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BEMA INTERNATIONAL RES. INC.

PROSPECTUS 06/10/87

PROPERTY FILE

92H092

Abo

880221

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Consulting Geologist
Mineral Exploration

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REPORT

ON

HARRISON LAKE GOLD PROPERTY

NEW WESTMINSTER MINING DIVISION

HARRISON HOT SPRINGS
BRITISH COLUMBIA

FOR

BEMA INTERNATIONAL RESOURCES INC.

April 1, 1987

Vancouver, B.C.

B.H. Kahlert, P.Eng.

Consulting Geologist

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SUMMARY

In February of 1987, Bema International Resources Inc. (BIRI) optioned the Harrison Lake Gold Property from Kerr Addison Mines Ltd. In 1985 and 1986, Kerr Addison completed surface exploration work as well as two very substantial diamond drilling programs totalling 3,377 metres in 37 holes. Twelve of these holes were in the Jenner Zone, where a substantial body of gold mineralization is now indicated. Kerr Addison incurred approximately $525,000.00 in expenditures carrying out the exploration work.

By terms of the agreement, BIRI will fund an underground exploration program and associated work which will cost $750,000. For this expenditure, BIRI will earn a thirty percent equity interest in the property or fifty percent of Kerr Addison's interest of sixty percent. BIRI can earn an additional five percent equity by spending the next $250,000. Abo Oil Co., the original vendor, retains a forty percent equity, however, Abo will have to contribute pro rata once a total of $1.75 million has been spent on the property.

The purpose of the $750,000.00 underground exploration program as proposed in this report will be to establish the actual grade of the deposit, collect 900 tons ore to determine mill recoveries and allow preliminary mining engineering studies to determine an optimum mining method. This work is important to the exploration of the property as all gold occurs as free flakes, up to 2 millimetres diameter, which has resulted in erratic distribution of gold values. Milling of the bulk sample should determine the final grade as well as recoveries. Underground geological mapping should also result in an understanding of the controls of gold mineralization to allow for projection of ore blocks and plans for further drilling. Engineering studies of the rock fabric should also help determine optimum mining method.

Once all results of this proposed program are available, a scoping study should determine if a mineable deposit exists on the Harrison Lake Gold Property.

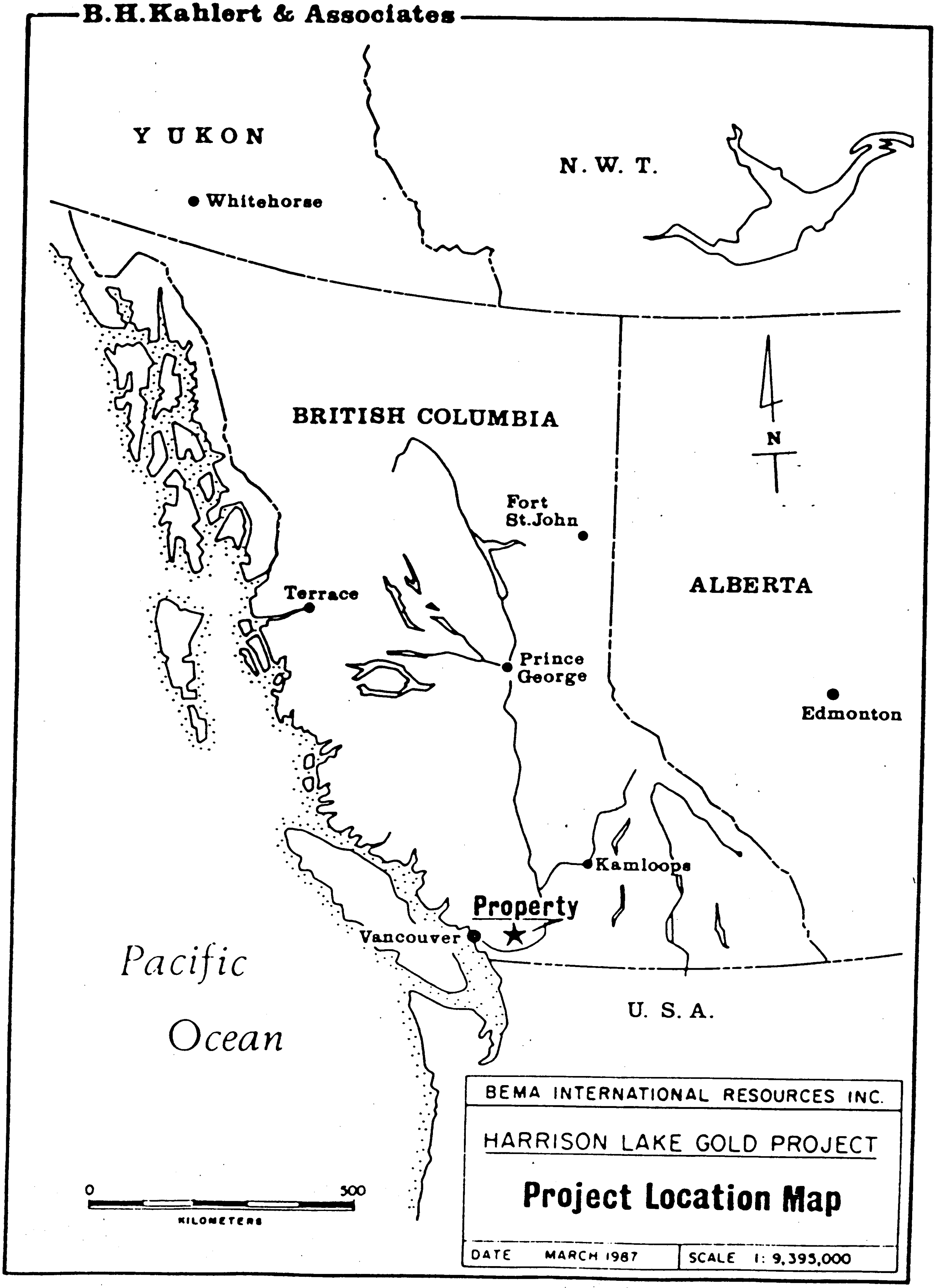

B.H.Kahlert & Associates
Y U K O N
Whitehorse
N. W. T.
BRITISH COLUMBIA
Fort
St.John
ALBERTA
N
Terrace
Prince
George
Edmonton
Kamloops
Property
Vancouver
Pacific
Ocean
U. S. A.
0
500
KILOMETERS
BEMA INTERNATIONAL RESOURCES INC.
HARRISON LAKE GOLD PROJECT
Project Location Map
DATE MARCH 1987
SCALE 1: 9,393,000

Figure 1

CONCLUSIONS

Work at the Harrison Lake Gold Property has indicated the presence of widespread gold mineralization associated with small quartz diorite stocks. In particular, drilling at the Jenner prospect has indicated the presence of a substantial body of gold mineralization which requires underground bulk sampling and engineering evaluation to determine if it is economically mineable. Diamond drilling at other prospects has indicated the presence of highly anomalous to ore grade gold mineralization in other quartz diorite stocks. This is associated with quartz vein stockworks and sulphides, similar to the gold mineralization at the Jenner Prospect. Geological mapping and geochemical sampling has indicated the presence of additional targets which hold further potential and require follow-up.

RECOMMENDATIONS

A substantial underground bulk sampling and engineering program should be undertaken to determine the true grade of ore, its distribution, geological controls, rock competency and optimal mining method. An adit should be collared at the 9485N section at an elevation of 185M ASL.

Length of the adit should be about 200 metres, with drifts run north and south in the gold mineralization. Raises should then be extended along three existing drill holes to develop several hundred tonnes of well mineralized muck for milling to determine gold grade and mill recoveries.

Based on the above work, an engineering scoping study should be undertaken to examine the economics of developing a mining operation on the property.

It is recommended that, for the above program, a budget of $750,000.00 be allocated as summarized in the Budget Outline section of this report.

If results of this phase of work are positive, a second work phase should be undertaken. Drilling at the Jenner prospect should be carried out from underground to search for additional reserves. On surface, geological and geochemical surveying should be completed on several prospective quartz diorite stocks of the property.

INTRODUCTION

This report on the Harrison Lake Gold Project is written at the request of the directors of Bema International Resources Inc. It is based on a thorough review of all exploration results compiled to date as well as observations and sampling on a visit to the property by the author on February 16, 1987.

The body of the report deals with the geological setting of the Harrison property and a description of the gold mineralization encountered in over 5,000 metres of diamond drilling on the property. Details of a proposed underground exploration and bulk sampling program are discussed and future exploration programs are proposed.

PROPERTY (see Figure 2, over)

The Harrison Lake Gold Property consists of 11 mineral claims totalling 123 units. These are the RN, MBI, FF and HOT 1-8 Claims; details are given in Table I below.

TABLE 1 - CLAIM STATUS

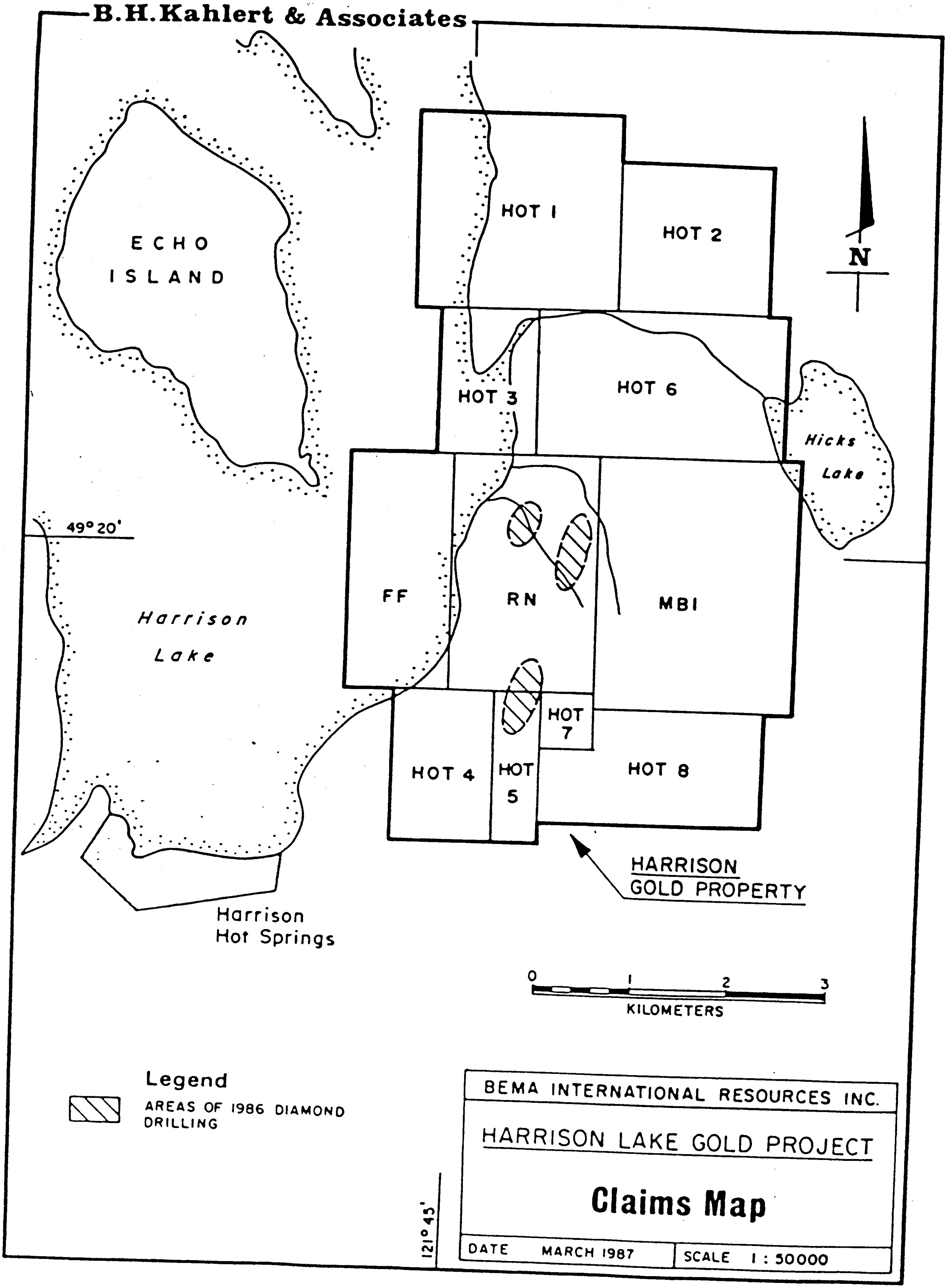
Claim	Record Number	No. of Units	Recording Date	Expiry Date
RN	46(8)	15	Aug. 26/75	Aug. 26/96
MBI	592(5)	20	Sept. 20/79	Sept. 20/96
FF	2051(9)	15	May 3/83	May 3/96
HOT 1	2579(12)	16	Dec. 17/84	Dec. 17/89
HOT 2	2580(12)	9	Dec. 17/84	Dec. 17/89
HOT 3	2581(12)	8	Dec. 17/84	Dec. 17/89
HOT 4	2582(12)	6	Dec. 17/84	Dec. 17/89
HOT 5	2583(12)	3	Dec. 17/84	Dec. 17/89
HOT 6	2584(12)	15	Dec. 17/84	Dec. 17/96
HOT 7	2585(12)	1	Dec. 17/84	Dec. 17/89
HOT 8	2587(1)	15	Jan. 10/85	Jan. 10/90

All claims are presently registered in the name of Kerr Addison Ltd., with Head Office in Toronto, Ontario. Expiry dates shown in Table I reflect assessment work recorded in December, 1987.

The Sasquatch Provincial Park cuts through the northern part of the property.

OWNERSHIP AND OPTION AGREEMENTS

The RN Claim was staked in 1975 and the MBI claim in 1979 by R.P. Rincombe and B.H. Williams who farmed the property out to Abo Oil Corp. in February 1983, who staked the FF claim in May, 1983. In



B.H.Kahlert & Associates
ECHO ISLAND
HOT 1
HOT 2
N
HOT 3
HOT 6
Hicks Lake
49°20'
FF
RN
MBI
Harrison Lake
HOT 7
HOT 4
HOT 5
HOT 8
HARRISON GOLD PROPERTY
Harrison Hot Springs
0 1 2 3
KILOMETERS
Legend
AREAS OF 1986 DIAMOND DRILLING
121°45'
BEMA INTERNATIONAL RESOURCES INC.
HARRISON LAKE GOLD PROJECT
Claims Map
DATE MARCH 1987
SCALE 1 : 50000

Figure 2

November of 1984, Abo Oil Corp. entered into an agreement with Kerr Addison Mines Ltd. whereby Kerr could earn a 60% equity interest in the property. Ownership of all three claims was transferred to Kerr Addison, who later staked the HOT 1-8 claims around the original property. On February 10, 1987, Kerr Addison signed a letter of intent with Bema International Resources Inc. (BIRI) whereby BIRI can earn a 50 % interest in Kerr's 60% interest in the property for a net of 30% equity. To earn this interest, BIRI will be required to expend $750,000 on exploration in 1987. BIRI can earn, at BIRI's option, an additional 5% equity interest by making further expenditures of $250,000.

LOCATION AND ACCESS

The Harrison Lake Gold Property is located on the southeast edge of Harrison Lake, about 100 kilometres east of Vancouver (See Figure 1). The main Jenner Stock area of interest is situated about five kilometres northeast of the resort town of Harrison Hot Springs (See Figure 2). Elevation ranges from 100 to 250 metres above lake level.

B.C. Highway 9 leads north from the Trans Canada Highway at Agassiz to Harrison Hot Springs. From Harrison, a paved highway runs northeast along Harrison Lake to Sasquatch Provincial Park, passing by the Jenner gold prospect on the claims. Access to the Jenner Prospect is from the highway via a 4-wheel drive track. This is shown on Figure 5.

PHYSICAL FEATURES

The Harrison Lake Gold Prospect is located in the B.C. Coast Range Mountain physiographic region. Elevations range from a base of 30 metres at Harrison Lake to over 1,000 metres at Bear Mountain, the highest point on the property. Elsewhere in the region, elevations of mountain tops exceed 2,000 metres.

Slopes are steep, ranging from 10^{o} to 40^{o} with occasional short precipices. Most of the area has been previously logged, resulting in second growth evergreen and dedicuous trees ranging up to 20 centimetres in diameter, with frequent, dense undergrowth, including devils club. Mean annual precipitation in the area ranges from 150 to 200 centimetres.

HISTORY

In the early 1970's, the Harrison Gold property was known was the GEO claim, it was re-staked as the RN claim in 1975. In 1979, the MBI claim was added to the east.

Between 1972 and 1982 this property was mined and produced 30.44 kg gold, 10.14 kg silver and 616 kg copper from 643 tonnes of ore. This was mined from the "Portal Stock" Adit (see Figures 4 and 5) which was 50 metres long and included 4 raises up to 15 metres long. The ore consisted of a quartz-pyrrhotite vein containing visible gold.

Abo Oil acquired the property in 1982 and, using A & M Exploration Services, explored the property in 1982 and 1983. Work consisted of geological mapping, soil sampling and EM surveying. This was followed by a drilling program of 27 diamond drill holes totalling 2,588 metres. In March of 1983, Abo 1-7 claims were staked then in May of 1983, the FF claim was staked.

In 1984, Sawyer Consultants of Vancouver, B.C. reviewed all data for Abo Oil Corp. and made recommendations for further work. Abo drilled a further seven diamond drill holes in 1984, totalling 754 metres, including the extension of two previously drilled holes.

Gold was intersected in three of these holes (DDH 84-28, 84-29 and 84-30). The best intersection was a 64 metre interval in DDH 84-28 which averaged 3.77 gm/T Au. This came from the newly indicated Jenner Stock Prospect, whereas original production and exploration work concentrated on the Portal Stock.

In late 1984, Kerr Addison Mines Ltd. entered into a joint venture with Abo Oil Corp. to continue exploration. The Abo 1-7 claims were restaked as the HOT 1-7 claims; the Hot 8 claim was added in January, 1985.

In 1985, Kerr Addison re-mapped the property and carried out substantial stream, soil and rock chip geochemical sampling. This was followed by a program of 834 metres of diamond drilling in four new holes as well as extensions of a previous Abo drill hole.

In 1986 Kerr Addison completed a major exploration program covering several prospects on the property. Geological mapping, based on gold geochemical anomalies, indicated the presence of a number of newly located quartz diorite stocks located to the south and east of the Jenner stock as well as a 1,000 metre long, 100 metre wide, north trending feldspar porphyry dyke.

Two large grids were established totalling 42.7 kilometres with lines cut at 50 metre line spacing. Soil samples were collected at 25 metre intervals on these grids; additional in-fill line cutting and soil sampling to 25 metres was completed over the north end of the Bluff stock. In addition to the soil geochemical sampling, heavy mineral stream sediment sampling was conducted on several creeks, including Jenner Creek, below the Jenner stock.

Based on previous drilling results, geological mapping and the geochemical surveys, extensive diamond drilling was completed in 1986. Total drilling is tabulated in Table II below.

TABLE II

Prospect	No. of Drill Holes	Total Metres Drilled
Jenner Stock	12	1499 M
Portal Stock	3	272
Bluff Stock	5	209
Lake Stock	2	107.8
Cliff Stock	1	29
Hill Stock	1	35
Total Drilled, 1986	24	2151.8 M

At all but the Jenner Prospect, drill holes were inclined at angles from -50^{o} to -65^{o}. At the Jenner Prospect numerous holes were drilled from one setup in a star pattern due to very difficult drill site setup. All holes were drilled due east on sites spaced 25 and 50 metres apart in north-south directions. Inclinations of holes ranged from vertical to up-holes of $+12^{o}$. The northern perimeter of the Jenner stock has not been tested due to lack of drill site access on steep, rocky slopes. The purpose of the detailed drilling at the Jenner Prospect was to test for grade of gold and possible ore reserve potential.

Due to the presence of coarse, visible gold in erratic distribution a unique method of assaying was developed. All core was crushed and pulverized, then sieved to segregate coarse gold. Each speck was counted and the larger ones were measured. The whole core was assayed by fire assay with AA finish.

REGIONAL GEOLOGY (See Figure 3, over)

The Harrison Lake Gold Property is situated within the Cascade Mountain geological terrane. This suite of rocks consists of a northwesterly trending axial core of gneiss and granitic rocks flanked on each side by folded and faulted sedimentary and volcanic sequences which show little evidence of metamorphism. The contact between the axial core and the western sequences is formed by the Harrison Fault which is a one to two kilometres wide fracture zone with well developed cleavage but no marked linear fabric. The Jenner Prospect lies just to the west of the Harrison Fault and is dissected by a substantial splay fault along which Jenner Creek flows.

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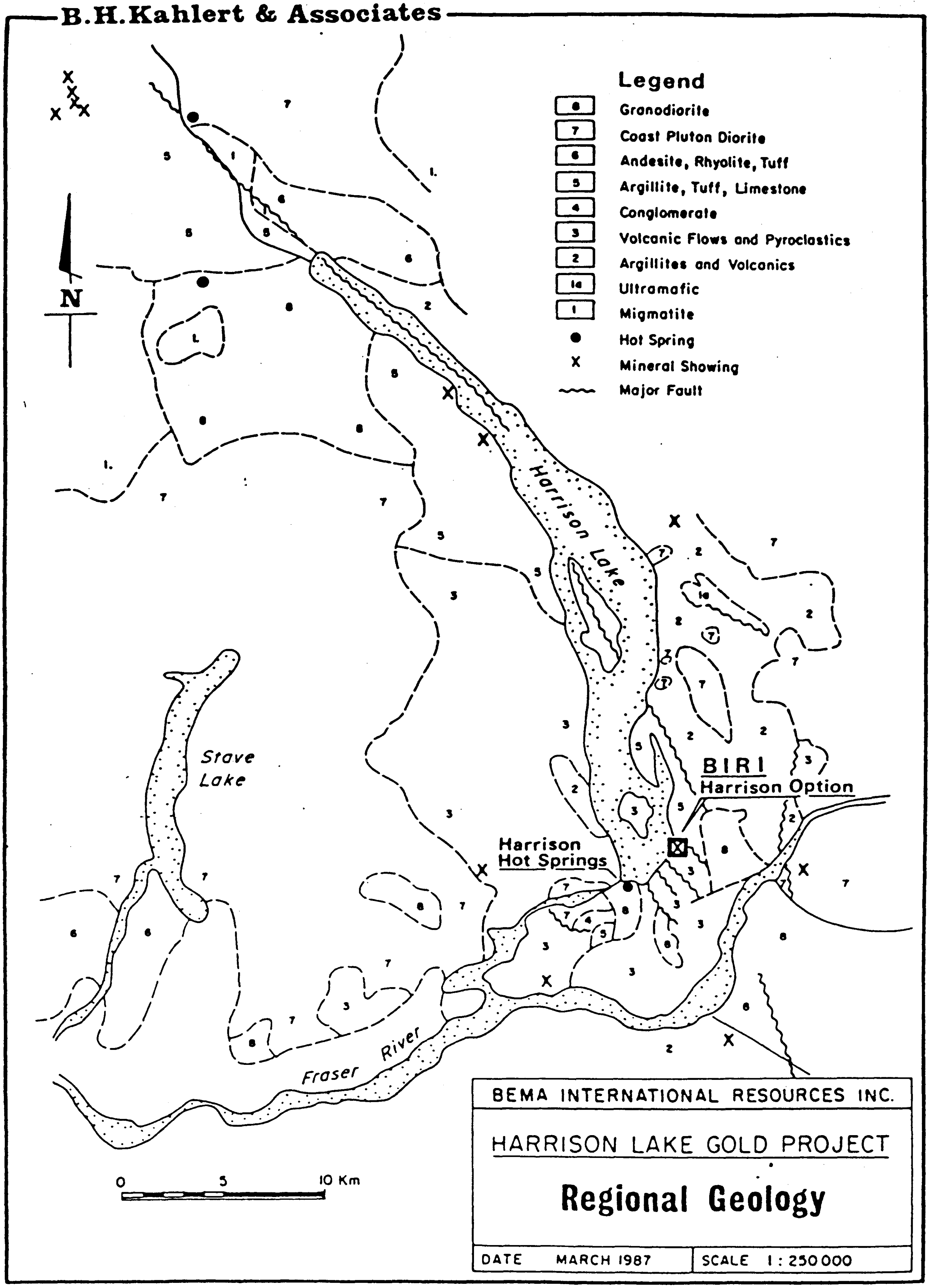

Figure 3

The Harrison Fault extends for more than one hundred kilometres, north to south, from the Lillooet River well into Washington State. It has a dip of 65^{o} to the east and is known to have numerous splay faults. Its age is placed at lower Cretaceous, about 110 ma.

The oldest rocks in the district are migmatites and ultramafics of unknown age which occur in the northwest and northeast corners of the map area and are unrelated to gold mineralization.

The oldest layered rocks are the Upper Paleozoic Chilliwack Fm volcanics and argillites which are overlain by Triassic Cultus Fm sediments. Later mid-Jurassic Harrison Lake Fm volcanic flows and pyroclastics are overlain by various conglomerate and sandstone units as well as the upper Jurassic Mysterious Creek Fm. argillite, which underlies most of the Harrison property. A final sequence of lower Cretaceous volcanics of intermediate to acid composition completes the layered succession of the area.

All the layered sequences have been cut by Cretaceous to Tertiary aged diorite and quartz diorite stocks and batholiths related to Coast Range intrusives. Locally, strong hydrothermal alteration is noted in the layered rocks of the western belt.

PROPERTY GEOLOGY (See Figure 4, over)

The greater part of the Harrison Lake Gold Property is underlain by argillites of the Mysterious Creek Formation. This sequence is in fault contact with the older Chilliwack Fm sediments to the northeast and southwest of the property.

The Mysterious Creek Formation is a very uniform, monotonous, thin bedded black argillite. In the project area, it has been intruded by nine known quartz diorite stocks and bosses, these are likely offshoots of the large Hicks Lake batholith, situated at the eastern fringe of the Harrison Property. Several diorite bosses and a feldspar porphyry dyke about 1,000 metres long also cut into the argillites.

These stocks are generally globular shaped with sizes ranging from 70 by 150 metres to 1,200 by 1,400 metres. The quartz diorite itself is fine to coarse grained with subhedral hornblende and biotite and contains about 10% quartz. Locally, 5% pyrite and pyrrhotite are contained within the quartz diorite. Appendix I contains petrographic descriptions of four core specimen.

In the Jenner and Portal Stocks (see Figure 5, over), as well as in their immediate periphery, quartz vein stockworks are developed. The quartz veins are generally 5 to 50 millimetres thick and usually exhibit tight wallrock contacts, with some assimilation, indicating fairly high pressures when injection took place. These quartz vein

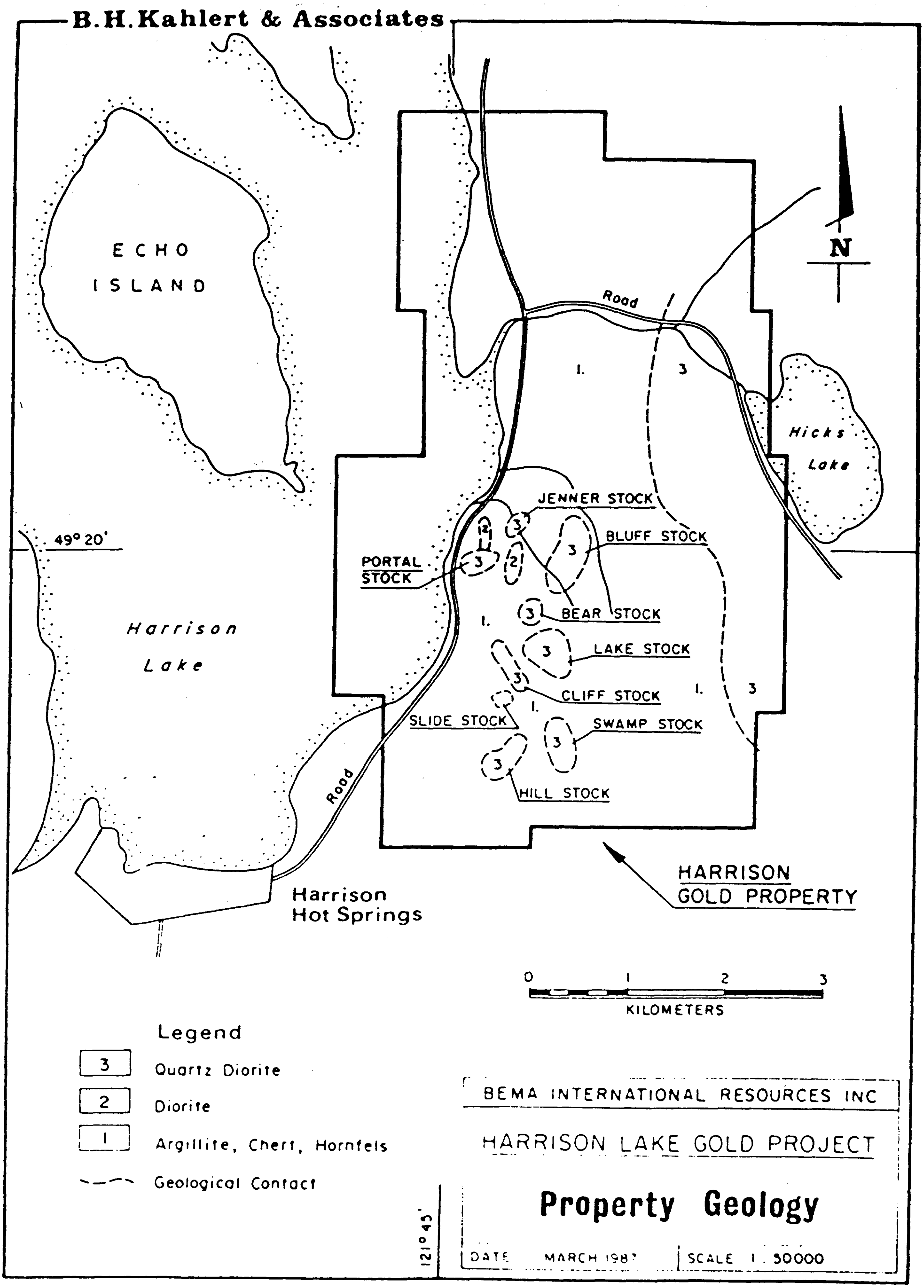
B.H.Kahlert & Associates
ECHO
ISLAND
Harrison
Lake
49° 20'
Road
Hicks
Lake
N
JENNER STOCK
BLUFF STOCK
PORTAL
STOCK
BEAR STOCK
LAKE STOCK
CLIFF STOCK
SLIDE STOCK
SWAMP STOCK
HILL STOCK
HARRISON
GOLD PROPERTY
Harrison
Hot Springs
0 1 2 3
KILOMETERS
Legend
3 Quartz Diorite
2 Diorite
1 Argillite, Chert, Hornfels
Geological Contact
121° 45'
BEMA INTERNATIONAL RESOURCES INC
HARRISON LAKE GOLD PROJECT
Property Geology
DATE MARCH 1987
SCALE 1 : 50000

Figure 4

stockwork systems will be discussed further in the following section entitled "Gold Mineralization".

Drilling and geological mapping of the Jenner Stock indicates that it is irregularly ellipsoidal in plan view, elongate north-south. However, it is generally cylindrical in vertical dimension, except near surface, where it widens substantially. Its dimensions are 120 metres long and at its widest, about 75 metres east west. Vertical extent tested by drilling has been tested to 250 metres below surface.

The other quartz diorite stocks are also ellipsoidal in shape, however, insufficient drilling has been completed on those to give definitive indication of their subsurface shape.

Alteration associated with the intrusion of the stocks consists mainly of hornfelsing the argillites with minor associated silicification. Within the intrusives, alteration is generally weak, consisting of minor quartz, epidote, actinolite, calcite and tremolite. Sulphide content is low, main species are pyrite and pyrrhotite, with minor chalcopyrite and traces of molybdenite and several sulphosalts. In proximal hornfels, sulphide content may reach 15-20% over short sections, however, in the quartz diorite average content is 2-3% sulphides.

GOLD MINERALIZATION

On the Harrison Property, gold occurs mainly as free, visible flakes with or without silver and bismuth tellurides. Large grains may be up to 2 millimetres, while the more common size ranges from 0.2 to 0.6 millimetres and much smaller grains are also found.

The gold invariably occurs with the quartz vein stockworks in association with pyrite and pyrrhotite. It is confined, however, to the quartz stockworks within the intrusives or their immediate periphery. Weak quartz veining also occurs in the argillites, with some sulphides, however, gold is not known to occur distal to the quartz diorite intrusives.

There are at least two types and generations of quartz veins on the property. Older veins are white and barren, while the younger are translucent grey to milky, carry sulphides and may contain gold. Sulphides, besides pyrite and pyrrhotite, are chalcopyrite with traces of bismuth and silver tellurides, molybdenite, arsenopyrite and sphalerite.

During his visit to the property on February 16, 1987, the author collected three rock chip samples. These samples were taken from the uppermost road-cut in the Jenner prospect area. Samples No. 23908, 23909 and 23910 were taken at 9500N, 9475N and 9450N,

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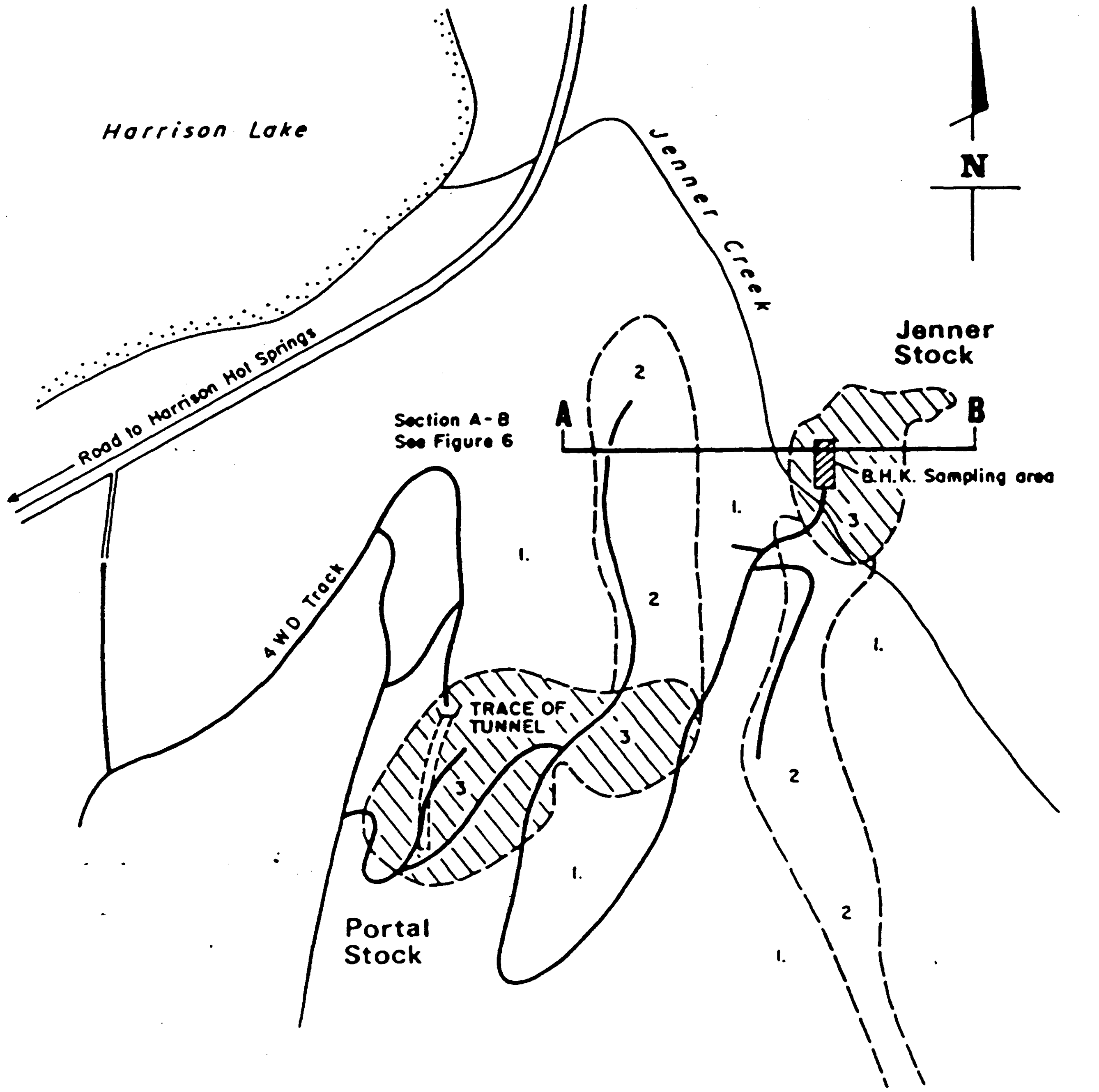


Legend

- 3 QUARTZ DIORITE
- 2 DIORITE
- 1 ARGILLITE, CHERT, HORNFELS
- GEOLOGICAL CONTACT
- ROAD
- 4 W.D. TRACK
- TUNNEL
- B.H.K. SAMPLING AREA

100 0 100 200
METERS

BEMA INTERNATIONAL RESOURCES INC.

HARRISON LAKE GOLD PROJECT

Geology

JENNER ZONE

DATE	MARCH 1987	SCALE	1 : 5000

Figure 5

respectively (see Figure 5). The first two samples were from the Jenner quartz diorite with visible quartz vein stockwork and three to five percent pyrrhotite-pyrite. Sample No. 23910 was taken from hornfels just west of the quartz diorite contact, it was also from an area containing modest quartz stockwork, however sulphide content averaged eight to ten percent. In the sample from 9475N, several grains of free gold were seen, however, these were rejected from the assay sample.

Assay results of the three samples were 0.360, 0.356 and 0.012 ounces per ton gold respectively for the three samples numbered 23908, 23909 and 23910. (See Certificate of Analysis, Appendix IV). These results indicate that random rock chip sampling can obtain gold assays much higher than averages indicated by diamond drilling also, the hornfels, even with quartz veining, carries little gold.

A grab sample, No. 23911, taken by M.J. Beley, a principal of BIRI, ran 3.748 ounces per ton gold. This sample was of quartz diorite, located at 9480N.

Quartz veins may strike and dip in various directions, however the most frequent trend is a northerly strike with dips varying from -20^{o} to -40^{o} to the east. Holes drilled at azimuth 090^{o} at inclinations of -60^{o} and $+10^{o}$ to the east encountered the densest stockwork, averaging three veins per metre, while holes at other inclinations encountered only two veins per metre in the mineralized zones.

Most core was drilled NQ size and sampled at one metre intervals. Due to the coarse nature and irregular distribution of the gold, all Kerr Addison core was crushed completely to obtain a more representative sample. In previous drilling by Abo Oil, samples were of irregular length, selected on the basis of geological criteria.

In the Jenner Stock a large number of drill samples grading in excess of one gram of gold per tonne (0.03 oz/ton) have been encountered. Substantial continuous intervals grading in excess of 2 gm/tonne Au (0.06 oz/ton), ranging in continuous core length from 5 to 102 metres, indicates the presence of a substantial bulk tonnage of gold mineralization.

Table III, shown below, lists the better intersections of gold mineralization encountered in drilling completed to date.

TABLE III - GOLD INTERSECTIONS, JENNER STOCK

DDH	From Meters	To Meters	Interval Meters	Weighted Assays gm/tonne Au
84-28	0	64	64	3.77
84-29	0	40	40	4.56
84-30	0	30	30	2.74
85-35	0	16	16	4.70
85-36	40	142	102	3.54
85-37	148	164	16	2.23
85-38	151	189	38	1.41
86-39	5	86	81	2.04
86-40	87	104	17	2.01
86-41	28	35	7	4.02
86-42	27	50	23	3.71
86-46	10	52	42	3.52
86-47	43	60	17	3.20
86-48	3	27	24	5.28
86-49	4	34	30	2.58
86-50	37	58	21	2.91
86-51	0	41	41	1.94
86-52	1	85	84	3.32
86-53	6	11	5	5.27

Individual high grade gold assays above 6 gm/tonne or 0.2 oz/ton Au range up to 155.76 gm/tonne Au over 1 metre or 5.0 oz/ton Au over 3.3 feet. A total of 92 individual assays exceed 6 gm/tonne Au, of these, 80 are over 1 metre intervals, 12 are from shorter intervals ranging from 9 to 22 cm in length.

OTHER PROSPECTS

PORTAL STOCK

Three diamond drill holes totalling 472 metres were drilled from one site in a fan pattern. Quartz diorite with good quartz stockwork was encountered. One hole was drilled due east, while the others were drilled to the west, one at a shallow angle and the other at a steep angle.

Each of the holes encountered substantial gold mineralization near surface, details are tabulated in Table IV, below.

TABLE IV - PORTAL STOCK GOLD INTERSECTIONS

DDH No.	From Meters	To Meters	Interval Meters	Assay gm/T Au
86-43	7	14	7	9.78
86-44	6	11	5	5.39
86-45	7	13	6	2.48

These holes were drilled in the northeastern apophysis of the portal Stock as shown in Figure 5. Room exists here to expand on the mineralization encountered in the 1986 program.

MINOR PROSPECTS

The extensive geochemical surveys and geological mapping completed on two large grids to the south and east of the Jenner Stock succeeded in locating a number of additional quartz diorite stocks which were related to gold geochemical soil anomalies.

Nine diamond drill holes totalling 391 metres tested four of these stocks. As each hole averaged only 43.5 metres, this was a very minimal, site specific test only.

Five short holes were drilled into the Bluff Stock. All encountered quartz diorite with weak to modest amounts of quartz vein stockwork, however no significant gold assays were returned. Trace molybdenite was encountered in one drill hole.

At the Lake Stock, the two short holes encountered quartz diorite which averaged close to 2.5 quartz veins per metre. The first hole encountered two 1 metre long intervals with sulphides which ran 1.3 gm/T and 1.5 gm/T gold. In the second drill hole, a 1 metre interval with a narrow quartz vein ran 1.07 gm/T gold.

The 29 metre long hole at the Cliff stock encountered only argillite with a 90 cm quartz diorite vein. It did not reach the main intrusive body. No significant assays were encountered.

At the Hill Stock, a 35 metre long drill hole encountered quartz diorite with 1.5 quartz veins per metre. One speck of gold was seen which assayed 0.34 gm/T Au over one metre, however, another one metre interval with only one narrow quartz vein ran 2.06 gm/T gold.

Several soil and stream geochemical anonmalies still have to be followed up. Sources of these anomalies is not understood and form good targets for further ground work.

It can be seen from the above that only minimal target definition and testing of other potential gold prospects on this property have been undertaken. Further detailed investigation of these areas is highly desirable.

ECONOMIC POTENTIAL

Drilling on the Jenner Deposit in 1985 and 1986 by Kerr Addison Mines Ltd. encountered extensive gold mineralization in a number of closely spaced diamond drill holes. Grades of gold range from background to over 100 grams per tonne (several ounces per ton) over one metre sample intervals. Virtually all gold occurs as free flakes ranging in size from microscopic to 2 mm in diameter. The gold invariably occurs within a wide spaced quartz vein stockwork, usually in association with iron and minor basemetal sulphides, tellurides and some sulphosalts.

There does not appear to be a specific structual feature or direction which controls the gold mineralization, other than the quartz diorite intrusive body itself, and it is not wholly mineralized. Due to the free nature of the gold, its association with a quartz vein stockwork, and the lack of specific lithological or structural control of the mineralization, it has been difficult to correlate specific mineralized zones between drill holes.

This style of gold mineralization has created problems not only in determining a volume or tonnage of possible ore but also in determining grades to assign to various blocks. The free, coarse gold historically occurs erraticly distributed and this phenomenon is expected at Harrison Lake. Grades of gold mineralization as determined from diamond drill core will therefore vary widely from true values of various blocks of gold mineralization.

In order to determine an approximate economic potential, Kerr Addison calculated a "Mineral Inventory" or "Geologic Reserves" based on volumes of rock of similar grade over various intervals of drill holes.

As drill sections are mainly 25 metres apart, blocks of gold mineralization were determined to be halfway between sections, or 12.5 metres, making individual blocks 25 metres long in a North-South direction. As no directional control is known to exist, the East-West block length was also set at 25 metres, thus making the drill hole the centre of a 25 metre square. When holes converged in an east-west direction due to the fan-type drilling pattern, distances halfway between holes was used to determine block size. Where drill sections were wider than 25 metres or were open, 12.5 metres from drill hole section was set as the limit.

Using the above parameters, a density of 2.7 gm/cc and various cutoff grades, an approximate, in situ resource as determined by the diamond drilling to date was calculated.

At a cutoff grade of 1 gm/T, using blocks generally +10 meters long, with internal dilution of less than four metres below grade, a resource of 867,000 metric tonnes grading 2.55 gm/t is indicated. Using a cutoff grade of 0.5 gm/t Au and using all blocks calculated above this grade, a resource potential of 1,783,000 metric tons grading 2.19 gm/t Au is indicated. By increasing cut off grades or reducing low grade blocks, a variety of different volume/grade gold resources can be calculated.

The above quoted resources have been determined to a depth only of 100 metres. Additionally, as no drilling has been completed north of the 9500N section, calculation of resource potential stops at 9512.50N. The surface trace of the Jenner Stock extends to 9535N, the plunge of the northern contact is unknown due to lack of drilling.

Examination of the potential of the Harrison Lake Gold Project can therefore be broken down into the following separate subjects.

1. Mineability of the presently indicated resources
2. Potential to find additional resources at the Jenner Prospect
3. Potential to find mineable reserves at the Portal and other Quartz Diorite stocks on the property.

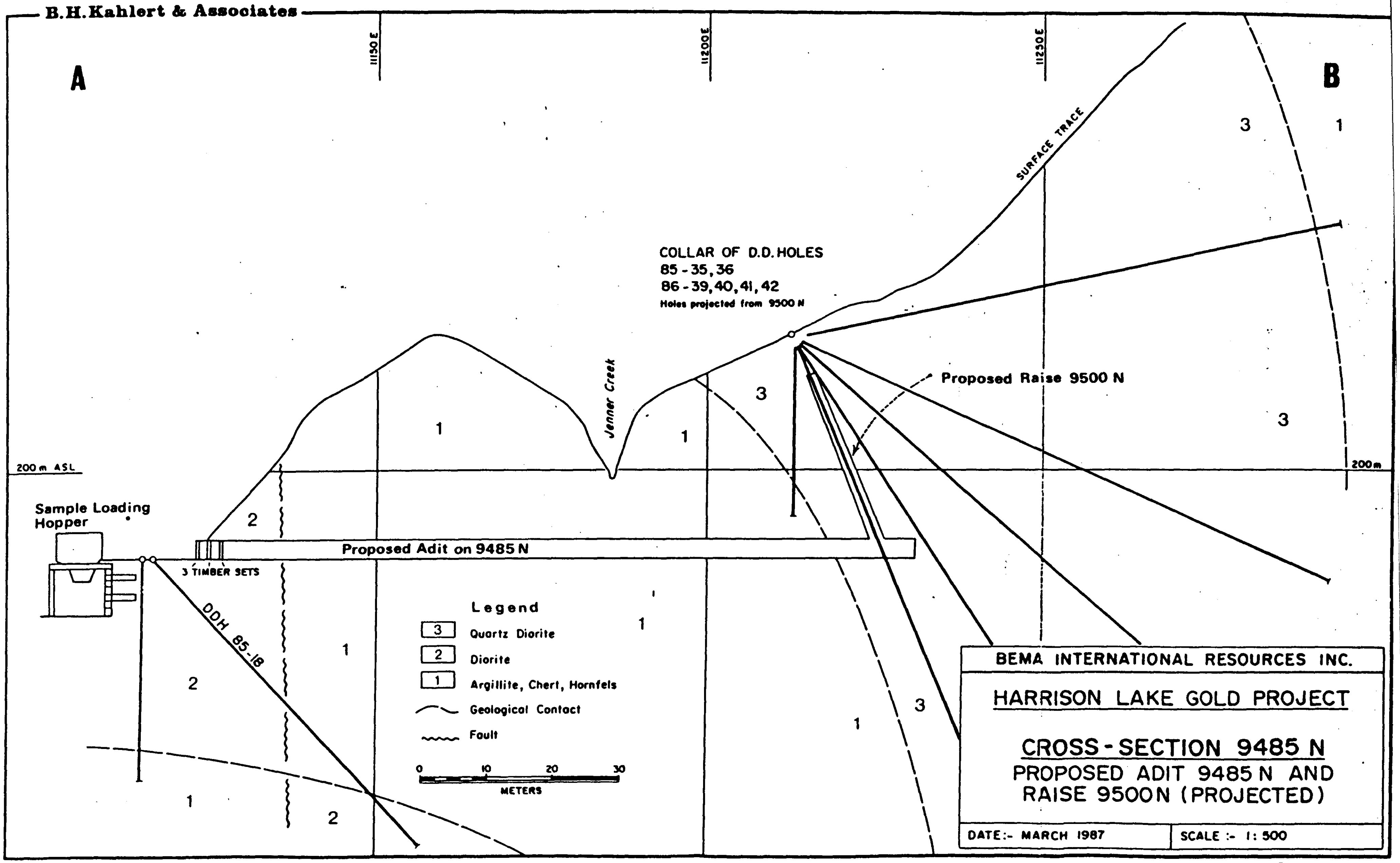
These subjects are discussed further below.

1. Mineability of the presently indicated resources.

The major factors affecting the mineability of the presently indicated gold resources at Harrison Lake will be final grade recovery and mining costs. In order to determine these, it will be necessary to carry out an underground drifting and raising program to obtain a bulk sample and establish the competency of the host rock. Milling of the bulk sample will determine final grade of gold mineralization as well as recovery factor during processing.

Initial metallurgical test work completed on a number of two kilogram samples using a variety of techniques have been completed by Coastech Research Ltd. of North Vancouver. Results vary widely, with the best method appearing to be a combination of coarse grind with gravity concentration to scavenge coarse free gold, followed by bulk regrinding and bulk flotation with final cyanide leaching. Up to 97.7% of gold has been recovered, however, some further test work is recommended to fine tune the procedure. See Appendix II for detail.

From drill core recovery and surface examination of outcrop, it is apparent that the quartz diorite is very competent and should stand up well. This factor could greatly reduce mining costs if open stopes will stand up without caving, possibly allowing sub-level caving, similar to that utilized in the very low cost porphyry Cu-Mo



B.H. Kahlert & Associates
A
B
11150 E
11200 E
11250 E
SURFACE TRACE
COLLAR OF D.D. HOLES
85 - 35, 36
86 - 39, 40, 41, 42
Holes projected from 9500 N
Proposed Raise 9500 N
Jenner Creek
200 m ASL
200m
Sample Loading Hopper
Proposed Adit on 9485 N
3 TIMBER SETS
DDH 85-18
Legend
3 Quartz Diorite
2 Diorite
1 Argillite, Chert, Hornfels
Geological Contact
Fault
0 10 20 30
METERS
BEMA INTERNATIONAL RESOURCES INC.
HARRISON LAKE GOLD PROJECT
CROSS-SECTION 9485 N
PROPOSED ADIT 9485 N AND RAISE 9500N (PROJECTED)
DATE:- MARCH 1987
SCALE :- 1: 500

Figure 6

mines. Significant increase in grade of gold mineralization would greatly enhance the mining potential of the Jenner Zone. Individual samples of core and from surface sampling have occasionally been very high grade. This may reflect possible high grade zones within the deposit. (See Figure 6.) The proposed underground exploration work is outlined in Appendix III.

2. Potential to find addition resources at the Jenner Prospect.

Drilling at the Jenner Prospect has not tested the gold potential of the northern portion of the stock or at depth. Drill investigation of the northern contact zone can be undertaken from the underground workings and will likely add additional reserves as gold mineralization at the 9500N section is very strong. The search for additional reserves at depth will likely await results of the underground investigation.

3. Potential to find mineable reserves at the Portal and other Quartz Diorite stocks on the Property.

Diamond drilling at the Portal Stock and several other quartz diorite bodies returned highly encouraging results. Detailed evaluation of the drill results must be carried out very carefully as the potential to find further substantial gold mineralizaton in these stocks is very good. From recent drilling at the Jenner Stock, it is apparent that a preferred quartz vein direction carries more gold than other veins of the stockwork system. Careful attention to this will assure optimum drilling direction.

In addition to the follow up drilling, further potential exists in several geochemical soil and stream gold geochemical anomalies. The sources of these anomalies have not yet been located, yet the anomaly strengths are similar to that exhibited by the Jenner stock.

Respectfully submitted,

B.H. Kahlert, P.Eng.

BUDGET OUTLINE
Harrison Lake Gold Project
Bema International Resources Inc.

Salaries	$ 60,000.00
Accommodation	11,000.00
Freight	18,000.00
Ground Transportation	13,900.00
Assaying	20,000.00
Tech. Equipment	3,700.00
Groceries	5,700.00
Equipment Rental	2,500.00
Lease Payments	5,000.00
Diamond Drilling	35,100.00
Road Contract	41,000.00
Underground Contract (3 raises)	361,000.00
Metallurgical (10 tonnes)	13,500.00
(940 tonnes)	129,600.00
Environmental	7,000.00
Engineering	23,000.00
TOTAL	$750,000.00

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
B. H. KAHLERT

Appendix I Petrographic Descriptions

VP

Vancouver Petrographics Ltd.

ABO/KEAR

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
A.L. LITTLEJOHN, M.Sc. Geologist
JEFF HARRIS, Ph.D. Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
V0X 1J0

PHONE (604) 888-1323

Report for: Gary Nordin,
Bema International,
900 - 609 West Hastings Street,
VANCOUVER, B.C.

Invoice 6339
March 1987

Samples: Diamond Drill Core
83-9 385', 83-17 33', 83-18 6.5', 83-22 212'

Summary:

The samples are grouped as follows:

1) Quartz Diorite

Strongly zoned plagioclase, minor to moderately abundant hornblende phenocrysts; hornblende mainly altered to actinolite, chlorite, calcite, and biotite; interstitial quartz, minor biotite. Secondary pyrrhotite, chlorite patches. Accessory ilmenite/Ti-oxide, apatite.

83-9 385'
83-22 212'

2) Altered Diorite

Unzoned plagioclase, lesser actinolite ± biotite after hornblende, abundant ilmenite/Ti-oxide, disseminated pyrrhotite. Sparse groundmass of extremely fine grained, granulated rock dominated by plagioclase and lesser chlorite, locally with quartz.

83-17 33' replacement vein(?) zone with relic plagioclase and secondary calcite, quartz, epidote, tremolite, and minor pyrrhotite and chlorite; late veins of calcite-pyrrhotite, with lesser quartz and seams of K-feldspar.

83-18 6.5'

Associated with pyrrhotite in all samples is minor to trace chalcopyrite.

John G. Payne

John G. Payne

83-9 385' Quartz Diorite (+ Pyrrhotite)

The rock is a slightly porphyritic, medium grained quartz diorite with scattered hornblende phenocrysts up to 5 mm in length. Plagioclase is strongly zoned. Mafic minerals are hornblende (altered to actinolite), biotite (partly altered to chlorite), and interstitial chlorite. Quartz is interstitial to plagioclase. Pyrrhotite and minor chalcopyrite form irregular patches. Calcite forms interstitial and replacement patches.

plagioclase	55-60%
quartz	12-15
hornblende	15-17
biotite	4- 5
chlorite	2- 3
calcite	1- 1½
pyrrhotite	2- 3
ilmenite/Ti-oxide	0.5
apatite	0.2
epidote	0.2
chalcopyrite	trace

Plagioclase forms subhedral grains averaging 0.7-1.2 mm in size. They are strongly zoned. Euhedral cores which occupy about 25% of the grains (50% of diameter) have a composition of labradorite/andesine. Composition ranges only slightly in the cores, and shows finely layered oscillatory zoning near the outside edge of the core. Alteration in the core is slight to moderate to irregular patches of extremely fine grained epidote, minor sericite and calcite, and locally to secondary, more-sodic plagioclase. A narrow zone grades outwards from the core sharply in composition to oligoclase/andesine (An_{30})and the rest of the rim grades moderately outwards to An_{20} at the margin of the crystals. The outer zone generally is free of alteration.

Hornblende forms subhedral to euhedral prismatic phenocrysts up to 5 mm in length, and anhedral to subhedral grains averaging 0.5-1.5 mm in size. It is pleochroic from pale to light green, indicating that the original hornblende probably was altered to actinolite. In places it contains minor patches of secondary(?) biotite. Biotite also is common as thin flakes along the rims of some hornblende grains. Some grains contain irregular, commonly skeletal replacement grains of calcite; these are up to 0.5 mm in size and occupy up 50% of the original hornblende grains.

Quartz forms anhedral grains averaging 0.5-1 mm in size, interstitial to plagioclase. Grains show slightly wavy extinction.

Biotite forms flakes averaging 0.5-1 mm in size. These commonly occur in clusters of a few flakes, and in part are associated with hornblende. Pleochroism is from straw to medium orange-brown. A moderate percentage of the grains are partly altered along cleavage to pseudomorphic chlorite.

Chlorite also forms interstitial and replacement patches up to 1 mm in size of subradiating aggregates of equant flakes averaging 0.05 mm in size. Color is pale green and interference color is greyish brown.

Calcite forms replacement patches in hornblende grains, and also forms interstitial grains up to 0.7 mm in size between plagioclase grains.

Pyrrhotite forms very fine to fine grained patches up to 1 mm in size. Locally it forms extremely fine grains intergrown with patches of ilmenite/Ti-oxide.

Ilmenite/Ti-oxide forms patches up to 0.3 mm in size. Most are anhedral aggregates of very fine grain size, with ilmenite slightly altered to Ti-oxide along borders of patches. One patch is of platy

(continued)

Ilmenite with minor to moderately abundant secondary Ti-oxide forms patches averaging 0.05-0.1 mm in size, mainly of very fine grained, equant aggregates.

Sphene forms scattered anhedral to skeletal grains averaging 0.1-0.2 mm in size; it commonly is associated with mafic minerals and/or pyrrhotite.

Apatite forms anhedral to subhedral stubby prismatic grains averaging 0.2-0.3 mm in length. Most of these occur with plagioclase and quartz.

83-22 212'   Quartz Diorite (Pyrrhotite)

The rock is very similar to Sample 83-9 385', but lacks distinctive hornblende phenocrysts, and contains slightly different abundances of minerals, both primary and secondary.

plagioclase	55-60%
quartz	15-17
hornblende	12-15
biotite	3- 4
chlorite	5- 7
calcite	1½-2
pyrrhotite	2- 3
apatite	0.1
muscovite	trace
Ti-oxide	minor
ilmenite	0.3
sphene	minor
chalcopyrite	trace

Plagioclase forms anhedral to subhedral grains averaging 0.5-1.2 mm in size. Zoning is as in Sample 83-9 385', but commonly cores are not as well defined, and in some grains, cores occupy well over half of the grain. (See 83-9 385" for discussion of primary zoning.) Alteration is mainly restricted to cores, and varies from slight to moderate. It includes veinlets and patches of chlorite-calcite, epidote, and sericite. Secondary muscovite forms a few patches up to 0.12 mm across interstitial to plagioclase; these commonly have a subradiating texture of flakes up to 0.1 mm long.

Hornblende forms a very few phenocrysts up to 3 mm in length, and is common as single grains and clusters of grains averaging 0.7-1.5 mm in size. Pleochroism is from pale to light or medium green; the darker color of green suggests that at least some of the amphibole is hornblende, whereas the paler grains probably are actinolite formed from hornblende. Hornblende is slightly to strongly altered to irregular patches of very fine grained chlorite, and irregular, in part skeletal grains of calcite. Locally it is partly replaced by biotite, which also forms ragged grains intergrown with hornblende and along borders of hornblende.

Quartz forms anhedral, interstitial grains up to 1.2 mm in size. Extinction is uniform to slightly wavy.

Biotite forms flakes averaging 0.3-1 mm in length. Pleochroism is from straw-colored to medium orange-brown. A moderate percentage of grains are partly altered to pseudomorphic chlorite, with or without minor Ti-oxide.

Chlorite forms replacement patches in hornblende, with or without calcite, and also a few interstitial patches of very fine grained, equant flakes. Color is very pale to pale green, and interference color is dark brown.

Calcite forms replacements of hornblende, minor replacements of plagioclase, and a few interstitial grains up to 0.3 mm in size between plagioclase grains.

Pyrrhotite forms patches up to 1 mm in size of fine grained aggregates and disseminated very fine grains. Locally it occurs as extremely fine grains disseminated in patches of ilmenite. Chalcopyrite forms scattered grains up to 0.03 mm in size along the borders of pyrrhotite grains, and one inclusion up to 0.07 mm in size within pyrrhotite (along the border of two pyrrhotite grains).

(continued)

Pyrrhotite forms anhedral patches averaging 0.1-0.8 mm in size. These consist of submosaic aggregates of equant grains averaging 0.05-0.1 mm in size.

Chalcopyrite occurs with pyrrhotite as anhedral, equant grains up to 0.07 mm in size.

Apatite forms acicular grains up to 0.5 mm in length, mainly intergrown with plagioclase and with groundmass plagioclase-quartz intergrowths. Many grains are broken along a well developed basal parting, and some are disoriented by movement along this parting.

83-18 6.5' Altered Diorite (Pyrrhotite ± Chalcopyrite)

The rock is a medium grained diorite dominated by plagioclase and amphibole (probably original hornblende, now altered to actinolite and biotite). Sparse interstitial groundmass is much finer grained, and is dominated by plagioclase and actinolite, with minor patches of quartz. Ilmenite patches are abundant. Less abundant are patches of pyrrhotite-(chalcopyrite) and chlorite.

plagioclase	55-60%		
hornblende			
actinolite	15-17		
biotite	3- 4		
groundmass			
plagioclase	5- 7	quartz	0.2%
actinolite	5- 7		
chlorite	3- 4		
ilmenite	3- 4		
pyrrhotite	1- 1½		
chalcopyrite	minor		
apatite	0.3		

Plagioclase forms anhedral, equant grains averaging 0.7-1.5 mm in size. These are altered slightly to moderately to disseminated, extremely fine grained actinolite and lesser chlorite and calcite. Grains are unzoned, and probably of andesine composition.

Hornblende forms patches up to 2 mm in size containing stubby to prismatic grains averaging 0.5-1 mm in size. It is altered completely to a variety of aggregates dominated by pseudomorphic or fibrous actinolite, commonly with patches of extremely fine grained biotite. Less common alteration minerals are tremolite, forming pseudomorphic patches near borders of some grains, and chlorite, which forms irregular replacement patches. Actinolite is variable in color, ranging from very pale to light green, with pleochroism from yellowish to bluish shades. Local patches of grains and some very fine grained aggregates are as dark as medium green. Biotite is pleochroic from pale to medium brown to orange-brown. Grains of biotite average 0.03-0.05 mm in size, and most are equant.

Interstitial to plagioclase and hornblende are patches and seams of extremely fine to very fine grained aggregates of anhedral, in part interlocking plagioclase, and fibrous to acicular aggregates of actinolite. Such patches are up to 1.5 mm across, but generally are much thinner. These zones may represent late-stage magmatic crystallates (altered with the rest of the rock). Locally, such extremely fine grained material occurs in seams, suggesting that the seams may have been formed by granulation of the main rock. A few interstitial patches are dominated by an extremely fine grained intergrowth of quartz in plagioclase, with textures suggestive of myrmekite. Associated with some of these patches are patches of quartz grains averaging 0.03-0.1 mm in grain size.

Chlorite forms replacement patches up to 2 mm in size. These consist of equant to slightly elongate flakes averaging 0.05-0.1 mm in size. They are slightly pleochroic from pale to light green, and show a variable interference color from purple to deep blue depending on the orientation of the grains. In places these patches grade into patches of very fine grained actinolite. Chlorite commonly replaces hornblende grains, but some patches appear to be replacing the rock irregardless of original mineralogy.

Ilmenite forms patches from 0.1-0.5 mm in size of platy to equant aggregates of grains up to 0.2 mm in size. Intergrown with these are much less silicates (biotite and actinolite are most common), and locally pyrrhotite.

(continued)

The replacement "vein" contains relic subhedral to anhedral plagioclase grains surrounded by secondary minerals showing a wide variety of textures and intergrowths.

Calcite commonly forms medium to coarse, in part poikilitic grains. These are commonly free of inclusions, and elsewhere contain minor to very abundant inclusions of extremely fine to very fine grained, prismatic actinolite/tremolite. Elsewhere, calcite is extremely fine to very fine grained and intergrown intimately with epidote and/or quartz.

Quartz commonly is fine to medium grained. Some grains are free of inclusions, and others contain very abundant inclusions of calcite.

Epidote forms very irregular, in part poikilitic grains ranging from very fine to coarse in size. It is concentrated in patches.

Tremolite locally forms slightly radiating, prismatic aggregates averaging 1-1.5 mm in length. These are intimately intergrown with calcite, and are associated with much finer grained amphibolite intergrown with calcite.

Pyrrhotite and minor chalcopyrite form disseminated, very fine to fine patches.

Chlorite is concentrated in one patch 1.2 mm across, in which it forms unoriented flakes from 0.2-0.7 mm in grain size. Enclosed in the patch is a ragged grain of epidote 0.15 mm in size.

Actinolite occurs in extremely fine to very fine grained patches intergrown with calcite. It is distinguished from tremolite because it is light/medium green in color, whereas tremolite is colorless to very pale green.

The rock is cut by a few discrete veins up to 0.7 mm in width. These are mainly near the replacement vein zone. They consist of very fine to fine grained calcite with patches up to 0.5 mm in size of very fine grained pyrrhotite, and much less quartz (intergrown with calcite). K-feldspar forms distinctive thin selvages up to 0.03 mm wide along parts of the veins; these show up in the stained offcut block.

83-17 33' Altered Diorite replaced by Calcite-Quartz-Epidote-Tremolite/Actinolite-Pyrrhotite zone, and cut by late veins of Calcite-Pyrrhotite-(K-feldspar-Quartz)

The rock is dominated by medium to coarse grained plagioclase, with lesser, commonly interstitial actinolite, and moderately abundant Ti-oxide/ilmenite. It contains seams and patches of much finer grained aggregates probably formed by granulation. The large replacement zone contains relic plagioclase grains and secondary aggregates of calcite, quartz, epidote, amphibole, and pyrrhotite in a wide variety of textures. Late veins are dominated by calcite with lesser pyrrhotite and much less quartz and K-feldspar.

plagioclase	45-50%	replacement (17-20%)	
actinolite	12-15	calcite	8-10
Ti-oxide/ilmenite	3- 4	quartz	3- 4
calcite	5- 7	epidote	3- 4
pyrrhotite	2- 3	tremolite	1½-2
apatite	0.1	pyrrhotite	0.3
groundmass	4- 5	chlorite	0.2
chalcopyrite	trace	actinolite	minor
pyrite	trace	chalcopyrite	trace
veins (3- 4%)			
calcite	2- 3		
pyrrhotite	½- 1		
quartz	0.3		
K-feldspar	0.2		

Plagioclase forms anhedral, equant grains averaging 0.7-1.5 mm in size, with a very few coarser grains up to 3 mm in size. Plagioclase is unzoned, and slightly to moderately altered to calcite with lesser actinolite, and locally moderately abundant sericite. Composition probably is andesine.

Actinolite forms ragged prismatic grains from 0.3-0.5 mm in size, and is more common as finer grained patches interstitial to plagioclase. It is slightly pleochroic from pale to light and locally medium green.

Ti-oxide with minor cores of ilmenite forms extremely fine grained patches averaging 0.2-0.5 mm in size. A few patches contain minor intergrown pyrrhotite. Ilmenite forms extremely fine grains in cores of many patches, and locally forms coarser grains up to 0.1 mm in size.

Calcite forms very irregular patches in part as replacements of plagioclase, and in part associated with interstitial actinolite.

Pyrrhotite forms extremely fine to very fine grained disseminations, moderately concentrated in patches, and commonly associated with groundmass aggregates (see below).

Apatite forms acicular to prismatic grains up to 0.4 mm in length. Some are broken and disoriented along a moderate basal parting.

The rock contains zones of granulation in which plagioclase is recrystallized into extremely fine grained to very fine grained aggregates. Associated with these are patches of very fine grained chlorite, actinolite, and pyrrhotite. Locally quartz is present in the groundmass in extremely fine grained intergrowths with plagioclase. A few patches of chlorite are up to 0.5 mm across. Chlorite is light green in color with bluish grey interference color.

Chalcopyrite forms scattered grains averaging 0.02-0.05 mm in size associated with pyrrhotite.

Pyrite forms one subhedral grain 0.15 mm in size; it contains abundant silicate inclusions.

(continued)

grains of ilmenite up to 0.3 mm in length.

Epidote forms irregular, secondary patches up to 0.1 mm in size, commonly associated with chlorite, and less commonly in actinolite. It also forms minor replacements of plagioclase in patches up to 0.2 mm across.

Apatite forms subhedral to euhedral, stubby prismatic grains up to 1 mm long. These are disseminated through the rock, and moderately concentrated with plagioclase.

Chalcopyrite forms anhedral grains averaging 0.02-0.03 mm in size associated with patches of pyrrhotite.

APPENDIX II

EXPLORATORY METALLURGICAL TESTING
(TWO REPORTS)

COASTECH RESEARCH INC.

869 WEST THIRD STREET, NORTH VANCOUVER, B.C. CANADA V7P 1E2

TELEPHONE: (604) 980-5992
TELEX 04-352888

RECEIVED
JUL 11 1986
KERR ADDISON MINES LTD.

10 July 1986

Mr. Art Clendenon
Kerr Addison Mines Ltd.
Suite 703 - 1112 W. Pender St.
Vancouver, B.C.
V6E 2S1

Dear Mr. Clendenon,

We have completed the exploratory metallurgical testing on your gold ore sample, designated Kerr Addison - Harrison, as originally proposed. The results indicate that gold recovery by conventional gravity methods would range 60-70% and is reasonably insensitive to particle size below 210 um (65 mesh). Some fine gold lost to gravity tailing can be recovered by flotation. It is expected that gold recovery by froth flotation might achieve >80% with reagent optimization. The results indicate that the recoverable gold value of the ore by conventional high capacity mineral dressing unit processes is approximately $40/tonne.

Hydrometallurgical processing alternatives (eg. cyanidation, thioureation) should be addressed prior to detailed pursuit of mineral dressing techniques. Permitting for a hydrometallurgical plant is really quite straight forward provided the process testwork, design, and control strategy has been addressed properly and responsible process monitoring is demonstrated. I have been through the environmental "hoops" a number of times for cyanidation circuits and can assist you as required.

Please advise should you wish to continue metallurgical development of this material. We have approximately 5 kilograms of composite remaining and we will maintain the remainder of the individual test samples until further instruction.

Yours very truly,

P. Brad Marchant
Director of Research
and Project Development

PBM/lo

KERR ADDISON - HARRISON PROPERTY

EXPLORATORY METALLURGICAL TESTING SUMMARY
GRAVITY, FLOTATION RESULTS

by:

COASTECH RESEARCH INC.

10 JULY 1986

Reviewed and Approved

P.B. Marchant, M.A.Sc.

1.0 TERMS OF REFERENCE

The intent of exploratory bench scale testing on Kerr Addison's Harrison property ore was to indicate a reasonable processing route to pursue for pilot scale testing of bulk ore samples. The objective of pilot testing is:

(i) to indicate the recoverable and total gold content of the bulk sample for more confident ore grade estimation, and

(ii) to test and confirm a commercial processing metallurgical flowsheet.

Initial indications are that the gold is free milling by majority and relatively coarse grained (30 - 80 um). Previous microscopy indicated gold associations with iron sulphide and telluride. Reports of initial assay work and microscopy were made available to Coastech for reference.

2.0 SAMPLE PREPARATION

30 ore samples (approximately 2 kilograms each), crushed to -10 mesh, were received at Coastech. All of the samples were from the 8200 - 8294 series. Each sample was riffle sub-sampled to obtain 500 grams of each sample for compositing. Sample 8242 was excluded to avoid composite sample biasing from high grade material.

The composite (14.5 kg) was used for metallurgical testing as summarized herein.

3.0 TEST PROCEDURES

Two panning tests were conducted (1 kg each), the first on the material as received, the second on rod mill ground material. The objectives were to indicate the potential response in gravity processing, to indicate any visible gold, and to concentrate the free gold for more confident head assay.

A single 5 kilogram shaking table test was conducted on ground material (80% -160um). The material was collected in three products - concentrate, sand tail, and slime tail for metallurgical balancing.

A single two product bulk froth flotation test was conducted on ground material (80% -160um) using 2 kilograms of composite. Conventional sulphide/free gold methods were employed - 35% solids (w/w), pH 6.5, 50 g/t potassium amyl xanthate, 20 g/t Aero 242.

A sample of the gravity tailing was screened and the fractions assayed to indicate the effect of particle size on gold recovery by gravity and to indicate the probable grind sensitivity.

A head sample was submitted for ICP analysis to indicate the mineralogical constituents.

4.0 RESULTS

Initial panning tests resulted in approximately 7% gold recovery from the material as received. Grinding to 80% passing 74 um (200 mesh) followed by panning resulted in 58.7% gold recovery into a sulphide concentrate representing 1.3% weight grading 205.8 g Au/t. The calculated head grade from these pan products was 4.59 g Au/t. Note that the entire concentrate sample was fire assayed and a sub-sample of the pan tailing fire assayed to arrive at the calculated head analysis. Previous work had indicated that single ore subsamples did not provide significant values.

The results of the shaking table test are shown in Table 1A. The results indicated significant gold losses to tailing, mainly in the sand tail possibly as unliberated middling or fine gold. Table 1B shows the screen fraction analysis of the combined table tail. Fractional analysis results indicate that the gold recovery by gravity methods was insensitive to coarse particle size as only 2.8% of the gold losses by tabling were in the +65 mesh (210 um) fraction. The majority of gold losses occurred in the fines (-75 um) which is close to the practical limit of high capacity gravity processing.

Table 2 summarizes the results of a pilot scale table test conducted at Sando. The results indicate the effect of fineness of grind on gold recovery and concentrate grade. Actual particle size distribution at each grind size was not provided. The improved metallurgy of a larger table unit is also indicated with slightly higher recovery at much higher concentrate grade (higher washing efficiency).

Table 3 shows the results of an exploratory froth flotation test at a similar grind size to that employed for laboratory table testing. The results indicate that froth flotation resulted in significantly higher gold recovery and higher concentrate grade, probably due to recovery of fine liberated gold and/or gold bearing sulphides. It is expected that gold recovery by flotation would be higher than 80% with flotation reagent, density, and residence optimization.

Detailed ICP head analysis is attached.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Initial results indicate that using conventional high capacity froth flotation units and a moderately fine grind (80% -150um) approximately 80% of the contained gold can be recovered. The concentrate grade could probably be improved significantly for market with a rougher concentrate regrind and cleaning stages, with only minor loss in overall recovery. At 3.3 g Au/t average head grade this represents approximately $42/t recoverable gold.

It is recommended that additional flotation work be conducted to:

(i) indicate the maximum grade recovery,

(ii) indicate grinding constraints.

It is recommended that exploratory cyanidation of the ore and flotation concentrate is conducted to complete the comparative analysis of conventional processing alternatives.

TABLE 1
KERR ADDISON - HARRISON

TABLE TEST METALLURGICAL BALANCE

A. Metallurgical Balance

TEST PRODUCT	WEIGHT (g)	% WEIGHT	g Au/t	% DISTRIBUTION Au
Table Concentrate	380.1	7.6	20.37	57.7
Table Sand Tail	3360.0	67.2	1.37	34.5
Table Slime Tail	1259.9	25.2	0.82	7.8
(Combined Tail)	(4619.9)	(92.4)	(1.22)	(42.3)
Calculated Head	5000.0		2.67	100.0
			(0.078 oz/st)	

B. Tailing Screen Fraction Analysis

Fraction	% WT.	g Au/t	% Au Distribution
+65 mesh	2.0	3.75	2.8
-65 +100	23.5	0.80	7.1
-100 +150	25.6	2.70	26.3
-150 +200	15.4	2.40	14.1
-200	33.5	3.90	49.7

TABLE 2
KERR ADDISON - HARRISON

CHAPCO TEST SUMMARY

TEST PRODUCT	WEIGHT (kg)	% WEIGHT	g Au/t	Au % DISTRIBUTION
Concentrate (fine)	0.85	1.8	86.04	47.2.
Concentrate (coarse)	0.50	1.1	69.24	22.4
Concentrate (Combined)	(1.35)	(2.9)	(79.81)	(69.6)
Middling (Fine)	10.22	21.9	1.37	9.1
Middling (Coarse)	12.93	27.6	1.37	11.4
Tailing (Fine + Coarse)	22.23	47.6	0.69	9.9
(Combined Middling + Tail)	(45.38)	(97.1)	(1.04)	(30.4)
Calculated Head	46.73	100.0	3.31	100.0
			(0.097 oz/st)	

TABLE 3
KERR ADDISON - HARRISON

EXPLORATORY FROTH FLOTATION

TEST PRODUCT	WT. (g)	% WT.	g Au/t	% Au DISTRIBUTION
Flotation Concentrate	168.3	8.4	39.60	77.9
Flotation Tailing	1831.5	91.5	1.03	22.1
Calculated Head	1999.8	100.0	4.28	100.0

Chemex Labs Ltd.

•*Analytical Chemists* •*Geochemists* •*Registered Assayers*

212 Brc
North V
Canada

Telephone
Telex:

CERTIFICATE OF ANALYSIS

TO : COASTECH RESEARCH INC.

869 WEST THIRD ST.
NORTH VANCOUVER, B.C.
V7P 1E2

CERT. # : A86
INVOICE # : I86
DATE : 7-
P.O. # : 250

Sample description	Mo ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	P ppm (ICP)	Pb ppm (ICP)	Bi ppm (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Ni ppm (ICP)	Ba ppm (ICP)	Fe % (ICP)	Mn ppm (ICP)	C
[redacted]													
AKW-HEAD	2	50	62	495	6	<2	<0.5	17	24	240	5.85	995	

oksbank Ave.
ancouver, B.C.
V7J 2C1
:(604) 984-0221
043-52597

14178-001-A
14178
JUL-86

ppm (ICP)	Mg % (ICP)	V ppm (ICP)	Al % (ICP)	Be ppm (ICP)	Ca % (ICP)	Cu ppm (ICP)	Ti % (ICP)	Sr ppm (ICP)	Na % (ICP)	K % (ICP)	Ag ppm AAS
[redacted]											
195	2.98	153	9.23	<0.5	6.49	74	0.399	425	2.00	1.06	<0.2

Certified by ....

KERR ADDISON - HARRISON PROPERTY

EXPLORATORY METALLURGICAL TEST SUMMARY

Prepared by

COASTECH RESEARCH INC.
08 August 1986

Testwork Conducted by:

L.M.Summers, B.A.Sc.
Research Engineer

Reviewed and Approved by:

P.B.Marchant, M.A.Sc.
Director of Resarch

1.0 TERMS OF REFERENCE

The intent of exploratory bench scale testing on Kerr Addison's Harrison property ore was to indicate a reasonable processing route to pursue for pilot scale testing of bulk ore samples. The objective of pilot testing is:

(i) to indicate the recoverable and total gold content of the bulk sample for more confident ore grade estimation, and

(ii) to test and confirm a commercial processing metallurgical flowsheet.

Initial indications are that the gold is free milling by majority and relatively coarse grained (30 - 80 μm). Previous microscopy indicated gold associations with iron sulphide and telluride. Reports of initial assay work and microscopy were made available to Coastech for reference.

2.0 SAMPLE PREPARATION

30 ore samples (approximately 2 kilograms each), crushed to -10 mesh, were received at Coastech. All of the samples were from the 8200 - 8294 series. Each sample was riffle sub-sampled to obtain 500 grams of each sample for compositing. Sample 8242 was excluded to avoid composite sample biasing from high grade material.

The composite (14.5 kg) was used for metallurgical testing as summarized herein.

3.0 TEST PROCEDURES

A representatiave head sample was submitted for ICP analysis to indicate the mineralogical consitituents.

Two panning tests were conducted (1 kg each), the first on the material as received, the second on rod mill ground material. The objectives were to indicate the potential response in gravity processing, to indicate any visible gold, and to concentrate the free gold for more confident head assay.

A single 5 kilogram shaking table test was conducted on ground material (37.5% - 74 µm). The material was collected in three products - concentrate, sand tail, and slime tail for metallurgical balancing.

A sample of the gravity tailing was screened and the fractions assayed to indicate the effect of particle size on gold recovery by gravity and to indicate the probable grind sensitivity.

A single two product bulk froth flotation test was conducted on ground material (37.5% - 74 µm) using 2 kilograms of composite. Conventional sulphide/free gold methods were employed - 35% solids (w/w), pH 6.5, 50 g/t potassium amyl xanthate, 20 g/t Aero 242.

Two additional flotation tests were conducted, at a slightly finer grind (54% -74µm), to test alternate sulphide/free gold reagent schemes and test conditions. Incremental flotation concentrates were collected to indicate the concentrate grade/recovery relationship in rougher flotation. Details of the test conditions are included in the test results.

Two exploratory batch bottle roll cyanidation tests were conducted to determine the potential gold extraction by direct cyanidation of the ore. The primary grind was 54% -74 µm. The ground pulp was diluted to 35% solids (w/w), the pH adjusted to 10.5 with CaO, and NaCN added to provide 0.5 g/L NaCN in one and 2.0 g/L in the second batch test. Solution samples were drawn periodically to monitor the reagent consumption and indicate the gold extraction profile as a function of time.

4.0 RESULTS

The results of the head ICP analysis were forwarded previously.

Initial panning tests resulted in approximately 7% gold recovery from the material as received. Grinding to 80% passing 74 μm (200 mesh) followed by panning resulted in 58.7% gold recovery into a sulphide concentrate representing 1.3% weight grading 205.8 g Au/t. The calculated head grade from these pan products was 4.59 g Au/t. Note that the entire concentrate sample was fire assayed and a sub-sample of the pan tailing fire assayed to arrive at the calculated head analysis. Previous work had indicated that single ore subsamples did not provide significant values.

The results of the shaking table test are shown in Table 1A. The results indicated significant gold losses to tailing, mainly in the sand tail possibly as unliberated middling or fine gold. Table 1B shows the screen fraction analysis of the combined table tail. Fractional analysis results indicate that the gold recovery by gravity methods was insensitive to coarse particle size as only 2.8% of the gold losses by tabling were in the +65 mesh (210 μm) fraction. The majority of gold losses occurred in the fines (-75 μm) which is close to the practical limit of high capacity gravity processing.

Table 2 summarizes the results of a pilot scale table test conducted at Sandó. The results indicate the effect of fineness of grind on gold recovery and concentrate grade. Actual particle size distribution at each grind size was not provided. The improved metallurgy of a larger table unit is also indicated with slightly higher recovery at much higher concentrate grade (higher washing efficiency).

Table 3 shows the results of an exploratory froth flotation test at a similar grind size to that employed for laboratory table testing. The results indicate that froth flotation resulted in significantly higher gold recovery and higher concentrate grade, probably due to recovery of fine liberated gold and/or gold bearing sulphides.

Subsequent froth flotation test results are shown in Table 4A and 4B. The flotation test conditions are shown in Table 4C. The results indicate that at pH 6 (Test KA-3) the flotation response was excellent, resulting in 97.7% of the gold recovered into 10.3% of the feed weight at a moderately coarse grind (54% -74μm). The concentrate grade could probably be improved significantly, with a resultant reduction in concentrate weight, with a rougher concentrate regrind step followed by cleaning stages, with only minor loss in overall recovery.

Table 5 shows the results of exploratory cyanidation tests. The results indicate that, at 54% -74um, approximately 85% of the gold was extracted in 8 hours and consumed approximately 0.5 kg NaCN/t ore, at 36% solids. The results suggest that the contained gold is amenable to cyanidation. The unleached gold might be simply due to liberation or there might be a refractory sulphide association. This can be determined by additional testwork.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The exploratory metallurgical test results can be summarized:

Test	Grind (% -74um)	% Weight Recovery	Calculated Head (g Au/t)	% Au Recovery
Pan - 1	none	2.1	-	7.0
Pan - 2	80	12.7	4.59	58.7
Table KA-1	37.5	7.6	2.67	57.7
Sando (Table)		2.9	3.31	69.6
Float KA-2	37.5	8.4	4.28	77.9
KA-3	54.0	10.3	5.21	97.7
KA-4	54.0	3.1	2.36	87.7
Cyanide KA-5	54.0	-	3.89	76.1
KA-6	54.0	-	3.89	85.5
Average			3.78	

The calculated head grade from the Sando pilot test is probably the most significant estimate of actual head grade due to sample size effects.

The most probable method of processing for this ore type is:

(a) Coarse primary grind (~80% -200 µm) in closed circuit with a gravity concentrator to scavenge coarse free gold,

(b) Bulk flotation at pH 6 followed by bulk concentrate regrind,

(c) The reground product could be either:

(i) cleaned and shipped to a custom smelter, or

(ii) cyanide leached and the solution refined to bullion.

To meet the pilot plant objectives it is sufficient at this stage to conduct a pilot plant run to confirm only (a) and (b) above. The pilot plant results will:

(i) indicate overall gold grade of a bulk sample,

(ii) confirm the concentrating metallurgy by gravity and flotation unit processes, and

(iii) provide sufficient concentrate product for downstream process testing and marketing studies.

A pilot facility to treat up to a 10 tonne bulk sample is presently available. A pilot facility to treat >100 tonne bulk sample is also presently available.

TABLE 1
KERR ADDISON - HARRISON

TABLE TEST METALLURGICAL BALANCE
TEST KA-1

A. Metallurgical Balance

TEST PRODUCT	WEIGHT (g)	% WEIGHT	g Au/t	% DISTRIBUTION Au
Table Concentrate	380.1	7.6	20.37	57.7
Table Sand Tail	3360.0	67.2	1.37	34.5
Table Slime Tail	1259.9	25.2	0.82	7.8
(Combined Tail)	(4619.9)	(92.4)	(1.22)	(42.3)
Calculated Head	5000.0		2.67	100.0
			(0.078 oz/st)	

B. Tailing Screen Fraction Analysis

Fraction	% WT.	g Au/t	% Au Distribution
+65 mesh	2.0	3.75	2.8
-65 +100	23.5	0.80	7.1
-100 +150	25.6	2.70	26.3
-150 +200	15.4	2.40	14.1
-200	33.5	3.90	49.7

TABLE 2
KERR ADDISON - HARRISON

CHAPCO TEST SUMMARY

TEST PRODUCT	WEIGHT (kg)	% WEIGHT	g Au/t	Au % DISTRIBUTION
Concentrate (fine)	0.85	1.8	86.04	47.2
Concentrate (coarse)	0.50	1.1	69.24	22.4
Concentrate (Combined)	(1.35)	(2.9)	(79.81)	(69.6)
Middling (Fine)	10.22	21.9	1.37	9.1
Middling (Coarse)	12.93	27.6	1.37	11.4
Tailing (Fine + Coarse)	22.23	47.6	0.69	9.9
(Combined Middling + Tail)	(45.38)	(97.1)	(1.04)	(30.4)
Calculated Head	46.73	100.0	3.31	100.0
			(0.097 oz/st)	

TABLE 3
KERR ADDISON - HARRISON

EXPLORATORY FROTH FLOTATION
TEST KA-2

TEST PRODUCT	WT. (g)	% WT.	g Au/t	% Au DISTRIBUTION
Flotation Concentrate	168.3	8.4	39.60	77.9
Flotation Tailing	1831.5	91.5	1.03	22.1
Calculated Head	1999.8	100.0	4.28	100.0

TABLE 4A

KERR ADDISON - FLOTATION TESTWORK
TEST KA-3

INCREMENTAL METALLURGICAL BALANCE

STREAM	WT %	ASSAY Au (g/t)	% DISTRIBUTION Au
FEED	100.00		
1st CONC	2.46	180.40	85.15
2nd CONC	3.01	11.80	6.81
3rd CONC	2.23	5.40	2.32
4th CONC	2.58	4.60	2.28
ROUGHER TAIL	89.72	0.20	3.44
CALC HEAD		5.21	

CUMULATIVE METALLURGICAL BALANCE

STREAM	CUM.WT%	ASSAY Au (g/t)	CUM. % DIST'N Au
FEED	100.00		
1st CONC	2.46	180.40	85.15
2nd CONC	5.47	87.60	91.96
3rd CONC	7.70	63.80	94.28
4th CONC	10.28	48.94	97.72
ROUGHER TAIL	89.72	0.20	3.44
CALC HEAD		5.21	

TABLE 4B

KERR ADDISON - FLOTATION TESTWORK
TEST KA-4

INCREMENTAL METALLURGICAL BALANCE

STREAM	WT %	ASSAY Au (g/t)	% DISTRIBUTION Au
FEED	100.00		
1st CONC	1.40	143.20	84.92
2nd CONC	1.70	3.80	2.75
ROUGHER TAIL	96.90	0.30	12.33
CALC HEAD		2.36	

CUMULATIVE METALLURGICAL BALANCE

STREAM	CUM.WT%	ASSAY Au (g/t)	CUM. % DIST'N Au
FEED	100.00		
1st CONC	1.40	143.20	84.92
2nd CONC	3.10	66.70	87.67
ROUGHER TAIL	96.90	0.30	12.33
CALC HEAD		2.36	

TABLE 4C

FLOTATION TEST REPORT

SAMPLE: Kerr Addison Ore
DATE: 24 July 1986

TEST: KA-3
OBJECTIVE: Rougher flotation of Au
CONDITIONS: pH adjusted as required with sulphuric acid.

STAGE	REAGENTS (g/t)			TIME (min)		PULP pH
	PAX	A242	MIBC	COND.	FROTH	
ROUGHER:						
1st CONC	25	10	as req'd	1	1	6.0
2nd CONC	25	10			1	6.0
3rd CONC	25				2	6.0
4th CONC	25				4	6.0

TEST: KA-4
OBJECTIVE: Rougher flotation of Au
CONDITIONS: Flotation at natural pH.

STAGE	REAGENTS (g/t)			TIME (min)		PULP pH
	3418A	SIX	D250	COND.	FROTH	
ROUGHER:						
1st CONC	2	5	as req'd	1	1	8.2
	2	5		1	1	
2nd CONC	2	5		1	2	8.2
	2	5		1	3	

TABLE 5

KERR ADDISON - CYANIDE LEACH DATA

TEST: KA-5 Solution strength - 0.5 g/L NaCN

SAMPLE	WT (g)	ASSAY g/t Au	% DIST'N
PREG 2hr	659.0	0.40	18.80
4hr	659.0	0.80	38.40
8hr	659.0	1.00	47.80
24hr	659.0	1.60	76.10
RESIDUE	356.0	0.50	23.90
CALC HEAD		3.89	

NaCN consumption - 0.10 g/L @35% solids
CaO consumption - 0.21 g/L

TEST: KA-6 Solution strength - 2.0 g/L NaCN

SAMPLE	WT (g)	ASSAY g/t Au	% DIST'N
PREG 2hr	654.0	0.40	18.80
4hr	654.0	1.20	56.70
8hr	654.0	1.80	85.50
24hr	654.0	1.80	85.50
RESIDUE	361.0	0.30	14.50
CALC HEAD		3.89	

NaCN consumption - 0.28 g/L @36% solids
CaO consumption - 0.21 g/L

APPENDIX III

PROPOSED UNDERGROUND EXPLORATION WORK

KERR ADDISON MINES LIMITED
SUITE 703 - 1112 WEST PENDER STREET
VANCOUVER, B.C. V6E 2S1
PHONE 682-7401

COPY COPY

August 14, 1986

Mr. W. Dudas, P.Eng.
Inspector of Mines and
Resident Engineer
Ministry of Energy, Mines
and Petroleum Resources
Suite 103
2747 East Hastings Street
Vancouver, B.C.
V5K 1Z8

Dear Mr. Dudas:

Re: ABO Property (RN Claims)

Please find enclosed our application for "Approval of Underground Exploration Work", a "Notice of Work and Reclamation Program". Also enclosed are plans and cross sections showing -

1. the proposed 240 meters of drifting and 80 meters of raising around 3 drill holes to obtain a bulk sample from the Jenner Stock and

2. the area of further diamond drilling which we propose to carry out 500 to 700 meters east south east of proposed Jenner Stock adit.

If you have any questions please do not hesitate to contact me.

Best regards,

Sincerely,

A. D. Clendenan

A. D. Clendenan, P.Geol;
FGAC
Project Geologist

ADC/lk

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

Reclamation Permit MX General 80

MINERAL RESOURCES DIVISION
INSPECTION AND ENGINEERING BRANCH

NOTICE OF WORK AND RECLAMATION PROGRAM ON A MINERAL PROPERTY

1. NAME OF PROPERTY ABO (RN, FF, MB1, HOT 1-8 Claims)

Number of claims 11 Principal Claim Group RN

2. LOCATION: Mining Division New Westminster NTS Map Sheet (e.g., 82E/9E) 92 H 5

Lat. 49 ° 20 ' Long. 121 ° 44 ' UTM: E. N.

Access via Harrison Hot Springs, B.C. by road

3. OWNER: Name Kerr Addison Mines Ltd. FMC No. 278773 KERADM

Address 703 - 1112 West Pender Street City Vancouver,

Province British Columbia Postal Code V6E 2S1 Telephone No. 682 7401

4. OPERATOR: Name Kerr Addison Mines Limited FMC No. 278773 KERADM

Address 703 - 1112 West Pender Street City Vancouver

Province British Columbia Postal Code V6E 2S1 Telephone No. 682-7401

5. EXPLORATION WORK: Indicate PROPOSED XX or COMPLETED ☐.

Duration of Exploration Work: From February 10, 1986 7 to December 31, 1986 7

Name of Field Manager A. D. Clendenan; T. Bruland No. of men employed 5-15

Geophysical Geochemical 13 km

Linecutting (distance, width, method) 1 km baseline, some trees delimbed with an axe. m^2

6. SURFACE DISTURBANCE OFF MINERAL CLAIMS

Road Access Construction: Total length 0 m Approximate width m Area m^2

Campsites: No. of men 0 Size m^2

Other (specify) m^2

7. SURFACE DISTURBANCE ON MINERAL CLAIMS

(a) Road Construction: Total length 700 m Approximate width 4 m Area 2800 m^2

(b) Drilling: No. of sites 5 Maximum dimensions: Width 4 m Length 5 m

Depth 2 m Total disturbed area of drill sites 100 m^2

Water source Local creek Method of drill mud disposal Settling sump (mud seldom used)

(c) Trenches: No. 0 Maximum dimensions: Width m Length m

Depth m Total disturbed area of trenches 0 m^2

(d) Test Pits: No. 0 Maximum dimensions: Width m Length m

Depth m Total disturbed area of test pits 0 m^2

SURFACE DISTURBANCE ON MINERAL CLAIMS *(CONTINUED)*

(e) Camp Area: No. of men 0 Width ..... m Length ..... m Area 0 m²

(f) Underground Exploration: Area of surface facilities 2500 m²

(g) Other (specify) Protore Storage near old portal area 22500 m²

TOTAL OF SURFACE DISTURBANCE ON MINERAL CLAIMS 25400 m²

(1 ha = 10 000 m²) 2.54 ha

8. EQUIPMENT TO BE USED IN EXPLORATION PROGRAM (List size, capacity, and number.)

(a) Jackleg Drill - Stoper

(b) Small diamond drill

(c) Cat type tractor

(d) 1 yard diesel scooptram

(e) Chain saw

(f) 4 x 4 trucks

9. PRESENT STATE OF THE LAND ON WHICH EXPLORATION IS PROPOSED

Present land use (agriculture, forestry, ranching, recreation, etc.) Mining Exploration, Logging, tourists

Type of vegetation Second growth Alder, Birch, Vine Maple, locally Fir.

Access roads (present use and condition) RN Claim for exploration access, reasonable condition

Campsites, old workings (location, condition) Mine and adit site, 27 drill sites, 53 holes and access roads on RN Claim, majority of area previously logged by network of roads.

RECLAMATION PROGRAM (Prescribed reclamation treatments are outlined in *Guidelines for Mineral Exploration*.)

Camp sites Debris left by previous operators cleaned up & removed.

Trenches, drill sites, and major excavations Rock piles leveled, sites cleaned, pits filled, fences fixed, porta potty installed. Seeded & fertilized all previously disturbed areas.

Roads Timber slashing completed; water bars established, signs posted, gates establisbed.

Seeding: Mixture 1

Rate of application 150 kg/ha Date March/April 86 - April 87

Area seeded Roads & drill sites ha Quantity of seed 177 kg

Fertilizer: Type 13, 16, 10 Rate of application 280 kg/ha

Area fertilized Roads & drill sites ha Quantity of fertilizer 225 kg

11. SUMMARY OF AREAS DISTURBED AND RECLAIMED

Area disturbed current year 2.54 Previous years 826 ha Total to date 838 + 2.54 = 3.378

Area reclaimed current year 826 Previous years (final) 012 Total to date 838

12. DATE FOREST SERVICE ADVISED BY OPERATOR August 13, 1986

Name and Title of Forest Official Bruce Oakley. Resource Management Officer

Address 49751 Kip Street, Chilliwack, B.C. Phne 794-3361

A. D. Clendenan (signature) — Signature of Applicant

Project Geologist — Title

A. D. Clendenan — Print Name

August 13, 1986 — Date

MINING DETAIL FORM

FOR

APPROVAL OF UNDERGROUND EXPLORATION/DEVELOPMENT WORK

Under Section 6(2) of the Mines Act, the owner, agent or manager of the mine must have the written approval of the Chief Inspector of Mines before working underground. To assist you to obtain this approval, the following information must be submitted to the Inspector of Mines and Resident Engineer for transmittal to the Chief Inspector of Mines:

1. Proposed work outlined on a Notice of Work and Reclamation Program on a Mineral Property.
2. A detailed map of present and proposed underground workings and cross-sections.
3. A detailed plan of surface installations in relation to mine openings with contours.
4. A detailed plan of the system or method of carrying out the proposed work.

To comply with item (4) above the following information is required, and shall accompany the Notice of Work. Use additional paper if necessary.

PROPERTY NAME ABO (Previously RN)

MINING DEVELOPMENT DETAIL

1. Type (i.e. raise, sub level or drift) Adit and Drift 3 raises
2. Dimensions 8'x8'x675' 5'x6'x270 ft.
3. Dip or grade(s) +.5 degree +65 degrees

VENTILATION

Note: A minimum airflow of 50 cfm per square foot of face is required for mining development ventilation in addition to DIESEL ENGINE REQUIREMENTS.

1. Heading size - height 8 feet width 8 feet
2. Type and size of fan 15 Horse Power for 10,000 cfm , Joy 20" fan
3. Size of ventilation ducting 24 inch in drift; 12" in raise
4. Ventilating airflow in cubic feet/min supplied to working face 2000 cfm
5. Special comments if any

DRILLING

1. Type of drills Jackleg with water spray; Stoper with water spray
2. Approximate number of holes 25
3. Drilling pattern BURN CUT 4, 2, 3, 3, 5, 8
4. Will a bit sharpener be on the property? Yes ___ No XX

EXPLOSIVES AND BLASTING PROCEDURES

1. Explosives Storage Magazine

   a) An explosives storage and use permit (Licensed Magazine) has been obtained. ________. The permit number is ____________________.

   b) Application for an approved explosives storage magazine will be made Yes.

   c) Application for an approved explosives storage magazine has been made ________.

2. Type of Explosives to be used 75% Dynamite

   Method of detonation: electric or fuse and cap etc. please specify in detail.

   Electric with Blasting Machine, within specified time frames; local residents will continue to be notified of blasting schedule.

MUCK REMOVAL

Please specify in detail system to be used: Waste rock will be placed near the adit area to build flat working area. Blasted protore muck taken by scoop tram to adjacent temporary storage area then transported by 4x4 truck to storage area at lower elevation (by previous adit); the 'sample' will be removed for testing.

Size and type of muck removal equipment (i.e. mucking machine, hoist and scraper, scooptram, haul cars and loci, etc. 1 yard diesel scooptram; 5 ton 4x4; Tandem tractor trailer gravel trucks.

DUMPING PROCEDURES

Specify in detail system to be used: Waste muck will be hauled by scoop tram and/or 4x4 to suitable area near portal and used to construct a level work area; Protore muck will be removed from the property.

DIESEL EQUIPMENT

1. Size and type and Diesel Permit number 1 cubic yard diesel scoop tram. Permit Number ?
2. Ventilation requirements 150 cfm/brake horse power
3. Fuel storage drums in a fuel room, inside a containment ditch.

GROUND CONTROL

1. Timbering: SIZE AND TYPE (square sets, post and lagging etc.) 3 timber sets at portal; 10 x 10 inch timbers; raises + 50 degrees timbered with 6"x6"
2. Rockbolting: size, type, length of bolts, screening or strapping etc. 5 foot and 8 foot rock bolts if and where required., 5/8 inch diameter.

WORK SUPERVISION

1. Shiftboss name and certificate number Milo Filgas/Lorne Williams
2. Number of employees per shift 3 per shift, 2 shifts per day
3. Type of shift schedule 6 days per week between 0600 to 2100 hrs.
4. Others
5. Mine Manager's Name and telephone Number A. D. Clendenan 796 3056

FIRST AID AND AMBULANCE

1. Travel time to hospital from property by road or water Road, Chilliwack Hospital 30 minutes
2. Type of emergency transport vehicle (ambulance/ETV) E.T.V.
3. Details of first aid provisions As required by BC Workers' Compensation Board, and one or more persons who have suitable training to render first aid.
4. Type of communication and telephone number at site Cellular telephone; Land line 15 minutes away 796 3056

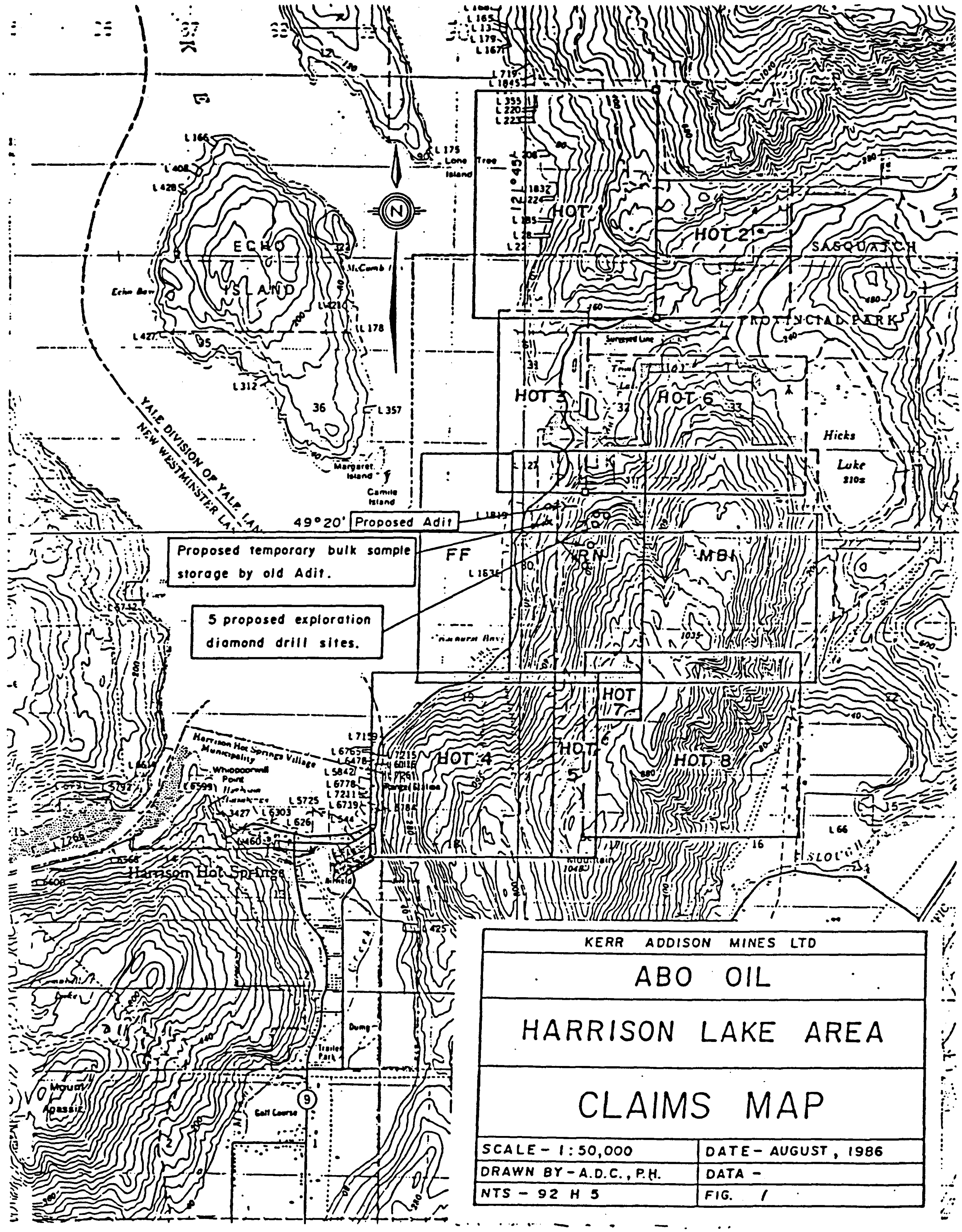
A. D. Clendenan
A.D. CLENDENAN
Signature of Person in charge

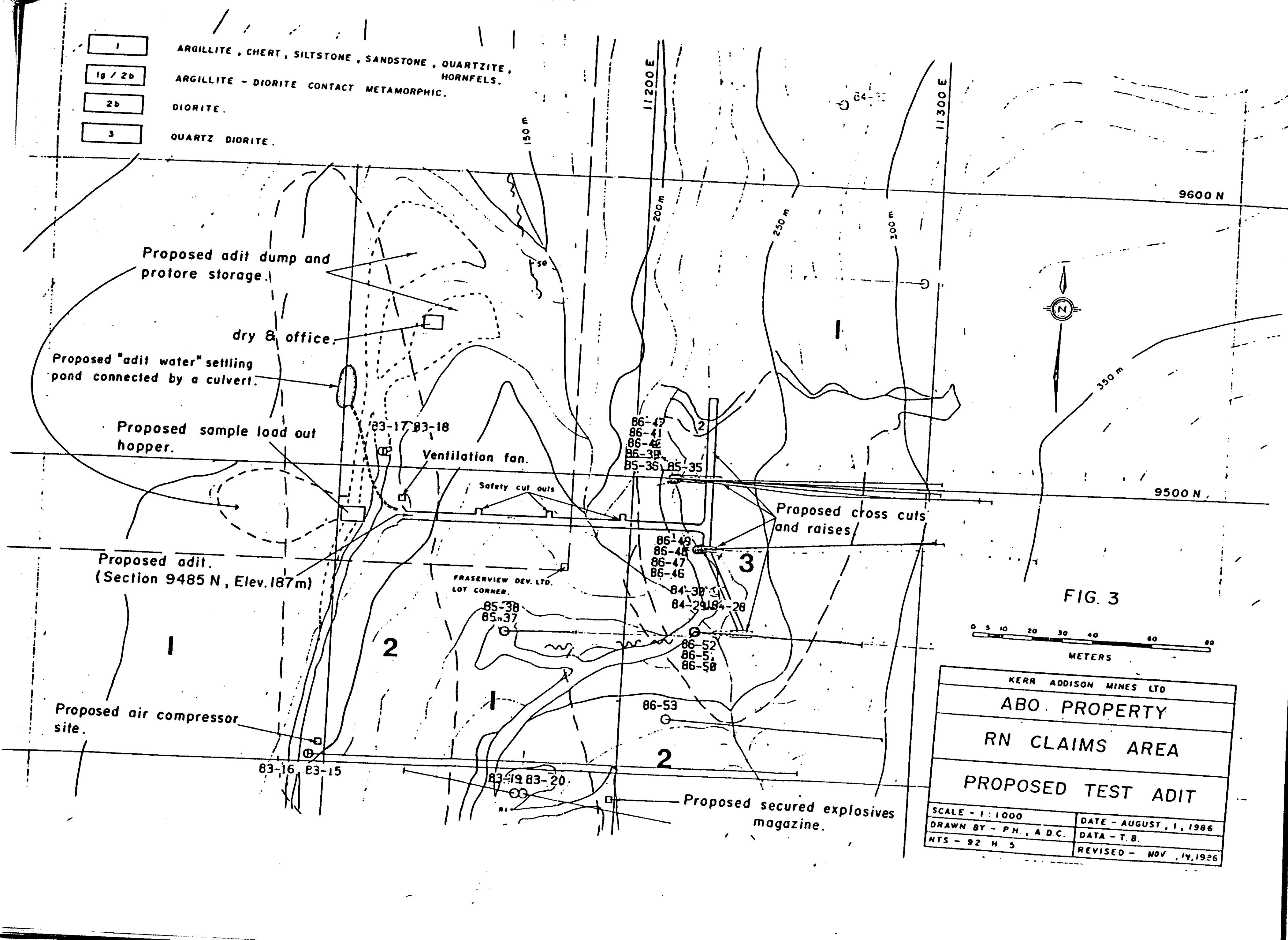
PROJECT GEOLOGIST
Title

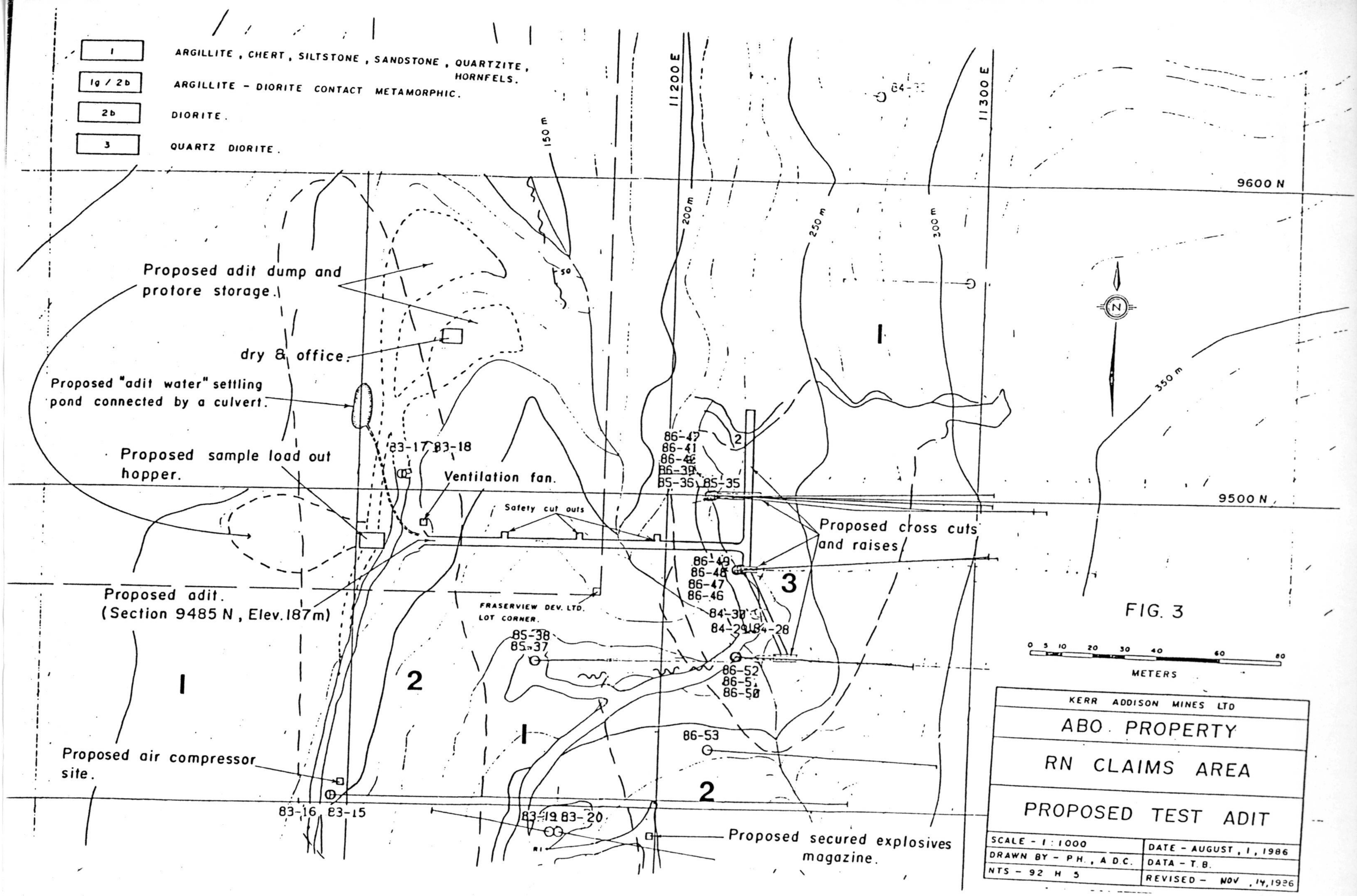
Art Clendenan
Print Name

13 August 1986
Date

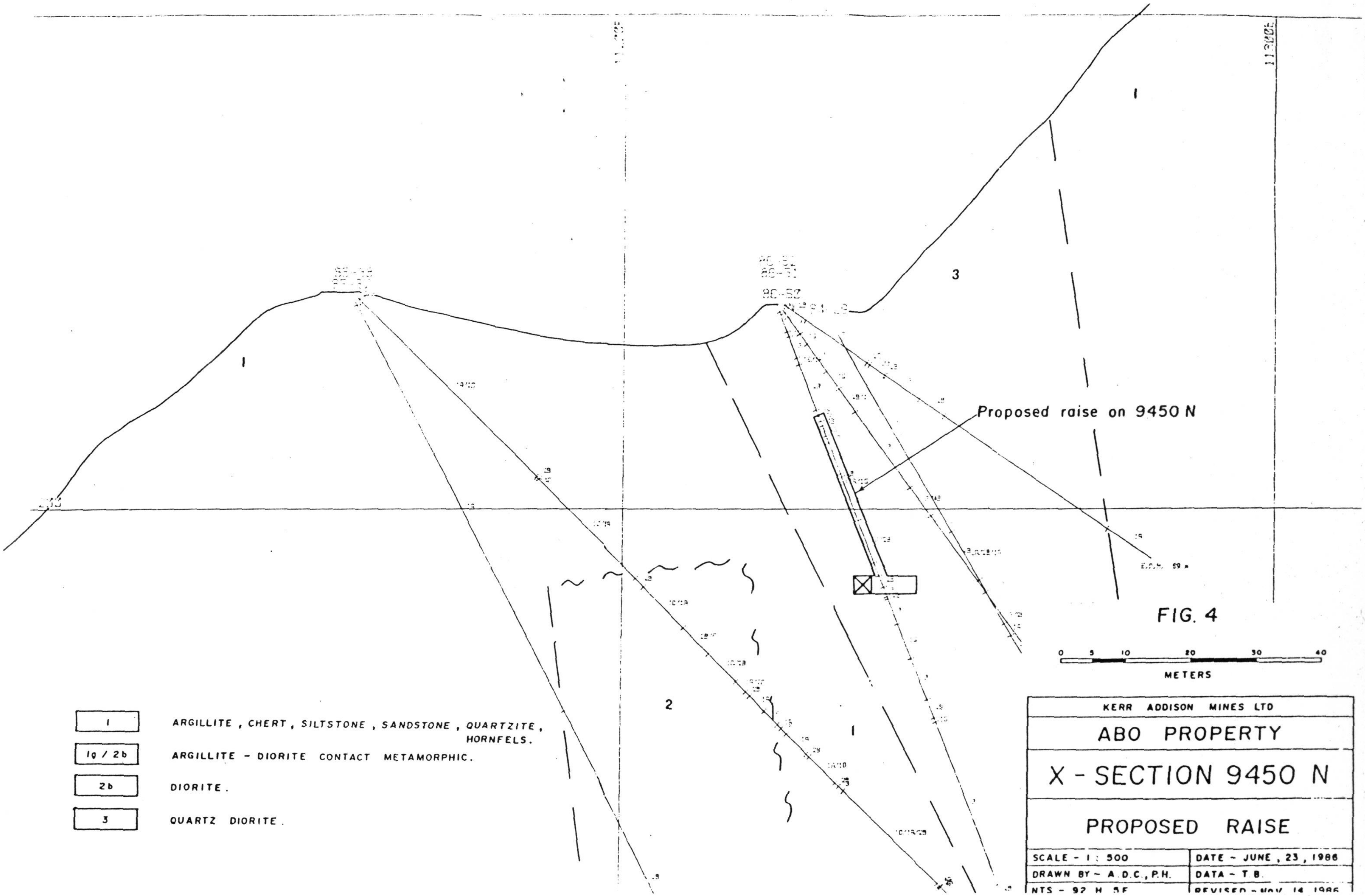
Mailing address (if different than given on Notice of Work)


KERR ADDISON MINES LTD
ABO OIL
HARRISON LAKE AREA
CLAIMS MAP
SCALE - 1:50,000
DATE - AUGUST, 1986
DRAWN BY - A.D.C., P.H.
DATA -
NTS - 92 H 5
FIG. 1
49°20'
Proposed Adit
Proposed temporary bulk sample storage by old Adit.
5 proposed exploration diamond drill sites.
ECHO ISLAND
YALE DIVISION OF YALE LA.
NEW WESTMINSTER LA.
HOT 1
HOT 2
HOT 3
HOT 4
HOT 5
HOT 6
HOT 7
HOT 8
FF
KRN
MBI
SASQUATCH PROVINCIAL PARK
Hicks Lake
Harrison Hot Springs
Mount Agassiz
Golf Course
Lone Tree Island
Margaret Island
Camile Island
Echo Bay
Harrison Hot Springs Village Municipality
Whippoorwill Point
Dump
Trailer Park
121°45'


1 ARGILLITE, CHERT, SILTSTONE, SANDSTONE, QUARTZITE, HORNFELS.
1a / 2b ARGILLITE - DIORITE CONTACT METAMORPHIC.
2b DIORITE.
3 QUARTZ DIORITE.
11200 E
11300 E
9600 N
9500 N
150 m
200 m
250 m
300 m
350 m
Proposed adit dump and protore storage.
dry & office.
Proposed "adit water" settling pond connected by a culvert.
Proposed sample load out hopper.
Ventilation fan.
Safety cut outs
Proposed adit. (Section 9485 N, Elev. 187m)
FRASERVIEW DEV. LTD. LOT CORNER.
Proposed cross cuts and raises
Proposed air compressor site.
Proposed secured explosives magazine.
83-17
83-18
83-16
83-15
83-19
83-20
85-38
85-37
86-47
86-41
86-42
86-39
85-36
85-35
86-49
86-48
86-47
86-46
84-30
84-29
84-28
86-52
86-51
86-50
86-53
FIG. 3
0 5 10 20 30 40 60 80
METERS
KERR ADDISON MINES LTD
ABO PROPERTY
RN CLAIMS AREA
PROPOSED TEST ADIT
SCALE - 1 : 1000
DRAWN BY - P.H., A.D.C.
NTS - 92 H 5
DATE - AUGUST, 1, 1986
DATA - T.B.
REVISED - NOV. 14, 1986



1 ARGILLITE, CHERT, SILTSTONE, SANDSTONE, QUARTZITE, HORNFELS.
1g / 2b ARGILLITE - DIORITE CONTACT METAMORPHIC.
2b DIORITE.
3 QUARTZ DIORITE.
150 m
11200 E
11300 E
9600 N
9500 N
200 m
250 m
300 m
350 m
Proposed adit dump and protore storage.
dry & office.
Proposed "adit water" settling pond connected by a culvert.
Proposed sample load out hopper.
83-17
83-18
Ventilation fan.
Safety cut outs
86-47
86-41
86-42
86-39
85-36
85-35
Proposed cross cuts and raises
86-49
86-48
86-47
86-46
3
Proposed adit. (Section 9485 N, Elev. 187m)
FRASERVIEW DEV. LTD. LOT CORNER.
85-38
85-37
84-30
84-29
84-28
86-52
86-5
86-50
1
2
1
86-53
2
Proposed air compressor site.
83-16
83-15
83-19
83-20
Proposed secured explosives magazine.
FIG. 3
0 5 10 20 30 40 60 80
METERS
KERR ADDISON MINES LTD
ABO PROPERTY
RN CLAIMS AREA
PROPOSED TEST ADIT
SCALE - 1:1000
DATE - AUGUST, 1, 1986
DRAWN BY - P.H., A.D.C.
DATA - T.B.
NTS - 92 H 5
REVISED - NOV, 14, 1986



Proposed raise on 9450 N
1
2
3
0 5 10 20 30 40
METERS
1 ARGILLITE, CHERT, SILTSTONE, SANDSTONE, QUARTZITE, HORNFELS.
1g / 2b ARGILLITE - DIORITE CONTACT METAMORPHIC.
2b DIORITE.
3 QUARTZ DIORITE.
KERR ADDISON MINES LTD
ABO PROPERTY
X - SECTION 9450 N
PROPOSED RAISE
SCALE - 1 : 500
DATE - JUNE, 23, 1986
DRAWN BY - A.D.C., P.H.
DATA - T.B.
NTS - 92 H 5E
REVISED - NOV. 14, 1986

FIG. 4

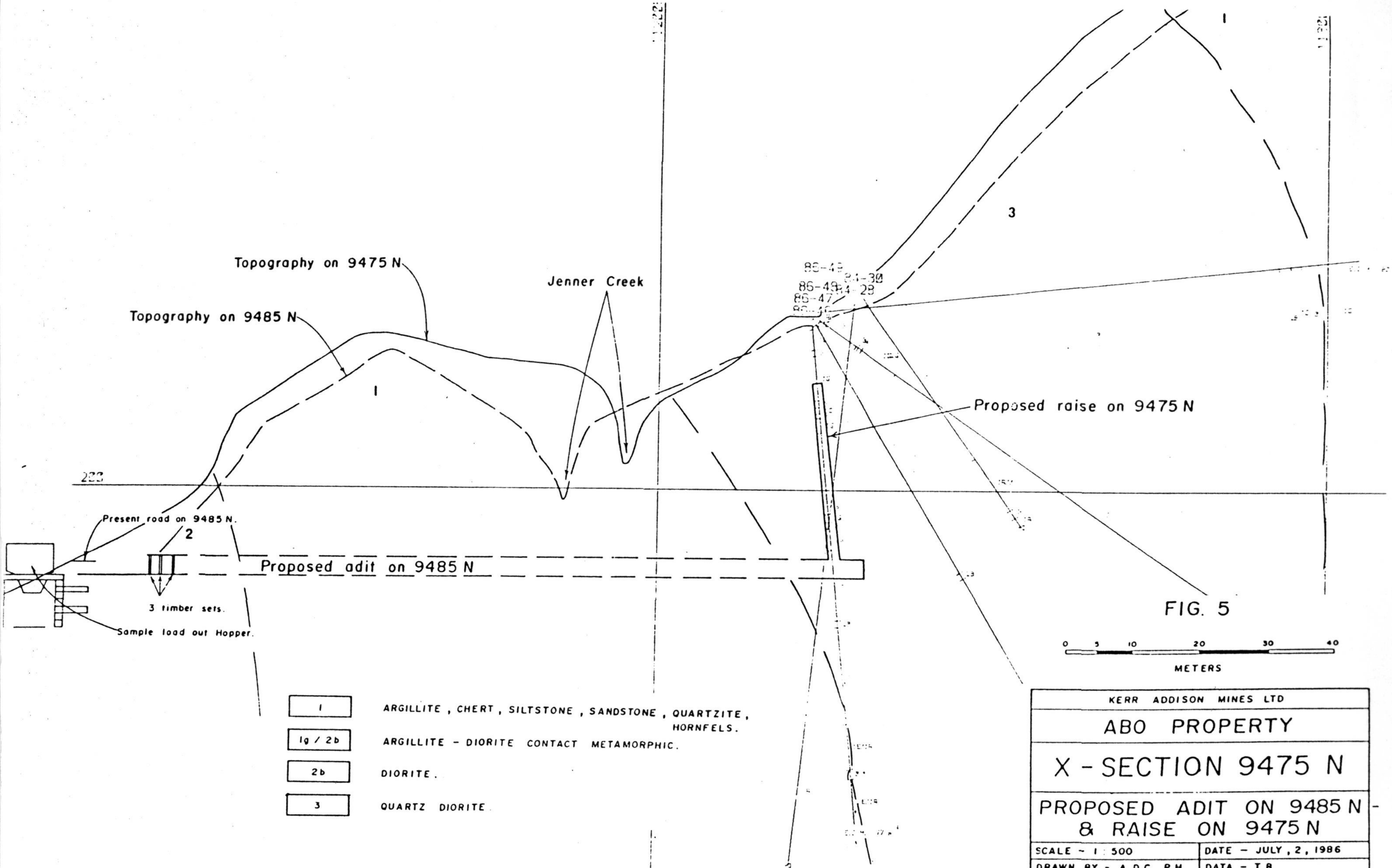
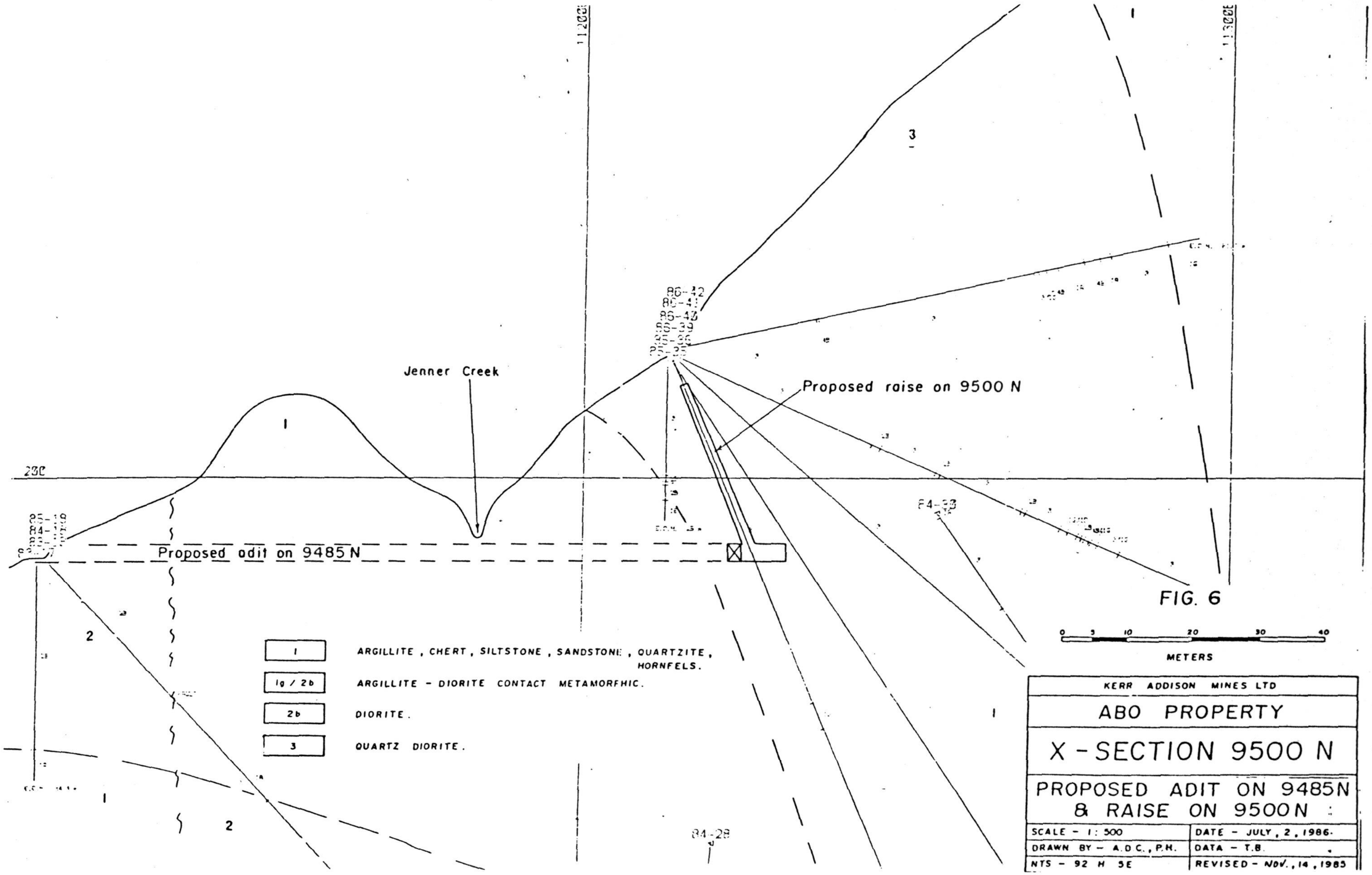


FIG. 5

KERR ADDISON MINES LTD	
ABO PROPERTY	
X - SECTION 9475 N	
PROPOSED ADIT ON 9485 N & RAISE ON 9475 N	
SCALE - 1 : 500	DATE - JULY, 2, 1986
DRAWN BY - A.D.C., P.H.	DATA - T.B.
NTS - 92 H 5E	REVISED - NOV., 14, 1986



11200E
11300E
3
86-42
86-41
86-40
Jenner Creek
Proposed raise on 9500 N
1
230
84-33
Proposed adit on 9485 N
2
1
2
1
ARGILLITE , CHERT , SILTSTONE , SANDSTONE , QUARTZITE , HORNFELS.
1g / 2b
ARGILLITE - DIORITE CONTACT METAMORPHIC.
2b
DIORITE.
3
QUARTZ DIORITE.
84-28
0 5 10 20 30 40
METERS
KERR ADDISON MINES LTD
ABO PROPERTY
X - SECTION 9500 N
PROPOSED ADIT ON 9485N
& RAISE ON 9500N
SCALE - 1: 500
DATE - JULY, 2, 1986.
DRAWN BY - A.D.C., P.H.
DATA - T.B.
NTS - 92 H 5E
REVISED - NOV., 14, 1985

FIG. 6