	5.54	0.005	--	--	--	--
ABB 089-81	207	30.94	0.026	--	--	--	--
ABB 090-81	207	1.42	0.003	--	--	--	--
ABB 091-81	207	0.84	<0.003	--	--	--	--
ABB 092-81	207	0.30	<0.003	--	--	--	--
ABB 093-81	207	0.68	0.018	--	--	--	--
ABB 094-81	207	0.34	0.005	--	--	--	--
ABB 095-81	207	1.02	<0.003	--	--	--	--
ABB 096-81	207	15.11	0.024	--	--	--	--
ABB 097-81	207	5.51	0.006	--	--	--	--
ABB 098-81	207	0.36	<0.003	--	--	--	--
ABB 099-81	207	1.22	0.003	--	--	--	--
ABB 100-81	207	10.08	0.016	--	--	--	--
ABB 101-81	207	0.16	<0.003	--	--	--	--
ABB 102-81	207	0.16	0.005	--	--	--	--
ABB 103-81	207	2.16	0.003	--	--	--	--
ABB 104-81	207	0.18	<0.003	--	--	--	--
ABB 105-81	207	14.59	0.010	--	--	--	--
ABB 106-81	207	0.28	0.005	--	--	--	--
ABB 107-81	207	0.32	<0.003	--	--	--	--
ABB 108-81	207	0.42	<0.003	--	--	--	--
ABB 109-81	207	18.37	0.010	--	--	--	--
ABB 110-81	207	3.54	0.003	--	--	--	--
ABB 111-81	207	15.25	0.008	--	--	--	--
ABB 112-81	207	0.92	0.005	--	--	--	--
ABB 113-81	207	0.56	<0.003	--	--	--	--
ABB 114-81	207	1.50	<0.003	--	--	--	--
ABB 115-81	207	0.07	<0.003	--	--	--	--
ABB 116-81	207	0.18	0.014	--	--	--	--
ABB 117-81	207	1.30	<0.003	--	--	--	--
ABB 118-81	207	0.40	0.003	--	--	--	--
ABB 119-81	207	1.10	<0.003	--	--	--	--
ABB 120-81	207	0.40	0.005	--	--	--	--
ABB 121-81	207	0.36	<0.003	--	--	--	--

NORTH

DUMP

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II 4....

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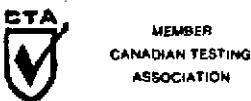
TO : ABB SYNDICATE
798 LANGHAM CRT.
VICTORIA, B.C.
V8V 4J2

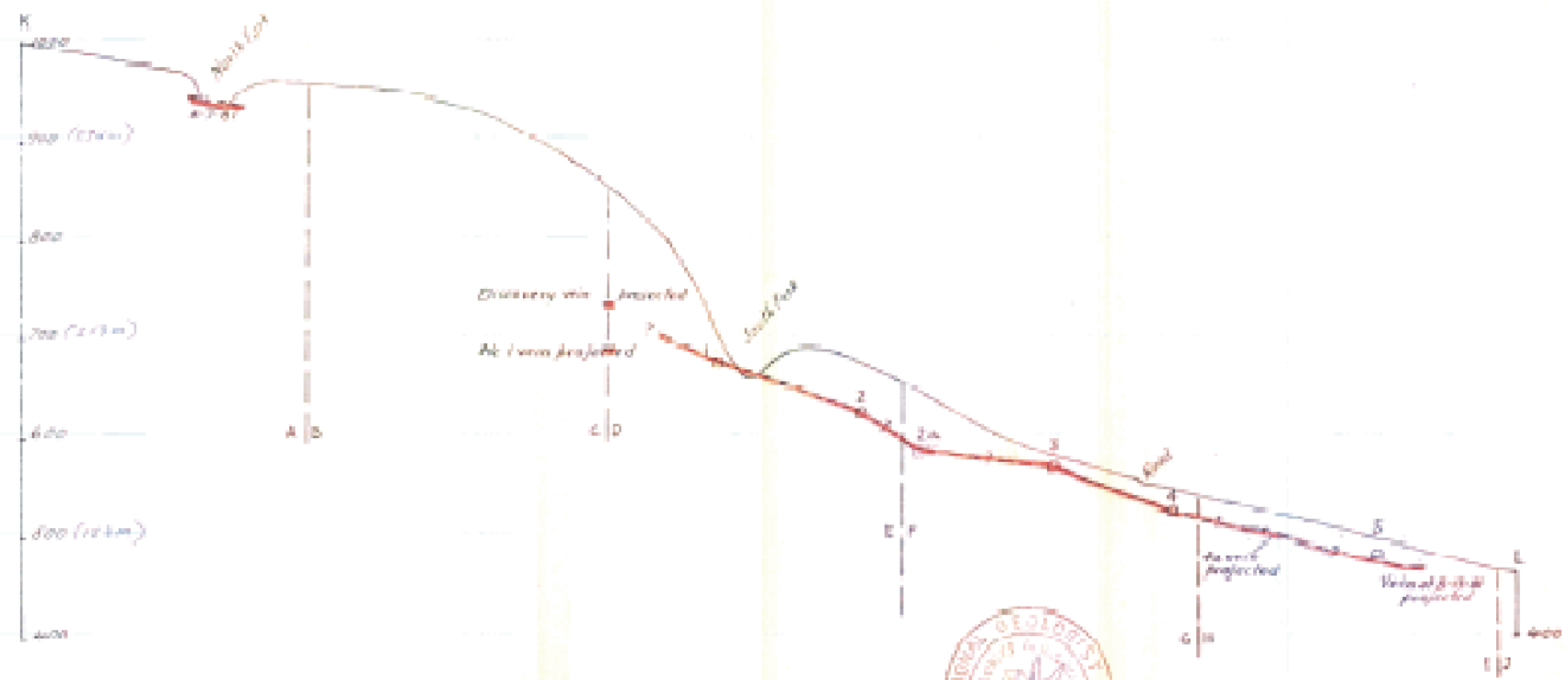
CERT. # : A8113111-004-A
INVOICE # : I8113111
DATE : 31-AUG-81
P.O. # : NONE

Sample description	Prep code	Ag (FA) oz/t	Au (FA) oz/t				
ABB 122-81	207	0.10	0.005	--	--	--	--
ABB 123-81	207	0.24	0.003	--	--	--	--
ABB 124-81	207	0.39	0.008	--	--	--	--
ABB 125-81	207	3.44	0.003	--	--	--	--
ABB 126-81 <i>NORTH</i>	207	2.70	<0.003	--	--	--	--
ABB 127-81	207	1.14	<0.003	--	--	--	--
ABB 128-81	207	0.68	<0.003	--	--	--	--
ABB 129-81 <i>DUMP</i>	207	1.18	<0.003	--	--	--	--
ABB 130-81	207	1.06	0.005	--	--	--	--
ABB 131-81	207	0.48	0.005	--	--	--	--
ABB 132-81	207	4.65	0.008	--	--	--	--
ABB 133-81	207	0.56	<0.003	--	--	--	--
ABB 134-81	207	0.34	<0.003	--	--	--	--

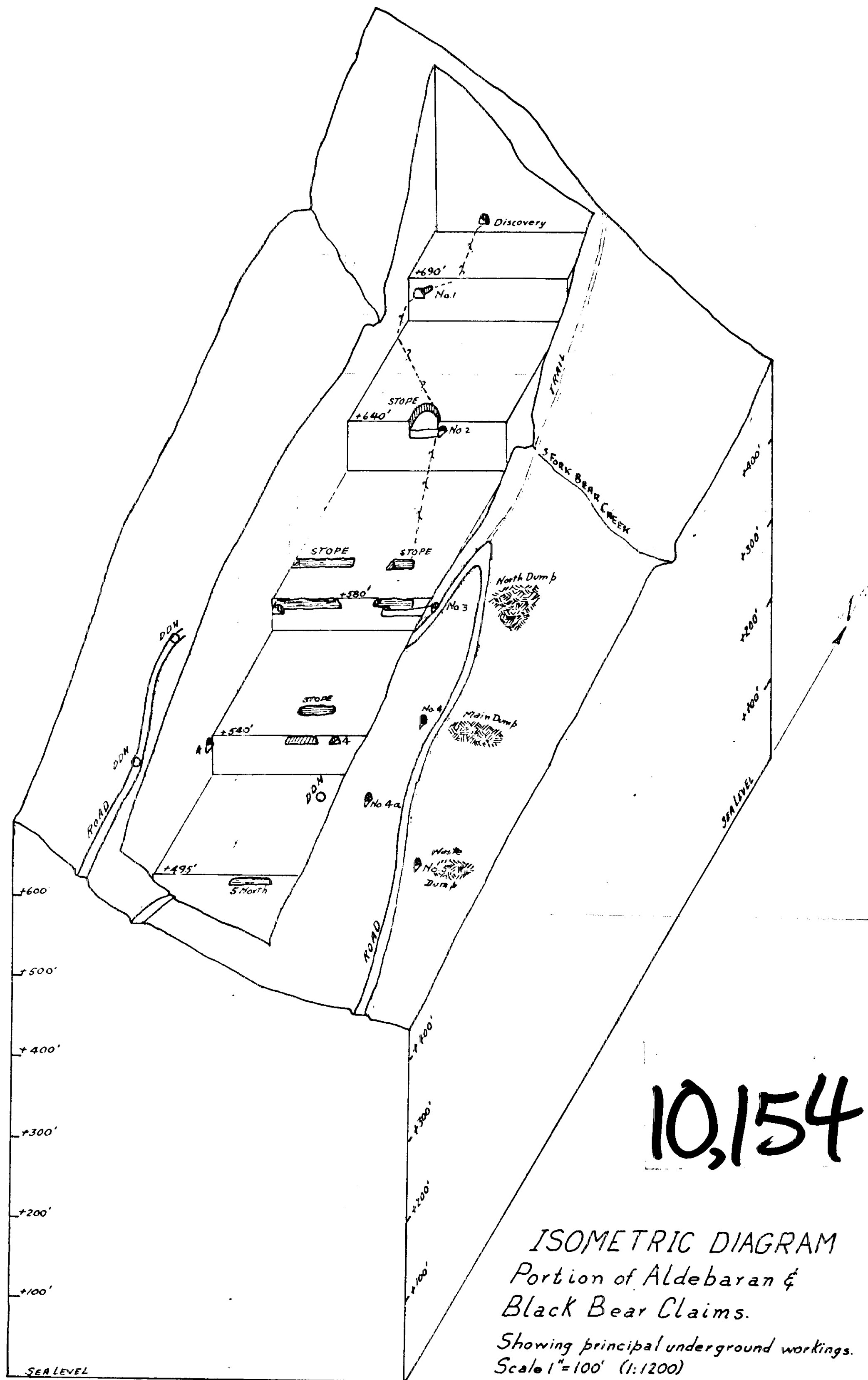
B. Swaete

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Longitudinal section RL
 Scale 1" = 100' (1:1200) Fig. 11



ISOMETRIC DIAGRAM
 Portion of Aldebaran &
 Black Bear Claims.
 Showing principal underground workings.
 Scale 1"=100' (1:1200)

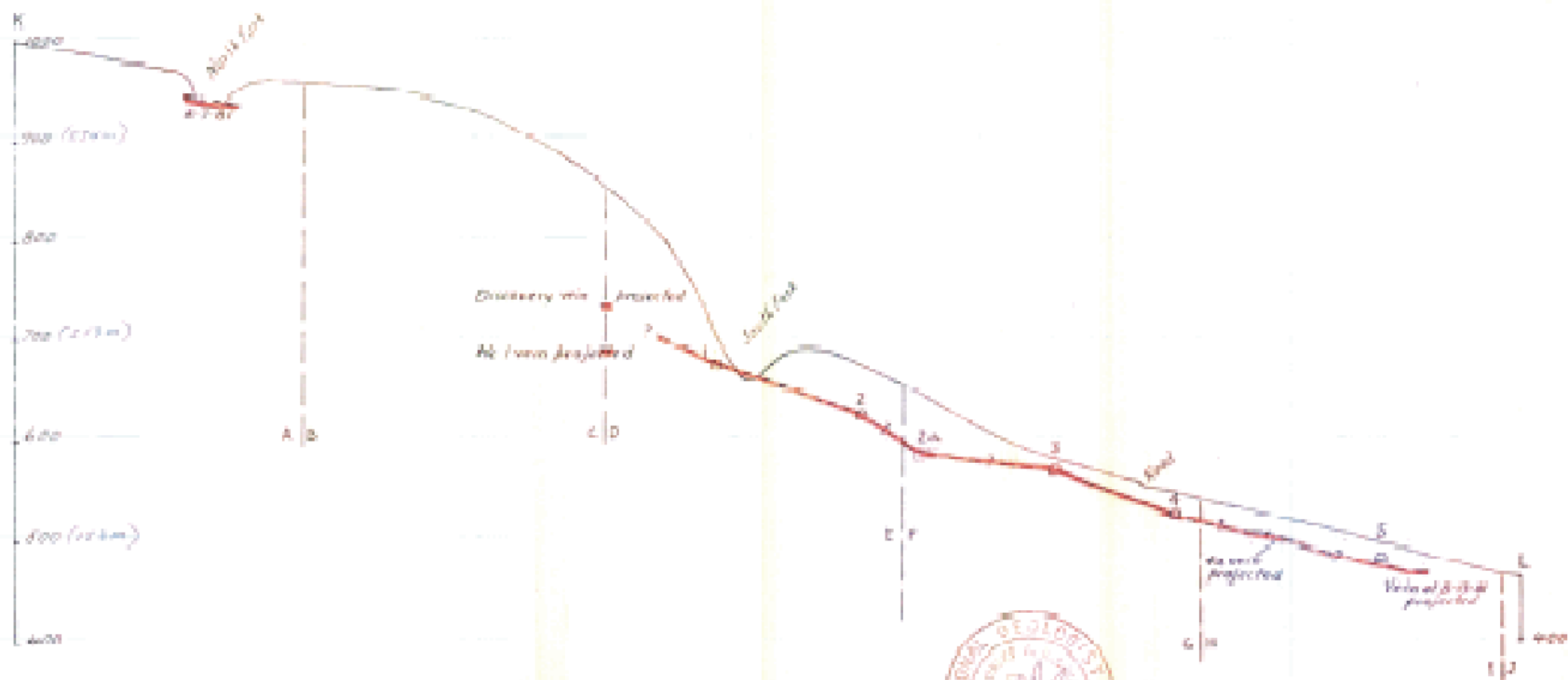
R.A. Brown. Nov. '81.

Figure 13



GEOLOGIC COMPILATION MAP
RESEARCH SILVER DISTRICT
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10,154



Longitudinal section KI
 Scale 1" = 100' (1:1200) Fig. 16