



S2F05SE0007 63A.400 TWEEDSMUIR

3A.400

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SELCO EXPLORATION COMPANY LIMITED

Bag Lake Option

Kenora Mining Division, Ontario

Introduction:

Following is a brief report on the work recently completed on claims K 32133-43, in the township of Tweedsmuir, Kenora Mining Division. This property is commonly referred to as the Bag Lake Group, and is held under option by Selco Exploration Company from W. A. Johnston and associates of Kenora.

The work was laid out to enable an evaluation to be made of the known gold showings and to assess the chances of finding ore bodies of economic importance in the general vicinity. The work consisted of providing access and accomodation, surface stripping, diamond drilling, and general prospecting. The actual work on the ground was completed in a little more than a month, from 20 June to 26 July, 1961.

The accompanying drill hole logs, vertical sections and plan of the surface showings present the picture more clearly than a written report, and the following account is a summary of the work and results.

General:

A rough truck road was bulldozed from the highway about $\frac{1}{2}$ mile to the main showing. Temporary camps were erected which were dismantled on completion of the work.

Surface Stripping:

The showings were thoroughly exposed by use of a high pressure pump together with a limited amount of hand labour and bulldozing.

When exposed, the showings were found to be a set of weak shear zones. The main set of parallel fractures strike north-south and there are subsidiary branching structures trending northwest.

These zones are so highly carbonatized and silicified that the original character of the rock is almost entirely obscured, and some of the oxidized surface samples were mistakenly identified as porphyry. The drill cores from below the oxidized surface show that most of the mineralized zones are the result of intense alteration and replacement along fractures in the diorite. Stripping and diamond drilling showed one of the northwest fractures filled with carbonatized and mineralized acid dike of felsitic appearance. Probably both replacement and dike intrusion vary in local importance in the same set of fractures.

It will be noted on the plan and sections that these carbonatized shears occur as a series of overlapping lenses. Within the shear zone are local pods, a few feet in extent, of mineralized and quartz filled fractures, and significant gold values are restricted to these local areas. Pyrite is distributed in varying amounts throughout the carbonatized shears, but appears to have no relationship to assays.

Diamond Drilling:

Seven holes were drilled, numbered 1 - 8 (No. 7 not drilled), with a total footage of 1647 feet. These holes were spaced at 50 foot intervals over a strike length of 250 feet. A few low values were cut and the structure can be seen as a weak system of overlapping lenses.

Before the drilling was started it was hoped that the ravine occupied by the creek represented a fault zone, and that the exposed mineral showings were in subsidiary fractures. The drilling showed no fault and therefore there is no main structure to give strength and continuity to the fracture zones.

General Prospecting:

A large number of other mineralized outcrops were found, both on the main group of claims and the adjoining group to the north which is also under option. The assays were negligible from all except two locations, and it was found that the gold values in these two locations were associated with minor local conditions and are of no importance.

Conclusions:

The gold values are associated with small pods of quartz filled and pyritized fractures within lenticular carbonatized shears in diorite. There is lack of continuity of both values and structure.

Nothing of interest was discovered elsewhere on the property.

BM: jmg
August 9, 1961

B. M. Arnott



GEOLOGY OF BAG LAKE CLAIMS K32133-43

TWEEDSMUIR TWP., DISTRICT OF KENORA, Ont.

ABSTRACT:

The gold discoveries on the Bag Lake claim group occur in or near a dike-like body of diorite about 600 feet wide. As a result of regional faulting, two complementary sets of fractures have been developed in or adjacent to the diorite. These fractures have been filled with quartz porphyry dikes, which in turn carry quartz filled fractures and sulphide mineralization. Preliminary sampling shows gold values of economic importance in at least one of these dikes.

INTRODUCTION:

The following report covers 11 claims, K32133-43, known as the Bag Lake Group, and optioned by Selco Exploration Company Limited from W. A. Johnston and associates of Kenora. Late in the fall of 1960 Mr. Johnston and his partners discovered a fractured and mineralized porphyry dike which showed good gold pinnings and from which significant assays were later obtained. Their prospecting work was limited due to the late date at which they found their showing and, although numerous other showings have since been found, no systematic work has yet been done. None of the mineral occurrences have been completely exposed or opened up by blasting and therefore proper sampling is not yet possible.

The purpose of the present work was to acquire a geological picture that would be useful for planning further operations. The field work was performed from May 15 to 31, 1961.

The following map sheets are submitted with this report:

- (1) One base map on a scale of 200 feet to the inch.
- (2) Two coloured prints of (1).

LOCATION:

The property is located in the Township of Tweedsmuir, District of Kenora. It lies to the immediate northwest of Bag Lake, and Indian Reserve 33A forms the northeast boundary of the group.

The Kenora - Fort Frances highway, No. 71, crosses the northwest claim and affords excellent all-weather access. It is about eight miles southeast of Sioux Narrows and 56 miles from Kenora.

The survey monument which marks the southwest corner of the Indian Reserve has been located and is marked on the accompanying map. However, the line marking the Reserve boundary cannot be distinguished and was not found by the stakers. Therefore, this portion of the property boundary will be re-located when the claims are surveyed. At present a large portion of claim K32138 lies within the Reserve, and there is a strip of open ground about 600 feet wide north of K32133. I have been told by the Mining Recorder that he would approve an application to move the posts of these two claims to conform to the Reserve boundary when its location has been accurately established.

REFERENCES:

- (1) Ont. Dept. Mines, Vol. 42, Pt. 4, 1933, Kakagi Lake Area.
- (2) Ont. Dept. Mines, Vol. 52, Pt. 4, 1943, Whitefish Bay Area.
- (3) Report by D. A. Hutton for Cochenour Willans Gold Mines Ltd., dated 30 November 1960.
- (4) Photo-Interpretation Report by W. Walker, dated 12 May 1961.

PHYSICAL FEATURES:

Most of the area is covered by second growth spruce and poplar. The bush is clean on the whole and travel is not difficult as this type of country goes.

The eastern and southern portions are occupied by a series of steep and almost bare rock ridges separated by north-south trending swamps. The central and western portions are more rolling, but also have a fairly large amount of rock exposed in the form of low outcrops which slope off into drift and swamp covered ground.

Probably the most interesting topographical feature is the ravine occupied by Bag Creek. Topographically and geologically this zone appears to be a fault which strikes N.15°W. An escarpment 10 to 15 feet high and about 1,000 feet long forms the west bank of the creek in claim K32140. The east bank of the creek slopes more gently but also steepens towards the southern end.

MAPPING METHODS:

Preliminary to the present survey, a grid of picket lines was established. A north-south base line was run approximately in the

centre of the property and east-west picket lines were turned off from the base line at 200 foot intervals. All lines are picketed every 100 feet with stakes marked with the co-ordinate numbers.

In laying out the base line astronomic north was not established. Instead, a magnetic declination of 3° east was allowed. Therefore the directions on the accompanying map should be considered approximate only, and if the property progresses beyond preliminary investigation the present mapping should be corrected to a true azimuth.

Mapping was carried out on a scale of 200 feet to the inch by traversing along the lines and between the pickets of adjacent lines with pace and compass. So far as possible all outcrops have been sketched and all features of interest recorded. Much of the eastern portion is underlain by a complex of massive greenstone with irregular intrusions of quartz porphyry, and some of these contacts were not drawn in with exactness due to the work involved and the obvious lack of economic importance. Otherwise, it is believed that the picture on the map sheet is fairly complete.

GEOLOGY:

The regional geology has been described by Burwash and Fraser in the Ont. Dept. of Mines reports and will not be repeated here. The geological succession of the rock types encountered during the present survey is given in the following table of formations.

Table of Formations:

Feldspar porphyry
 Quartz porphyry
 Older quartz porphyry
 Diorite and gabbro
 Keewatin basic volcanics

Keewatin andesite and related greenstone:

Massive basic lavas ranging from andesite to basalt in composition underlie a large portion of the property. These lavas are ordinarily fine grained, and are metamorphosed to the typical dark-greenish coloured rocks which are usually called greenstone in the field. Pillow structures are found, as noted on the map, but they are not sufficiently numerous or well preserved to afford a key to the structure of the flows. In certain places the andesite assumes a coarse dioritic texture. These coarse textured rocks grade into fine grained greenstone and evidently are the middle portions of thick flows. But in many cases where outcrops are isolated it is very difficult to determine whether they are part of a lava flow or the later basic intrusive.

Diorite and gabbro:

Three dike-like bodies of basic intrusive were mapped. They strike roughly parallel in a north-easterly direction. A definite intrusive contact can be seen on the central and southern dikes. This rock is massive and is medium to coarse textured. It shows gradational changes from diorite to gabbro.

The largest dike occurs near the central portion of the property. It is about 600 feet in width and has been traced for approximately 2,000 feet. At the northeast end it terminates abruptly against the Bag Creek fault, and to the southwest it disappears under a swamp. This basic intrusive in the vicinity of Bag Creek is the host rock for most of the gold showings.

A second basic intrusive was mapped in the southern portion of the property. This is a well exposed dike, 150 feet in width, which was traced for 1,300 feet and parallels the larger one. It terminates abruptly on the northeast where a fault has been postulated and where Walker's photo-interpretation map shows a shear. A small outcrop of diorite at 120 E., 3,600 S. may be the faulted extension, indicating a left hand displacement of about 300 feet.

Three outcrops of a basic intrusive ranging in composition from diorite to gabbro were also found near the north boundary of the property. These may be part of the faulted extension of the large central body, but this possibility will be discussed under the section on faulting.

A diorite-greenstone contact is particularly well exposed at 3260 S., 1100 W. It is a definite intrusive contact, being sharp and with a chilled edge.

Older quartz porphyry:

Quartz porphyry is a common rock in the map area. The gold discovery by Johnston and his partners was in a highly altered, fractured and mineralized quartz porphyry and subsequently numerous other similar finds were made in the vicinity. However, most of the quartz porphyry outcrops are massive and unaltered.

It was originally thought that the mineralized and unmineralized porphyries were the same rock and differed only in the extent to which they had been fractured. However, at 2460 S., 150 W. the two rocks are exposed in contact. The contact is sharp, showing some minor cross faults, and inclusions of the old schistose porphyry can be observed in the fresh and massive variety. There are clearly two ages of quartz porphyry, but until some blasting has been done to obtain fresh specimens the types cannot be properly examined.

Younger quartz porphyry:

Dikes and masses of a later quartz porphyry intrude the lavas and diorite in a great many places. It is a massive greyish coloured

rock that contains distinct phenocrysts of quartz in a fine-grained groundmass. The largest bodies of this porphyry occur in the eastern part of the map area. It is probable that the easterly claims are underlain at no great depth by a porphyry boss, and that the greenstone outcrops are little more than shallow remnants.

Feldspar porphyry:

A single outcrop of feldspar porphyry was located. This is on the east shore of Bag Creek near line 3000 S. It strikes parallel to the creek ravine and is only exposed for a foot or two in width. It is a fresh unaltered rock with medium sized feldspar phenocrysts in a fine-grained groundmass.

FAULTING:

Walker's photo-interpretation map shows a number of linear shears across the map area. Two of these have been identified on the ground as probable faults.

The major one strikes N.15°W. from the northwest end of Bag Lake along Bag Creek and continues beyond the north boundary of the claims. This zone is most clearly defined on the ground for a length of about 1000 feet across claim K32140, where its west wall forms a scarp ten to fifteen feet high. Where rock is exposed in the bed of the creek it is a carbonatized chlorite schist. The large central diorite dike is displaced by this fault, and the diorite mapped on claim K32139 may be its faulted extension to the east. If this is the case, the fault has a left hand displacement in the neighborhood of 1700 feet.

A second possible fault occurs a few hundred feet to the west of the former with a slightly divergent strike of N.25°W. Unlike the creek fault, it does not have a well defined topographic expression. The evidence, apart from photo-interpretation, is the abrupt termination of the 150 foot wide southerly basic dike. One small outcrop of diorite may be part of the faulted extension to the east. If this is the case, the fault has a left hand displacement of about 300 feet. The large central body of diorite also seems to be displaced to the left by this fault, but its displacement would appear to be considerably less than that of the smaller dike.

ECONOMIC GEOLOGY:

The known gold occurrences all lie within a comparatively small area on claim K32140. Numerous dikes of the older quartz porphyry occur within the diorite and close to it, and their frequency increases

with proximity to the creek fault. A few showings have been discovered in greenstone to the south and the east of the diorite, but the focal point of the mineralization appears to be where the creek fault cuts the diorite.

These dikes occupy two separate and distinct sets of fractures. The first parallels the creek fault, striking about N.15°W., and there is a second, complementary set which strikes roughly S.30°W., at a low angle to the walls of the diorite.

These older quartz porphyry dikes carry a considerable amount of pyritic mineralization. Quartz is associated with them as a stockwork of small irregular veinlets filling tension cracks, and in places they carry gold values of economic importance.

Insufficient work has been done to prove continuity between the various showings, but the accompanying overlay shows the correlation which is fairly clearly indicated. None of the showings could be properly sampled, but one grab sample of what looked to be representative material was taken from each of 25 showings. The assay results of these samples are shown on the accompanying overlay sheet. An unfavourable feature of the sample results is that all the assays of economic grade come from the one vein. However, until more work has been done it is impossible to evaluate this apparent trend of the assay results.

It is of interest that a sample of carbonatized chlorite schist from an outcrop on the creek fault zone gave an assay of 0.08 oz. The best chances for developing an ore body of economic size lie in, or close to, this major structure.

RECOMMENDATIONS:

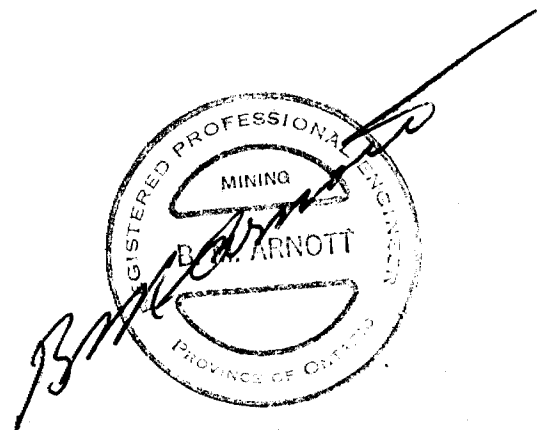
The writer believes that the property well merits further exploration and suggests the following program. The separate parts of the program could be carried out more or less simultaneously.

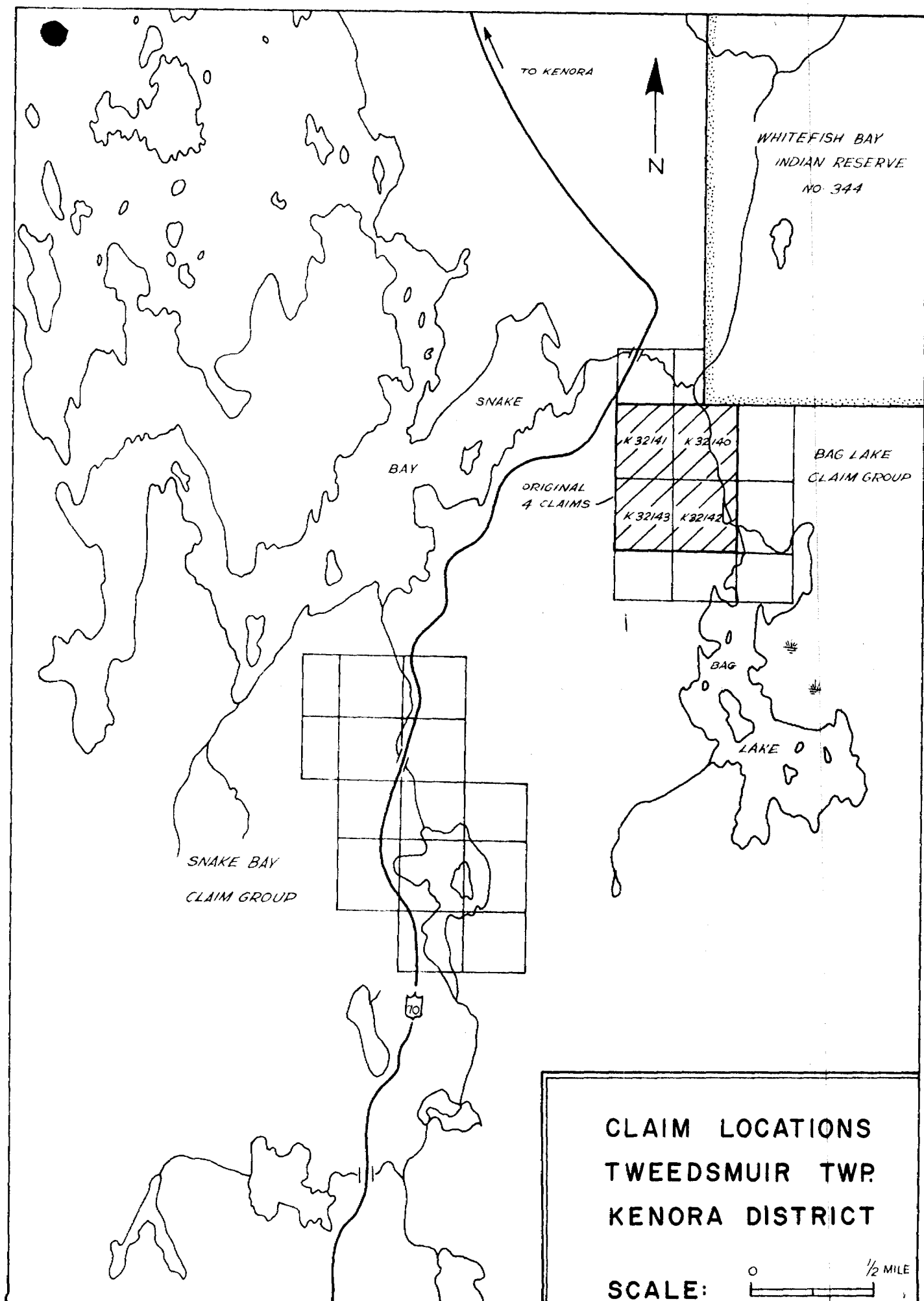
- (1) Map in detail on a scale of one inch to 50 feet an area covering the potentially favourable ground. This would include the area from 2000 S. to 3600 S., and from 400 E. to 700 W.
- (2) A limited amount of stripping to fully expose the most important showings. Since most of these showings are on the steep hillside close to the creek and the overburden is light, the most efficient method would be to use a high pressure pump to hydraulic the overburden.

(3) The two main objectives are to determine the grade and extent of the existing showings, and to explore the overburdened ground along the creek valley. Both of these objectives can be accomplished most economically by diamond drilling. The location close to the highway, with low transportation costs, makes it feasible to bring in a tractor mounted drill for a few holes whenever a local condition is ready for investigation.

12 June 1961

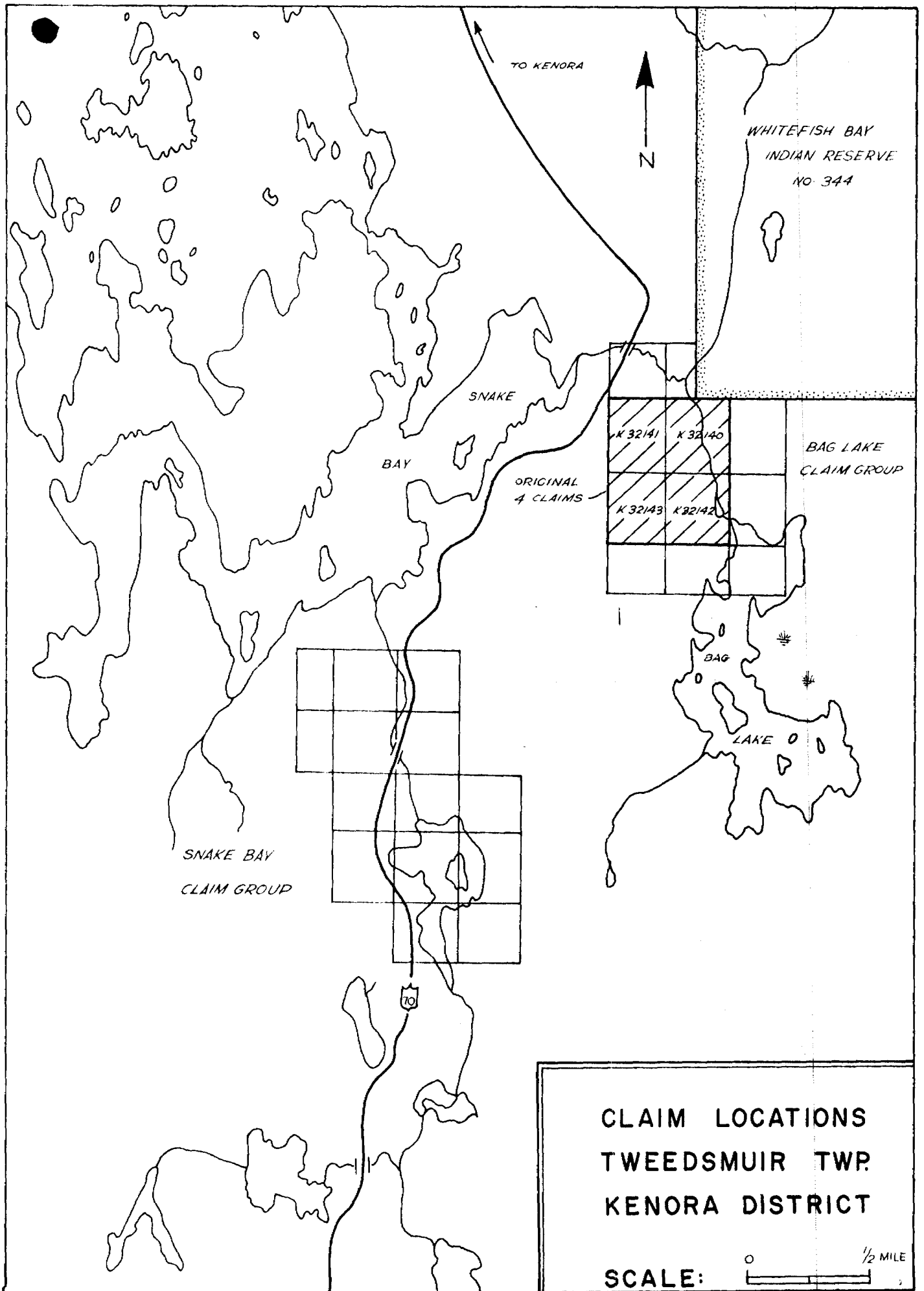
B. M. Arnott, P.Eng.






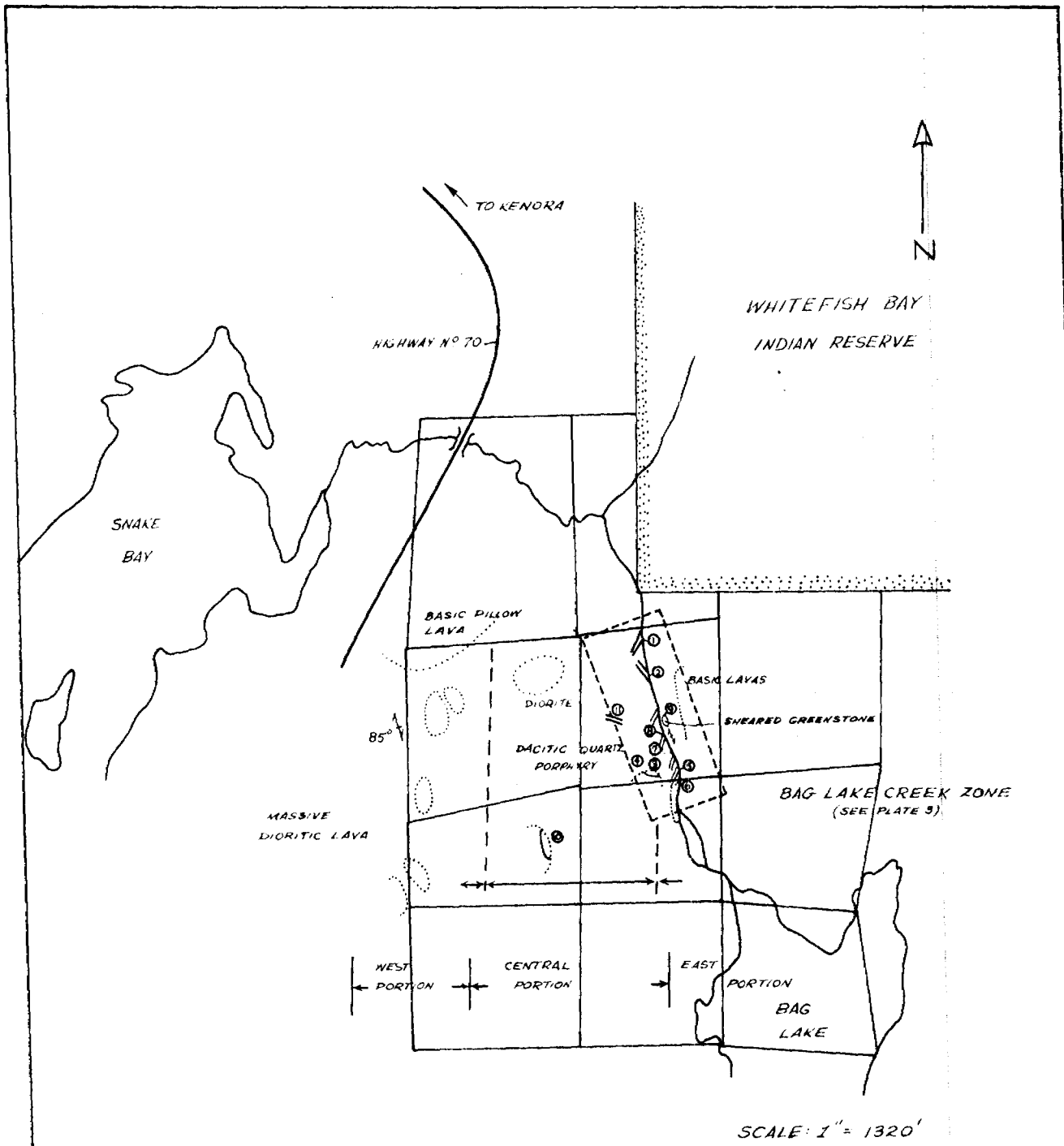
CLAIM LOCATIONS
TWEEDSMUIR TWP.
KENORA DISTRICT

SCALE: 0 $\frac{1}{2}$ MILE



CLAIM LOCATIONS
TWEEDSMUIR TWP.
KENORA DISTRICT

SCALE:  1/2 MILE



GEOLOGY OF THE BAG LAKE CLAIM GROUP

LEGEND TO ACCOMPANY BORE HOLE SECTIONS


SELCO EXPLORATION CO. LTD.

BAG LAKE OPTION

KENORA MINING DIVISION, ONTARIO

SCALE: 1 INCH = 40 FEET

 Carb'd Shear Zone, locally frac'd & min'd

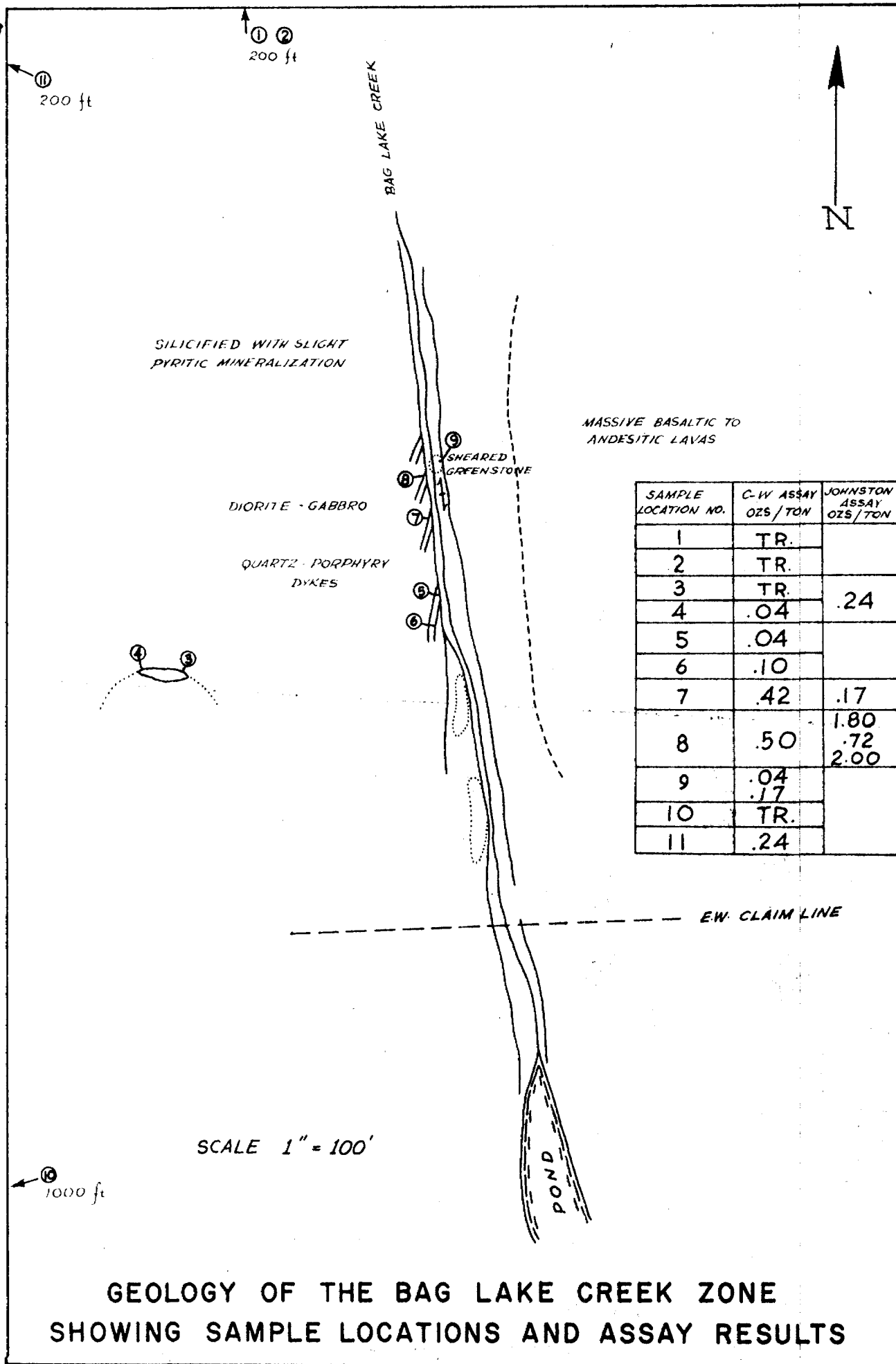
 Carb'd Felsite, locally frac'd & min'd

 Feldspar Porphyry

 Diorite

 Andesite & related greenstone

Assays shown thus: oz Au/width ft.



**GEOLOGY OF THE BAG LAKE CREEK ZONE
SHOWING SAMPLE LOCATIONS AND ASSAY RESULTS**

Base Line



2600 S.

D.H. 2

D.H. 8

D.H. 4

D.H. 1

D.H. 5

D.H. 3

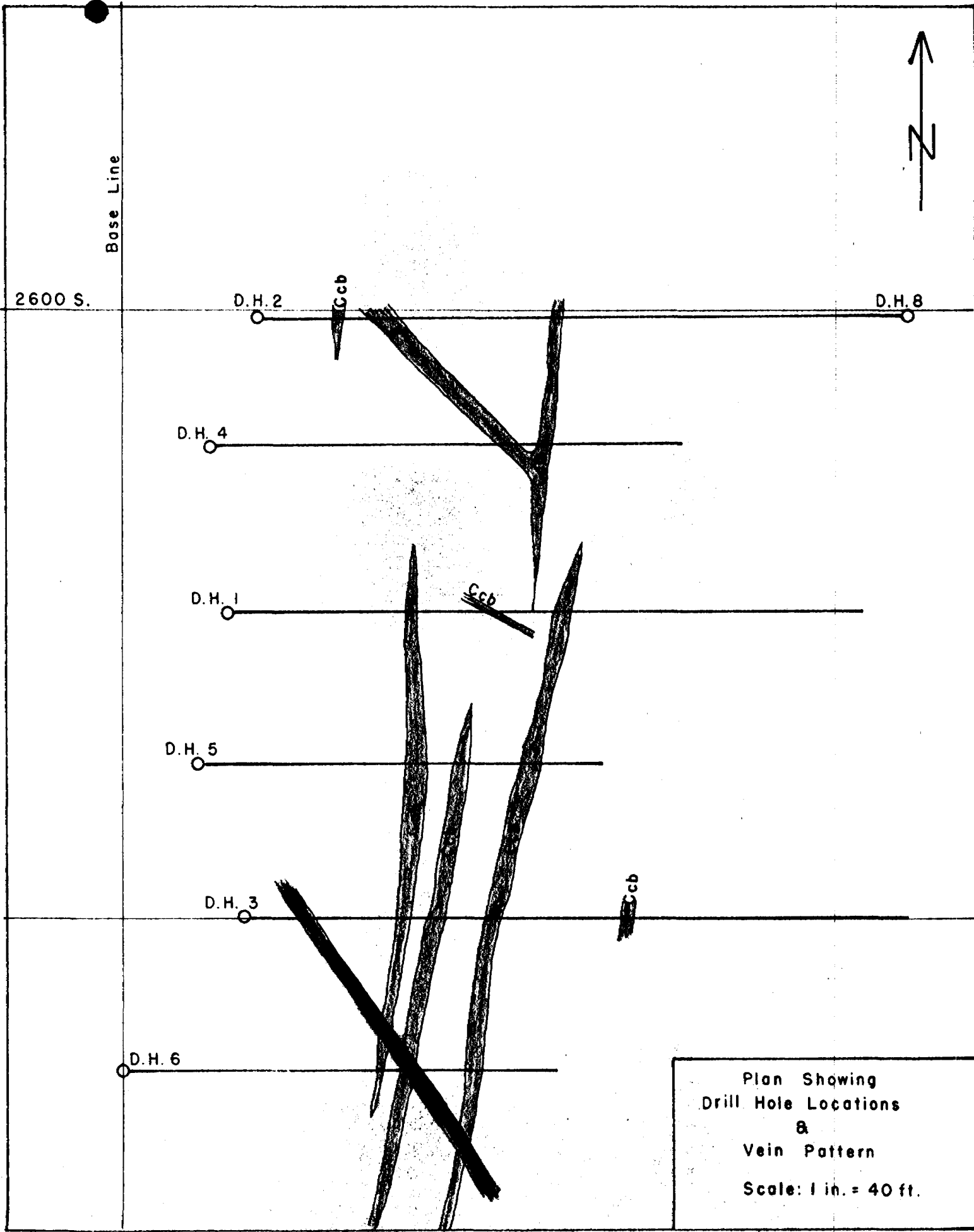
D.H. 6

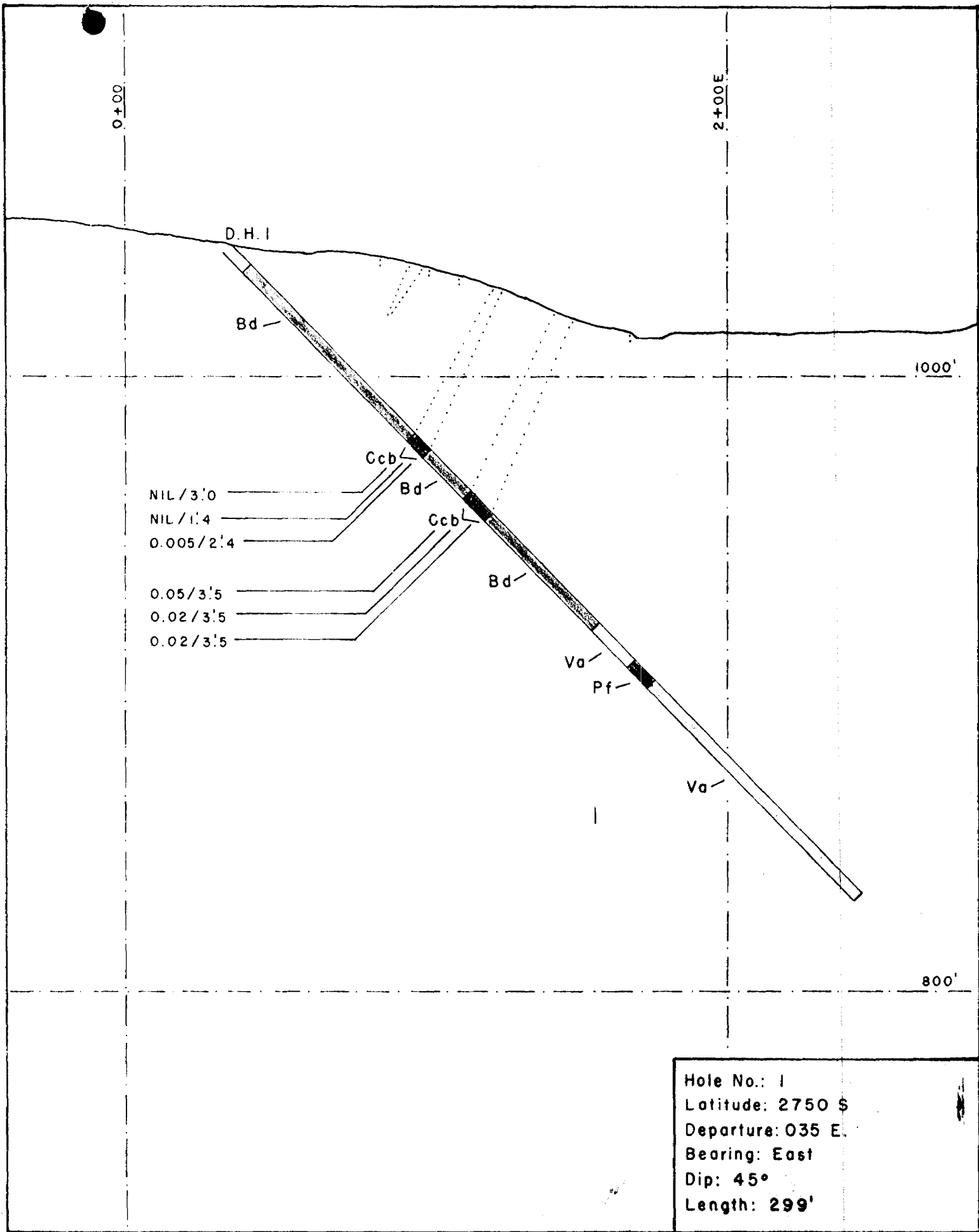
Ccb

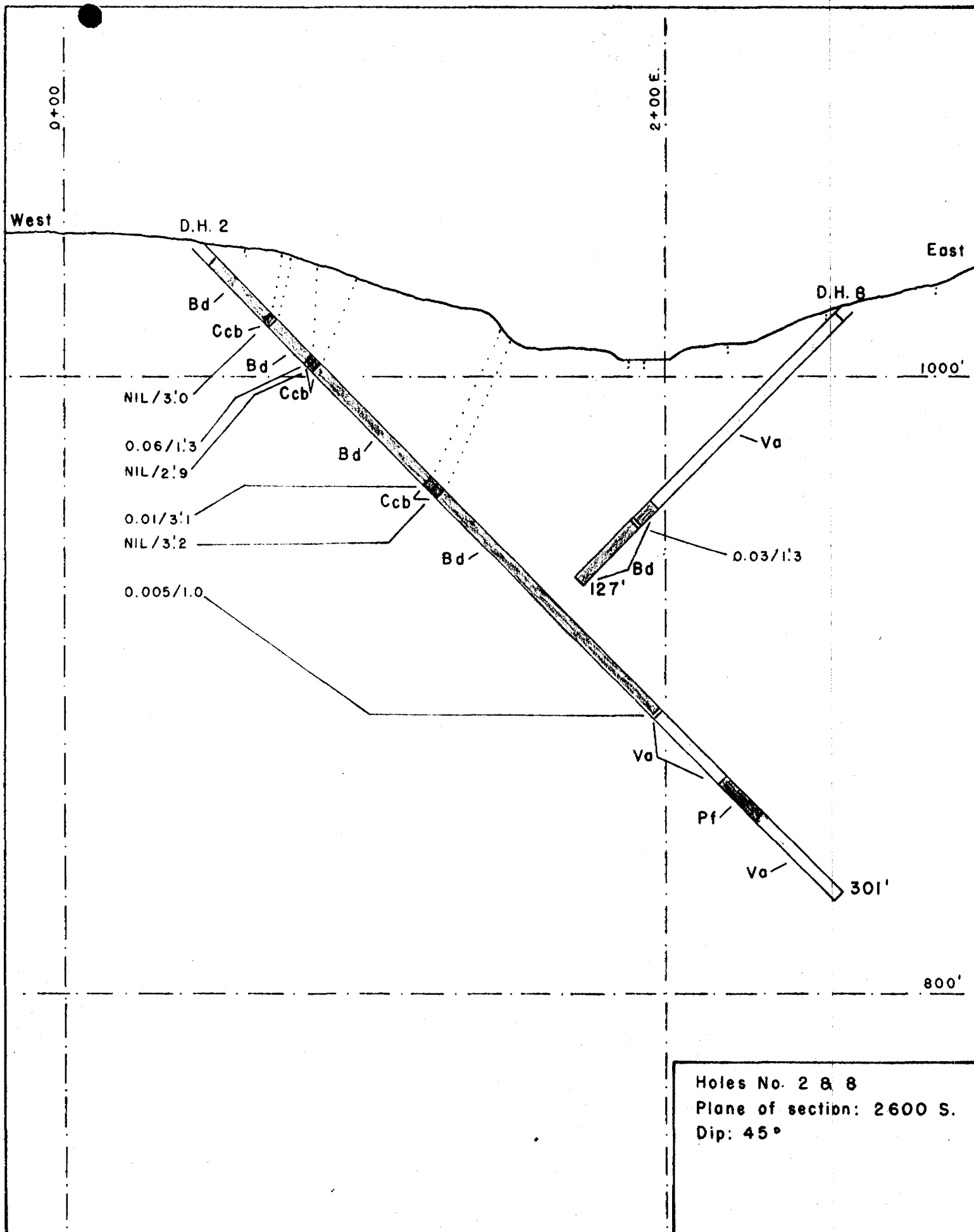
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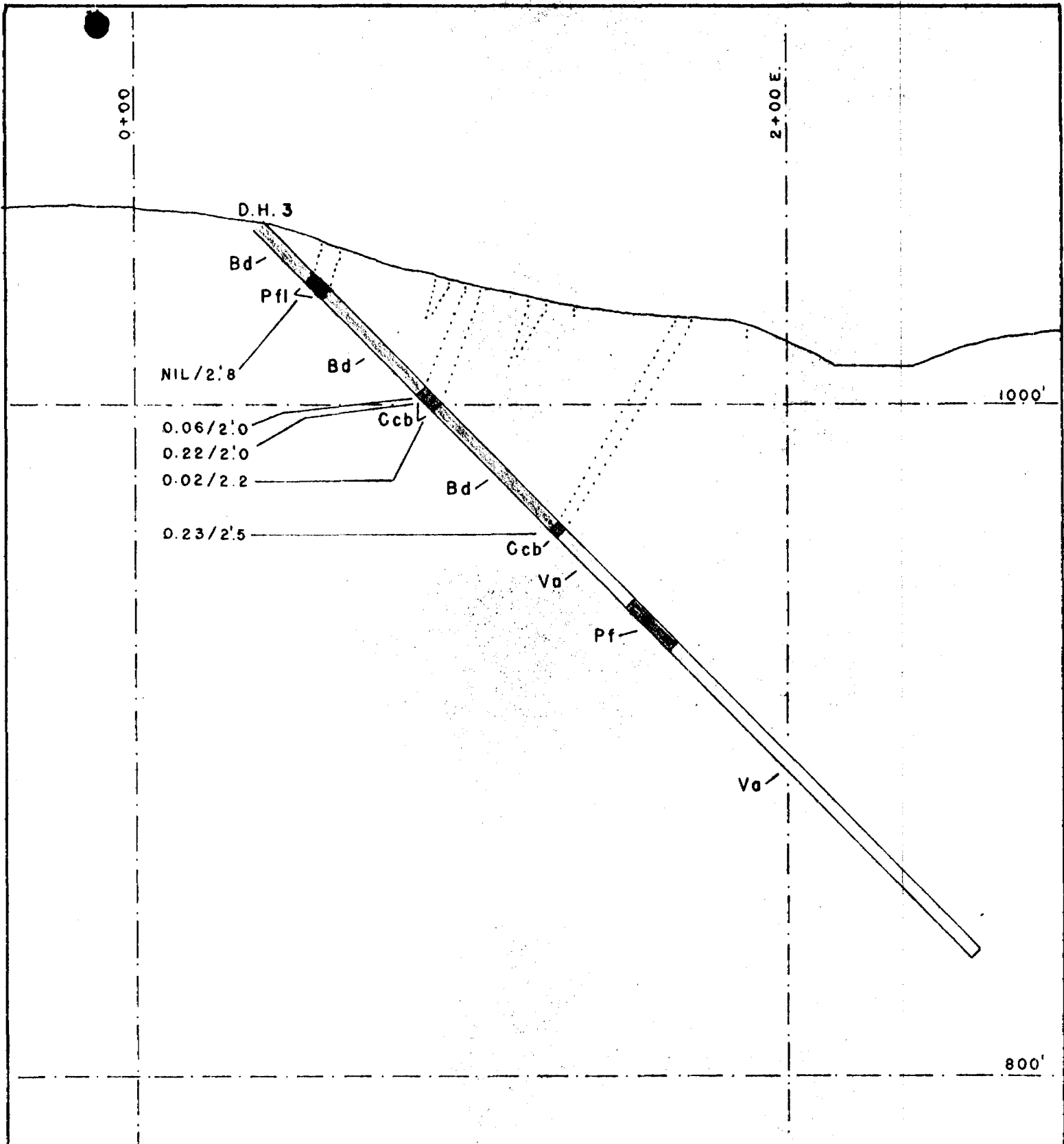
Ccb

Plan Showing
Drill Hole Locations
&
Vein Pattern
Scale: 1 in. = 40 ft.

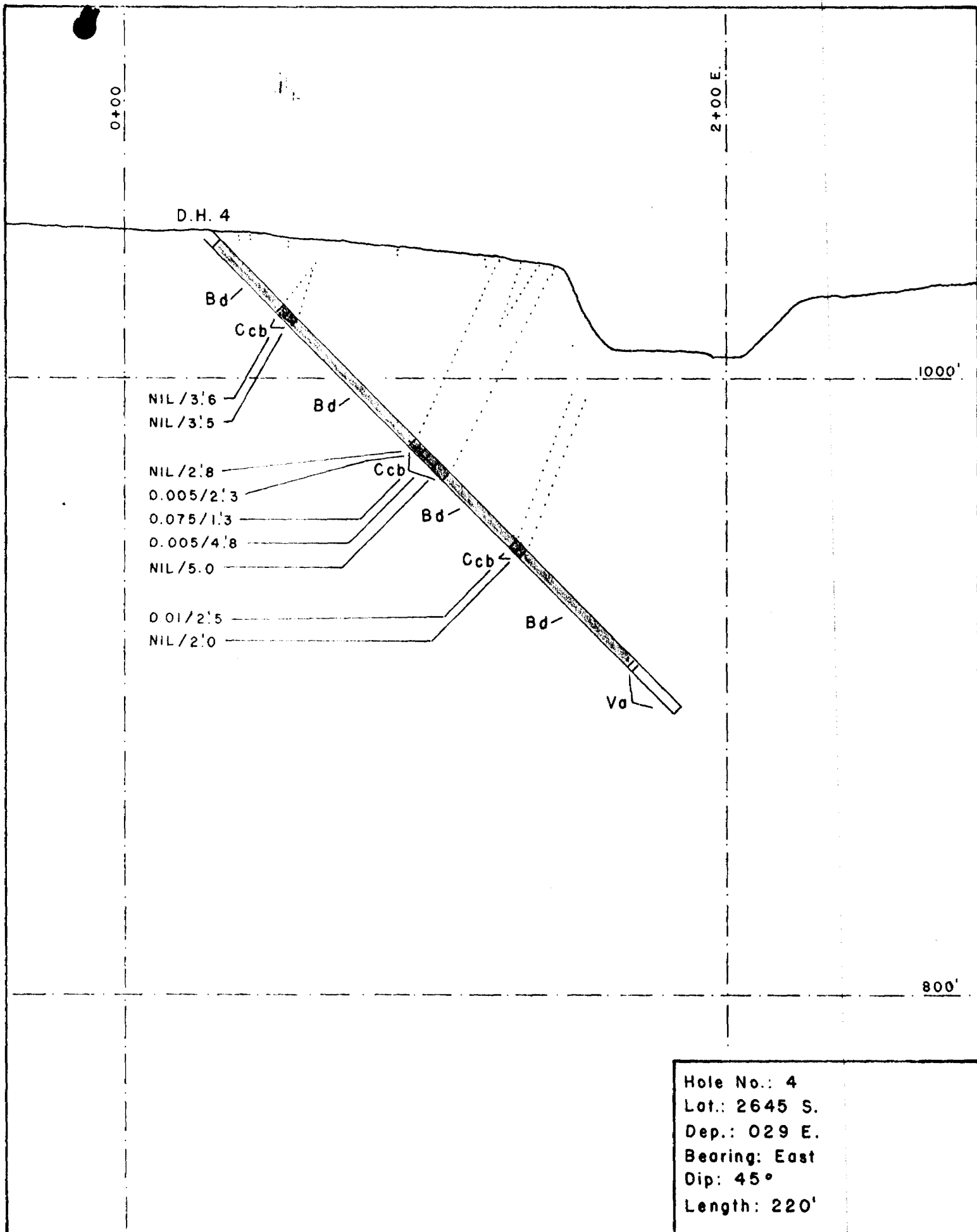


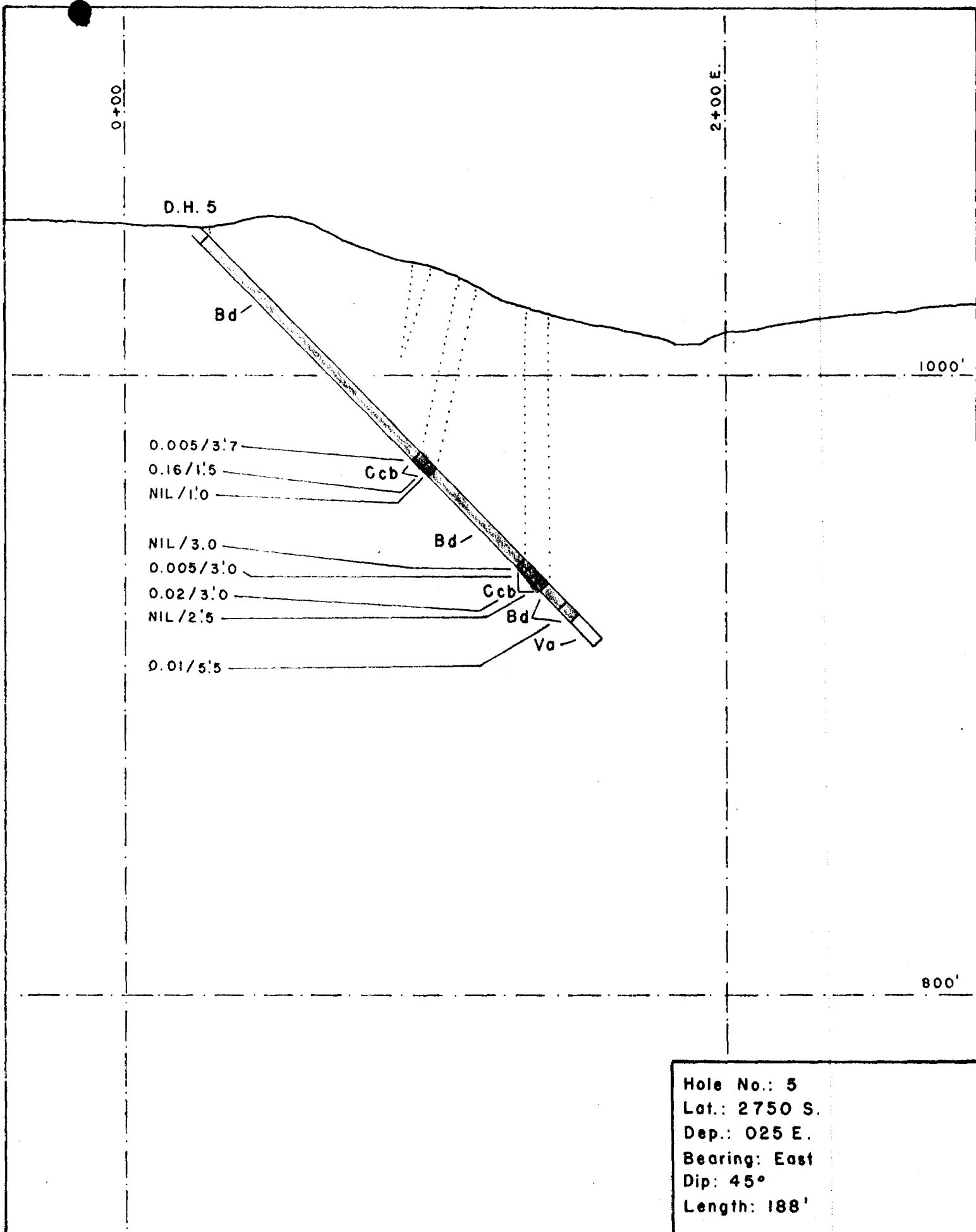


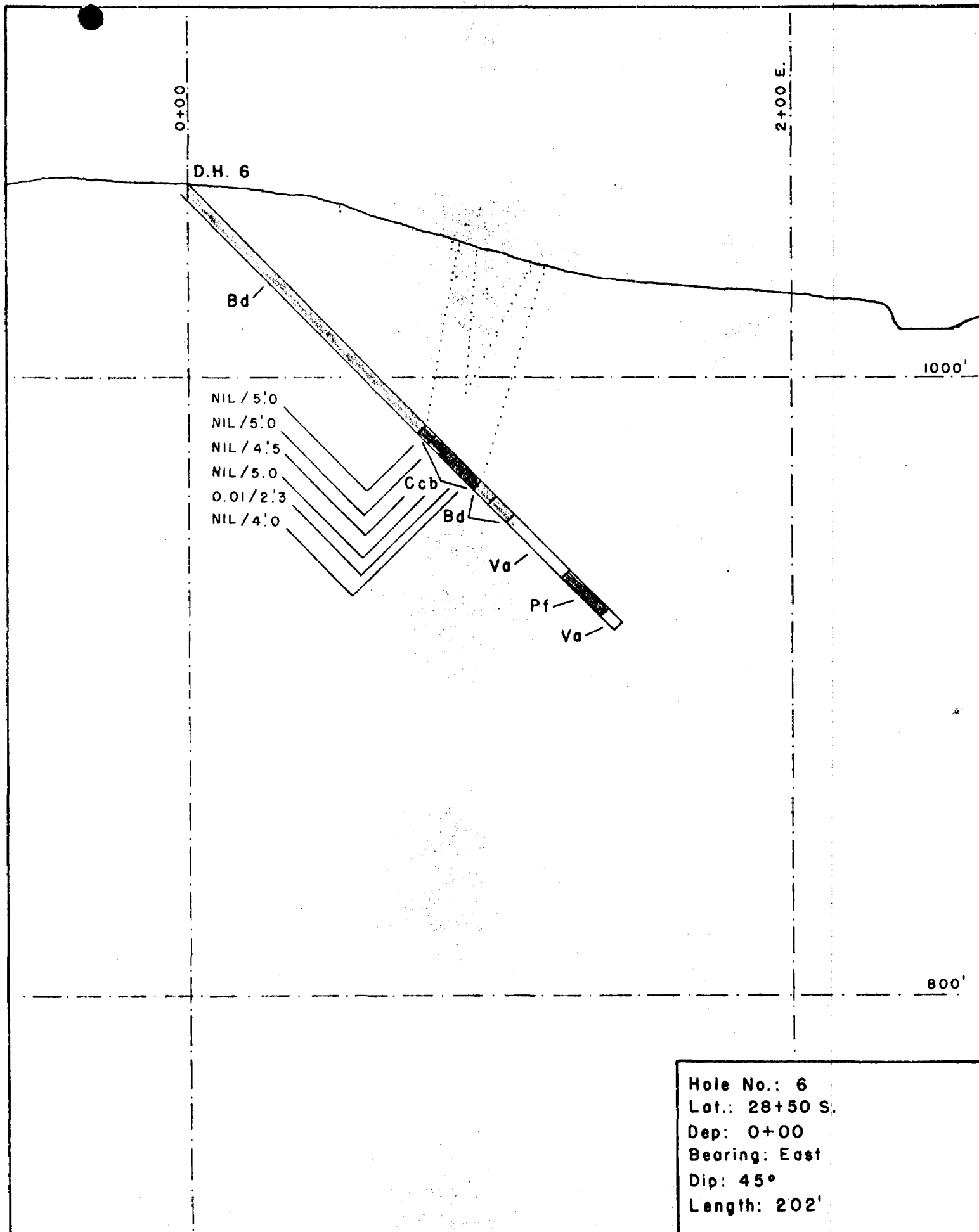




Hole No.: 3
 Lat.: 2800 S.
 Dep.: 040 E.
 Bearing: East
 Dip: 45°
 Length: 310'







Bd

NIL / 5'0
 NIL / 5'0
 NIL / 4'5
 NIL / 5'0
 0.01 / 2'3
 NIL / 4'0

Ccb

Bd

Va

Pf

Va

1000'

800'

Hole No.: 6
 Lat.: 28+50 S.
 Dep: 0+00
 Bearing: East
 Dip: 45°
 Length: 202'

