



41P12SW0061 63.4436 CHESTER

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GEOLOGICAL REPORT
ON
PROPERTIES OF MURGOLD RESOURCES INC.
including the "#20 Zone"

IN
NORTHERN PART OF CHESTER TOWNSHIP
PORCUPINE MINING DIVISION

BY
JOHN R. BOISSONEAULT, B.Sc., P.ENG.

OCTOBER 15, 1984



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INTRODUCTION

The following report has been prepared for Murgold Resources Inc. of Toronto, Ontario. Its subject is the company's "#20 Zone", which lies on claim P-515328, in the northern part of Chester Township, in the Porcupine Mining Division. Previous reports written by P. G. Lalande of Watts, Griffis, McQuat Limited and N. Firth of Hill, Goettler, De Laporte Limited, both in 1983, cover the location, accessibility, history, geology and mineralization of the holdings of Murgold Resources Inc., in the region.

The purpose of this report is as follows:

- (1) To summarize the results of the exploration work which has been done to date on the "#20 Zone".
- (2) To describe briefly the geological environment in which the zone occurs and the nature of the mineralization, including geological tonnage and grade estimates.
- (3) To discuss the potential of a number of geophysical anomalies on the company's claims in the vicinity and to recommend further development and exploration work on this segment of the company's holdings.

The report is based upon information supplied to me by the project geologist, Donald Hoy, the results of exploration work on the neighbouring property, as well as my personal knowledge of the site, since I was involved

in the exploration of the area since its inception in 1981, and have visited the site several times.

RESULTS OF EXPLORATION

The "#20 Zone" was discovered in the summer of 1981, by bulldozer stripping, on the edge of a ridge, where a V.L.F. electromagnetic anomaly had been previously indicated on the property, which is now owned by Kidd Resources Inc. A rusty area of secondary mineralization, which appeared to be in excess of 50 feet wide, had an east-west strike and contained visible gold in several places, was exposed.

Subsequent stripping and trenching, which was done by Murgold Resources Inc., showed that the zone extended across the boundary on to its property for about 120 feet at the surface. Because of the thin overburden cover, the subcropping of the mineralized area was soon almost completely exposed by further stripping, except for a strip along the boundary. The area was extensively sampled on both sides of the boundary with the results indicating grades between .30 oz./ton and .40 oz./ton over widths between 40 feet and 50 feet.

Since then, Murgold Resources Inc. has done a substantial amount of V.L.F. electromagnetic surveying on its claims, in the vicinity. In the summer of 1984, the company put down four diamond drill holes on the "#20 Zone"; these include:

- | | | | | | |
|-----|--------|-----------|------|-------|------|
| (1) | M84-16 | Southward | -45° | depth | 327' |
| (2) | M84-17 | Southward | -62° | " | 417' |
| (3) | M84-18 | Northward | -46° | " | 172' |
| (4) | M84-19 | Northward | -45° | " | 189' |

The first of these holes were drilled along a section about 60 feet east of the boundary (Section A) while the fourth hole was drilled about 110 feet east of the boundary (Section B). The results of the drilling program were as follows:

- | | | | |
|-----|--------|------------------------------------------|----------------------------------------------|
| (1) | M84-16 | - mineralized zone 148'-167' & 211'-221' | $\frac{.137 \text{ oz./ton}}{4.2'}$ |
| (2) | M84-17 | - mineralized zone 332'-370' | $(\frac{.225 \text{ oz./ton}}{38'})$ (VG) |
| (3) | M84-18 | - mineralized zone 30'-65' | $(\frac{.215 \text{ oz./ton}}{35'})$ |
| (4) | M84-19 | - mineralized zone 97'-157' | $(\frac{.33 \text{ oz./ton}}{60'})$ (sludge) |

The locations of these holes, the intersections and the grades are shown in cross section, long section and plan, in the Appendix of this report.

GEOLOGY AND MINERALIZATION

The mineralized area, known as the "#20 Zone" lies in a highly metamorphosed section of Archean rocks,

near the eastern end of a large Precambrian Structure, known as the Swayze Syncline. To the east and south of the property, this metasedimentary-metavolcanic belt has been intruded by granitic plutons, and the mineralized area lies in a transition zone where there has been considerable metamorphism, and remelting of the original formations, along with the mobilization of their component minerals. The original mafic tuffs, volcanic flows and pyroclastics now resemble intrusive rocks or migmatites although remnant structures, such as clasts have been preserved along with remnant tuff horizons.

The host rocks, in which the mineralization occurs, have been named according to their constituent minerals as Quartz Diorite and Granodiorite. These are medium grained and sometimes porphyritic, the Quartz Diorite containing prominent bluish "quartz eyes". Numerous volcanic remnants, generally mafic tuffs, are commonly found in these rocks; these, along with the foliation have a general east-west trend. The mineralized area is found within a highly altered section of the Quartz Diorite, which has been extensively sheared. The alteration consists of a large zone of strong carbonatization and chloritization, with minor sericite, which extends some 30-40 feet beyond the margins of the mineralization. The inner zone which contains the gold values is intensely silicified with patches of quartz and pervasive disseminations of pyrrhotite, pyrite and minor chalcopyrite, along with less mineralized carbonated and chloritized sections.

The gold values are found in and near thin quartz carbonate stringers of varying orientation and in associated sulphide mineralization, mainly pyrrhotite, pyrite and chalcopyrite, which have filled shears in the quartz diorite. The mineralized area gives the impression of being a linear zone of brecciation which has developed along a siliceous unit in the Quartz Diorite. Since this rock was originally a pyroclastic, with volcanic tuff interbeds, and since the orientation of the mineralization is parallel to the stratigraphy, there is a possibility that the mineralized area lies along a carbonate silica sulphide facies of a former exhalite formation, whose components have been remobilized by metamorphism, and may in fact be the source of the mineralization.

The mineralization area has a horizontal width of about 50 feet at the surface, and has been exposed for a length of about 120 feet on the Murgold side of the boundary. Although it appears to "finger out" to the east, narrower bands of mineralization have been found in several places, in that direction for some 600 feet. The results of the drilling program, carried out by the company show that the main zone plunges eastward at about -65° and dips southward at -75° . From surface to a depth of 100', the zone narrows down to a width of about 10 feet, but then it maintains this width to a depth of below 330 feet. An auxiliary zone, somewhat narrower, but of similar grade, has been indicated on the south (hanging wall) side, by the drilling.

Two estimates of grade and tonnage have been made for the main zone, based on the results of the surface sampling and diamond drilling. One of these includes material within a depth of 100 feet, and another includes material which lies between depths of 100' and 400'. These are as follows:

- (1) Upper Section (surface to -100') 25,000 tons grading .24 oz./ton gold (block dimensions 75 feet long x 40 feet wide x 100 feet deep = 300,000 cu.ft.)
- (2) Lower Section (-100' to -400') 30,000 tons grading .22 oz./ton gold (block dimensions 120 feet long x 10 feet wide x 300 feet deep = 360,000 cu.ft.)

These estimates may be classed as "geological reserves" and are not proven ore. However, similar estimates, made on the portion of the mineralized zone, on the Kidd Resources side of the boundary, were proven to be reasonably accurate by subsequent close pattern drilling.

CONCLUSIONS AND RECOMMENDATIONS

The results of the V.L.F. electromagnetic survey, which was conducted over the area by the company, are presented on a plan entitled "Preliminary Map, Filtered V.L.F. Data". These show that a zone of anomalous conductivity coincides with the mineralized area (#20 Zone) and extends eastward for some distance. Furthermore, similar linear anomalies occur on the company's claims, in the

vicinity. Of these the following merit special attention.

- (1) A discontinuous conductor, about 600 feet north of the "#20 Zone", and having a similar strike.
- (2) A long curving conductor, which passes to the north of Weeduck Lake, and may be the extension of an anomaly associated with the Kidd Resources "#1 Zone".
- (3) A strong conductor which appears to cross the southern half of Weeduck Lake, in a direction of 280°.
- (4) A conductor of moderate strength, which has the same strike as the one coinciding with the "#20 Zone", and lies about 600 feet to the south of it.

It is apparent that only a small portion of the gold bearing potential of the claims held by Murgold Resources Inc., in the northern part of Chester Township, has been tested. In addition to the anomalies mentioned in the previous paragraph, there are several others which warrant closer examination.

Since the V.L.F. survey has been conducted along paced compass lines, the locations of the anomalies are only approximate, and it is now necessary to establish a better control grid of cut-out picket lines. These could then be used to carry out the following:

- (1) A V.L.F. electromagnetic survey, using an eastern source of transmission.

- (2) A magnetometer survey.
- (3) Detailed geological mapping.

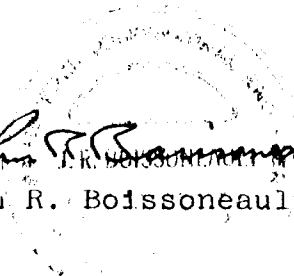
Both of the geophysical methods recommended have proved responsive to the mineralized shears of the "#20 Zone" in test surveys, and should therefore be effective exploration methods in this area. The geological mapping is recommended because both the character of the lithology and the presence of cross structures seem to have some influence on the localization of the auriferous mineralization in the "#20 Zone" and the mineralized areas on the Kidd Resources property.

It may become necessary to conduct detail geophysics over the V.L.F. anomalies, if these should prove to be too numerous, in order to filter out those which are not caused by bedrock sources. Although the induced polarization method will accomplish this, the high frequency horizontal loop method (H.E.M.) might serve the same purpose, and is much cheaper. I therefore suggest that a test survey, using the latter method be conducted over the "#20 Zone", before the selection is made.

The anomalies selected should be tested by power stripping where this is possible and by diamond drilling where it is not. In addition to this, the company should consider a close pattern, percussion drilling program on the "#20 Zone", in order to better delineate and

evaluate this deposit. This type of program can be carried out at relatively low costs, and has proven to be quite effective.

Respectfully submitted,




John R. Boissoneault
John R. Boissoneault, B.Sc., P.Eng.

CERTIFICATE

I, JOHN R. BOISSONEAULT, hereby certify

- (1) that I am an exploration and mining geologist residing at 670 Spruce Street North, Timmins, Ontario;
- (2) that I am a member of the Association of Professional Engineers of the Province of Ontario;
- (3) that I am a graduate of McGill University, 1960, and Northern College, School of Mines, 1956;
- (4) that I have been engaged in the practice of my profession for fourteen years.
- (5) that I have no interest, direct or indirect, nor do I expect to receive any such interest in the properties or securities of Murgold Resources Inc.

A circular seal for a Registered Professional Engineer in the Province of Ontario. The seal contains the text "REGISTERED PROFESSIONAL ENGINEER" around the top inner edge and "PROVINCE OF ONTARIO" around the bottom inner edge. In the center, the name "JOHN R. BOISSONEAULT" is printed. A handwritten signature in cursive is written over the seal and extends to the right.
John R. Boissoneault, B.Sc., P.Eng.
Geologist
October 15, 1984



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File 63-1436

REPORT
ON
THE 1984 DIAMOND DRILLING PROGRAM
MURGOLD RESOURCES INC.
CHESTER, BENNEWEIS & ST. LOUIS TOWNSHIPS,
PORCUPINE MINING DIVISION
ONTARIO

Donald Hoy B.Sc.

Donald Hoy, B.Sc.
January 1985



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Maps

(in back pockets)

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Map	Plan of the No. 2, 3, 4, & 5 Veins, West Sheet
Map	Longitudinal Section of the No. 3 Vein System, East Sheet
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Map	Longitudinal Section of the No. 20 Zone & Kidd No. 2 Zone
Map	Preliminary Map, Filtered VLF Data

Summary

Murgold Resources Inc., carried out a diamond drilling program during the 1984 field season, for a total footage of 4,560 feet comprising 19 holes.

The recent drilling was centred on 3 zones of concentration. These include the central and western portions of the No. 3 vein system in addition to the No. 20 zone.

The property is situated on the south-eastern portion of a large structure known as the Swayze syncline. The structure consists of 2 broad east-west trending belts of mafic metavolcanics, overlain by a sequence of intermediate pyroclastics. This assemblage is intruded by a large granitic body centred around Chester Township, and contains large inclusions of migmatitic material. The bodies of migmatite are usually accompanied by shearing and associated quartz veining, and appear to be important from a geological and structural point of view.

There are two types of gold occurrences on the property which include; 1) narrow quartz veins associated with shearing accompanied by erratic visible gold and 2) in association with disseminated to semi-massive sulphides in broad alteration zones proximal to shearing and fracturing. There appears to be a good spatial relationship between the location of diabase dykes, which cross-cut the regional structural 100-120° trend, and the gold occurrences. This is evident along portions of the No. 3 vein system and in the locale of the No. 20 zone.

A total of 8 holes were drilled along the central portion of the No. 3 vein system. The drilling has delineated significant mineralization along a strike length of 400 feet and down to a vertical depth of 300 feet. A total of 7 holes probed beneath the western portion of the No. 3 vein system at relatively

shallow depths. Initial test drilling of the No. 20 zone was restricted to 4 holes. Significant mineralization was intersected over a true width of 12 feet and at a depth of 330 feet.

Geophysical surveys conducted on Murgold ground and the adjacent claims held by Kidd Resources Ltd. respond favourably to zones where gold is associated with disseminated to semi-massive sulphides proximal to shearing. The geophysics indicates that the best targets for discovering this type of mineralization are those areas where VLF anomalies are coincident with I.P. anomalies.

Fill-in drilling along the No. 3 vein system showed encouraging results and confirmed the existence of the vein system at depth. Initial test drilling on the No. 20 zone proved to be highly successful. The zone is still open along strike and additionally at depth.

A program of detailed geophysics and geological mapping is recommended to further investigate the Weeduck Lake area and in the locale of the No. 20 zone. The estimated cost of the program is \$71,500.

Introduction, Property & Title

Following the conclusion of the 1983 field season, diamond drilling was recommended as a follow-up to the exploration work conducted on the 291-claim gold prospect in the Gogama area of Northern Ontario. The recommended drilling was carried out during the 1984 field season in an effort to assist in establishing vertical and lateral continuity of the gold-bearing quartz vein-shear systems. This report outlines the results of the drilling program, and also makes additional recommendations to further evaluate the gold occurrences.

The property consists of a group of 291 mining claims in Chester, Bennewis and St. Louis Townships, in the Porcupine Mining Division of Northern Ontario (Figure 1 & Table 1). Of the 291 mining claims, 2 are patented (S19992 and S20009) and 8 are mining leases (S121594, S515048-515052, S515055-515056 inclusive). At the present time an application for lease has been made for claim P51532, which should be forthcoming shortly. This will effectively increase the number of mining leases on the property to 9. The remaining 280 claims are unsurveyed and unpatented, however all are in good standing with sufficient work recorded on them for application to lease.

Synopsis of Recent Work

The Company carried out a fairly extensive exploration program during the 1983 field season. The program was concentrated largely on investigating the No. 3 and the No. 1 vein systems, in addition to the No. 20 zone. The exploration techniques employed during the program included relogging of diamond drill core, trenching and sampling, geochemical soil sampling, VLF-EM 16 and magnetometer surveys in addition to geological mapping.

The western portion of the No. 3 vein known as the Watts trenches were systematically chip sampled during the course of last year's investigations.

Table 1

MURGOLD PROPERTY CLAIMS STATUS

CLAIM NUMBERS	+ANNIVERSARY DATE	NUMBER OF CLAIMS	CLAIM NUMBERS	+ANNIVERSARY DATE	NUMBER OF CLAIMS	CLAIM NUMBERS	+ANNIVERSARY DATE	NUMBER OF CLAIMS
S 19992	Patented	1	P 515059	May 10, 1985	1	P 539319 - 539322	October 31, 1985	4
S 20009	Patented	1	P 515328 *	June 20, 1985	1	P 539323	October 31, 1985	1
S 121594	Mining Lease	1	P 515329 - 515330	June 20, 1985	2	P 539324 - 539328	October 31, 1985	5
S 515048 - 515052	Mining Lease	5	P 515335 - 515336	June 20, 1985	2	P 539404 - 539414	October 31, 1985	11
S 515055 - 515056	Mining Lease	2	P 528680	October 23, 1985	1	P 539415	October 31, 1985	1
P 471952 - 471958	March 15, 1985	7	P 546980	November 7, 1985	1	P 539416 - 539421	October 31, 1985	6
P 473667 - 473669	October 23, 1985	3	P 546981 - 547000	November 7, 1985	20	P 543818	October 31, 1985	1
P 473670 - 473671	October 23, 1985	2	P 549001 - 549002	November 7, 1985	2	P 543819	October 3, 1985	1
P 473672 - 473695	October 23, 1985	24	P 549003	November 7, 1985	1	P 543820 - 543824	October 3, 1985	5
P 473696 - 473697	October 23, 1985	2	P 549004 - 549014	November 7, 1985	11	P 543993	October 3, 1985	1
P 473698 - 473699	October 23, 1985	2	P 549015	November 7, 1985	1	P 543994	October 3, 1985	1
P 473700	October 23, 1985	1	P 549016	November 7, 1985	1	P 543995 - 543996	October 3, 1985	2
P 473701 - 473703	October 23, 1985	3	P 549017 - 549019	October 23, 1985	3	P 543827	October 3, 1985	1
P 473704 - 473708	October 23, 1985	5	P 538055 - 538059	October 3, 1985	5	P 548092	November 13, 1985	1
P 473709	October 23, 1985	1	P 538082	October 3, 1985	1	P 549108 - 549114	October 23, 1985	7
P 473710 - 473715	October 23, 1985	6	P 538523 - 538525	October 25, 1985	3	P 549115	November 7, 1985	1
P 473716 - 473717	October 23, 1985	2	P 539105 - 539129	October 25, 1985	25	P 549116	October 23, 1985	1
P 473718 - 473737	October 23, 1985	20	P 539136 - 539155	October 25, 1985	20	P 549117	November 7, 1985	1
P 473738 - 473742	November 7, 1985	5	P 539181 - 539183	December 14, 1985	3	P 549294	November 7, 1985	1
P 473743	November 7, 1985	1	P 539279 - 539298	October 31, 1985	20			
P 473744	October 23, 1985	1	P 539308	October 31, 1985	1		TOTAL CLAIMS	291
P 473745	November 7, 1985	1	P 539309	October 31, 1985	1			
P 473746	October 23, 1985	1	P 539310 - 539312	October 31, 1985	3			
P 507667 - 507669	December 14, 1985	3	P 539313	October 31, 1985	1			
P 515053 - 515054	May 10, 1985	2	P 539314 - 539317	October 31, 1985	4			
P 515057 - 515058	May 10, 1985	2	P 539318	October 31, 1985	1			

* Mining Lease applied for.

+ Claim must be brought to lease or Relief Against Forfeiture must be applied for prior to this date.

Sampling of the trenches indicated a mineralized structure attaining a total strike length of 290 feet averaging 0.49 oz/ton Au over a sampling width of 3.1 feet. This locale was the site of 22 diamond drill holes, all of which were drilled previous to Murgold acquiring the property, and extensive trenching.

The central portion of the No. 3 vein system was investigated during the last period of diamond drilling conducted by Murgold in 1982. The drilling by Murgold delineated a significant zone of mineralization with a strike length of approximately 400 feet and drill intercepts down to a depth of approximately 200 feet. Values ranging from .002 to 4.08 oz/ton Au were encountered over relatively narrow widths. The uncut average for the 1982 drilling in this locale assayed 1.44 oz/ton Au over an approximate true width of 0.7 feet.

The No. 20 zone was geologically mapped and sampled during the course of the 1983 program. Chip sampling over the widest section of the mineralized zone assayed 0.40 oz/ton Au over 30.0 feet and in recent sampling, 0.168 oz/ton Au over 60.0 feet (including 0.25 oz/ton Au over 30.0 feet). A number of smaller parallel and en-echelon shears located along strike to the east assayed from .002 to .084 oz/ton Au over sampling widths ranging from 2.5-5.0 feet.

The 1984 Diamond Drilling Program

The recent drilling was centred around 3 zones of concentration. These zones include the central and western (Watts trenches locale) portions of the No. 3 vein system, in addition to the No. 20 zone adjacent to the Kidd No. 2 zone of Kidd Resources Ltd.

A total of 4,560 feet comprising 19 holes were carried out by Triangle Diamond Drilling of Coppercliff, Ontario, from June 8 to August 4, 1984. A Longyear 38 drill rig was employed utilising BQ size drill rods. Core recovery

was excellent, with recovery virtually being 100%. Where ground conditions permitted, sludge samples were collected at 10 feet intervals and sent in for assay to supplement the core samples.

Selected portions of the core were split and sent to Bell-White Laboratories in Haileybury for assay. Rejects obtained from the No. 20 zone cores were retained and sent to Swastika Laboratories for checks on Bell-White results. The results of the No. 20 zone as reported herein are representative of the average obtained from both laboratories.

Property Geology & Nature of Mineralization

The geology of the claims area has been most recently described by G.M. Siragusa on the Precambrian Geology of Chester & Yeo Townships, Preliminary map P. 2449, and earlier by H.C. Laird in the Geology of the Three Ducks Lake Area, D.D.M. Volume 41, Part 3, 1932.

The area of the claims is situated on the south-eastern portion of a large Precambrian structure known as the Swayze greenstone belt. The Swayze belt in this area, is characterized by the occurrence of 2 broad east-west trending belts of mafic metavolcanics, overlain by a sequence of intermediate pyroclastics forming a broad synclinal-like structure. The metavolcanic assemblage is intruded by a large oval shaped mass of granite centred largely around Chester Township. This large intrusive is dominantly trondhjemite and contains large remnants of highly altered migmatite, probably representative of partially and completely digested precursor metavolcanic material. The large inclusions of migmatite material are lenticular in nature and strike in a general east-west direction, usually accompanied by shearing and associated quartz veining. The inclusions of migmatite are important from a structural point of view, as they represent areas of relatively less competence than the surrounding trondhjemite,

and are thus favourable for shearing, fracturing and subsequent quartz veining. The micromatite rocks are interpreted by Siragusa to be representative of partially to completely recrystallized volcanic flows, tuffs and pyroclastics.

Lamprophyre and diabase dykes are the youngest rocks on the property, largely trending in a northwesterly and north-northwesterly direction. The influence of the diabase dykes with the mineralization process is not yet understood, however there is an apparent good spatial relationship between the location of gold occurrences in Chester Township with these diabase dykes. The fracturing associated with the emplacement of the diabase represent cross-structures with the regional 100-120° shearing and fracturing, and may be responsible for concentrating the mineralization.

Previous work by Murgold and other companies in the area have clearly indicated that the gold occurs in; a) quartz veins associated with shearing accompanied by erratic visible gold and sulphides and b) in association with disseminated to semi-massive sulphides in alteration zones proximal to fracturing and shearing.

The first mode of mineralization is characterized by the occurrence of discontinuous and lensy quartz veining occupying through-going shear and fracture systems. The veins are relatively narrow and commonly form vein network systems and parallel veins, as is the case on the central portion of the No. 3 vein system. The gold occurs largely as free gold, erratic in distribution, and is usually accompanied by pyrite, pyrrhotite and chalcopyrite.

Structurally, the dominant trend of the veins is at an azimuth of 90-110° and 270-290°, following the regional structural trend. There is an apparent close spatial relationship between the higher grade drill intersections with the location of lamprophyre and diabase dykes, is as evident along the central portion of the No. 3 vein system, and also at the No. 20 zone. In addition, based on the

diamond drill intersections, there is some suggestion of possible strikes and plunges of ore shoots, resulting from contouring of grades and widths from the drill intersections. The shoots on the No. 3 vein system would appear to plunge in a westerly direction, however additional diamond drilling data is clearly needed to substantiate this hypothesis.

The mineralized area of the No. 20 zone occurs in a transition zone where granitic intrusive rocks have assimilated with precursor metasedimentary and metavolcanic rocks. Geological mapping of the zone has indicated that the mineralization lies within a moderate to highly metamorphosed section of migmatitic rocks from resultant brecciation, recrystallization and remobilization of components from the original rock formation. Remnant structures resembling tuffaceous horizons are evident in diamond drill core and on surface, indicating that the original rock formation may have been pyroclastic in origin.

The host rocks mapped as quartz diorites (Map 5), are probable recrystallized volcanic rocks. They contain large bluish quartz eyes, are intensely carbonatized, and are commonly porphyritic in appearance. Within the quartz diorites, tuffaceous horizons and what appear to be volcanic remnants, are present.

The mineralization is intimately associated with strong shearing and intense, pervasive alteration, within the quartz diorite host rocks. Alteration includes propylitisation, silicification and carbonatization. The gold occurs in association with discontinuous quartz veining within the shear zones and is disseminated to semi-massive pyrrhotite, pyrite and chalcopyrite in wallrock enveloping the shears. The shearing and associated quartz veining in the area mapped, appear to be parallel and en-echelon in nature.

The alteration zone and associated mineralization attain a maximum width of about 50 feet nearest the claim boundary and finger-out substantially

to the east (Map 5). The concentration nearest the claim boundary may be the result of transverse fracturing and shearing transecting the dominant east-west trend, thus providing suitable cross-structures.

It appears that the mineralization is structurally controlled. The shearing and fracturing occur in metavolcanic migmatite which represent rocks of relative less competence than the surrounding intrusives. These less competent units would be favourable rocks promoting shearing and the emplacement of quartz veining.

RESULTS OF THE 1984 DIAMOND DRILLING PROGRAM

Central Portion - No. 3 Vein System

A total of 8 holes were drilled in the locale of this portion of the No. 3 vein system during the recent program (Maps 1, 2, 3 & 4). The drilling was intended to intersect the structure at greater depths, to follow-up the relatively shallow intersections obtained during the 1982 drill program. With the exception of holes M84-8 and M84-9 the structure was intersected in all of the drillholes. The structure intersected were relatively narrow quartz veins, (4-6 inches in true width) containing appreciable chalcopryrite, pyrite and pyrrhotite in addition to minor amounts of visible gold. Minor to appreciable sulphides were encountered in the alteration zones enveloping the veins, although in most cases they returned low values in gold. The following briefly summarizes the drill intersections (Table 3):

- M84-8
- drilled to a depth of 237 feet at an angle of -48° .
 - the down-dip extension of the No. 3 structure was obliterated by a diabase dyke.
 - the No. 2 vein was intersected at a depth of 45.0 - 45.8 feet and returned a gold value of .016 oz/ton.

Table 2

NO. 3 VEIN - CENTRAL PORTION

HOLE No.	LATITUDE	DEPARTURE	ELEVATION (ft)	AZIMUTH (°)	ANGLE (°)	HOLE STARTED	HOLE COMPLETED	DRILLED LENGTH (ft)	BETTER GRADE CORF INTERSECTIONS				
									FROM (ft)	TO (ft)	LENGTH (ft)	Au oz/ton	SLUDGE oz/ton/ft.
M84-8	29,388N	169,744E	9991.30	200	-48	24/6/84	26/6/84	237	43.0 77.5	44.0 78.0	1.0 0.5	.016 .014	
M84-9	29,389N	169,743E	9991.30	200	-65	26/6/84	27/6/84	120	88.0 90.0	90.0 92.0	2.0 2.0	.006 .048	87.0-97.0/.044
M84-10	29,349N	169,900E	9987.11	200	-61	3/7/84	5/7/84	317	262.7 263.7 264.7 267.0 269.0 272.0	263.7 264.7 267.0 269.0 272.0	1.0 1.0 2.3 2.0 3.0 1.5	.148) .146) .002) .002) .002) .722)	107.0-117.0/.184 1.129 10.8'
M84-11	29,350N	169,900E	9987.11	200	-75	5/7/84	8/7/84	388	135.0 304.0 305.5	135.6 305.5 305.7	0.6 1.5 0.2	.046) .058) .982)	1.167 297.0-307.0/.311 1.7' Visible Gold
M84-12	29,302N	169,959E	9973.77	200	-46	9/7/84	10/7/84	237	203.0 205.3 206.0	205.3 206.0 207.0	2.3 0.7 1.0	.002) .797) .058)	1.155 4.0'
M84-13	29,305N	169,960E	9973.77	200	-61	11/7/84	11/7/84	267	231.0 232.8 233.2	232.8 233.2 236.0	1.8 0.4 2.8	.006 .301 .002	
M84-14	29,265N	170,039E	9965.77	200	-46	12/7/84	17/7/84	267	78.0 191.0	79.0 192.0	1.0 1.0	.626 .496	Visible Gold
M84-15	29,274N	170,026E	9967.00	200	-61	18/7/84	20/7/84	267	194.0 215.0	194.7 216.0	0.7 1.0	.042 .060	

- M84-9
 - drilled to a depth of 120 feet at an angle of -65° .
 - the No. 2 vein was intersected at a depth of 70.3 - 71.6 feet assaying .008 oz/ton Au.
 - the hole was stopped in diabase.

- M84-10
 - this hole was drilled to a depth of 317.0 feet an an angle of -61° .
 - the No. 3 structure was intersected at a depth of 262.7 - 273.5 feet.
 - the intersected zone returned values of 0.129 oz/ton Au over 10.8 feet which includes a higher grade zone assaying .722 oz/ton Au over 1.5 feet.

- M84-11
 - drilled to a depth of 388.0 feet at an angle of -75° .
 - the No. 3 vein structure was intersected at a depth of 304.0 - 305.7 feet returning an assay of .167 over 1.7 feet including .982 over 0.2 feet.

- M84-12
 - drilled to a depth of 237.0 feet at an angle of -46° .
 - the No. 3 vein structure was intersected at a depth of 203.0 - 207.0 feet assaying 0.155 oz/ton Au across 4.0 feet, including .797 oz/ton Au over 0.7 feet.

- M84-13
 - drilled to a depth of 267.0 feet at an angle of -61° .
 - the No. 3 vein structure was intersected at a depth of 231.0 - 233.2 feet, assaying 0.060 oz/ton Au, including .301 over 0.4 feet.
 - an additional smokey quartz vein was intersected at 236.0 - 236.5 feet assaying .006 oz/ton Au.

- M84-14
 - drilled to a depth of 267.0 feet at an angle of -46° .
 - the No. 2 vein was intersected at a depth of 78.0 - 79.0 feet, returning an assay of 0.626 oz/ton Au over 1.0 feet.
 - the No. 3 vein structure was intersected at a depth of 191.0 - 192.0 feet assaying 0.496 oz/ton Au over 1.0 feet.

- M84-15
 - drilled to a depth of 267.0 feet at an angle of -61° .
 - the No. 3 vein structure was intersected at a depth of 215.0 - 216.0 feet assaying 0.060 oz/ton Au.

The recent drilling conducted on the central portion of the No. 3 vein has clearly indicated that the structure consists of a system of narrow, sub-

parallel veins following a structural linear. The veins dip to the north at an angle of -60 to -80° and may represent a stockwork-like system at depth. Intense, pervasive carbonatisation, chloritisation and silicification comprise alteration zones enveloping the quartz vein-shear zones.

The 1982 drilling combined with the most recent drilling have indicated a zone of mineralization which may be classified as a geological reserve. The parameters are a strike length of approximately 400 feet, a depth of 300 feet and a width of 4 feet. Based on the above the geological reserve as defined by the diamond drilling, is 40,000 tons grading 0.20 oz/ton Au over a 4 foot width and 30,000 tons grading 0.25 oz/ton Au if the in-situ width is reduced to 3 feet.

Western Portion - No. 3 Vein System (Watts Trenches)

A total of 1,357 feet of drilling comprising 7 holes were carried out on this section of the No. 3 vein system. These holes were intended to test the No. 3 vein at relatively shallow depths (70-80 feet vertically). This drilling was conducted beneath the Watts trenches which yielded chip sample assays of 0.49 oz/ton Au across an average sampling width of 3.1 feet along a strike length of 290.0 feet. Although the structure was intersected in all of the drillholes, only 2 of the holes returned significant results. They were as follows (Table 2):

- M84-4
 - drilled to a depth of 217.0 feet at an angle of -48° .
 - the No. 3 structure was intersected at a depth of 111.0 - 121.0 feet assaying 0.199 oz/ton Au, including a higher grade section assaying 0.828 oz/ton Au over 2.0 feet.
- M84-5
 - this hole was drilled to a depth of 217 feet at an angle of -67° .
 - the structure was intersected at a depth of 160.8 - 163.0 feet returning a value of .226 oz/ton Au, including a higher grade section assaying 0.968 oz/ton Au over 0.5 feet.

Table 3

NO. 3 VEIN - WEST PORTION

HOLE No.	LATITUDE	DEPARTURE	ELEVATION (ft)	AZIMUTH (°)	ANGLE (°)	HOLE STARTED	HOLE COMPLETED	DRILLED LENGTH (ft)	BETTER GRADE CORE INTERSECTIONS					
									FROM (ft)	TO (ft)	LENGTH (ft)	Au oz/ton	SLUDGE oz/ton/ft.	
M84-1	29,600	168,963E	9979.00	198	-49	6/6/84	8/6/84	215						
M84-2	29,623	168,918E	9979.19	197	-47	9/6/84	10/6/84	137	84.0	85.0	1.0	.006		
M84-3	29,647	168,873E	9979.20	197	-47	10/6/84	11/6/84	217	41.0	44.0	3.0	.034		
									44.0	47.0	3.0	.002		
									47.0	47.6	0.6	.598		
									112.5	115.5	3.0	.010		
M84-4	29,660	168,830E	9983.00	200	-48	12/6/84	13/6/84	217	110.0	113.0	2.0	.115)	107.0-117.0/.196	
									113.0	115.0	2.0	.002)	117.0-127.0/.322	
									115.0	117.0	2.0	.002)	127.0-137.0/.064	
									117.0	119.0	2.0	.046)	137.0-147.0/.150	
									119.0	121.0	2.0	.828)		
M84-5	29,665	168,836E	9983.00	198	-67	13/6/84	20/6/84	217	160.8	161.3	0.5	.968)	.226 137.0-147.0/.020	
									161.3	163.0	1.7	.008)	2.2 ¹ 147.0-157.0/.019	
M84-6	29,578	169,004E	9976.00	200	-48	21/6/84	21/6/84	137						
M84-7	29,553	169,051E	9976.19	200	-48	22/6/84	23/6/84	217	46.0	47.0	1.0	.026		
									66.5	67.5	1.0	.023		

No. 20 Zone

A total of 1,103 feet comprising 4 holes were drilled in the immediate vicinity of the No. 20 zone (Maps 5 & 6). The drilling was the first Murgold had conducted on the showing, although Kidd Resources have drilled significant footage on the adjacent Kidd No. 2 zone since its discovery back in 1981.

The drilling was carried out beneath a trench which had returned values of 0.40 oz/ton Au across 30.0 feet and an adjacent sample which assayed .201 oz/ton Au over 60.0 feet. The results of the drilling are summarized below (Table 4).

- M84-16
- drilled to a depth of 327 feet at an angle of -45° .
 - a zone of significant sulphide mineralization was intersected at a depth of 148.0 - 167.0 feet assaying .003 oz/ton Au across 19.0 feet.
 - a narrower hanging wall zone was cut at a depth of 217.0 - 221.0 feet returning a value of .123 over 4.0 feet.
- M84-17
- drilled to depth of 417.0 feet at an angle of -62° , beneath M84-16.
 - a zone of significant sulphide mineralization was intersected between 332.0 - 370.0 feet (290-330 feet vertically). The zone assays .237 oz/ton Au over 38.0 feet, and includes 2 higher grade sections which assay .334 over 9.0 feet and .919 over 6.3 feet.
 - the estimated true width of the zone is 12 feet.
 - sludge samples obtained from the interval of 327 - 367 feet assayed 0.285 oz/ton Au.
- M84-18
- this hole was drilled to a depth of 172.0 feet at an angle of -46° .
 - the main sulphide zone was out at a depth of 30.5 - 65.2 feet (35.0 - 60.0 feet vertically).
 - the zone as a whole assays .205 oz/ton Au over 34.7 feet and includes a higher grade zone which assays .510 oz/ton Au over 13.0 feet.
 - sludge samples were not obtained from this hole due to the fractured nature of the ground near surface.

NO. 20 ZONE

HOLE NO.	LATITUDE	DEPARTURE	ELEVATION (ft)	AZIMUTH (°)	ANGLE (°)	HOLE STARTED	HOLE COMPLETED	DRILLED LENGTH (ft)	BETTER GRADE CORF INTERSECTIONS				
									FROM (ft)	TO (ft)	LENGTH (ft)	Au oz/ton	SLUDGE oz/ton/ft.
MB4-16				188	-45	23/7/84	24/7/84	327	217.0	219.0	2.0	.120)	.122
									219.0	221.0	2.0	.124)	4.0'
									291.0	293.0	2.0	.010)	
									293.0	295.0	2.0	.075)	
									295.0	297.0	2.0	.062)	.032
									297.0	299.0	2.0	.006)	10.0'
									299.0	301.0	2.0	.005)	
MB4-17				188	-62	25/7/84	31/7/84	417	332.0	333.0	1.0	.059)	327-337/.068
									333.0	335.0	2.0	.279)	337-347/.500
									335.0	337.0	2.0	.029)	347-357/.130
									337.0	339.0	2.0	.241)	357-367/.440
									339.0	341.0	2.0	.970)	367-377/.130
									341.0	343.0	2.0	.004)	377-387/.123
									343.0	345.0	2.0	.002)	387-397/.094
									345.0	347.0	2.0	.025)	
									347.0	349.0	2.0	.001)	.237
									349.0	351.0	2.0	.001)	38.0'
									351.0	353.0	2.0	.017)	397-407/.086
									353.0	355.7	2.7	.001)	407-417/.084
									355.7	358.0	2.3	1.28)	
									358.0	359.0	1.0	.144)	
									359.0	362.0	3.0	.900)	
									362.0	365.0	3.0	.004)	
									365.0	367.5	2.5	.001)	
367.5	370.0	2.5	.004)										
MB4-18				008	-46	1/8/84	2/8/84	172	30.5	31.5	1.0	.010)	
									31.5	33.0	1.5	.001)	
									33.0	35.5	2.5	.003)	
									35.5	38.0	2.5	2.56)	
									38.0	41.0	3.0	.043)	
									41.0	43.5	2.5	.003)	
									43.5	44.5	1.0	.05)	
									44.5	47.0	2.5	.004)	.205
									47.0	48.5	1.5	.033)	34.7'
									48.5	50.5	2.0	.001)	
									50.5	52.5	2.0	.001)	
									52.5	54.5	2.0	.003)	
									54.5	56.0	1.5	.190)	
									56.0	58.0	2.0	.003)	
									58.0	61.0	3.0	.001)	
MB4-19				014	-45	3/8/84	4/8/84	187	61.0	63.7	2.7	.007)	
									65.7	65.2	1.5	.088)	
									95.5	98.0	2.5	.016)	.010
									98.0	100.0	2.0	.001)	4.5'
													17-27/.008
													27-37/.018
													37-47/.060
													47-57/.076
													57-67/.042
													67-77/.122
				77-87/.060									
				87-97/.060									
				97-107/.136									
				107-117/.250									
				117-127/.126									
				127-137/.152									
				137-147/.558									
				147-157/.760									
				157-167/.086									
				167-177/.082									
				177-187/.060									

M84-19

- drilled to a depth of 187.0 feet at an angle of -45° .
- a sulphide zone of considerably narrower width than the previous holes was intersected at a depth of 95.5 - 100.0 feet assaying .010 over 4.5 feet.
- sludge samples obtained indicate an interval assaying 0.330 oz/ton Au from 97.0 - 157.0 feet.

The limited drilling that has been conducted on the No. 20 zone area indicates that the main zone of sulphide mineralization dips to the south at approximately $75-80^{\circ}$. Based on the drilling carried out by Kidd Resources in earlier years and that conducted by Murgold recently, there is some suggestion of an easterly rake to the oreshoot (Map 6). In addition to the main sulphide zone, the diamond drilling indicates that there are 2 somewhat narrower sulphide horizons present in the hanging wall, which contain significant gold values. It is apparent that the higher grade sections associated with the main zone are closely associated with shearing and quartz veining. There is however, appreciable disseminated sulphide present in the wallrocks which contain in some cases, significant values in gold.

Geophysics

A geophysical compilation and review of past geophysics conducted on the Murgold property and the adjacent claims held by Kidd Resources Ltd. was recently undertaken by F.L. Jagodits of Excalibur International Consultants Ltd. The purpose of the compilation was threefold; a) to search for common geophysical signatures over known zones of mineralization, b) the establishment of specifications for further geophysical work and c) to assist in establishing additional drill targets.

The surveys that have been carried out on the claims to date include
1) airborne electromagnetics, VLF-EM and magnetic surveys and 2) ground VLF-EM 16,

magnetometer and limited induced polarization surveys.

The review clearly indicates that the narrow quartz veins such as the No. 1 and No. 3 vein systems do not elicit a geophysical response. The geophysics did however, respond very favourably to the second style of gold mineralization present on the property, that of gold associated with semi-massive and disseminated sulphides proximal to shearing. This style of mineralization is characteristic of the No. 20 showing, the Beaverbridge showing, in addition to the Kidd No. 1 and No. 2 zones.

The airborne VLF-EM responses dominantly strike in an east-west and west-northwest and east-northeast direction. Examination of the maps indicate that the No. 20 zone and the adjacent Kidd No. 2 zone have associated VLF-EM responses. The airborne magnetics readily defined the north-south and northwest striking younger diabase dykes in addition to northeast and northwest striking regional faults and shear zones.

Murgold conducted ground VLF-EM 16 surveys over the entire claim block in 1982. The results of the survey delineated a number of prominent east-west trending conductive zones, subparalleling the trend of the stratigraphy and also the trend of known zones of mineralization (Map 7). The results clearly show the association between the No. 20 zone and the VLF-EM 16 responses. Of further significance is that the trend of the anomaly defined by the filtered data extends for an additional 2,000 feet in an easterly direction. In addition, there are a number of sub-parallel VLF anomalies in the locale and also in the Weeduck Lake area which require follow-up.

Murgold conducted ground magnetometer surveys in conjunction with the VLF-EM 16 surveys. The results of the survey indicate a rapidly varying field, with anomalous trends being generally east-west, which is consistent with the known geology. The magnetics also defines the position of two sets of diabase

dykes trending in a north-south direction and also at a west-northwest and east-southeast direction.

Kidd Resources Ltd. conducted a detailed I.P. survey over the Kidd No. 1 zone and what is referred to as the North Kidd No. 1 zone. The results of the survey indicate that the zones of highest chargeability are very closely related to the location of the showing itself. Additionally, a number of prominent east-west trending EM-16 anomalies delineated by a concurrent VLF survey were noted to correlate fairly closely with the location of the mineralization and the areas of highest chargeability. It appears that the location of coincident VLF anomalies, delineating conductive structures such as shears and faults and locally enhanced by sulphide mineralization, with that of I.P. anomalies, which are responding to disseminated to semi-massive sulphides, constitute the best exploration targets as defined by the geophysics.

Conclusions & Recommendations

The additional fill-in drilling along the central portion of the No. 3 vein system yielded encouraging results. The structure was intersected in most of the holes to a maximum vertical depth of approximately 310 feet. Past drilling (1982) in conjunction with the 1984 drilling define a 400 foot strike length, consisting of a vein system averaging 1.04 oz/ton Au over a true width of 0.7 feet.

Initial test drilling on the No. 20 zone proved to be highly successful. The drill results confirm the existence of significant gold mineralization down to a depth of 330 feet vertically, over a true width of approximately 12 feet. The main zone is still open along strike to the east and additionally at depth. Hole 84-18 encountered significant mineralization at a depth of approximately 50 feet confirming the existence of open pit material. Additional diamond drilling

is warranted, however this should not be carried out until detailed geophysical surveys are conducted over the showing.

Geophysical methods have responded favourably in surveys conducted across the No. 20 zone. Geophysical work conducted by Kidd Resources and Murgold indicate an excellent correlation between the location of VLF-EM 16 anomalies with the Kidd No's 1 and 2 and the No. 20 zone. The prime targets for gold occurrences are those areas where VLF anomalies are coincident with I.P. anomalies.

It is therefore recommended that detailed VLF-EM 16 and magnetometer surveys be conducted in the areas of Weeduck Lake and the No. 20 zone. Selected induced polarization surveys should be carried out in favourable targets delineated by the magnetic and EM 16 surveys, following initial I.P. orientation surveys over the No. 20 showing. Following spring break-up and the spring thaw, detailed geological mapping should be undertaken on the above two areas to supplement the geophysics and also to obtain a better understanding of the structural controls governing the mineralization. It is also recommended that further diamond drilling on the No. 20 zone and in the Weeduck Lake area be postponed until the geophysical results have been examined and scrutinized by a professional geophysicist. At that stage, selective drill targets can be made based on the newly acquired geophysical data in conjunction with previous geological and geophysical results obtained in these two key areas. Favourable results will warrant bulldozer stripping and diamond drilling.

Cost Estimate

For a program of approximate 6 week duration:

Linecutting	\$ 5,000
VLF EM-16 & Magnetometer Surveys	5,000
I.P. Survey	30,000
Personnel & Administrative Costs	10,000
Camp Support Costs	5,000
Consulting & Engineering	5,000
Report & Map Preparation	<u>5,000</u>
Subtotal	65,000
Plus contingencies @ 10%	<u>6,500</u>
Total	<u>\$71,500</u>

Toronto, Ontario
January 1985

Donald Hoy
Donald Hoy, B.Sc.
Project Geologist

References

- Bo ssoneault, J.R., 1984. Geological Report on Properties of Murgold Resources Inc. including the No. 20 Zone, In Northern Part of Chester Township, Porcupine Mining Division.
- Hil l, Goettler, De Laporte Ltd., 1983. Report on Murgold Resources Inc. Property, Chester, Benneweis & St. Louis Townships, Porcupine Mining Division, Ontario.
- Ho , D., 1983. Report on the 1983 Exploration Program, Murgold Resources Inc. Property, Chester, Benneweis & St. Louis Townships, Porcupine Mining Division, Ontario.
- Ja odits, F.L., 1984. Notes on the Compilation of Airborne & Ground Geophysical Surveys, Part of Chester Township, Ontario.
- La rd, H.C., 1932. Geology of the Three Duck Lakes Area, D.D.M. Volume 41, Part 3.
- No minex Ltd., 1981. Report on Fraser Filtered Data, Murgold Resources Inc., Gogama, Ontario.
- Si agusa, G.M., 1981. Precambrian Geology of Chester and Yeo Townships and parts of Neville and Potier Townships, Sudbury District, Ontario Geological Survey Preliminary Map P. 2449, Geological Series.
- Wa ts, Griffis & McOuat, 1983. The Chester, Benneweis & St. Louis Townships Prospect of Murgold Resources Inc., in Porcupine Mining District at Sudbury, Ontario.

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THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES): DDH #1 84-17 to 84-19
→ See Chester Tp D.D.R #32

DIAMOND DRILL RECORD

PROPERTY Castro, Benavides + St. Louis Trenches HOLE No. 11-84-1

SHEET NUMBER 1 of 3 SECTION FROM Z+189 TO WNV STARTED June 8, 1981
 LATITUDE Z9,600N DATUM Watts Trenches Local COMPLETED June 8, 1981
 DEPARTURE 168,963# BEARING 198° ULTIMATE DEPTH 215'
 ELEVATION 9979.00' DIP -49° PROPOSED DEPTH 215'

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 10	Casing				
10 - 50	Migmatite; moderate to intensely altered zone, appears to be injection of intrusive into basic chlorite schists, variable texture from fine to coarse grained, massive to foliated. Intrusive phases appear to be relatively unaltered dioritic quartz diorite, containing disseminated py + cpf - finely disseminated py + cpf throughout in addition to thin seams of sulphide material. @ 75'; thin seam of spf @ 70' to c.d.	24001	17.0-18.0	1.0	Trace
	@ 24.0-26.0'; fine grained chlorite phase, relatively sharp contacts	24002	42.0-47.0	5.0	.002
	@ 32.0-32.5'; small fault zone	24003	47.0-52.0	5.0	Trace
50 - 55	Quartz carbonate vein; light gray to white, contains abundant chlorite, gradational contacts @ ~ 60° to c.d.	24004	52.0-57.0	5.0	Trace
	finely disseminated pl, cpf + po, calcareous, ^{siliceous} actinolite.	24005	57.0-57.5	0.5	.006
55 - 60	Alteration zone; fine grained, chlorite siliceous-calcareous alteration zone, numerous crosscutting calcite veins, prominent quartz veins, contains disseminated py + cpf (~1%), gradational contacts with upper + lower units	24006	57.5-60.0	2.5'	Trace
60 - 70	Diorite; relatively unaltered, medium to coarse grained phases are present. bluish quartz, eps, small siliceous alteration zones are present locally, traces of disseminated py + cpf present locally.	24007	60.0-65.0	5.0	Trace
		24008	65.0-70.0	5.0	Trace
		24009	70.0-75.0	5.0	Trace
		24010	75.0-80.0	5.0	Trace

No sludge samples taken

DRILLED BY Triangle Diamond Drilling

SIGNED [Signature] Donald H. B.S.

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER: 2 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
170 - 160	<p>Siliceous alteration zone; very siliceous, calcareous zone, prominent foliation, numerous calcite veins & gashes, large quartz veins, disseminated & stringer py & cpz present locally, gradational upper & lower contacts, locally chloritic @ 97.0; thin stringer of cpz @ 102.0; 2" seam of stringer cpz and patchy calcite. @ 70' to core axis.</p> <p>Foliation; @ 102.0' - 70', @ 117.0': 70-75°, @ 122.0': 75-80° @ 92.0-94.5': pink granitic dyke, very coarse grained over feldspar, patchy pale quartz, irregular upper & lower contacts</p> <p>from 109 - 126.0; more siliceous, greater degree of alteration well developed foliation at high angle to core, appreciate thin stringer of pt. py & cpz</p>	24011	97.0-102.0	5.0	.002
		24012	102.0-107.0	5.0	.002
		24013	107.0-112.0	5.0	Trace
		24014	112.0-117.0	5.0	.002
		24015	117.0-122.0	5.0	Trace
		24016	122.0-126.0	4.0	Trace
176.0 - 160.0	<p>Aegirinite; extensive irregular alteration zone, coarse grained quartz, disseminating fine to medium grained mt. volcanic alteration; irregular & accumulation of units are cordite gradational contacts; large bluish quartz veins, moderate to intense carbonation, prominent, locally brittle locally chlorite - epidote present locally, numerous cross cutting calcite veins</p>				

DRILLED BY

SIGNED

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 3 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
160.0 - 180.0	<i>Siliceous altered zone: fine to medium grained, prominent foliation, pale quartz, upper, intense carbonization, foliation from 50-60° to C.A., minor to appreciable stringers & disseminations of pyrite & cpx. @ 175.0: appreciable stringers cpx and py.</i>	24017	160-165.0	5.0	Trace
		24018	165.0-170.0	5.0	Trace
		24019	170. - 175.0	5.0	Trace
		24020	175.0 - 180.0	5.0	Trace
180.0 - 202.0	<i>Migmatite as above: amalgamated & ressembling units of medium grained darkish quartzite with intermediate intermediate volcanic(?) moderate carbonization & silicification minor disseminated sulphides</i>				
202.0 - 204.0	<i>Quartz vein zone: consists of 3 irregularly milky white quartz veins with country rock fragments, upper contact sharp @ 15-20° to C.A., lower contact irregular country rock fragments calcareous, minor disseminated pyrite & pyrobitite</i>	24021	202.0-204.0	2.0	Trace
204.0 - 207.5	<i>Migmatite: as above</i>				
207.5 - 215.0	<i>Albite, light to medium grey, relatively small scale & massive, minor disseminated pyrite throughout @ 207.6: thin seam of chalcopyrite.</i>				
	END OF HOLE @ 215.0'				

DRILLED BY SIGNED

DIAMOND DRILL RECORD

PROPERTY Chester, Bernice & St. Louis Townships HOLE No. M-84-2

SHEET NUMBER 1 of 3 SECTION FROM 21 237 TO WNW STARTED June 7, 1984
 LATITUDE 29.623 N DATUM Watts Trenches Local COMPLETED June 10, 1984
 DEPARTURE 168, 918 E BEARING 197° ULTIMATE DEPTH 137'
 ELEVATION 9979.19' DIP -47° PROPOSED DEPTH 130'

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 9.0'	Craving				
9.0 - 44.0'	Migmatite Zone: light to dark grey, alteration zone of assimilated quartz diorite intrusions and fine medium grained intermediate volcanic(?) andesite; brecciated intervals contains trace to minor sulphides, pale blue grey eyes. from 17.0-29.0'; brecciated interval, subrounded to angular fragments of int. basic volcanic content with m.-c.g. quartz diorite from 35.5 - ; very fine grained int. basic volcanic, relatively unaltered & massive.				
44.0 - 46.0'	Quartz Diorite - Bronzodiorite; light to medium grey, speckled appearance, equigranular & unaltered, very sharp upper and lower contacts @ 15-20° respectively				
46.0 - 75.0'	Altered Zone; fine to medium grained, light to moderate foliation, siliceous chloritized - carbonatized zone is a probable alteration product of intrusion and country rock volcanic, very little remnant textures retained, numerous hairline calcite veins and gashes in all orientations, quartz eyes are prominent locally, trace to minor disseminated Fe, Pt, As and small stringers, chlorite rich intervals from 67.0-75.0'; has altered, remnant texture of medium grained intrusions retained, sharp lower contact	24022 24023 24024 24025 24026 24027	48.0-52.0 52.0-57.0 57.0-67.0 62.0-67.0 67.0-72.0 72.0-75.0	4.0 5.0 5.0 5.0 5.0 5.0	Trace Trace Trace Trace Trace Trace

DRILLED BY Thorge Diamond Drilling

+ Sludge Sample Collector
 SIGNED Don Hay Donald Hay B.S.

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 2 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
75.0 - 93.5	Microcline - monoclinal; light to medium grey, medium to coarse grained & massive, contains large fragments of fine-grained biotite rich rock as inclusions, trace to minor disseminated pyrite & chalcopyrite, sharp lower contact @ 70-80' to C.A. @ 76.5'; small 1/2" grey vein @ 40' to C.A. appreciable pyrite & cpy @ 84.5'; thin 1.5" grt vein @ 40-45' to C.A., contains abundant patchy pyrite, pyrite & cpy	24028	84.0-86.0	1.0	.006
93.5 - 106.0	Silicious - Carbonatized chlorite altered rock; largely fine grained medium grey to green, patchy quartz & numerous cross-cutting calcite veins and quartz. Talc & carbonate veins largely trend @ 60-70' to C.A. @ 94.0'; small 1/2" quartz vein at 90' to C.A. contains abundant cpy, pyrite & po. from 105.0-106.0; zone becoming more silicious approaching vein appreciable disseminated cpy	24029 24030	96.0-101.0 101.0-106.0	5.0 5.0	.006 Trace
106.0 - 117.5	Vein Zone; consists largely of white quartz, with abundant calcite, pyrite, prominent dots of chlorite, upper & lower contacts are sharp but irregular, trace to minor cpy, calcite appreciated at about 50' to C.A.	24031	106.0-117.5	1.5	.002
107.5 - 109.0	Silicious - Carbonatized chlorite zone; as above @ 107.5 - 109.0; highly silicified and heavy fracturing	24032 24033	107.5 - 112.0 112.0 - 117.0	4.5 5.0	.002 .002

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 3 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$																																			
	well developed blanda @ 45-50° to Cor Axis, porous carbonate ventols trending at 40-60° to C.A., trace to minor disseminated sulphide, highly carbonatized @ 126.0; calc. - quartz stringers (zone about 2") with associated stringer py and pf																																							
130.0 - 170.0	Almond Drift - Gabbro; largely medium grained and massive, moderate to intense carbonatization + chloritization, abundant calcite veins and slates, black quartz egs																																							
	END OF AGE @ 137.0'																																							
	<u>Sludge Samples</u>																																							
	<table style="width: 100%; border: none;"> <tr> <td style="border: none;"><u>Interval</u></td> <td style="border: none;"><u>Au (oz/ton)</u></td> <td style="border: none;"><u>Interval</u></td> <td style="border: none;"><u>Au (oz/ton)</u></td> </tr> <tr> <td style="border: none;">17.0 - 27.0</td> <td style="border: none;">.004</td> <td style="border: none;">97.0 - 107.0</td> <td style="border: none;">.006</td> </tr> <tr> <td style="border: none;">27.0 - 37.0</td> <td style="border: none;">.002</td> <td style="border: none;">107.0 - 117.0</td> <td style="border: none;">.002</td> </tr> <tr> <td style="border: none;">37.0 - 47.0</td> <td style="border: none;">Trace</td> <td style="border: none;">117.0 - 127.0</td> <td style="border: none;">.004</td> </tr> <tr> <td style="border: none;">47.0 - 57.0</td> <td style="border: none;">.002</td> <td style="border: none;">127.0 - 137.0</td> <td style="border: none;">.002</td> </tr> <tr> <td style="border: none;">57.0 - 67.0</td> <td style="border: none;">.002</td> <td></td> <td></td> </tr> <tr> <td style="border: none;">67.0 - 77.0</td> <td style="border: none;">.002</td> <td></td> <td></td> </tr> <tr> <td style="border: none;">77.0 - 87.0</td> <td style="border: none;">.002</td> <td></td> <td></td> </tr> <tr> <td style="border: none;">87.0 - 97.0</td> <td style="border: none;">.002</td> <td></td> <td></td> </tr> </table>	<u>Interval</u>	<u>Au (oz/ton)</u>	<u>Interval</u>	<u>Au (oz/ton)</u>	17.0 - 27.0	.004	97.0 - 107.0	.006	27.0 - 37.0	.002	107.0 - 117.0	.002	37.0 - 47.0	Trace	117.0 - 127.0	.004	47.0 - 57.0	.002	127.0 - 137.0	.002	57.0 - 67.0	.002			67.0 - 77.0	.002			77.0 - 87.0	.002			87.0 - 97.0	.002					
<u>Interval</u>	<u>Au (oz/ton)</u>	<u>Interval</u>	<u>Au (oz/ton)</u>																																					
17.0 - 27.0	.004	97.0 - 107.0	.006																																					
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57.0 - 67.0	.002																																							
67.0 - 77.0	.002																																							
77.0 - 87.0	.002																																							
87.0 - 97.0	.002																																							

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DIAMOND DRILL RECORD

PROPERTY: Dexter, Bonnois & St. Louis Townships HOLE No. M 84-3

SHEET NUMBER: 1 of 4 SECTION FROM Z1288 TO WNW STARTED June 10, 1984
 LATITUDE 29, 647 N DATUM Watts Trenches Local COMPLETED June 11, 1984
 DEPARTURE 168, 873 E BEARING 199° ULTIMATE DEPTH 217'
 ELEVATION 9979.20' DIP -47' PROPOSED DEPTH 210'

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge Minerals
0 - 7.0'	Coarse					
7.0 - 26.5'	Migmatite: Intrusive injection - alteration zone with what appears to be an intermediate volcanic (andesite?), remnant textures from the volcanic are still retained, moderate to strong silicification, some carbonatization, quartz veins intrusives appear as irregular & subrounded patches, hematite white veins are present locally, brecciated embayments 7-13.0': moderate to heavy fine-grained, trace sulphides.					7.0-17.0'
26.5 - 47.0'	Andesite: Basalt: Metasediment: fine to medium grained, somewhat altered, slope to moderate silicification & carbonatization 26.5 - 37.0': coarse grained phase, small patches of quartz & carbonate veins. 37.0 - 47.0': fine grained phase, more chloritic than above, numerous crosscutting carbonate veins present					17.0-21.0' 27.0-37.0'
47.0 - 47.6'	Vein Zone: Brecciated Quartz-carbonate vein (40% Qtz, 60% calcite) with acicular veins of actinolite, some chlorite, contains disseminated & stringer pyrite & minor chalcopyrite, relatively sharp upper & lower contacts @ 50-60°	24034 24035 24036 24037 24038	41.0-44.0 44.0-47.0 47.0-47.6 47.6-50.0 50.0-53.0	3.0 3.0 0.6 2.4 3.0	.034 .002 .598 .002 .002	
47.6 - 61.0'	Migmatite: similar to 7.0-26.5' interval, intrusive injection - alteration zone, patchy quartz & calcite.					

Some sludge samples to 31'; then circulation lost

DRILLED BY: Travis Diamond Drilling

SIGNED: Don Hay Donald R. Bize

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 2 of 4 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	<p>varying grade, sharp contact with lower unit at 70° to C.A. @ 48.0' small 1/4" quartz string & associated pyrite @ 50' to C.A.</p>				
61.0 - 81.5	<p>Alaskite - Bronckville; light to medium grey, largely medium grained, equiaxial and massive, unaltered. @ 72.0-79.0; heavily fractured internal, trace disseminated sulphide</p>				
86.5 - 112.5	<p>Alaskite - Bronckville; largely medium grained, kaolinitized of 1/2-gram width, moderate to intense carbonization, relatively sharp lower contact at 30-40' to C.A.</p>				
112.5 - 118.5	<p>Alta-tuff; buffaceous tuff with prominent foliation at 40-50' to C.A., calcareous with calcite stringers, brecciated locally, appears also to display a flow texture</p>	24039	112.5-118.5	3.0	.010
	<p>112.5-144.0; lightly brecciated with calcite breccia filling @ 144.0; pale grey pyrite.</p>	24040	115.5-118.5	3.0	.002
	<p>foliation; @ 115'; 50° @ 116'; 50-55°</p>				
	<p>116.5-118.0; small interval of altered alaskite as above.</p>				
118.5 - 155	<p>Alaskite - Dipite; dark grey to grey, largely medium grained locally brecciated, weak foliation developed locally, moderate to intense carbonization, numerous crosscutting white veins</p>				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 3 of 4 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	@ 136.5: small seam of pyrite & pyrrhotite 70-80° to C.A.				
	@ 142.0: small seam (1/4") pyrite @ 90° to C.A.				
	@ 147.0 - ; coarse grained phase, large splashes of quartz gradational contact with the underlying unit				
155.0	161.0 Migmatite; intrusive injected zone of acidic intrusion amalgamating & assimilating with altered dense intrusion highly brecciated, subrounded debris/remnants of acidic intrusion				
	@ 160.6: appreciable splashes of opt. py & po				
161.0	112.0 Vein Zone: Brecciated and gally quartz with country rock inclusions (60% quartz, 40% country rock), chlorite. upper contact relatively sharp at 90°. lower contact very irregular, trace chloropyrite and pyrite	2401	160.0-162.0	2.0	.002
162.0	172.0 Quartz-carbonate - almost albite zone; moderate to intense alteration, numerous calcite veins & gangues, gradational contact with the underlying zone.				
172.0	217.0 Chlorite - bromolite; medium grey, largely medium grained with finer grained sugary phase. @ 176.0: small 3/4" quartz vein @ 30-40° to C.A. from 174.0-186.0: fine grained phase. @ 190.0: 2" milky white quartz vein, no visible mineralogical				

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DIAMOND DRILL RECORD

PROPERTY Chester, Benneville & St. Louis Townships HOLE No. 484-1

SHEET NUMBER 1 of 4 SECTION FROM Z+331 TO WNW STARTED June 12, 1981
 LATITUDE 29,660N DATUM Watts Trenches Local COMPLETED June 13, 1981
 DEPARTURE 168,830 E BEARING 200° ULTIMATE DEPTH 217'
 ELEVATION 9983.00' DIP -48° PROPOSED DEPTH _____

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge Intervals
0-7.0	Casing					
7.0-15.0	Diorite-Quartz Diorite; medium to coarse grained, equi-granular & massive, unaltered @ 10.0'; six' of heavy fracturing from 10.0-12.0'; fine grained quartz-diorite phase sharp lower contact at 30-40° to C.A.					7.0-17.0
15.0-15.5	Migmatite; Intrusive injection zone, intrusion is a medium to coarse grained quartz diorite, other rock type is a fine grained mafic volcanic (andesite-basaltic?) diorite is in form of patches and remnants of each rock type with gradational transitional contacts, numerous small granite dykes intrude the unit at several levels @ 30-50' to C.A. zone is highly brecciated.					17.0-27.0 27.0-57.0 57.0-47.0
41.5-41.5'	@ 30.5'; small seam (1/4-1/2") of pyrite, pyrrhotite Diorite; black, speckled appearance, largely medium to coarse grained, massive, relatively unaltered, though small seams are chloritized & carbonatized from 41.0-52.0'; fine grained, atypical carbonatized alteration zone, numerous baritic calcite veins, moderate to pronounced stringers & discontinuous pyrrhotite, transitional contacts with the underlying units, zone is highly chlorite	Z+412	49.0-52.0	3.0	.002	47.0-57.0 57.0-67.0

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 294 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge (ppm) / 5
67.5 - 87.0	Quartz - Silicious - Carbonate - Chlorite Alteration Zone; dark green to grey, fine to medium grained with a faint to moderate bluish developed locally, intense carbonatization, prominent calcite veins & streaks, perovskite chlorite & stromeyerite locally, muscovite & highly altered volcanic(?) matrix disseminated & stringers, feldspar, large bluish quartz crystals present locally. @ 71.5": small fold, fold axes @ 70° to C.A. also foliated @ 70°					(80-77.0) 77.0-87.0
89.0 - 97.0	Migmatite: Intrusive system zone as described above, quartz, diorite intrusion and what appears to be an intermediate to basic metamorphic, carbonatized numerous calcite veins & streaks. @ 92.0": small quartz vein @ 50-60° to C.A.					0.10-77.0
99.0 - 108.5	Silicious - Carbonate - Chlorite Alteration Zone; as per 67.5 - 89.0 interval above, has the appearance of a basic metamorphic rock, (Calcibasalt?), highly carbonatized, prominent patches of quartz, disseminated carbonate & quartz veins, weak foliation developed @ 50° to C.A. @ 101.5": 2' quartz-calcite vein @ 40-50° to C.A. not visible unconformity trace @ 107 - 108.5: foliation becoming more pronounced @ 50-60° to C.A.	24043 24044 24045	99.0-102.0 102.0-105.0 105.0-108.5	3.0 3.0 5.5	.002 .002 .002	77.0-107.0

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DIAMOND DRILL RECORD

PROPERTY _____

HOLE No. _____

SHEET NUMBER: 3 of 4 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge intervals
1085-120	Shaded Alk. tuffaceous Unit; foliated, banded, schistose appearance, calcareous and chlorite banding is evident, streaked with abundant patches of quartz & irregular shaped var, appreciable sulphide mineralization as patches, stringers & dissemination of pyrite - pyrrhotite, chalcopyrite & minor galena, mineralization appears to be related to the siliceous portion of the zone & the quartz veinings. 1085-109.0'; siliceous - carbonate pattern with appreciable pot py. @ 70' to CA.	24046	108.5-111.0	2.5	.002	107.0-117.0
		24047	111.0-113.0	2.0	.115	
		24048	113.0-115.0	2.0	.002	
		24049	115.0-117.0	2.0	.002	
		24050	117.0-119.0	2.0	.046	
		24051	119.0-121.8	2.0	.828	
	111-112'; Siliceous - carbonatized zone with appreciable opt. pot py @ 117.0'; stringer & patchy opt and py associated with patchy quartz @ 111-119.5'; irregular smoky quartz var @ 70' to CA. abundant py and opt foliation; @ 108'; 70-75', @ 111'; 50-55', @ 112'; 60' @ 117'; 60-65'					
	horizontal lower contact, upper contact sharp @ 70' to CA.					
121.0-26.5	Silica - carbonate - chlorite Alkaline zone; as described above @ 99.0-108.5'; carbonatized with patchy quartz, streaked with numerous carbonate veinlets, trace to moderate disseminated sulphide.	24052	121.0-124.0	3.0	.006	117.0-127.0
		24053	124.0-126.5	2.5	.002	

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 4 of 4 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge intervals (ft)	
126.5 - 173.6	Diabase, dark grey to grey, speckled appearance, largely medium grained with fine grained altered phase present locally, silicified in places with patchy quartz & large quartz eyes, crystals of quartz visible present @ 138.3': small 1/2" qty. mica @ 55-65' with chloropyrite from 145.0 - 146.5': fine grained altered phase, silicified and chlorite, prominent carbonaceous, @ 145.3': small (2") quartz with some chlorite with qtz po' of from 148.0 - 152.0': fine grained chlorite phase, resembles a breccia volcanic trace to minor disseminated sulphide & barite calcite veinlets prominent. @ 169.0: heavily fractured lower contact is sharp @ 50-55', last 2 feet of natural chlorite and silicified, disseminated qtz.					127.0 - 137.0	
							137.0 - 147.0
							147.0 - 157.0
							157.0 - 167.0
			24054	138.0-139.0	1.0	.008	
			24055	145.0-146.5	1.5	.024	
			24056	148.0-150.0	7.0	.008	
		24057	150.0-152.0	2.0	.002		
173.0 - 217.0	@ 169.0: heavily fractured lower contact is sharp @ 50-55', last 2 feet of natural chlorite and silicified, disseminated qtz. Altered, light to medium grey, largely medium grained and massive, largely unaltered although altered phases are present locally, trace disseminated qtz - altered phase from clean across chloropyrite of H-spec					167.0 - 177.0	
						177.0 - 187.0	
						187.0 - 197.0	
						197.0 - 207.0	
						207.0 - 217.0	
	END OF HOLE @ 217.0'						

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DIAMOND DRILL RECORD

PROPERTY: MURKIN RESOURCES INC. - CHESTER BARNWELL ST. LOUIS HOLE No. M84-5
70 HIGHS

SHEET NUMBER 1 of 4 SECTION FROM Z1331 TO WNW STARTED June 13, 1984
 LATITUDE 29.665°N DATUM Notts Ver Local COMPLETED June 20, 1984
 DEPARTURE 168, 836 E BEARING 190° ULTIMATE DEPTH 217'
 ELEVATION 9983.00' DIP -67° PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	sl. Intervals
0 - 5.6	Casing					
5.0 - 25.6	Diomite, fine to very coarse grained equivalents, relatively unaltered, massive & equigranular, biotite-chlorite rich intervals are present. from 5.0-20.0': very coarse grained, trace to minor pyrite @ 7.5': fractured interval from 20.0-25.6; largely medium grained, sharp lower contact @ 20' to core appo					17.0 - 27.0'
25.6 - 37.0	Quartz Diomite; fine to coarse grained, light grey to white speckled appearance, largely massive & equigranular, minor patchy quartz @ 27.6': thin (1/2") seam of chloropite & pyrochlore gradational lower contact with minor disseminated py. po a. py associated with contact.	24058	27.0-28.0	1.0'	.002	27.0 - 37.0'
37.0 - 70.0	Diomite; similar to 5.0-25.6' interval, largely medium grained, massive & equigranular, prominent bluish-coloured quartz also introduced, minor injections of quartz-diomite present as small dykes. from 39.0-40.0': small unit of coarse grained quartz diomite, sharp contacts @ 57.0': small (3/4") quartz vein @ 50' to C.H., no visible mineralization					37.0 - 47.0 47.0 - 57.0 57.0 - 67.0

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DIAMOND DRILL RECORD

PROPERTY _____

HOLE No. _____

SHEET NUMBER _____

2 of 4

SECTION FROM _____ TO _____

STARTED _____

LATITUDE _____

DATUM _____

COMPLETED _____

DEPARTURE _____

BEARING _____

ULTIMATE DEPTH _____

ELEVATION _____

DIP _____

PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge Intervals
	from 59.0-64.0'; prominent coarse grained quartz, deinite - granodiorite dykes @ 20-40° to C.A., minor deinitic intervals. @ 63.0'; small slip seam with minor porphy.					
70.0-81.0'	relatively sharp lower contact @ 5-10' to C.A. Quartz Deinite - Bronchidite; largely coarse grained, although fine grained equivalents are present locally, moderately altered with some shearing, sharp irregular lower contact	24059	72.0-75.0	3.0	.002	67.0-77.0
Quartz	from 75.0-75.5'; quartz vein zone, grey to white, sharp contacts & shearing @ 40-45° to C.A., appreciable disc. py. opy & po	24060	75.0-75.5	0.5	.064	
	from 75.0-77.0; small shales trending @ 40-45° to C.A. minor associated sulphide.	24061	75.5-78.0	2.5'	.002	
	from 79.5-80.0'; shear zone @ 40-45° to C.A. abundant patchy po. & patchy quartz.	24062	79.5-80.0	0.5'	.006	
82.0-91.0'	Altered Deinite; largely medium grained, moderate to intense alteration, developed with production of chlorite & biotite, prominent shearing with strong foliation developed. carbonatized, calcite veins developed. patchy quartz blatin & shearing @ 85.0': 40-45°, @ 87.0': 35°, @ 91.0': 20-30°					77.0-87.0
94.0-96.0'	Quartz-Deinite - Granodiorite; medium grained & unaltered upper & lower contacts are sharp @ 30° to C.A.					87.0-97.0
96.0-116.0'	Deinite; largely coarse grained with medium grained intervals					97.0-107.0

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DIAMOND DRILL RECORD

PROPERTY _____

HOLE No. _____

SHEET NUMBER _____

3 of 4

SECTION FROM _____

TO _____

STARTED _____

LATITUDE _____

DATUM _____

COMPLETED _____

DEPARTURE _____

BEARING _____

ULTIMATE DEPTH _____

ELEVATION _____

DIP _____

PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge Intervals
	prominent injections of quartz. Diverse gradational lower contact.					107.0 - 117.0
116.5 - 130.0	Altered Diorite; moderate to intense carbonatization numerous calcite veins, silicified + chlorite. thin stringer pyrite + sph associated with fractures + calcite veins. lower contact is sharp @ -60°.					117.0 - 127.0
123.0 - 139.0	Albite - Bromodiorite; largely medium grained, intense silicification, numerous small quartz calcite veins with associated pyrite, p. + sph. becoming sheared towards the end of the interval; transitional lower contact with underlying unit.					127.0 - 137.0
129.0 - 140.0	sheared altered albite?; intense shearing + alteration. prominent silicification + prominent patchy quartz, locally v. chlorite. appreciable sph, py + sph associated with quartz rich intervals.	24063	129.0-132.0	3.0	.006	
		24064	132.0-134.0	2.0	.008	
	from 129.5-130.5; white patchy quartz, no visible mineralization @ 136.0; silicified zone, appreciable disseminated sph + py.	24065	134.0-136.0	2.0	.002	
	from 138.0-140; silicified - vein? zone, appreciable thin stringer py, p. + sph associated with the quartz	24066	136.0-138.0	2.0	.020	
	shearing + foliation; @ 132.0; 45-50° to CA. @ 134.0; 30-40° @ 136.0; 40-50° to CA.	24067	138.0-140.0	2.0	.008	

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 4 of 4 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Sludge Interval	
140.0 - 161.0	Altona - Carbonate-Quartz Rich Unit; resembles an altered basic metavolcanic, largely fine grained, intense carbonates, prominent calcite veins & gashes, appreciable stringer & disseminated py, cpy and po associated with quartz-calcite rich intervals, locally sheared, transitional lower contact @ 153.0'; small shear zone associated with @ 85° to C.A. from 157.0 - 163.0' stringer & diss. cpy, py & po associated with quartz & calcite veins & gashes.	24068	151.0-154.0	3.0	.002	147.0 - 157.0	
		24069	154.0 - 157.0	3.0	.002	157.0 - 167.0	
		24070	157.0-59.	2.0	.002		
		24071	159.0-160.8	1.0	.002		
		24072	160.0-161.3	0.5'	.968		
		24073	161.3-163.0	1.7'	.008		
164.0 - 17.0	Migmatite; Intrusive igneous zone of quartz-diorite into what resembles a basic intermediate metavolcanic. assimilation of units evident with hornstone - contacts below units, locally brecciated with calcite breccia filling. @ 177.5'; thin seam of pot cpy @ 30° to C.A. from 190.0-192.0'; quartz diorite dyke, sharp contacts @ 35° to C.A. from 204.0-210.0'; an above quartz diorite dyke, shallow angle to core with sharp contacts @ 204.0; appreciable quantity pyrrhotite, sulphide ore associated with contact					167.0 - 177.0	
							177.0 - 187.0
							187.0 - 197.0
							197.0 - 207.0
							207.0 - 217.0
	END OF HOLE @ 217.0'						

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DIAMOND DRILL RECORD

MORGOLD RESOURCES

PROPERTY: Chester, Pennwoods + St. Louis Townships HOLE No. M 84-6

SHEET NUMBER R 1 of 2 SECTION FROM Z+142WNW TO _____ STARTED June 21, 1984

LATITUDE 29.578N DATUM Watts Ven locale COMPLETED June 21, 1984

DEPARTURE 169,0004E BEARING 200° ULTIMATE DEPTH 137.0'

ELEVATION 9976.001 DIP -48° PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 10.0	Casing				
10.0 - 10.0	Diorite; largely coarse grained and unaltered, massive + equigranular				
12.0 - 15.0	Quartz Vein Zone; Milky white with country rock inclusions, no visible mineralization, at very shallow angle to core ~ 5-10° to C.A., contacts are relatively sharp.				
15.0 - 42.0	Diorite; as per 10.0 - 12.0 foot interval, appears to have injection of more granitic material colored darker, moderate to heavy fracturing; from 15.0-17.0'; heavy fracturing from 19.0-21.0'; zone of heavy fracturing @ 39.0'; small patch of quartz + albite.				
42.0 - 46.0	Diorite Dyke; black, very fine grained, chilled upper + lower margins, upper + lower contacts are sharp @ 45° to C.A.				
46.0 - 50.0	Diorite; as per 15.0 - 42.0'; @ 48.0'; small 1.5" quartz vein, @ 50° to C.A., no visible mineralization				
50.0 - 90.0	Altered Diorite; largely medium to coarse grained with fine grained intervals, prominent silicification with various bluish quartz eyes, some carbonization				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 2 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	@ 57.5'; thin carbonated shear zone, moderate disseminated py & cpy. shearing at 50-60° to C.A. unit is a probable migmatite, as an intrusive injection zone.	24074	57.0-58.5	1.5'	.002
80.0 - 82.0	@ 73.5; thin quartz vein with appreciable po. Quartz Deyite; largely medium grained, white with speckled appearance, sharp upper contact @ 60° to C.A. from 81.0-82.0; silicified shear zone @ 70-80° to C.A.	24075	81.0-82.0	1.0	.004
82.0 - 110.0	minor finely disseminated py & cpy Migmatite - appears to be an intrusive injection zone of red granitic dyke into basic intermediate metapelite.				
101.0 - 137.0	@ 91.0-91.4; chlorite shear zone @ 70° to C.A. Chlorite-Carbonate-Quartz Rich Rock; moderate to intense alteration, foliated to massive, unit has undergone intense carbonatization, silicification & chloritization - abundant calcite veins trending @ 60-70° to C.A.				
Ver. cont?	from 101.0-105.0'; coarse grained with prominent quartz cpy.	24076	107.0-105.0	5.0	.002
	from 105.0-109.0'; foliated & sheared appearance, schistose looking	24077	105.0-107.0	2.0	.002
	prominent quartz cpy, trace to minor py & cpy	24078	107.0-109.0	2.0	.002
	foliation & shearing; @ 102.0'; 70° @ 106.0'; 60-70° @ 108.0'; 70-80° to C.A.	24079	109.0-112.0	3.0	.002

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 5 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	from 109.0' - 137.0'; coarse gravel, less of a foliated appearance, prominent clots of chlorite, minor clots of py + py., abundance of patchy quartz, calcite @ 130.0'; small shear @ 45° to C.A.; chlorite	24000	112.0 - 115.0	2.0'	.002
	ENDS OF HOLE @ 137.0'				
	Sludge Sample Intervals				
	Interval (ft) Au (oz/ton)				
	17.0 - 27.0				
	27.0 - 37.0				
	37.0 - 47.0				
	47.0 - 57.0				
	57.0 - 67.0				
	67.0 - 77.0				
	77.0 - 87.0				
	87.0 - 97.0				
	97.0 - 107.0				
	107.0 - 117.0				
	117.0 - 127.0				
	127.0 - 137.0				

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DIAMOND DRILL RECORD

PROPERTY Chouteau, Benavides + St. Louis Townships HOLE No. M 811-7

SHEET NUMBER R 1084 SECTION FROM Z+ 097 WNW TO STARTED June 22, 1985
 LATITUDE 29.553N DATUM Watts Trenches locale COMPLETED June 23, 1985
 DEPARTURE 169.051E BEARING 200° ULTIMATE DEPTH 217'
 ELEVATION 9976.19' DIP -48° PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0-6.0	Coarse				
6.0-37.5'	Alaskite - Bronzite; largely massive + medium grained, relatively unaltered, locally fractured. from 6.0-9.0': intensive fracturing at high angle to core, Fe staining associated with the fracturing. from 9.0-11.0': zone of moderate fracturing sharp contact with underlying unit at 35° to C.A.				
37.5-46.0'	Altered Bronzite; dark green in colour, medium to coarse grained with faint foliation, very chloritic, prominent patches of grey quartz, intense carbonization with numerous white gashes + voids. minor finely disseminated pyrite locally.				
46.0-47.0'	from 46.0-47.0': strong shearing fault gouge, carbonized siliceous material, shearing @ 50-60° to C.A., minor disseminated sulphide.	24081	46.0-47.0	1.0	.026
47.0-49.5'	Alaskite - Bronzite; similar to 6.0-37.5'				
49.5-52.0'	Fault gouge; intense shearing, shear zone appears to be intensely altered Bronzite, very chloritic, very poor ore recovery, badly fractured, lower contact @ 40°, shearing appears at shallow angle ~ 20-30° to C.A.	24082	49.5-52.0	2.5	.002
52.0-52.0'	Alaskite - Bronzite - as per 47.0-49.5'				

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Don Hoj Geologist B.Sc.

DIAMOND DRILL RECORD

PROPERTY _____

HOLE No. _____

SHEET NUMBER _____

2 of 4

SECTION FROM _____

TO _____

STARTED _____

LATITUDE _____

DATUM _____

COMPLETED _____

DEPARTURE _____

BEARING _____

ULTIMATE DEPTH _____

ELEVATION _____

DIP _____

PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
58.0 - 4.0	sharp lower contact at ~ 30' to core also altered Deinite; largely coarse grained, very similar to 39.5 - 47.0 interval				
	from 58.0 - 59.0; prominent patchy quartz & calcite. @ 62.5; seam of chalcopysite.				
Vein	at 66.5 - 67.5' breccia & quartz rich interval, appressed strings & disseminated pt. potopy, trending @ 40-70° to C.A.	24083	66.5-67.5	1.0	.023
	@ 74.5; 2' band of chalcopysite with minor quartz	24084	74.2-74.8	0.6	.002
Vein	Carbonate @ 50' to C.A.				
97.0 - 4.5'	transitional - gradational with underlying unit. Quartz - carbonate - chlorite rich rock; probable a highly altered deinite, intense carbonatization; numerous calcite veins trend at high angle to core.				
Zone	from 94.0 - 98.0'; 10' strong shearing & alteration, foliated	24085	97.0-94.0	2.0	.002
	@ 45-7° to C.A., minor disseminated pyrite & chalcopysite.	24086	94.0-96.0	2.0	.002
	pyrite. prominent carbonate veining is consistent with foliation	24087	96.0-98.5	2.5	.002
	foliation; @ 94.0'; 45°, @ 95'; 70°, @ 96'; 75°				
98.5 - 18.5	Altered. Alaskite; largely medium grained, massive, faint foliation locally, carbonatized, white when altered & feldspars, coarse grained intervals contained locally.				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 3 of 4 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	from 105.0-108.6; streaked, foliated interval @ 65° to C.A.				
	@ 108.5"; fractured zone				
118.5-148.5	Alaskite-Granodiorite; largely medium to coarse grained. smaller size, transverse contact with upper unit.				
	Q1 → from 110.0-140.2; milky white quartz vein @ 40-50° to C.A. no visible mineralization				
148.5-174.5	Dioritic dyke; black, very fine grained to fine grained. blocky + fractured locally, sharp upper contact @ 40-50° to C.A. lower contact fractured				
	from 152.0-174.5; badly fractured at various angles.				
174.5-177.0	Black alaskite; largely medium to coarse grained, more chlorite locally, carbonized, and silicified; barite present				
	Quartz Vein 177.0-177.6; milky white no visible mineralization				
	upper contact sharp at 50-60° to C.A. lower contact @ 65°				
	from 175.0-177; silicified + chloritized, prominent stringers po + cpy	24000	175.0-177.0	2.0	.006
	Quartz Vein 179.0-179.6; milky white, no visible mineralization				
	contact sharp at 55°				
	@ 183.0; small stringers of p.				
	@ 191.0; small shear zone (2") 65°, white + minor po, pfl				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 4 of 4 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
197.0 - 217.0	Alaskite - Bronzite; largely medium grained & small bedded from 199.5 - 201.0'; double bedded differences - than zone at 8" to C.R. More disseminated sulphides.				
	END OF HOLE @ 217.0'				
	Sludge Samples.				
	Interval Au (oz/ton)				
	77.0 - 87.0				
	87.0 - 97.0				
	127.0 - 137.0				
	137.0 - 147.0				
	147.0 - 157.0				
	157.0 - 167.0				
	167.0 - 177.0				
	177.0 - 187.0				
	187.0 - 197.0				
	197.0 - 207.0				
	207.0 - 217.0				

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DIAMOND DRILL RECORD

PROPERTY Clester, Bennewis & St. Louis Tourist Co HOLE No. M 248

SHEET NUMBER 1 of 2 SECTION FROM 1+37B WNW TO STARTED June 24, 1984
 LATITUDE 29.388N DATUM No. 3 Vein System (Central Portion) COMPLETED June 26, 1984
 DEPARTURE 169.744 E BEARING 200° ULTIMATE DEPTH 237'
 ELEVATION 9991.30' DIP -48° PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 7'	Opening				
7.0 - 42.0'	Diorite; dark green to black, largely medium coarse grained and smaller, although sheared & altered locally @ 10.0'; shearing & calcite veining @ 35-40° to CA. from 7.0-17.0; intense fracturing at various angles. from 12.0-14.0'; sheared internal, carbonatized, foliated & shearing at 60-60° to CA. @ 18.5'; sheared, foliated internal, carbonate veining & associated py. po & 35-40° to CA.				
42.0 - 43.0'	Altered Diorite; medium to coarse grained, chloritized & carbonatized, silicified, appreciable to abundant disseminated & stringy py. po. & cpy, bearing sheared towards quartz vein.	24089	42.0-43.0	1.0	.006
	@ 42.0'; 2 small quartz veins @ 50-60° containing appreciable chalcocyanide.	24090	42.0-44.0	1.0	.016
		24091	44.0-45.0	1.0	.002
45.0 - 5.8'	Quartz Vein; smoky white to grey, massive, contains appreciable disseminated & lolly cpy, py po, sharp upper lower contacts trend @ ~ 50-55° to CA.	24092	45.0-45.8'	0.8	.006
45.8 - 47.0'	sheared Quartz - Carbonate - Chlorite rich unit; strong foliation & shearing, fully disseminated sulphides associated with shear oxidation.	24093	45.8-47.0	2.0	.002
	foliated; @ 47.0'; 50° @ 48.0' 50° @ 49.0' 50°	24094	47.0-49.0	2.0	.002

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER _____ SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
49.0' - 63.8'	Diabase Dyke; black, very fine grained to fine grained. blocky, characteristic spherule texture, chilled margins. upper contact sharp @ 50°, lower sharp @ 55-65° to C.A.				
63.8 - 76.5'	Diorite; highly medium grained & massive, small bedded from 76.5-77.5'; small diabase dyke, very fine grained upper contact sharp at 55-60° to C.A., appears to be obliterating underlying unit				
77.5 - 78.0'	highly chloritized, siliceous zone, appears to have been a quartz vein zone, prominent decomposed pyroclastic from 81.0-90.5'; small diabase dykes including interval.	21095	77.5-78.0	0.5'	.014
90.5' - 149.0'	Diabase dyke; black, very fine grained to fine grained, chilled upper margin, upper contact sharp @ 25° to C.A. blocky fracturing, locally very heavily fractured from 149.0-170'; very heavy fracturing at high angle to vein & at 0-10° to core. lower contact chilled & sharp at 45°				
149.0' - 173.0'	Diorite; as above, medium grained & small bedded.				
173.0' - 203.0'	Diabase dyke; black, very fine grained to fine grained, chilled upper margin, upper contact sharp @ 50-55° to C.A.				
END OF HOLE @ 237.0'					

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DIAMOND DRILL RECORD

PROPERTY Chester, Bonnevilles & St. Louis Townships HOLE No. M 84-9

SHEET NUMBER 1 of 2 SECTION FROM 1+ 378' WNW TO _____ STARTED June 26, 1984
 LATITUDE 29. 389N DATUM No 3 Van system (Central Portion) COMPLETED June 27, 1984
 DEPARTURE 169. 743E BEARING 200' ULTIMATE DEPTH 170.0'
 ELEVATION 9,991.30' DIP -65' PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0-5.0	Casing				
5.0-13.5	Dolite; medium to coarse grained, massive & unaltered, moderate to heavy fracturing, transitional contact with the underlying unit.				
13.5-70.3	altered Dolite; medium to coarse grained to foliated, moderate to intense alteration, very prominent silicification locally, very strong shearing & foliation, intense carbonatization in pervasively throughout, brecciated locally, dolomite 19.0-19.5; silicified interval with disseminated po. 26.5-27.0; unaltered chert, with shearing @ 35-40° to C.A. 27.0-32.0; strong silicification, patchy quartz, lightly brecciated shearing: @ 28.0'; 40-50' @ 29.5'; 46° foliation: @ 31.0'; 35°, @ 40'; 40°, @ 40.5'; 35-40° from 42.0'-70.3'; very prominent foliation, moderate silicification & carbonatization, schistose looking, mica disc po, py & cp-1 foliation: @ 54.0'; 50°, @ 48'; 49°, @ 51'; 35° @ 66.5'; 30-35°, @ 69.0'; 35°	24096	68.0-70.3	2.3'	.002
70.3-71.6	Quartz Vein; white to smoky grey & massive, abundant patchy & disseminated chloropyrite & po, sharp upper contact @ 50° to C.A., lower contact sharp @ 60°	24097	70.3-71.6	1.3'	.008
		24098	71.6-72.0	1.4'	.002

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SIGNED Don Hy Donald Hy 35x

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 1 of 2 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$		
71.6 - 92.0	<i>Alluvial Deposits; ss pe. 13.5-70.3. strong alluvial, coarse shewing with prominent fibrous, appreciable shaly & disseminated sp. porphy.</i>	24099	80.0-82.0	2.0	.002		
		24100	82.0-84.0	2.0	.002		
		24101	84.0-86.0	2.0	.002		
	<i>foliated; @ 82.0' 45-50° pale grey quartz & pf.</i>	24102	86.0-88.0	2.0	.002		
	<i>@ 83.5' pale grey quartz & pf.</i>	24103	88.0-90.0	2.0	.006		
	<i>from 89.0-92.0; appreciable to abundant disseminated sulphide.</i>	24104	90.0-92.0	2.0	.048		
	<i>sp. porphy.</i>						
97.0-97.0	<i>Debris; medium to coarse grained, massive & unaltered sharp lower contact.</i>						
97.0-120.0	<i>Diamond drift</i>						
	END OF HOLE @ 120.0'						
	<i>Sludge Samples</i>						
	Interval Au (oz/ton) Interval Au (oz/ton)						
	17.0-27.0 87.0-97.0						
	27.0-37.0 97.0-107.0						
	37.0-47.0 107.0-117.0						
	47.0-57.0						
	57.0-67.0						
	67.0-77.0						
	77.0-87.0						

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DIAMOND DRILL RECORD

PROPERTY Chasta, Bennevis & St. Louis Townships HOLE No. M84-10

SHEET NUMBER R 1 of 5 SECTION FROM 14224WNW TO _____ STARTED July 3, 1984
 LATITUDE 29,349N DATUM No. 3 Vein System (Central Portion) COMPLETED July 5, 1984
 DEPARTURE 169,900E BEARING 200° ULTIMATE DEPTH 317.0'
 ELEVATION 9987.11' DIP -61° PROPOSED DEPTH _____

DEPTH FE.	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0-12.0'	Casing				
12.0-62.0'	Diorite; largely medium to coarse grained & unfoliated, massive. although small aligned zones are present locally from 12.0-15.0'; badly fractured, appears to be an irregular zone of granitic material				
	from 28.7-36.4' shaly aligned interval, foliation 'striking at 45° @ 20.3'; small zone containing appreciable chloropyroxene	24105	29.9-30.5'	0.6	.008
	@ 50-53' to CA, prominent chlorite & calcite veining				
	@ 44.0-44.6' prominent platy quartz & chlorite rich interval, contains cubic magnetite, thin zone?	24106	44.0-44.6	0.5	.002
	from 58.6-60.6'; coarse grained, granitic type, sharp upper? lower contacts @ 40 & 45° to C.A. respectively.				
62.0-67.5'	Diorite Diorite; dark grey to black, very fine grained to fine grained, dulled magnetite, upper contact sharp @ 30°, lower sharp @ 45° to C.A.				
67.5-122.0'	Diorite; similar to 12.0-62.0 interval, except fracturing more prominent, shallow & fracturing 0-10' to CA from 79.0-100.0'				
	from 82.0-84.0'; some patches of calcite & chlorite in weakly brecciated zone.				
	@ 95.5-96.0'; carbonate lam.				
	from 107.0-116.5'; coarse grained, & highly brecciated, @ 117.0 partly calcite				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 2 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	@ 115.0': small shear zone @ 120' to CA, minor disseminated py.				
	from 127.0-147.0: slightly granulated, lighter in colour.				
	147.5-149.5: finer grained altered interval, carbonaceous = chloritoid base disseminated sulphide. @ 144.0: small 1/2" qtz vein @ 80', moderate py mineralization				
	@ 157.0: small shear @ 70', chlorite & trace disseminated sulphide.				
	@ 161.0: small calcite vein @ 30-35' to CA.				
	@ 182.0: small 1/2" quartz vein @ 30', abundant pyrochloite				
	@ 187.5: small 1/4" chlorite shear @ 45'. py 'py				
Quartz Vein	185.5-186.7: 2" quartz vein contacts sharp @ 30', abundant py 'cpf	24107	185.5-186.7	0.2'	-0.26
Quartz Vein	188.5: small 1/2" quartz vein @ 30', no visible mineralization				
Quartz	190.0-190.8: bull white quartz, sharp upper contact @ 30-35' no visible mineralization, irregular lower contact with bits of chlorite.				
	@ 198.3-191.5: patchy white quartz, minor chloropyrite				
197.0	197.8 Quartz Vein; Bull white, massive, no visible mineralization lower contact @ 25-35' upper @ 25-35'				
197.8	240.0 Discon., as above, massive & unaltered				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 3 of 5 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	@ 199.0': small white quartz vein @ 30° (1/2") no visible mineralization				
	@ 200.5'; small (2/4") quartz vein @ 50-60°, no vis. mineralization				
240.0 - 241.0	Chlorite - Carbonate Quartz rich Unit: probable altered diorite, quartz eggs, chlorite, prominent disseminated sulphides.	24108	240.0-242.0'	2.0	.002
242.0 - 243.0	Granite Dips; pinkish colour, fine to medium grained, sharp upper contact at 80°, sharp lower contact @ 80°.				
244.0 - 245.0	Diorite; relatively unaltered except for 244.0-245.0' where unit is fine grained & chloritized, minor cubic pyrite transitional into underlying unit				
249.3 - 250.0	Chlorite - Carbonate Quartz Rich Unit; metre to surface altered, prominently foliated, pervasive silicification & carbonization, locally streak foliated, prominent patchy quartz, locally appears to have been intruded by a granite intrusion as some assemblage in contact - foliated: @ 246.0' - 60-65° @ 248.0' - 60°, minor to moderate sulphides consistent with foliation.	24109 24110	250.0-252.0 252.0-255.0	2.0 3.0	.002 .002
253.0 - 255.0	Granodiorite; light to medium grey, largely medium to coarse grained, numerous quartz diorite bodies, pervasive silicification present, prominent large bluish quartz eggs, patchy sulphides				
(alt: 259.5 - 260.5)	white quartz vein no visible mineralization, upper inclined sharp @ 25°, lower contact irregular & brecciated.	24111	267.7-268.7	1.0'	.148

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 4 of 5 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
Vein	@ 263.7-264.7: 3 quartz veins trending at 45° to CA.	24112	263.7-264.7	1.0'	.146
	contain minor sulphides, but wallrock contains abundant	24113	264.7-267.0	2.3'	.002
	shungite & disseminated cp. p. sp.	24114	267.0-269.0	2.0'	.002
	@ 272.0-273.5: silicified, patchy quartz rich zone, appreciable	24115	269.0-272.0	3.0'	.002
	disseminated cp.	24116	272.0-273.5	1.5'	.722
	from 273.0-275.0: leucophaea, barite rich zone, transitional	24117	273.5-275.0	1.5'	.014
	contacts	24118	275.0-278.3	3.3'	.002
	from 278.3-279.3: abundant disseminated po. sp.				
	@ 284.0: patchy quartz & carbonate, trace sulphides.	24119	279.3-279.3	1.0'	.022
295.0-	17.0' Dark: medium to coarse granitic & small rock,				
	appears to have granite & granodiorite phase,				
	possible intrusive zone of diorite with granodiorite				
	@ 307.6: small chert shear, disseminated sulphides				
	@ 80°.				
	END OF HOLE @ 317.0'				
x	Water circulation lost @ 137.0'				

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DIAMOND DRILL RECORD

PROPERTY: Chester, Bonnieville & St. Louis Journals

HOLE No. M 84-11

SHEET NUMBER 1 of 5

SECTION FROM 1+224 WNW/TO

STARTED July 5, 1984

LATITUDE 29,350N

DATUM No. 3 Vern System (Central Portion)

COMPLETED July 8, 1984

DEPARTURE 169,900E

BEARING 200°

ULTIMATE DEPTH 588.0'

ELEVATION 9987.11'

DIP -75°

PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0-10.0	Coarse				
108-19	Diorite-Granodiorite; largely coarse grained, very badly fractured, appears to be granitic intrusive assemblage with a diorite, gradational contact with underlying unit				
19.0-92	Diorite; largely medium to coarse grained & unaltered massive, locally intruded by small granitic dykes. @ 25.5-27.0: coarse grained granitic dyke relatively sharp contacts @ 60-70° @ 27.6-28.6: as above, coarse grained granitic dyke, contacts sharp & @ high angle to core. @ 36.7-37.0: small coarse grained granitic dyke & high angle to C.A. 70-80° from 47.6-48.6: shaly diorite interval with quartz & calcite stringers abundant associated disseminated & stringy py. transitional contacts with upper & lower units. stringers trend @ 35° to C.A. from 66.5-67.5: highly brecciated, granitic clasts contained within diorite groundmass @ 67.0: shaly fracturing Intrusive breccia zone @ 68.0-69.0: coarse grained granitic sh. contacts sharp @ 60° to C.A.	24120	47.6-48.6	1.0'	.008
92.0	Diorite Diorite: very fine grained, black in color				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 2 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	interior, blocky fracturing; sharp upper contact @ 35', lower @ 30' to core spec.				
101.0 - 174.5	Diorite; medium to coarse grained, largely massive & unaltered 127.0-130.1: interior fracturing at all angles				
	@ 135.0-135.6: altered chlorite internal, fine grained, small quartz slips @ 70'; associated po & cpx.	24121	135.0-135.6	0.0'	.046
	@ 150.0-152.0: fine grained, carbonatized unit, netalveous, foliated & sheared at 60-70° to CA., trace sulphide, displays transitional contacts				
	from 170.5-180.1: fine grained, chlorite & pervasive carbonatized phase, altered diorite, trace to minor disseminated pyrite & chalcopyrite.				
	@ 180.1: shearing & calcite veining @ 20-30° to CA.				
	@ 185.7: 1/2" qtz vein @ 50° to CA. no visible mineralization				
	from 205.0-205.6: fine grained altered internal chlorite, patchy quartz				
	from 217.0-235.0: greenish siliceous zone, with diorite, associated alteration zone of extensive, light, brecciation, appreciable large disseminations of pyrite & po.				
	@ 238.0: small 1/2" qtz vein, no visible mineralization.				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 3 of 5 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
770.5 - 770.3	@ 241.5': 1" qtz vein at 80-85° to CA. large discomitons of p. Aplita - blackish; fine grained, speckled appearance, massive & unaltered, relatively sharp contacts at high angle to con.				
770.3 - 277.5	Altered Diabase; pervasive carbonatization, contains disseminated sulphides slight foliation developed, transitional contact with the lower unit.				
277.5 - 277.1	@ 276.0': abundant string quartz & calcite, trace sulphides. Diabase; granitized intrusive zone, accumulation of granite & diorite, some alteration.				
277.0 - 308.0	Quartz - chlorite - carbonates Rich U&B; strong, pervasive carbonatization & silicification, buffaceous - foliated appearance contains disseminated pyrite & quartz consistent with foliation planes numerous calcite veins, locally very chlorite				
	from 288.0 - 298.0'; buffaceous - foliated appearance prominent	24122	288.0-290.0	2.0'	.002
	patchy quartz & calcite, minor py. po. cpy	24123	290.0-292.0	2.0'	.002
	foliation; @ 289.0'; 65°, @ 290.0'; 60-65°, @ 292.0'; 50°	24124	292.0-294.0	2.0'	.002
	@ 294.0'; 60°, @ 295.0'; 60°	24125	294.0-296.0	2.0'	.002
	from 304.0 - 305.0' intense fracturing, very chlorite	24126	302.0-304.0	2.0	.004
Quartz	305.5 - 305.7': 2" quartz vein, disseminated chalc. & 3 small specks. VISIBLE GOLD vein @ 50 to 60 CA.	24127	304.0-305.9	1.8	.058
		24128	305.5-305.7	0.2	.982

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER _____ SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	foliation: @ 214'; 50-60°, @ 215'; 65°, @ 217.5'; 70° @ 220'; 50°.				
223.0 - 226.0	gradual transition of contact with lower unit alted. Devite: fine grained, carbonaceous & siliceous abundant chlorite, largely medium grained & massive, moderate stringer and banded py, py & cpy. @ 230.0': banded py & cpy @ 45° to C.A. @ 231.0 - 232.0': prominent disseminated cpy, py & py Quartz vein (2') - @ 233.0' white to grey, abundant py, py & cpy 2 small specks VISIBLE GOLD	24150 24151 24152 24153 24154	228.0-230.0 230.0-231.0 231.0-232.0 232.0-233.2 233.2-236.0	2.0 1.0 1.8 0.4' 2.8	.006 .006 .006 .301 .002
236.0 - 238.5	Quartz vein; white to smoky grey, moderate cpy & py microcrystalline, sharp upper & lower contacts @ 40° to C.A.	24155 24156	236.0-237.0 237.0-238.0	1.0' 1.0'	.006 .006
238.5 - 267.0	Devite: medium to coarse grained, largely massive & small @ 248.0 - 249.0': fine grained, black tuffaceous horizon carbonaceous, more disseminated pyrite @ 256.5' 3/4" quartz vein with disseminated cpy	24157	256.0-257.0	0.5'	.012
	END OF HOLE @ 267.0'				

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DIAMOND DRILL RECORD

PROPERTY Cluster, Bonnevilles & St. Louis Terraces

HOLE No. M 84-12

SHEET NUMBER 143

SECTION FROM H15FW/W TO _____

STARTED July 9, 1984

LATITUDE 29.302 N

DATUM No. 3 vein system (Central Portion)

COMPLETED July 10, 1984

DEPARTURE 169.959 E

BEARING 200°

ULTIMATE DEPTH 237'

ELEVATION 9973.77'

DIP -46°

PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 8.0	Casing				
8.0 - 123.5	Diabase; largely coarse grained & massive, quartzite, appears to have accumulated with a lower more granitic intrusion locally, weak alteration proximal to the more felsic rocks.				
8.0 - 13.0	zone of intense fracturing				
from 28.0 - 46.0	zone of coarse grained granitic unit, accumulated with medium grained diabase, patchy quartz prominent	24131			
@ 28.0 - 29.5	prominent patchy quartz & discontinuous pyrite		28.0-29.5	1.5'	.002
@ 35.0	small (1/2") qtz vein @ 50° no visible mineralization				
from 62.0 - 64.0	small mafic sulfurous horizon, prominent	24132	62.0-64.0	2.0'	.002
	discontinuous pyrite, prominent feldspar @ -60° to CA.				
@ 84.5 - 89.0	coarse grained granitic dyke, relatively sharp upper contact @ 10°, lower 40-50° to CA.				
@ 92.5	abundant discontinuous pyrite.				
@ 97.0	small (1/4-1/2") qtz vein @ 40°, no visible mineralization				
@ 105.5	small (1/4") carbonate-chalcopyrite vein @ 30-35° to CA.				
@ 111.5	small (1/4") qtz vein @ 60-65°, contains pyrite & po.				
@ 113.0	1" qtz vein @ 60-70° to CA, no visible mineralization.				
from 113.0 - 123.5	moderate alteration, some chloritization locally.				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 2 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	trace to minor sulphides				
	@ 119.0: small (1") diabase dyke @ 45°				
	from 121.0-127.5: quartz vein @ shallow angle to core 10°				
	chlorite as visible mineralization				
	@ 129.0-123.3': small diabase dyke at 70-90° to C.A.				
123.5-124.5	Quartz vein: white to smoky grey as visible mineralization sharp upper & lower contacts @ 20° & 60-70° respectively	24133	123.5-124.5	1.70	.002
124.5-130.0	Tuffaceous Unit: medium grey to black, intermediate to mafic. pronounced breccia, oxidized with foliation, pervasive strong carbonatization trace laminated sulphides, both pale grey quartz & white prominent, lower transitional contact				
	foliation @ 70-90° to C.A., locally very chlorite				
133.0-135.0	Diorite; largely medium to coarse grained and unaltered, massive, some slight alteration in vicinity of shears and fractures.				
	@ 168.5-169.5': pale grey quartz & calcite				
	@ 172.0': quartz-calcite vein (1") with sharp irregular contacts increasing degree of alteration towards the bottom of the unit				
180.0-185.5	Altered Diorite; medium grained & massive; pervasive carbonatization & moderate silicification, numerous hairline				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 3 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	calute veins, prominent bluish quartz cgs, gradual contact with lower unit, unit contains appreciable disseminated sulphides.				
185.5 - 187.0	Tuffaceous unit; prominent foliation developed, intermediate to mafic in composition, pervasive carbonatization & moderately silicified, trace to minor py & po as disseminations as narrow stringer crystals with foliation	24134	185.5-188.0	2.5	.002
		24135	188.0-190.0	2.0	.002
		24136	190.0-192.0	2.0	.002
	foliation; @ 186°-50', @ 187.0' - 50-60'. appears to be transitional with the lower unit.				
192.0 - 205.3	Altered Diorite; as per 180.0-185.5 interval	24137	203.0-205.3	2.3'	.002
	Quartz Ven. (7") smoky white to grey, minor cpy with sulphides associated with contact, contacts sharp @ 50-55° to CA.	24138	205.3-206.0	0.7'	.797
206.0 - 207.0	Altered Diorite; carbonatized & silicified, disseminated + small stringer sulphide, locally very chlorite.				
	from 206.0-207.0: appreciable disseminated cpy	24139	206.0-207.0	1.0'	.058
	from 208.0-208.4: quartz & disseminated cpy	24140	207.0-208.5	1.5'	.006
	parallel contact with lower unit.	24141	208.5-209.5	1.0'	.004
211.6 - 217.0	Diorite; medium to coarse grained and unaltered.				
	massive				
	@ 227.0-224.0: small fine grained chlorite phase, disc cpy	24142	223.0-224.0	1.0	.002

END OF HOLE @ 2370'
 * No Water return in no samples.

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DIAMOND DRILL RECORD

PROPERTY Chester, Bronson & St. Louis Township HOLE No. M 84-13

SHEET NUMBER 193 SECTION FROM 1+157WNW TO _____ STARTED July 11, 1984
 LATITUDE 29.305N DATUM No. 3 Vein System (Central Portion) COMPLETED July 11, 1984
 DEPARTURE 169,960E BEARING 200° ULTIMATE DEPTH 267'
 ELEVATION 9973.77' DIP -61° PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 80	loam				
80.0 - 81.0	Diorite; largely medium to coarse grained & unaltered, locally intervals of the unit are intruded & assimilated with coarse grained granitic material no mylonites 8.0-17.0'; interval of intense fracturing 30.0-42.0'; assimilation of coarse grained granitic material present @43.0'; small (1") quartz vein, intensely fractured @53.0'; 2" band of calcite & large discontinuity of ps. 55.0-57.0'; interval of patchy quartz & calcite, minor disseminated pyrite 58.0-61.0'; altered interval, carbonatized with hard calcite veins, moderate stringers ps.				
82.0 - 85.0	altered Diorite; largely medium grained, increasing chloritization & carbonatization, relict calcite veins, unit is fractured & moderate shearing is evident 82.0-84.0'; shearing & fracturing @ ~ 40°, disseminated py.	24143	82.0-85.0	3.0	.002
85.0 - 87.0	brindle Dyke; largely medium grained sharp upper & lower contacts @ 70° to the CA.				
88.0 - 90.0	altered Diorite; as per 82.0-85.0', gradual transitional contact with the underlying unit, pervasive carbonatization				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER _____ SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
95.0 - 111.5	Diorite; largely medium grained, massive & unaltered				
113.5 - 114.5	Tuffaceous Unit; largely fine grained with a weak to moderate foliation developed. quartz, pyrite, perovskite, carbonates, trace to minor disseminated sulphides, including pyrite.				
113.5 - 114.5	pyrite, foliated @ 50-60° to C.A.	24144	113.5-114.5	1.0	.002
119.5 - 147.0	Diorite; as above, medium to coarse grained and unaltered, locally is chlorite.				
147.0 - 154.0	Diorite Dyke: very fine grained, dark grey to black, chilled margins upper & lower contact both sharp @ 35° & 30° respectively				
154.0 - 173.5	Diorite; as above, used towards bottom of the unit. @ 150.0 small quartz vein (3/16") @ 30-40° to C.A., minor pyrite & sp.				
173.5 - 210.0	@ 173.5'; patchy po + py.				
210.0 - 213.0	Quartz Carbonate Chlorite Tuffaceous Unit; largely fine to medium grained, moderate to strong foliation, perovskite, carbonates and silicates, numerous kaolin veins & patches of calcite + quartz, trace to minor sulphides associated with the quartz, foliation upper contact	24145	210.0-213.0	3.0	.002
		24146	213.0-216.0	2.0	.062
		24147	216.0-219.0	3.0	Tr
		24148	219.0-223.0	8.0	Tr
		24149	223.0-227.0	1.0	Tr

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DIAMOND DRILL RECORD

PROPERTY Walter, Bonamico & St. Louis Township HOLE No. M 84-14

SHEET NUMBER 1 of 3 SECTION FROM 14064 WNW TO STARTED July 12, 1980
 LATITUDE 29.265N DATUM Central Potom (No. 3 Vein System) COMPLETED July 17, 1984
 DEPARTURE 170, 039E BEARING 200' ULTIMATE DEPTH 267.0
 ELEVATION 9965.77' DIP -46° PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0-16.0	Casing				
16.0-44.5	Diabase; largely medium to coarse grained, unaltered with the exception of small alteration zones proximal to fractures & shears. Diabase is massive 16.0-18.0': extensive fracturing				
44.5-55.0	Basic Metavolcanic; largely medium grained & displays moderate alteration; resembles a tholeiitic volcanic. The unit is intruded by numerous granitic dykes & veins, primarily at shallow angle to the core. 54.0-55.0': lightly brecciated with the underlying diabase. upper contact is relatively sharp @ 20' to core exp.				
55.0-60.0	Diabase; similar to 16.0-44.5' interval 60.0-61.0': siliceous - chloritized alteration, prominent quartz esp. moderate diss. py, ps mineralization 70.0-72.0': zone of intense fracturing 75.0-77.0': zone of intense fracturing	24158	60.0-61.0	1.0'	.002
78.0-79.5	Foliated Tuffaceous horizon; carbonatized with calcite veining & gasch, prominent filonite @ ~50° to C.A. contains minor disseminated sulphide. associated with filonite 78.6-78.8'; 2" quartz vein with abundant opx, po, py & a few specks of V.G. @ 40-50° to C.A.	24159	78.0-79.0	1.0'	.626

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER R 2 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
79.5 - 103.0	gradational - transitional contact with the underlying unit. Dioite - Granodiorite; as above.				
103.0 - 107.0	@ 87.6'; small 1/2" quartz vein + shearing @ 60-70° to C.A. Biotite-rich Tuffaceous unit; medium gray to black, prominent flakes of biotite, trace to moderate disseminated pyrite faint foliation at high angle to core 70-80°. Sharp upper + lower contacts @ 70° to C.A.				
107.0 - 167.0	Dioite; as above 113.0-114.0; altered chlorite interval, silicified with trace to minor sulphides 132.0 - 138.0; interval contains irregularly shaped fragments of fine grained volcanic material, highly brecciated transitional into the underlying unit.				
167.0 - 172.6	Quartz-Carbonate-Chlorite Rich Unit; intense perovskite alteration which includes chloritization, silicification + carbonatization, prominent quartz veins, numerous calcite gashes + veins, unit contains appreciable stringer pyrite & chalcopyrite, light to moderate foliation, sulphides associated with patchy quartz + calcite	24160	169.0-172.0	3.0	Tr
	172.0 - 175.0; prominent + somewhat stringer chalcopyrite + pyrite foliation; @ 172.0'; 50-60° @ 175'; 60-70° @	24161	172.0-173.5	1.50	.008
		24162	173.5-175.0	1.5	.002

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 3 of 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
1776-2770'	unit is buffaceous in appearance Debris; as above, relatively unaltered 176.6-179.0'; unit is more dolomite & is carbonized 179.0-191.0'; pretty quartz in altered dolomite, moderate to abundant string sulphide quartz bands @ 60° to C.A. @ 196.5'; 2' quartz vein @ 80° to C.A. appreciable cp-1 @ 217.0'; 2 small quartz veins (1/2") @ 50-60°, minor assoc sulphide. @ 234.0-235.0'; buffaceous horizon with moderate chalcopryite sharp contacts 70-80°, foliation at high angle to core carbonized	24163	175.0-177.0	2.0	.002
		24164	191.0-192.0	1.0	.496
		24165	196.0-197.0	1.0'	.002
		24166	217.0-218.0	1.0'	.002
		24167	234.0-235.0	1.0'	Tr
	END OF HOE @ 267.0'				

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DIAMOND DRILL RECORD

PROPERTY Arden, Bonamico & St. Louis Townships HOLE No. M 84-15

SHEET NUMBER 144 SECTION FROM 14073 WNW TO _____ STARTED July 18, 1984
 LATITUDE 29, 274N DATUM No. 3 Vein System (Central Patch) COMPLETED July 20, 1984
 DEPARTURE 170, 026E BEARING 200° ULTIMATE DEPTH 767.0'
 ELEVATION 9967.00 DIP -61° PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 15.0	Casing				
15.0 - 97.0	Diabase; largely medium to coarse grained material diabase, alteration zone present locally as megacrystals in accumulative zone consisting of diorite & more granitic material, fine grained chlorite & carbonized horizons also present locally 15.0-16.0': intense fracturing 21.0': quartz - carbonate vein 1/2-1', sharp irreg contact 24.0-24.8': coarse grained granitic dyke, sharp contacts @ irregular outcrops @ 27.3': 2-2.5 quartz - calcite vein, @ dotted chlorite & gassy po. sharp upper contact @ 40', lower @ 75-80' @ 32.0': fractured interval @ pale grey quartz, some po. 38.0-42.0': unconsolidated phase 50.5-52.0': heavy fracturing 54.0-65.5': megacrysts in nature, zone of accumulation between diorite & more granitic material, light brecciation 70-80.0': megacrysts, mafic volcanic clasts incorporated in coarse grained diabase intrusion				
27.0 - 28.0		24168	27.0-28.0	1.0'	.002
97.0 - 110.0	Mafic Volcanic; appears to be andesitic basaltic in composition, fine to medium grained, prominent				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER: R 2054 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
104.0 - 105.5	<p>fine to coarse calcite, moderate to intense carbonization, intense disseminated pyrite, gradual transitional contacts</p> <p>Dolite; medium grained as above, numerous narrow quartz calcite veins @ 70-80° to core axes; relatively sharp contacts @ 70-80° to C.A.</p>				
105.5 - 110.0	<p>Mafic Metabasalt? Similar to 97.0 - 104.0', not as intense carbonization, perhaps a dyke rock, upper contact sharp @ 50-60°, lower @ 20° to C.A.</p>				
109.0 - 115.5	<p>Dolite; medium to coarse grained intrusive, small seams of local dolomite, abundant small sized.</p> <p>1066 - 1080; fine grained above phase, silicified and carbonized</p> <p>@ 136.5'; small 1/2" shear with minor quartz @ 20-30°.</p> <p>168.0 - 172.0'; coarse grained phase</p>				
191.5 - 194.0	<p>Quartz-Carbonate Chlorite rich rock; ultrabasic zone enveloping quartz vein, pervasive silicification, carbonization, narrow streaks of small veins of calcite, moderate to strong bleaching locally, minor disseminated pyrite, transitional upper contact</p>	24169	1915-1930	15	TR
		24170	1930-194.0	1.0	TR
194.0 - 197.7	<p>Quartz Vein; smoky white to grey, moderate chalcocite pyrite, upper contact sharp @ 70°, lower @ 50°</p>	2471	1940-1947	0.7'	.042

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 3 of 4 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
194.7-197.0	Quartz - Carbonate - Altered Alteration Zone; as above the quartz vein, except more pronounced foliation.	24172	194.7-197.0	2.3'	Tr
	@ 195.0': 50-60°, @ 197.0': 70°	24173	197.0-199.0	2.0'	.002
	patchy quartz + prominent carbonate veins + grains. minor disc py + cpf associated with patchy quartz + calcite.				
	@ 195.1': 1" white quartz vein, trace cpf at 70-80° to C.A.				
199.0-215.0	Diorite; largely medium to coarse grained and unaltered, although local alteration zones are present proximal to quartz + carbonate veins; patchy quartz prominent with large bluish quartz eyes.	24174	213.0-215.0	2.0	Tr
215.0-217.0	Altered Diorite; prominent large bluish quartz eyes, chlorite + carbonatized, appreciable stringer spf, py + po foliation; @ 216.0': 60°, sulphide associated with foliation.	24175	215.0-216.0	1.0	.060
	215.5-215.0': 3" smoky quartz vein @ 60-80° to C.A.	24176	216.0-217.0	1.0	.002
	abundant spf, po + py, chlorite				
217.0-223.0	Diorite; similar to 199.0-215.0 above				
	223.0-225.0': bleached, sulphid. interval				
	QV. @ 226.5': irregular 3' gtz. vein, trace sulphide				
	QV. @ 245.0': 3' includes relatively sharp @ 45-60° to C.A.	24177	244.7-245.7	1.0'	Tr
	chlorite, smoky grey to white, minor sulphide.				

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DIAMOND DRILL RECORD

PROPERTY Dist. Barreille & St. Louis Townships

HOLE No. M 84-16

SHEET NUMBER 1 of 7

SECTION FROM _____ TO _____

STARTED July 23, 1984

LATITUDE _____

DATUM No. 20 Zone

COMPLETED July 24, 1984

DEPARTURE _____

BEARING 008°

ULTIMATE DEPTH 327.0'

ELEVATION _____

DIP -45°

PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
0 - 6.0'	Casing				
6.0 - 19.5'	Albite - Biotite: largely medium grained, light grey to pink, local alteration, massive & equigrained in nature 11.5 - 15.0': light pink, more granitic zone, bleached albite of feldspar. gradational contacts with the unit. top 13.0 - 14.5': epidote alteration & shallower angle to core.				
19.5 - 23.0'	Albite - Calcic Tuff: well developed foliation, dark green, very chloritic, strong pervasive carbonatization. finely disseminated sulphide consistent with foliation planes. sharp upper contact @ 30' to CR. foliation: @ 20.0': 25-35°, relatively sharp lower contact @ 40-50' to CR.	24180	19.5-23.0	3.5'	Trace
23.0 - 27.0'	Albite - Biotite: largely medium grained, pervasive carbonatization, large prominent black quartz eyes, numerous small carbonate veins interspersed within, trace to minor disseminated sulphide. transitional lower contact				
27.0 - 29.0'	Albite - Calcic - Quartz Rich Unit: similar to Tuffaceous unit from 19.5-23.0' except not foliated, pervasive carbonatization. @ 28.5': prominent pyrite stringer	24181	27.0-29.0	2.0'	.002

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SIGNED Donald H. Blue

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 2 of 7 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
29.0 - 52.0	Altered Diabase; ^{Gabbro} similar to above, strong carbonatization prominent clotted epidote @ 41.5' small 1/2" quartz-calc vein at 71-80° to C.A. @ 44.5' small 3/4" quartz-calc vein at 70°, disseminated pyrite				
52.0 - 57.3	Diabase like; very fine grained, black in colour, sharp upper and lower contacts trending @ 80-90° to C.A.				
57.3 - 64.7	Altered Diabase - Gabbro; similar to interval of 29.0-52.0'				
63.0 - 64.7	interval becoming more chlorite, large bluish quartziferous nodules amounts of disseminated pyrite.	24182	63.0-64.7	1.7	.002
64.7 - 66.5	Chlorite Carbonate Tuffaceous Unit; well foliated, abundant chlorite + carbonate, finely disseminated sulphide, transitional contacts with overlying + underlying units	24183	64.7-66.5	1.8	Trace
66.5 - 71.0	Altered Diabase - Gabbro; as described above	24184	66.5-67.5	1.0	.002
65 - 67.5	moderate amounts of disseminated pyrite locally the unit is altered with shearing + accompanying silicification + carbonatization, formation of epidote is also prominent locally				
71.0 - 87.0	fine grained interval, more intense alteration abundant carbonate + large bluish clots of quartz minor associated sulphide, foliated @ 85°; 70-85°				

DRILLED BY

SIGNED

DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 3 of 7 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
95.0 - 132.5	altered Basic Volcanic (?); fine grained thin stone, intense alteration which includes pervasive carbonatization, abundant bluish quartz eyes. Some patches of unit resemble calcareous chert with altered volcanics, with impregnated gty eyes				
95.0-96.0;	carbonatized material, foliated @ 40-45°, moderate sulphides	24185	95.0-96.0	1.0'	.002
104.0-105.5;	dark fine grained intense upper contact sharp @ 30°; unit contains abundant disseminated pyrite, py + mica cpx @ 105.0'; 1" band of massive py, ps + py @ 60-70° to C.A., unit is very cherty. Truly disseminated sulphides are associated with the numerous calcite veins, unit resembles a flow volcanic.	24186	104.0-105.5	1.5'	.004
	foliated; @ 112.0' : 40-45°				
109.0-112.0;	cherty more abundant, prominent quartz eyes, moderate to abundant bluish pyrite + ps, interlayers in appearance	24187	109.0-112.0	3.0'	.002
117.0-118.5;	more cherty, gty calcite vein at shallow angle to core ~10-15°; abundant sulphides more with some.	24188	117.0-118.5	1.5'	Tr.
132.5-135	cherty. Calcareous Tuff; well developed bleator locally, strong pervasive alteration, prominent calcite veins;	24189	132.5-135.5	3.0	.002
		24190	135.5-138.5	3.0	.004

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 4 of 7 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	Large quartz eyes, moderate to abundant staurolite & disseminated pyrite, trace to minor chalcopyrite foliated; @ 132.5'; 45°, @ 137.0'; 30°, @ 137.0'; 60-70°	24191	138.5-141.5	3.0'	.002
	@ 137.0'; 34' quartz calcite pyrite vein @ 25-30° to C.A. 137.0-137.0': foliated less prominent, large quartz eye				
141.5-165:	140.5-142.0': chlorite, patchy quartz, abundant staurolite pt & p. alted Dunit; largely medium to coarse grained, abundant carbonate, locally chlorite, large bluish quartz eyes, carbon finely disseminated pt & p.				
	148.0-150.0': fine grained, chlorite more abundant, abundant staurolite, disseminated & spidely pyrite with minor sp.	24192	148.0-150.0	2.0'	.002
	The unit is a whole contains smaller units of what appear to be tuffaceous & volcanic subordinated within the alted level	24193	150.0-152.5	2.5'	.002
	152.5-155: zone contains abundant pyrite mineralization, a mass, disseminated & stringers unit is fine grained &	24194	152.5-155.0	2.5'	.002
	more chlorite, from 153.0-152.3'; quartz vein with abundant pyrite, minor calcite @ 60-70° to C.A. @ 154.0'; 1" band & massive pyrite & quartz @ 70°.	24195	155.0-158.0	3.0'	.004
	156.0-157.0': tuffaceous unit, foliated @ 70° to C.A.	24196	158.0-161.0	3.0'	Tr
	162.0-163.0': tuffaceous unit; foliated, more chlorite, patchy chalcopyrite & pyrite.	24197	161.0-162.0	1.0'	.002
		24198	162.0-163.0	1.0'	.010

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DIAMOND DRILL RECORD

PROPERTY _____

HOLE No. _____

SHEET NUMBER _____

5 of 7

SECTION FROM _____

TO _____

STARTED _____

LATITUDE _____

DATUM _____

COMPLETED _____

DEPARTURE _____

BEARING _____

ULTIMATE DEPTH _____

ELEVATION _____

DIP _____

PROPOSED DEPTH _____

DEPTH FE	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Swastika check assays.
	@ 1647'; quartz + clots, pyrite (1/2") @ 50-55°	24199	163.0-166.0	3.0	.002	
	166.0-167.0: sulfurous siliceous; calcareous + chlorite	24200	166.0-167.0	1.0	.004	
	@ 167.0: small 1/2" grey vein @ 60° to C.A. apperite pyrite					
176.5-177.0	Quartz vein; smoky grey in colour, contains abundant pyrite + trace chalcopyrite, upper contact is sharp at 60-65°; lower contact is badly fractured	24201	176.3-177.0	0.7	Tr	
177.0-182.0	Intermediate-Mafic Volcanic; largely medium grained, calcic, prominent biotite laths, contains disseminated pyrite, numerous white veins towards the bottom of the interval.					
182.0-184.0	altered Dunitic; as described above					
	193.7-194.0; chlorite interval, disseminated py + po	24202	193.6-194.6	1.0	.004	
	200.0-200.5: as above chlorite interval, small quartz - calcite vein with disc pyrite	24203	200.0-201.0	1.0	.004	
	211.5: fine grained, perhaps is representative of altered volcanic; more chloritic, abundant banded + sharp py + particularly po, minor chalcopyrite.	24204	211.0-213.0	2.0	.004	
		24205	213.0-215.0	2.0	.004	
		24206	215.0-217.0	2.0	Tr	
	@ 212.0: stringer + banded py at 40-45° to C.A.	24207	217.0-219.0	2.0	.170	.07
	@ 211.5: stringer op/c @ 45-50° to C.A.	24208	219.0-221.0	2.0	.103	.145
	@ 214.5: patchy quartz + abundant pyrite					

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 6 of 7 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$
	216.5-221.0; zone of abundant massive bands of poe py about 1-2" in width, also contains disseminated stringe pt. poe py.				
	@ 222.0; banded pyrite (1/4-1/2") @ 50-55° to C.A.				
	@ 223.5; banded pyrite & disseminated pyrite at 45° to C.A.	21209	223.0-224.0	1.0	.002
	Alcanta of feldspar oriented to epidote				
	@ 235.0; palely quartz, 1 pyrite @ 60° to C.A.				
	@ 256.5; softness interval; calcareous foliation 2570 @ 70° to C.A.				
	268.0-282.0; fine grained phase, although still above, could possibly be a vesicle of andesite composition, numerous calcite veins, disseminated pyrite present throughout interval				
	transitional into the underlying unit.				
299.0-311.0	Intermediate Volcanic? resembles a flow as textures indicate, possibly of andesite composition, fine to medium grained, calcareous and more chloritic locally, disseminated sulphides throughout and abundant sulphides locally locally foliated, @ 300.0'; 50°.				

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DIAMOND DRILL RECORD

PROPERTY _____ HOLE No. _____

SHEET NUMBER 7 of 7 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	Swastika Check Assay
	299.0' - 307.0'; zone of moderate to abundant sulphide mineralization, banded & stringer py & po on abundant in this interval accompanied by minor stringers & disseminated chalcopite.	24210	299.0-301.0	2.0	.010	.01
		24211	301.0-303.0	2.0	.074	.075
		24212	303.0-305.0	2.0	.064	.06
		24213	305.0-307.0	2.0	.006	.005
	@ 302.0'; small (1 1/2") qty vein @ 45° to C.A. abundant patchy pyrite & po, minor cpd banding of sulphides ranges from 30-70° to C.A.	24214	307.0-309.0	2.0	.004	.005
	@ 303.5'; patchy quartz with sulphides					
	316.0-318.5'; abundant disseminated py & po, large bluish quartz veins	24215	316.0-30.5	2.5'	.002	
321.0 - 320	altered granite; largely medium grained, mineralized, coarse calcic amphibole; stringer ilmenite visible, present trace to minor disseminated sulphides					

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NOTES ON THE COMPILATION OF
AIRBORNE AND GROUND GEOPHYSICAL SURVEYS,
PART OF CHESTER TOWNSHIP, ONTARIO

for

MURGOLD RESOURCES INC.

by

Frank L. Jagodits, P. Eng.,
Consulting Geophysicist

November 1984



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	2.1 General Comments	2
	2.2 Airborne Surveys	2
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4	Appendix	10
	- Specifications	11

LIST OF ACCOMPANYING MAPS

<u>DRAWING NUMBER</u>	<u>TITLE</u>	<u>SCALE</u>
ENC - P102	Preliminary Geophysical Compilation Overlay	1" = 800 ft.
- P103	Preliminary Map - Proposed Ground Geophysical Grids	1" = 800 ft.
Support Map	Preliminary Map - Filtered VLF Data (Norminex)	1" = 800 ft.



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1. INTRODUCTION

Murgold Resources is planning detailed exploration drilling during the coming month. Part of the drilling programme will be based on results of previous geologic information (from drilling, trenching and stripping), however further drill targets will be selected from detailed geophysical surveys to be conducted contemporaneously with the drilling. During the past years the Murgold ground and the holdings of Kidd Resources which is surrounded by the Murgold claims have received considerable ground geophysical coverage. The compilation of the previous geophysical results, reported on herein intends to search for common geophysical signatures over the known mineralizations and the selection of geophysical methods to be applied, the establishment of these specifications and last but not least to help to select the drill targets based on the newly acquired data.



2. THE SURVEYS

2.1 General

The following paragraph discusses the surveys used for the compilation with appropriate comments on the results.

2.2 Airborne Surveys

In 1980 Geophysical Surveys Inc. of Quebec City conducted a multi-sensor or helicopter-borne survey covering the 'Gogama Area'. The following sensors were flown: (a) Geonics EM-33 airborne electromagnetic system, (b) Hertz Industries TOTEM 1-A VLF-EM system (transmitter: NAA, Cutler, Maine, $f = 17.8$ kHz) and (c) Geometrics G803 proton precession magnetometer. The nominal separation between the north-south survey lines is 660 ft. It would appear that the survey was conducted on behalf of a consortium and the map sheet entitled: 'Part of Neville and Chester Township' was used for the compilation.

The Geonics EM-33 system employs a vertical, co-axial, transmitter-receiver coil-pair operating at a frequency of 736 Hz. The map sheet is singularly lacking of em anomalies, hence the single 'questionable' anomaly near the No. 20 Showing is significant. The lack of em anomalies is not entirely surprising when the low operating frequency is taken into account. However, it is believed that careful analysis of the analogue records would result in additional weak anomalies, perhaps only expressed in the quadrature component.

The larger amplitude airborne VLF-EM responses are associated with lakes, but extending beyond the confines of the lakes indicating structural control. The careful analysis of the profiles indicated other lower amplitude responses. The dominant strike is nearly east-west (west-northwest and east-northeast). The Murgold No. 220 Showing and the Kidd Resources deposit to the



west of the showing have associated airborne VLF-EM responses, however the Chester Zone No. 1 lacks in airborne response. Later ground surveys generally confirmed the airborne conductors.

Valuable regional information was gained from the airborne magnetics. In the vicinity of the area of immediate interest two lithological units stand out clearly: (a) the north-south striking younger dykes and (b) a nearly north-west striking magnetic horizon which is off-set by north-northwest shears and/or faults. Northeast and northwest striking regional faults and/or shear zones are also suggested by the aeromagnetics.

2. Ground Surveys

2.3.1 VLF-EM Surveys

Norminex Ltd. of Sudbury conducted surveys on behalf of Murgold in 1981 and 1983. The surveys were carried out along nominally north-south lines, which were 600 ft. apart. Observations were made at intervals of 100 ft. using the Geonics EM 17. The survey lines and stations were located using pace and compass technique, hence their location is uncertain.

The survey has outlined numerous nearly east-west conductors of which one shows close correlation with the No. 20 Showing. Two other conductors V1 and V2 are significant. Conductor V1 could be considered as a westerly extension of Conductor V4 associated with the Chester Zone 1. The correlation between Conductor V2 and Conductors V6 and V7 associated with the North Chester Zone 1 is not as persuasive.

VLF-EM surveys by Rockwell Mining Corporation cover the central area now held by Kidd Resources and an area west of Weeduck Lake. The



survey line interval varies from 200 ft. to 400 ft. (in some instances it is larger) with stations at every 50 ft. or 100 ft. The Geonics EM17 unit was employed.

IP anomalous zones and the preliminary interpretation of the magnetic surveys by Rockwell (to be discussed later) were transferred to the VLF-EM map for the compilation. The only reasonable control for the compilation is provided by the claim post just west of the No. 20 Showing, hence the location of these data is in doubt to a certain degree.

Nearly east-west striking VLF-EM conductor complex V3 correlates with the Chester Zone 2, just west of the Murgold No. 20 Showing. Conductors V4 and V5 show close correlation with the Chester Zone 1. The correlation between the North Chester Zone 1 and Conductors V6 and V7 is not as clearly established.

The most recent survey is by Murgold Resources covering Grid 1 located over the No. 20 Showing extending to the west as well as to the east. The line interval is 200 ft. with 100 ft. observations. The survey instrument was a Geonics EM17. It is noted here that the Cutler, Maine (NAA) VLF transmitter was used for all the above surveys. During periods when the Cutler transmitter was off the air the Jim Creek (Seattle, Washington NIK) was used.

The results of the detailed survey of Grid 1 closely resemble that of the Rockwell results, although local discrepancies are observable. The results clearly show the association between the No. 20 Showing and the VLF responses.



2.3.2 Induced Polarization Surveys

A report (for Kingbridge Mines Ltd.) dated February 4th, 1971 by McPhar Geophysics Ltd. describes the results of a frequency domain survey covering the area between Mill Pond and Arethusa Lake. An electrode separation of 400 ft. was used which is considered too large for the targets now sought. Two anomalous zones were outlined. The northern Anomaly A suggested to be caused by a narrow (less than 400 ft. wide) tabular source at an approximate depth of 200 ft. Shallow northerly dip was interpreted by McPhar. The depth of the narrow body causing Anomaly B in the south was given as about 200 ft. The interpreted dip is to the south.

Norman Paterson and Associates Ltd. have conducted time domain IP surveys for H. B. & O Engineering Ltd. over the 'Rock Zone Property' covering the area just west of Weeduck Lake. The report is not available hence the data and specifications of the survey are not known. Judging from the notes on the available map, the survey may have taken place during 1972.

Four east-west anomalous zones were outlined. The north and south zones exhibit a strike length of about 1200 ft. The northeast trending zone (the third one from the north) appears to extend into Weeduck Lake and beyond albeit the amplitudes are lower ('weak anomalies'). Clear correlation between VLF conductors and IP anomalies is not in evidence, except in two cases, but associated VLF conductors are recognized (e.g. the southern IP anomalous zone).

The results of a detailed IP survey over the Chester Zone 1 are given on a contour map of chargeabilities. It is assumed that the work was conducted by Rockwell. The lines are 100 ft. apart and the chargeability values are shown at every 50 ft., suggesting that an



electrode separation of 50 ft. was used. It is further assumed that the values shown were obtained at a dipole separation of $n = 1$ (50 ft.). The anomalous zones outlined on the Compilation Map cover chargeabilities exceeding 40 msec(?).

Four east-west striking zones were outlined. The southern, most continuous zone correlates with the Chester Zone 1 and it is in direct correlation with VLF Conductor V4. Conductor V5 is along the northern interpreted limit of the shorter IP anomalous zone just north of the southern main zone. The northernmost, somewhat discontinuous zone referred to as the North Chester Zone 1 contain the highest chargeabilities (greater than 100 msec(?)). The western two segments of this zone are open to the north. Conductors V6 and V7 are associated with this northernmost zone. It is significant that the eastern and western members of the northernmost IP zone are situated along the northeast and northwest striking shear zones (interpreted from airborne magnetics) F1 and F2 respectively. Furthermore, the westernmost end of the Chester Zone 1 occurs at the intersection of the above mentioned two interpreted faults and Conductor V4. Implication that the mineralization is being structurally controlled is further enhanced by the north-south trending dykes to the north and to the south (indicated by airborne as well as ground magnetics) which may also intersect the mineralized horizon.

2.3.3. Ground Magnetic Surveys

Norminex(?) conducted ground magnetic surveys in conjunction with the VLF-EM surveys. The results are not contoured; partial contouring of the data is now progressing.

The Rockwell(?) 1981-1982 detailed magnetic survey covers the Chester



Zone 2. The lines are 20 m apart with stations at every 20 m. The magnetic contour map clearly shows the numerous north-south trending younger dykes which cut the eastern parts of the Chester Zone 2. The northwest striking magnetic horizon delineated by the airborne magnetics is also well defined.



3. CONCLUSIONS AND RECOMMENDATIONS

Previous work by Murgold and other companies indicate that the gold occurs (a) in association with quartz veins and (b) in association with semi-massive but mainly disseminated sulphides near shear zones. The sulphide include pyrrhotite, pyrite and minor chalcopyrite. Searching for the first kind of gold occurrence with geophysical surveys is a very difficult if not impossible task unless other factors come into play, e.g. conductive contact on the quartz veins. However, the search for the second kind of occurrence is amenable to geophysical approach as testified by the results of the geophysical work to date.

The compilation of the geophysical data indicate that the prime targets for gold occurrence are the locations where VLF anomalies, which are interpreted to be caused by current channelling along conductive structures and locally enhanced by induction due to sulphide mineralization are coincident with IP anomalies due to disseminated and semi-massive sulphide mineralization. The influence of the later dykes on the mineralizing process is not understood. Nevertheless they appear to be spatially related to the known occurrences. Hence magnetic data can provide useful additional criteria by locating the younger dykes, by indicating additional structural controls which are non-conductive and by outlining horizons rich in pyrrhotite.

Therefore it is recommended that the areas of most interest, namely the vicinity of the No. 20 Showing and the area west of Weeduck Lake should be covered with detailed VLF-EM and magnetic surveys. Based on the above results, selected induced polarization surveys should be conducted after initial orientations surveys over the No. 20 Showing.

Detailed VLF-EM and magnetic surveys covering the area between Mill

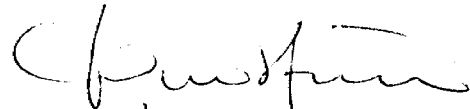


Pond and Arethusa Lake would establish relationships with the old IP results and would locate sites for detailed IP surveys. The fourth area of interest would be along Conductor V9 defined by the Norminex survey.

The survey of the area south of the No. 20 Showing would explore the potential of Conductor V8 (which may be related to Conductors V1, V4 and V5) and Conductor V10.

Detailed specifications for the surveys are given in the Appendix.

Respectfully submitted,



Frank I. Jagodits, P. Eng.,
Consulting Geophysicist.

FIJ: sb

November 14, 1984



4. APPENDIX



SPECIFICATIONS

1. Ground Magnetic and VLF-EM Surveys

1.1 Survey Grids, Line Interval, Pickets

There are two grids to be surveyed which are shown on the enclosed map :

- (1) No. 20 Showing Grid
- (2) Weeduck Lake Grid

The basic survey line interval is 200 ft., which is increased to 400 ft. south of the trail in the No. 20 Showing Grid. Base lines and tie-lines are to be established as shown. Survey lines, base lines and tie-lines are picketed at every 50 ft. In addition the east-west claim lines of the Weeduck Lake Grid and the most northern claim line of the No. 20 Showing Grid will have to be picketed at 50 ft. intervals.

1.2 Line Cutting

The base lines and tie-lines are to be established using a transit. Back-chaining will not be acceptable. The pickets are to be numbered using lumber crayons. The line cutting contractor will provide line cutter's map(s) showing the chainages along the base line(s), tie-lines and survey lines. This map will also show major planimetry (lakeshore, roads, trails, etc.) with the chainages appropriately indicated.

1.3 Magnetic Survey

1.3.1 Specifications

The total magnetic field will be measured at stations 25 ft. along lines, base-lines, tie-lines and east-west claim lines (indicated on the enclosed map) employing a proton precession magnetometer with a sensitivity of \pm one gamma.



The diurnal variations of the magnetic field will be monitored by a recording base station magnetometer system. The survey data will be corrected for the day-to-day and diurnal variations of the field using the output of the base station.

The first observations made with the base station system will serve as the reference value for the surveying of both grids ensuring that the results of the two grids are tied together.

Surveying will have to be suspended during magnetic storms.

1.3.2 Presentation of the Data

(i) Base Maps

The geophysical contractor will prepare base maps on stable-based material using the data provided by the line cutter's map. The map will show base lines, tie-lines, survey lines, the surveyed (by geophysics) claim lines, stations and major planimetry. The scale will be 1 inch = 200 ft.

(ii) In-Field

The rapid, day-to-day presentation of the data is necessary for planning drilling locations. Two formats will be required: (a) if an EDA instrument package is used: profile plots using the HP85 printer and (b) preliminary field map at a scale of 1 inch = 200 ft. showing the corrected data.

A constant can be subtracted from the corrected field data. This constant is to be clearly marked on the map together with the reference value at the base station. If the base station is situated within the grid, the location will also be shown.



(iii) Final Presentation

The final magnetic data will be presented in two formats on stable-based copies of the base maps: (a) the corrected magnetic observations at each station, (b) as contours, the basic contour interval being 10 gammas (nT) with suitably larger intervals in areas of steep magnetic gradient.

Both maps will show the constant subtracted from the corrected field data as well as the reference value at the base station. The location of the base station should be also indicated if the station is within the grids.

1.4 VLF-EM Surveys

1.4.1 Survey Specifications

The in-phase and quadrature components of the VLF magnetic field will be observed at stations 50 ft. apart employing the Geonics EM16 instrument. The operator will have to clearly indicate the direction into which the operator was facing while making the observation. This direction is to remain constant during the survey.

1.4.2 Transmitter

Cutler, Maine, NAA; Azimuth: $101^{\circ}T$,
distance: 970 km., f: 24 kHz

1.4.3 Presentation of the Results

(i) In-Field

The day-to-day plotting of the in-phase and quadrature profiles is imperative for the planning of the induced polarization surveys. The profiles are to be plotted on maps at a scale of 1 inch = 200 ft. If



the final base maps are not completed, the profiles are to be plotted on an idealized grid. An appropriate vertical scale will be selected. The map will have to show the direction into which the operator was facing.

(ii) Final Presentation

The presentation will be on stable-based copies of the base maps. The data will be presented in two formats: (a) as profiles of the in-phase and quadrature components and (b) as contours of the filtered in-phase component. The filter to be used will be decided upon after the inspection of the profile data. The filtered values will also be shown on this map, positive and negative values being written on opposite sides of the survey line to facilitate easier contouring. The contour interval will depend on the amplitude of the filtered anomalies. Both maps will show the direction into which the operator was facing.

2. Induced Polarization Surveys

2.1 Instrumentation

The survey will be conducted employing either a time domain or phase IP system. If a phase IP system is utilized, the phase should be observed at two frequencies as a minimum.

2.2 Survey Specification

2.2.1 Orientation Survey

At the commencement of the survey two lines will be surveyed over the No. 20 Showing to establish the electrode spacing to be used. These lines will be surveyed with electrode separations (a) of 50 ft. and 100 ft. using the dipole-dipole electrode array. Observations



will be made at dipole separations (n) of 1 to 6. The length and the locations of the lines will be determined in consultation with the Murgold representatives and the Consulting Geophysicist.

2.2.2 Routine Survey

The specification regarding "a" and "n" will be decided upon the results of the Orientation Survey. The locations of the lines to be surveyed will be determined on the basis of the VLF-EM and magnetic survey results in consultation with the representative of Murgold and the Consulting Geophysicist.

2.3 Presentation

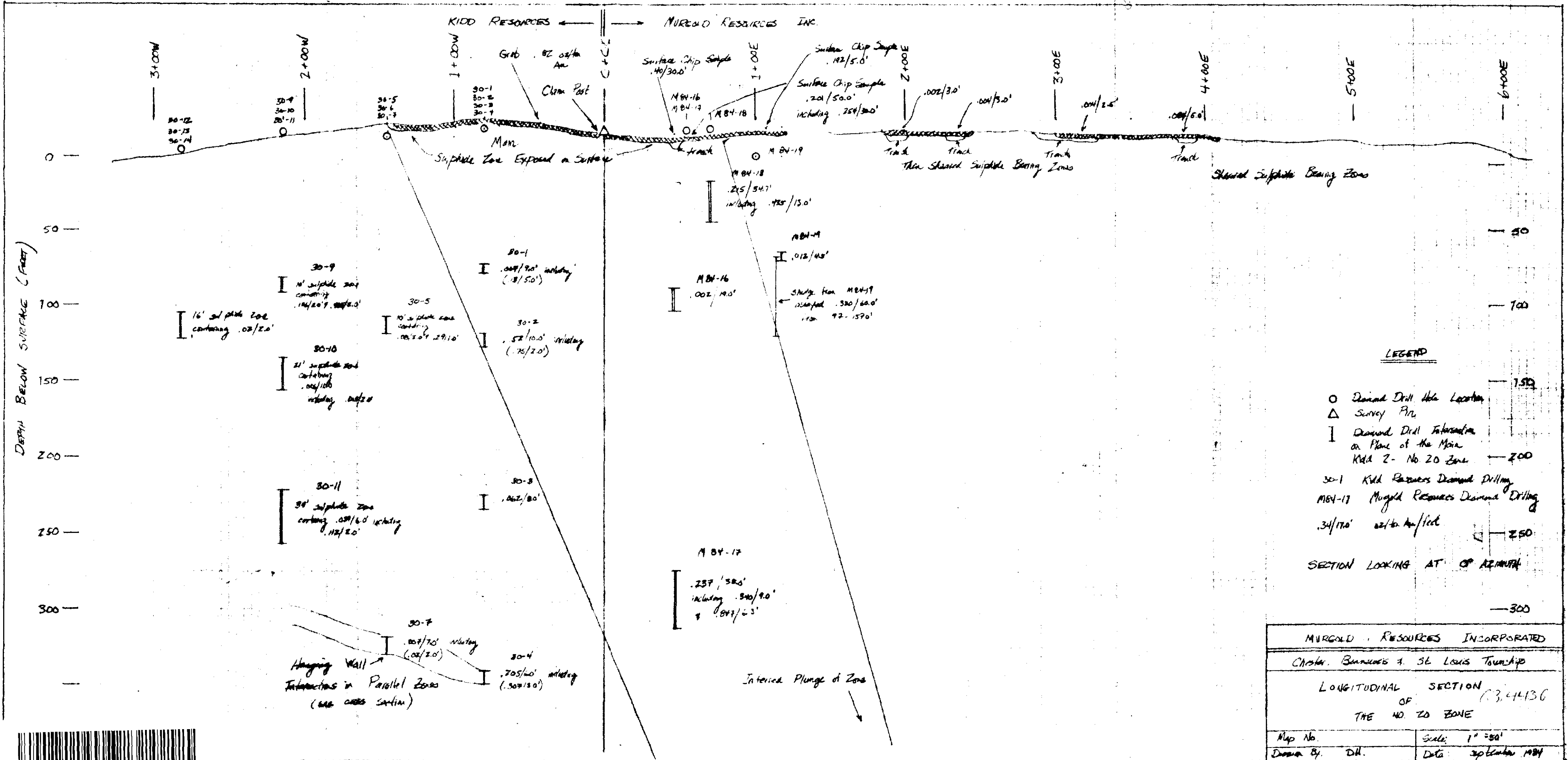
2.3.1 In-Field

The results will have to be plotted in the form of pseudo-sections of the apparent resistivity, apparent chargeability (slice to be selected) or apparent phase (frequency to be selected) and apparent metal factor equivalent every day at a scale of 1 inch = 200 ft.

2.3.2 Final Presentation

The final presentation will be in pseudo-section format. These may be generated by a mechanical plotter on reproduceable material.

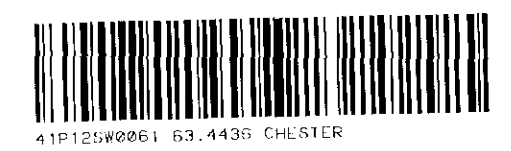


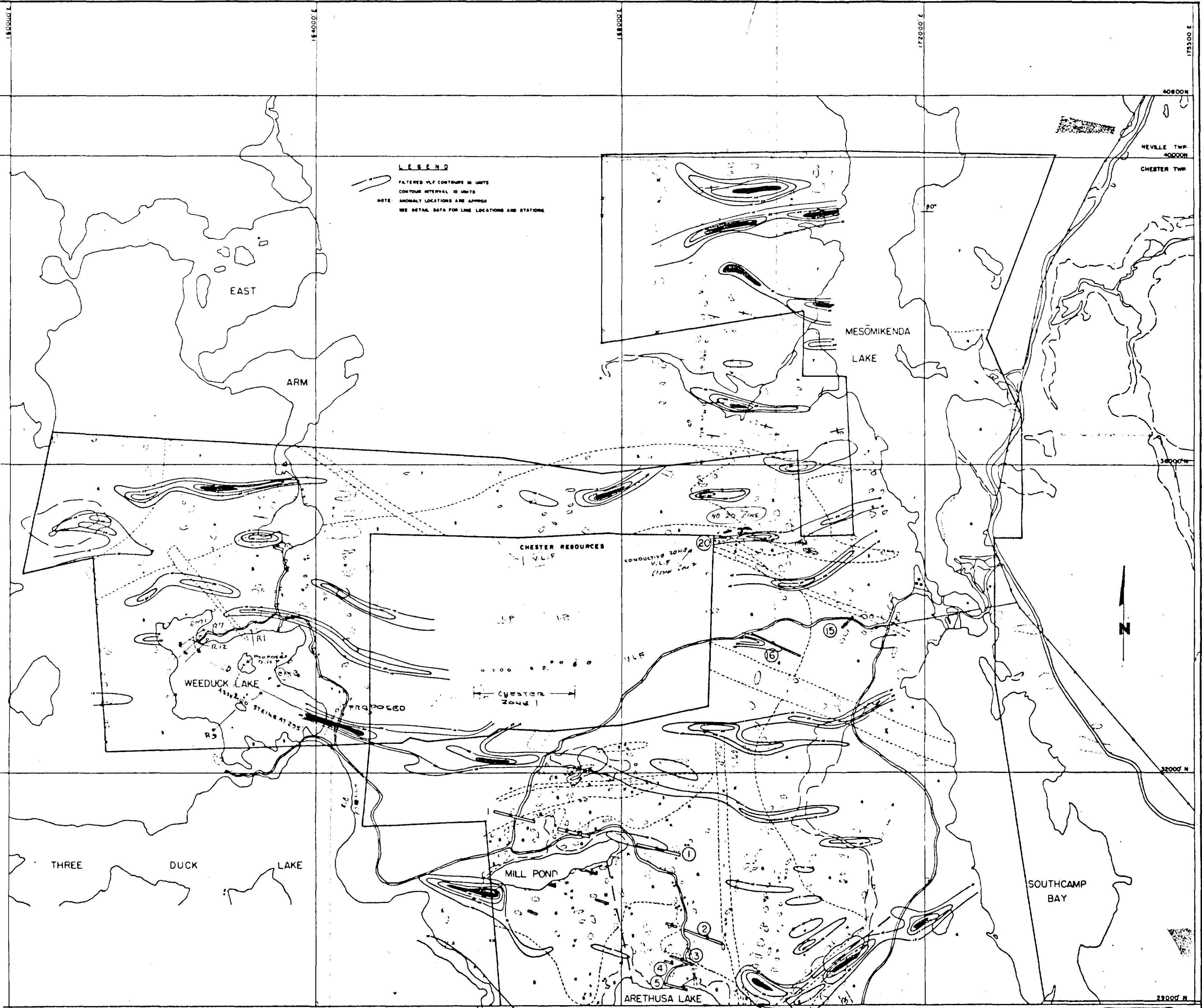


LEGEND

- Diamond Drill Hole Location
 - △ Survey Pin
 - I Diamond Drill Information on Plane of the Moine
 - Kidd 2- No. 20 Zone
 - 30-1 Kidd Resources Diamond Drilling
 - MB-17 Murgold Resources Diamond Drilling
 - .34/170' @ to top of bed
- SECTION LOOKING AT 0° AZIMUTH

MURGOLD RESOURCES INCORPORATED	
Carter, Barnes & St. Louis Township	
LONGITUDINAL SECTION OF THE NO. 20 ZONE (3,4436)	
Map No.	Scale: 1" = 50'
Drawn By: D.H.	Date: September 1984



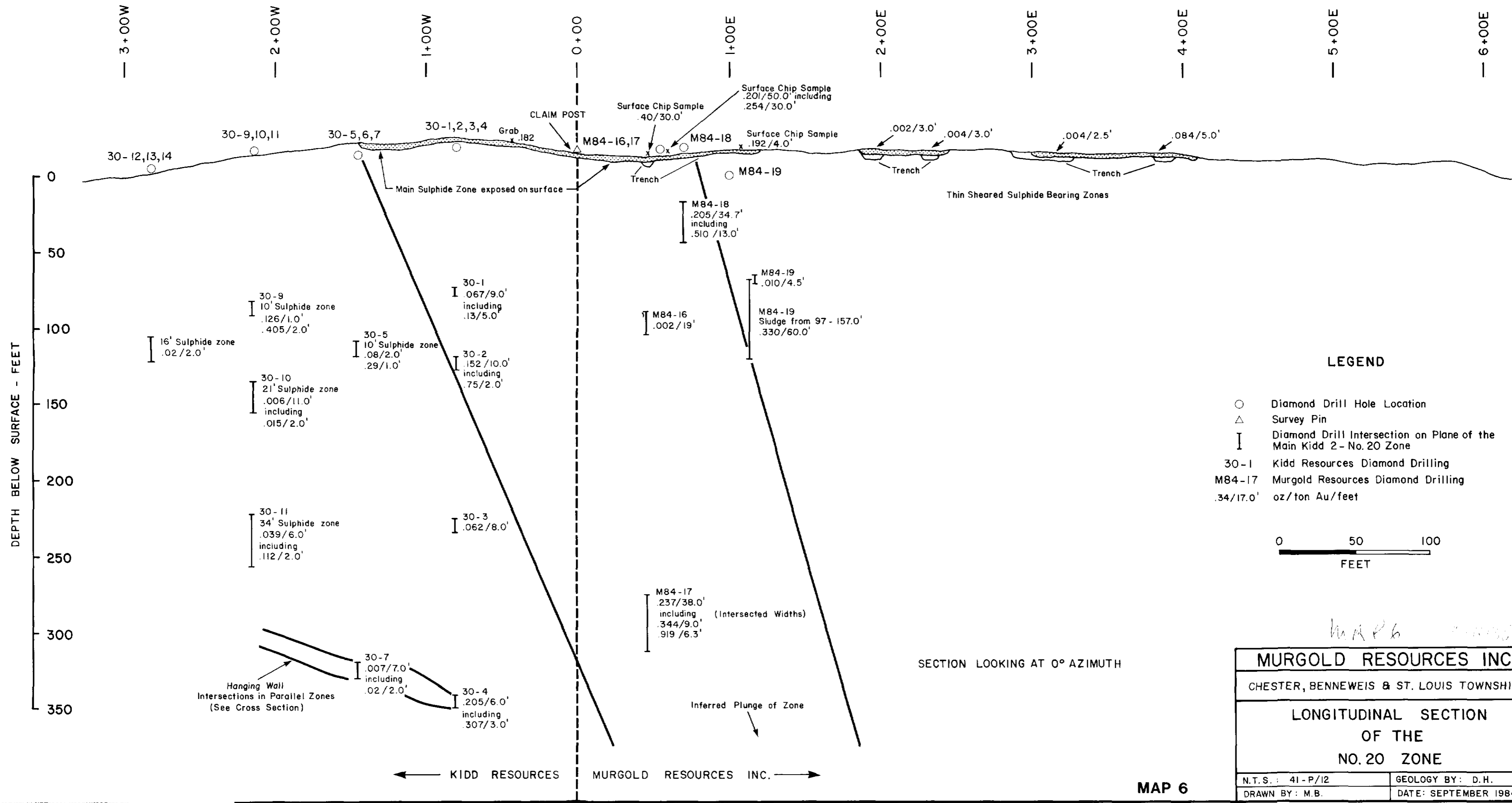


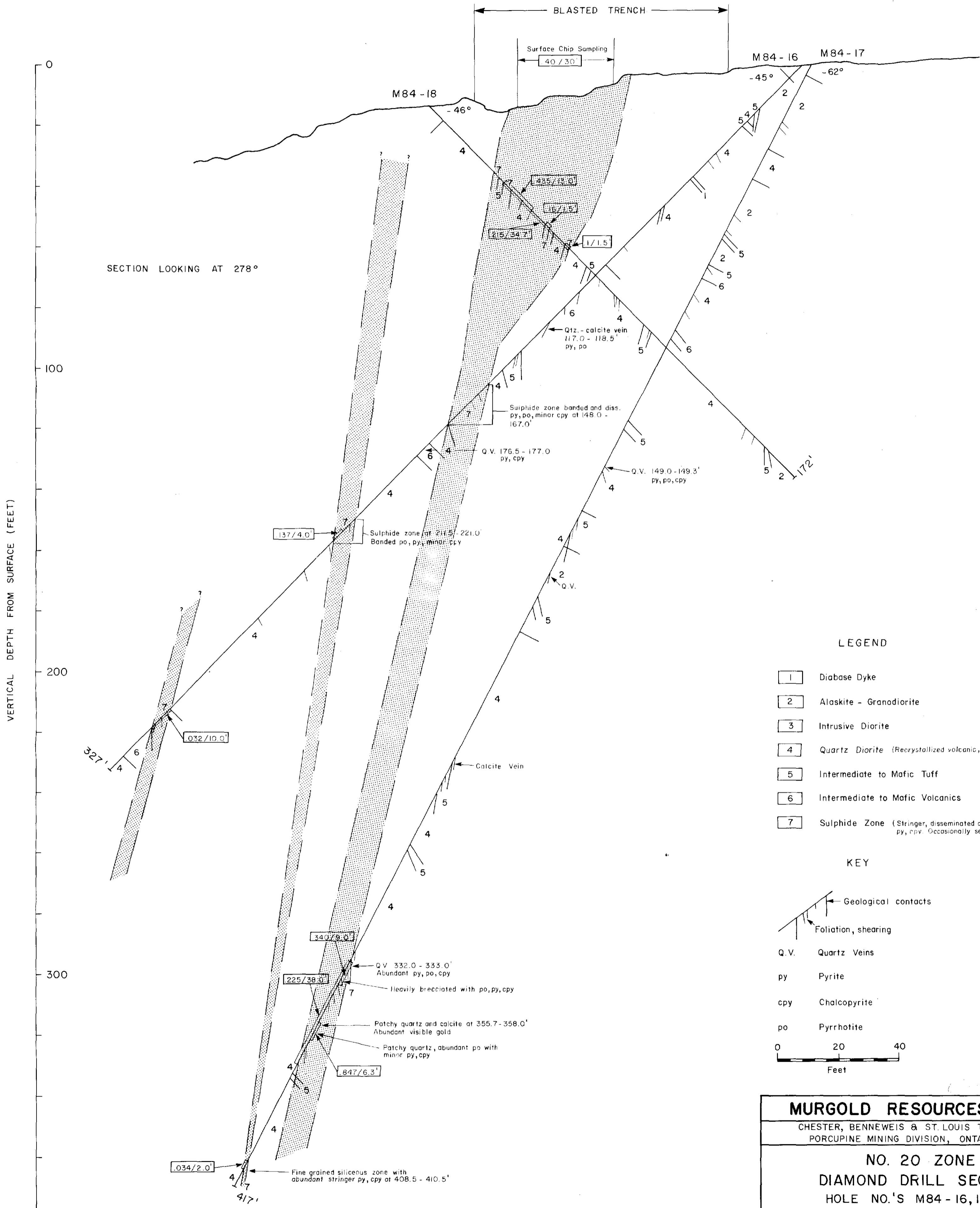
LEGEND
 FILTERED VLF CONTOURS IN UNITS
 CONTOUR INTERVAL 10 UNITS
 NOTE ANOMALY LOCATIONS ARE APPROX
 SEE DETAIL DATA FOR LINE LOCATIONS AND STATIONS



41P125W8861 63.4436 CHESTER







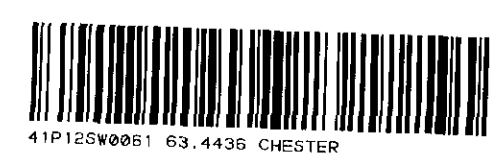
LEGEND

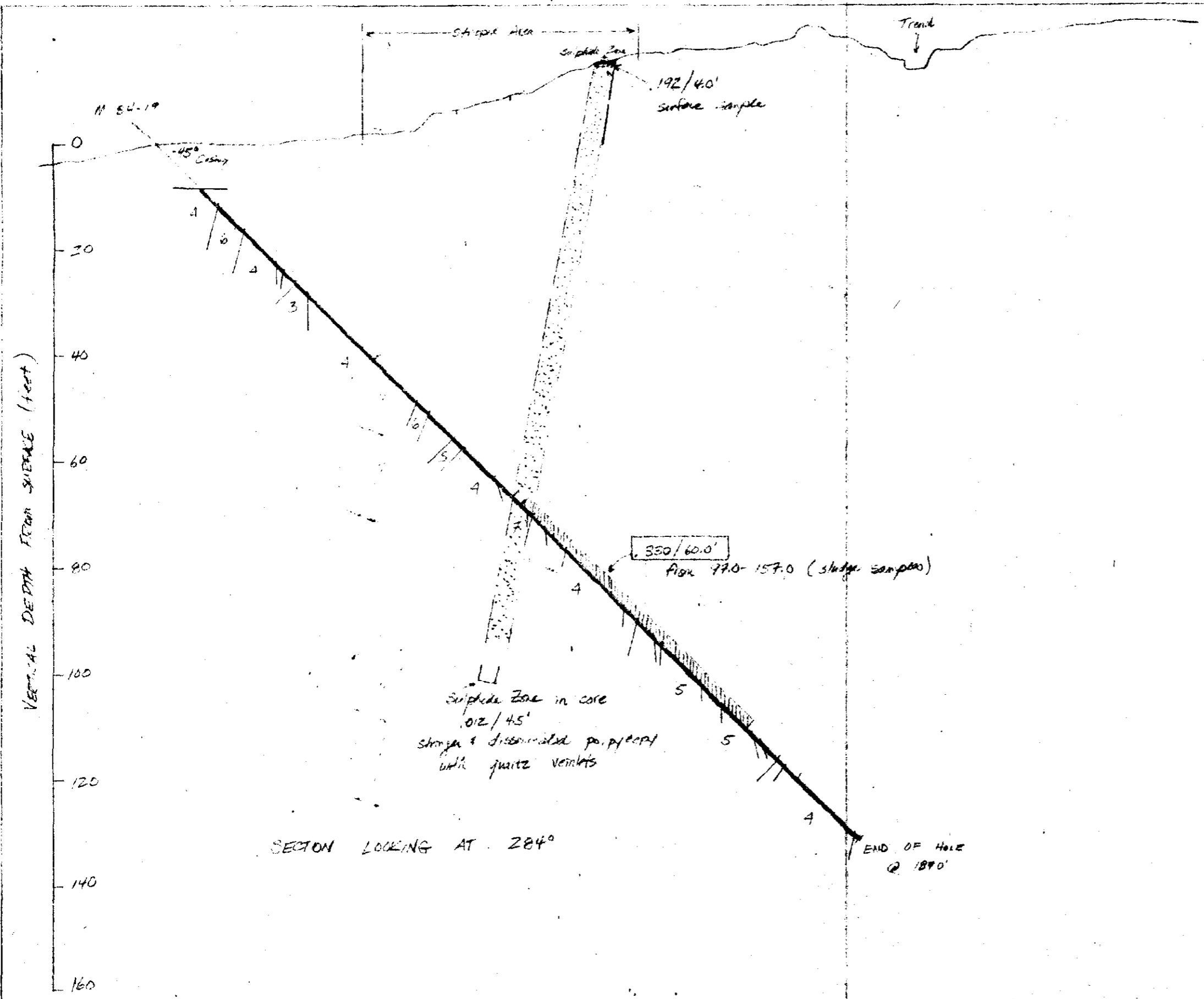
- 1 Diabase Dyke
- 2 Alaskite - Granodiorite
- 3 Intrusive Diorite
- 4 Quartz Diorite (Recrystallized volcanic, tuffaceous units)
- 5 Intermediate to Mafic Tuff
- 6 Intermediate to Mafic Volcanics
- 7 Sulphide Zone (Stringer, disseminated and banded py, cpy. Occasionally semi-massive)

KEY

- Geological contacts
- Foliation, shearing
- Q.V. Quartz Veins
- py Pyrite
- cpy Chalcopyrite
- po Pyrrhotite

MURGOLD RESOURCES INC.	
CHESTER, BENNEWEIS & ST. LOUIS TOWNSHIPS PORCUPINE MINING DIVISION, ONTARIO	
NO. 20 ZONE DIAMOND DRILL SECTION HOLE NO.'S M84 - 16, 17 & 18	
N.T.S.: 41 - P/12	GEOLOGY BY: D.H.
DRAWN BY: M.B.	DATE: AUGUST 1984





LEGEND

- 1 Pinbas Dike
- 2 Alaskite-Granodiorite
- 3 Intrusive Diorite
- 4 Quartz Diorite (probable resynthesized volcanic and/or magmatic units)
- 5 Intermediate to Mafic Tuff
- 6 Intermediate to Mafic Volcanics
- Sulphide Zone (strongly disseminated & banded pyrrhotite, occasionally sphalerite)

KEY

- Geological Contacts
 - Foliation & Shearing
 - QV. Quartz Veins
 - Py. Pyrite
 - Chp. Chalcopyrite
 - Po. Pyrrhotite
- 0 20 40 ft.

SECTION LOOKING AT 284°

END OF HOLE @ 180'

MIRGOLD RESOURCES INCORPORATED	
CHESTER, BURNHAM & ST. LOUIS TOWNSHIPS PORCUPINE MINING DIVISION, ONTARIO	
NO. 20 ZONE DIAMOND DRILL SECTION HOLE NO. M 84-17	
63,4436	
NTS.: 41 - PHZ	GEOLOGY BY: DH.
DRAWN BY:	DATE: AUGUST 1982



30 000' N

30 000' N

29 800' N

29 800' N

29 600' N

29 600' N

29 400' N

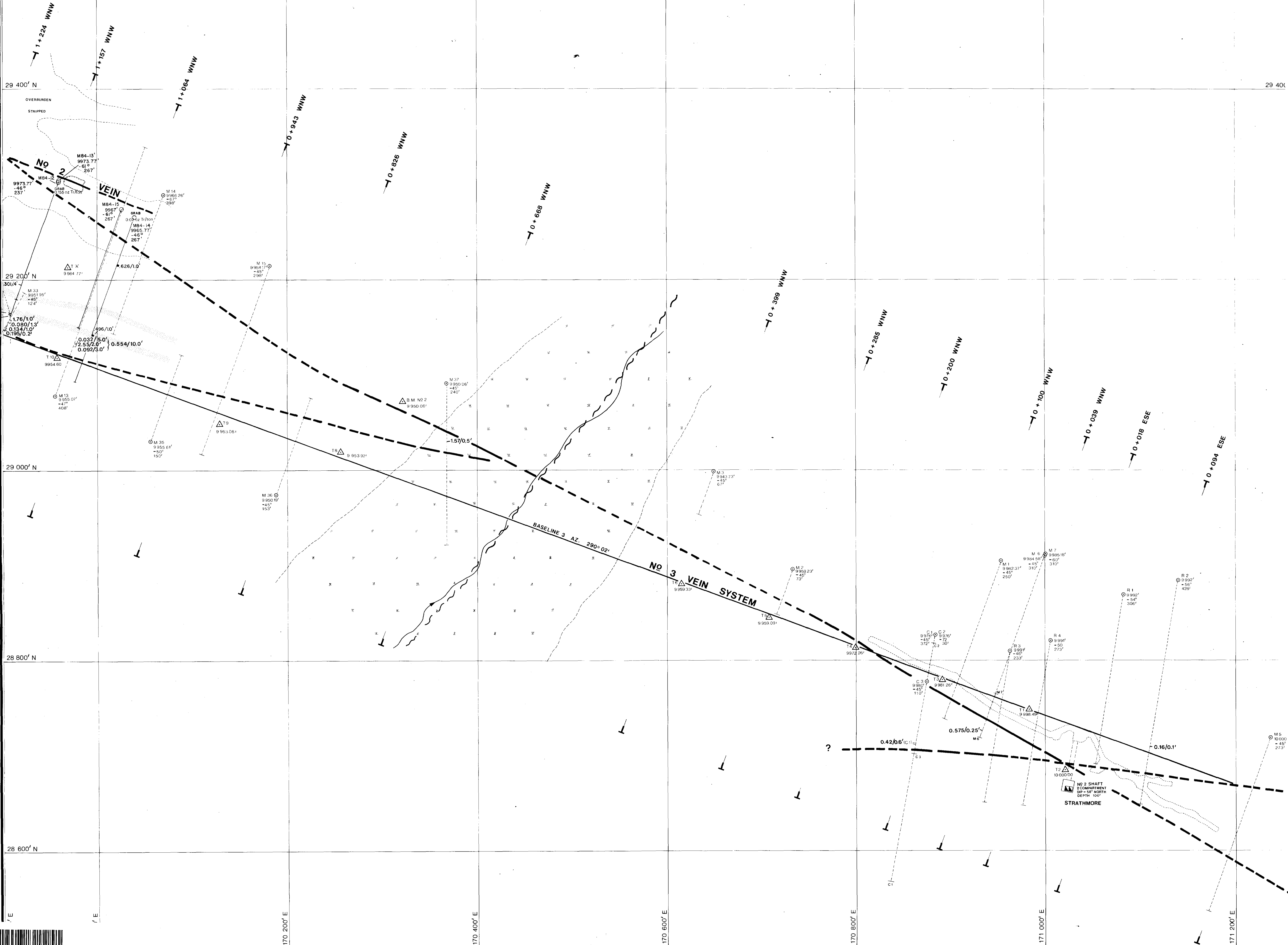
29 400' N

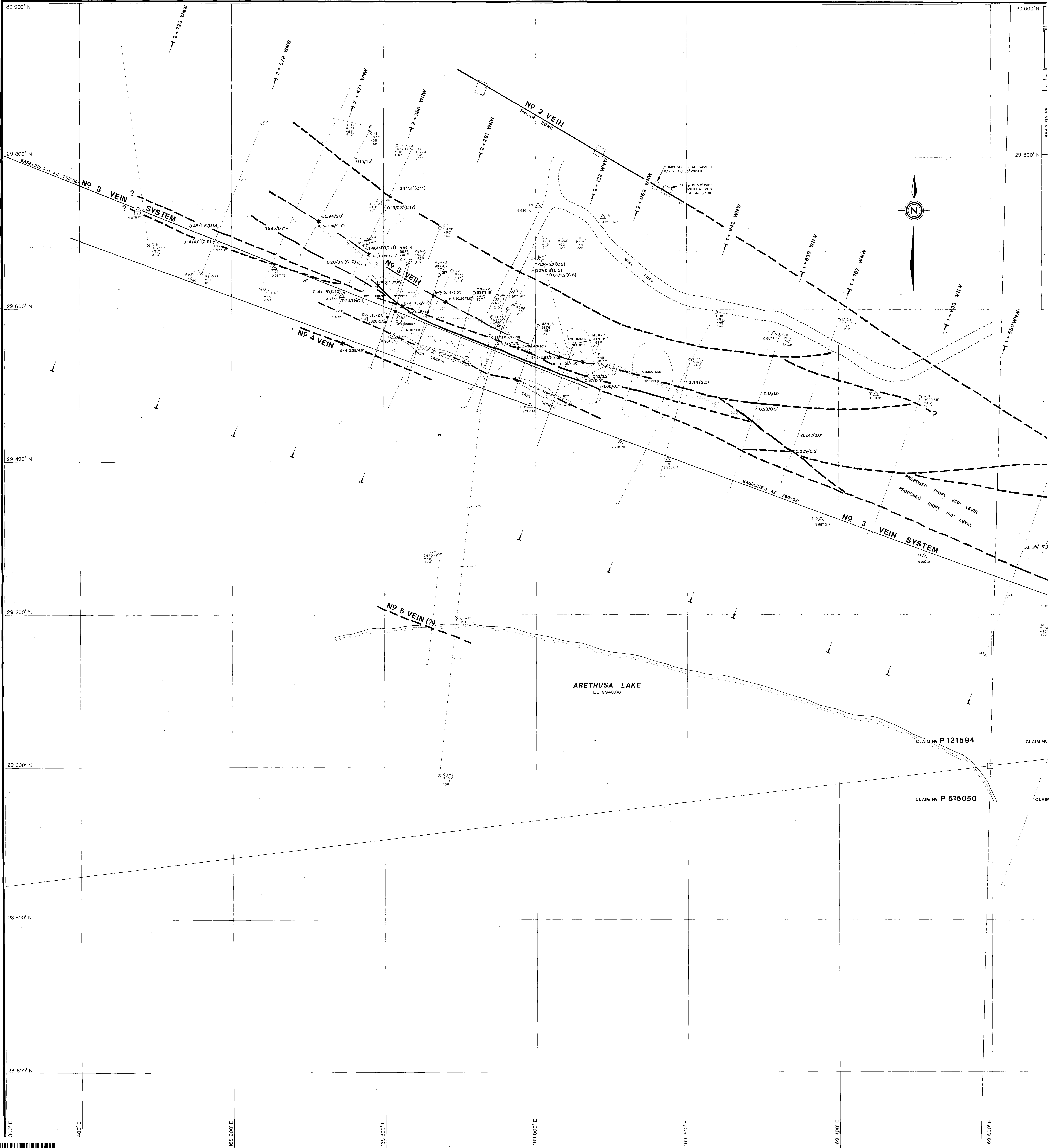
29 200' N

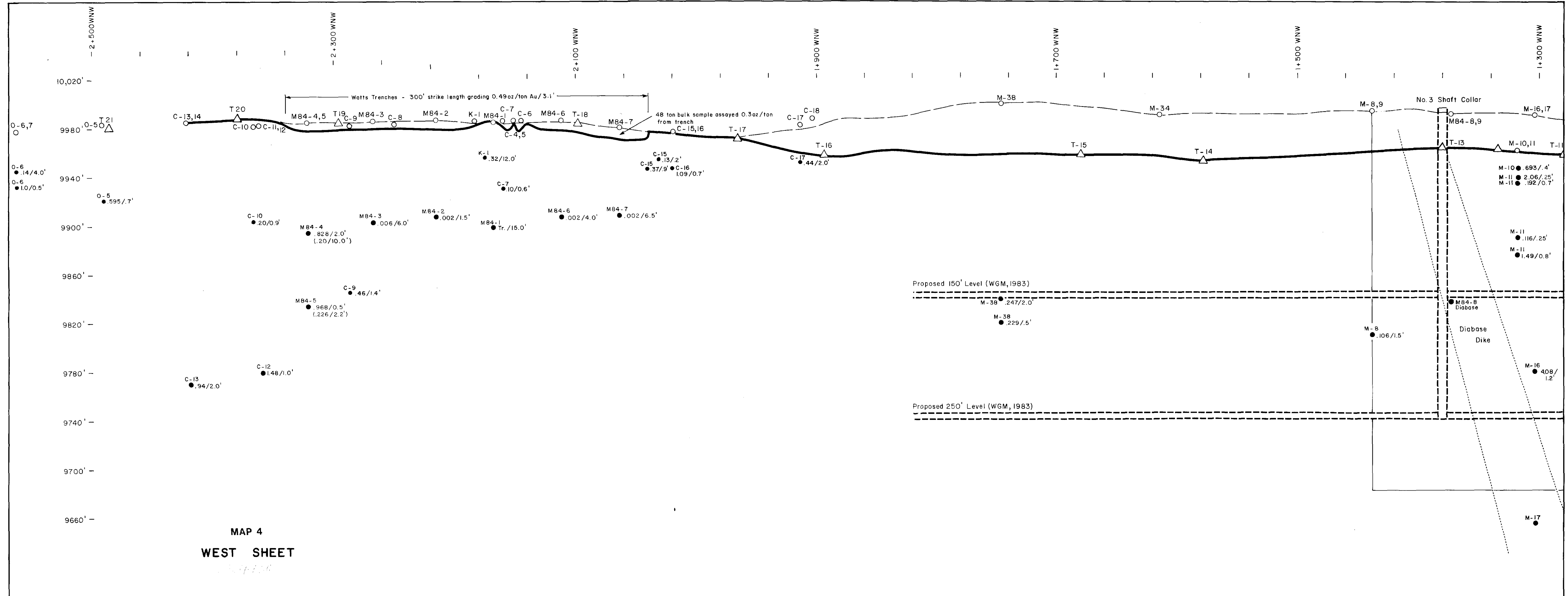
29 000' N

28 800' N

28 600' N







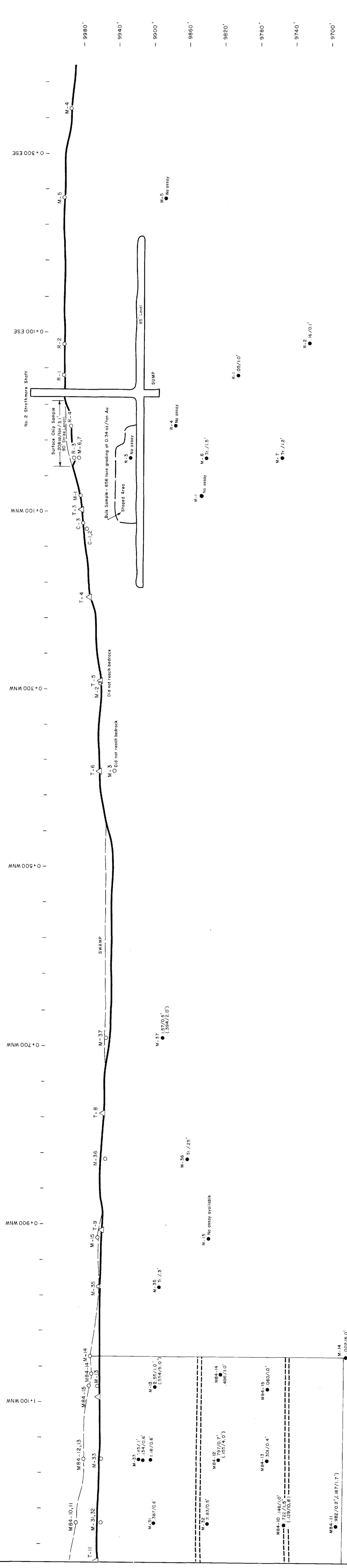
LEGEND

- △ SURVEY PIN
- DIAMOND DRILL LOCATION
- DRILL INTERSECTION ON PLAN OF THE NO. 3 VEIN
- R RINALDI DRILLING, 1963
- C CHESGO DRILLING, 1948
- O OLYMPIA DRILLING, 1975
- K KINGBRIDGE DRILLING, 1970
- M MURGOLD DRILLING, 1982
- M84 MURGOLD DRILLING, 1984
- .15/.43' OZ / TON Au / FEET
(INTERSECTIONS ARE APPROXIMATE TRUE WIDTHS)

MURGOLD RESOURCES INCORPORATED
 CHESTER, BENNEWEIS & ST. LOUIS TOWNSHIPS
 PORCUPINE MINING DIVISION, ONTARIO

**LONGITUDINAL SECTION
 OF THE
 NO. 3 VEIN SYSTEM**

N.T.S. 41 - P/12 SCALE 1" = 40'
 MAPPED BY D. H. DRAWING NO.
 DRAWN BY DATE SEPT. 1984



MAP 3

EAST SHEET

10 000' ELEVATION

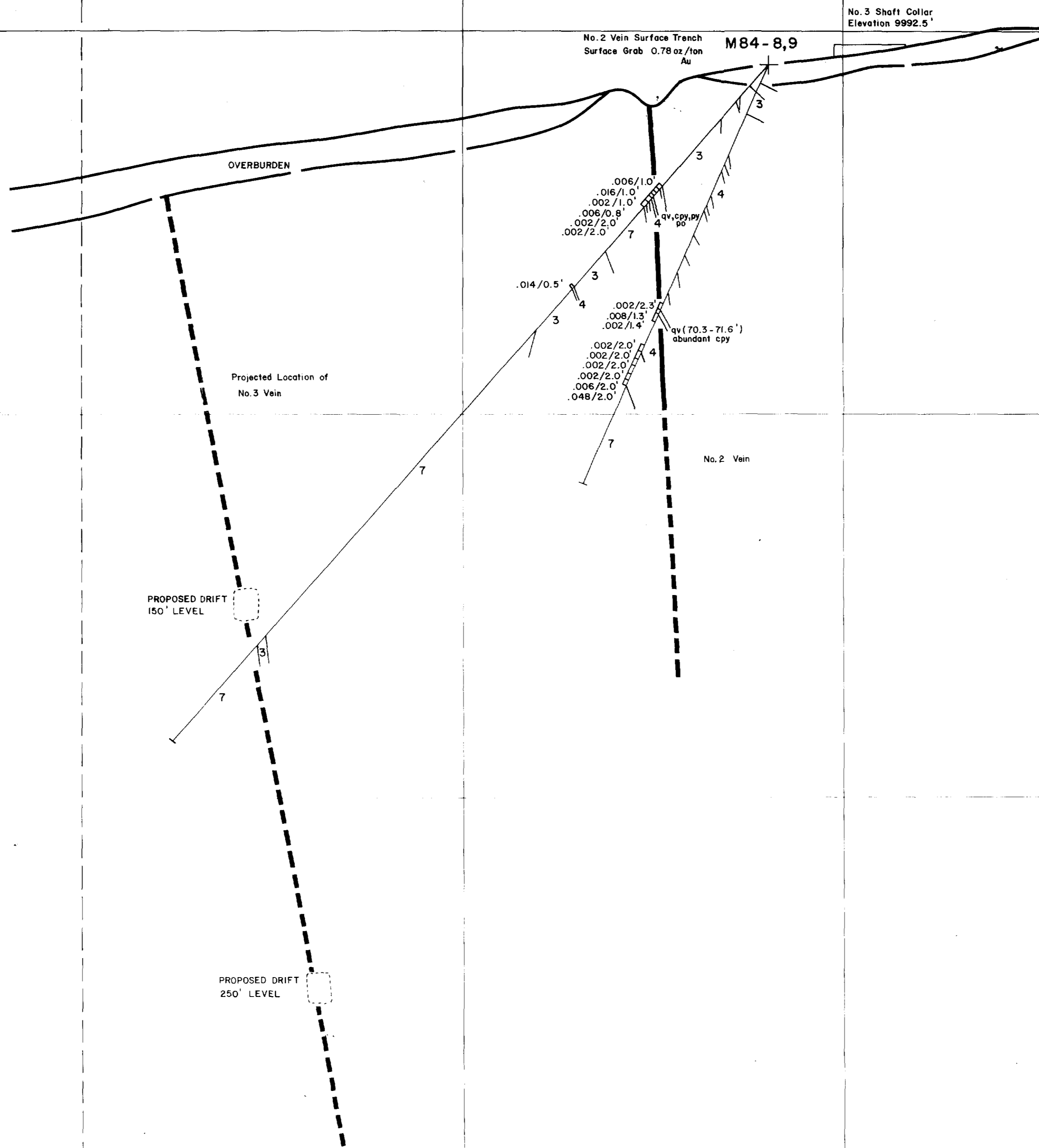
9 900'

9 800'

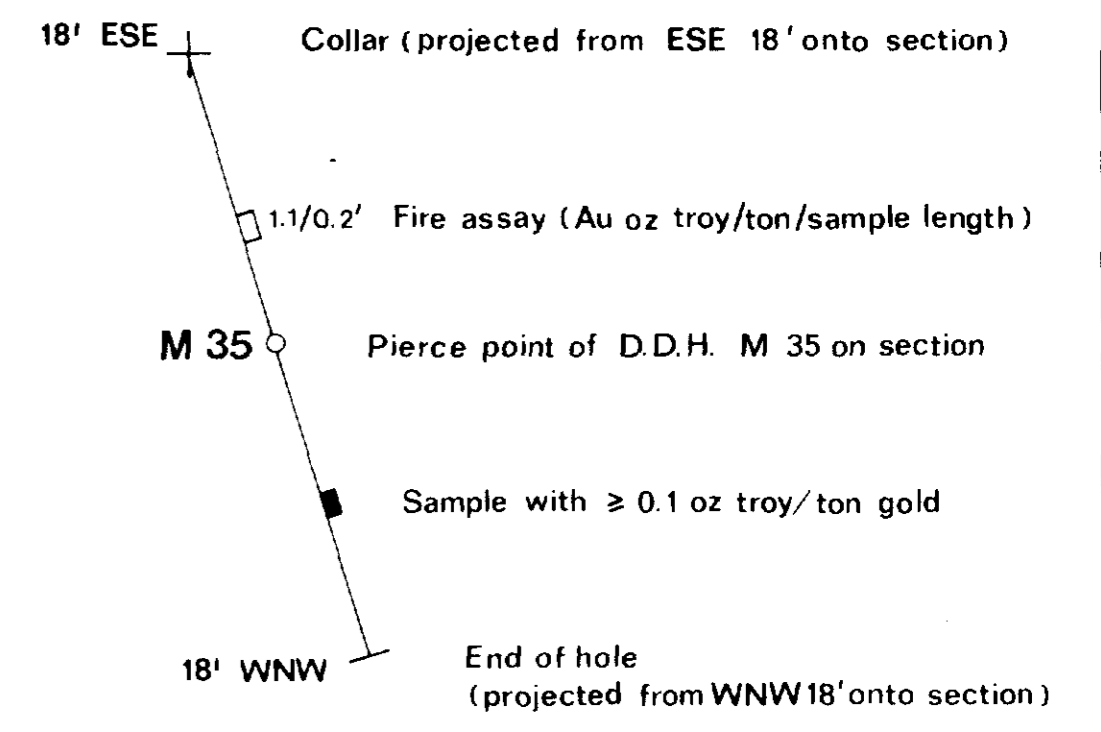
9 700'

9 600'

BASELINE



LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M Drilled for Murgold
- G Drilled for Gomak
- R Drilled for Rinaldi
- K Drilled for Kingbridge
- O Drilled for Olympia
- C Drilled for Chesgo

ROCK TYPES

- 1 Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine grained intrusive.
- 2 Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, massive to foliated.
- 3 Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4 Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5 Alaskite - Granodiarite: Largely fine to medium grained, usually unaltered.
- 6 Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- 7 Diabase Dyke

MINERALIZATION

- cpy chalcopyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

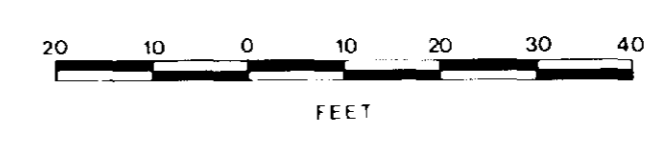
- Defined
- Approximate
- - - - - Inferred

Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

CROSS-SECTION LOOKING WNW



7	
6	
5	
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3	
2	
1	Revised Dec. 1984. Geology by D.H. Drawn by M. B.

Watts, Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM
SECTION 1 + 378 WNW
D.D.H. M84-8,9

SCALE 1" = 20'	SURVEY MURGOLD	APPROVED PGL
DRAWN BY FIONA	DATE 1983/01/31	PROJECT NO. 308-6 DWG NO. 1



10 000' ELEVATION

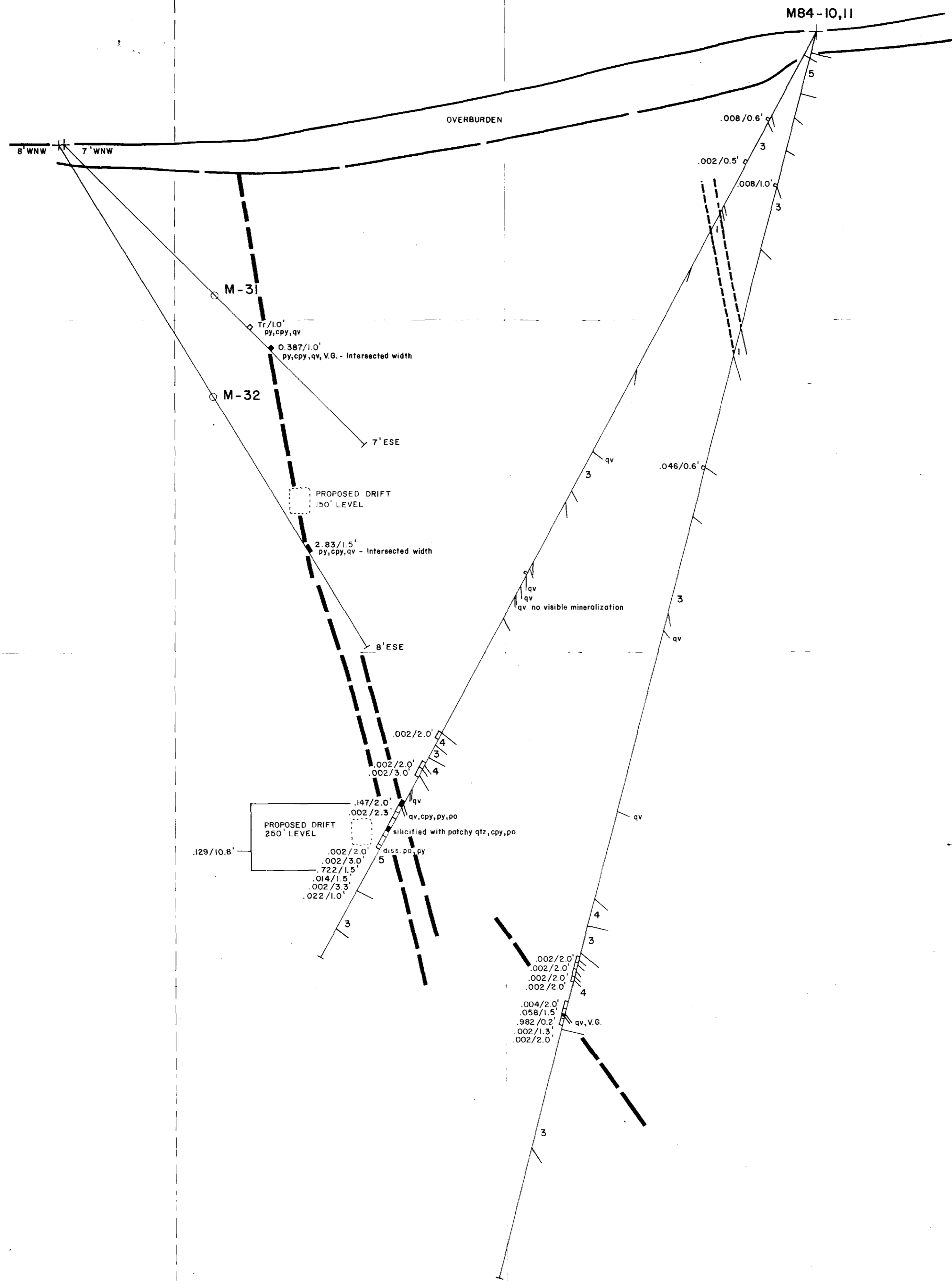
9 900'

9 800'

9 700'

9 600'

BASE LINE



LEGEND

- 18' ESE Collar (projected from ESE 18' onto section)
- 1.1/0.2' Fire assay (Au oz troy/ton/sample length)
- M 35 Pierce point of D.D.H. M 35 on section
- Sample with ≥ 0.1 oz troy/ton gold
- 18' WNW End of hole (projected from WNW 18' onto section)

DIAMOND DRILL HOLE IDENTIFICATION

- M Drilled for Murgold
- G Drilled for Gomak
- R Drilled for Rinaldi
- K Drilled for Kingbridge
- O Drilled for Olympia
- C Drilled for Chesgo

ROCK TYPES

- [1] Andesitic-Basaltic Metavolcanic (?): Moderately altered, may be fine-grained intrusive.
- [2] Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- [3] Diorite-Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- [4] Silica-Carbonate-Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- [5] Alaskite-Granodiorite: Largely fine to medium grained, relatively unaltered.
- [6] Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- [7]

MINERALIZATION

- cpy chalcopyrite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

- Defined
- Approximate
- Inferred

Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

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1	Revised Dec. 1984. Geology by D.H. Drawn by M.B.

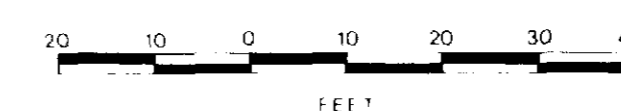
Watts,Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 1 + 224 WNW

D.D.H. M- 31, 32, M84- 10, 11

CROSS-SECTION LOOKING WNW



SCALE 1" = 20'	SURVEY MURGOLD	APPROVED PGL
DRAWN BY FIONA	DATE 1983/01/31	PROJECT NO 308-6 DWG NO 2



411250001 63-4435 CHESTER

10 000' ELEVATION

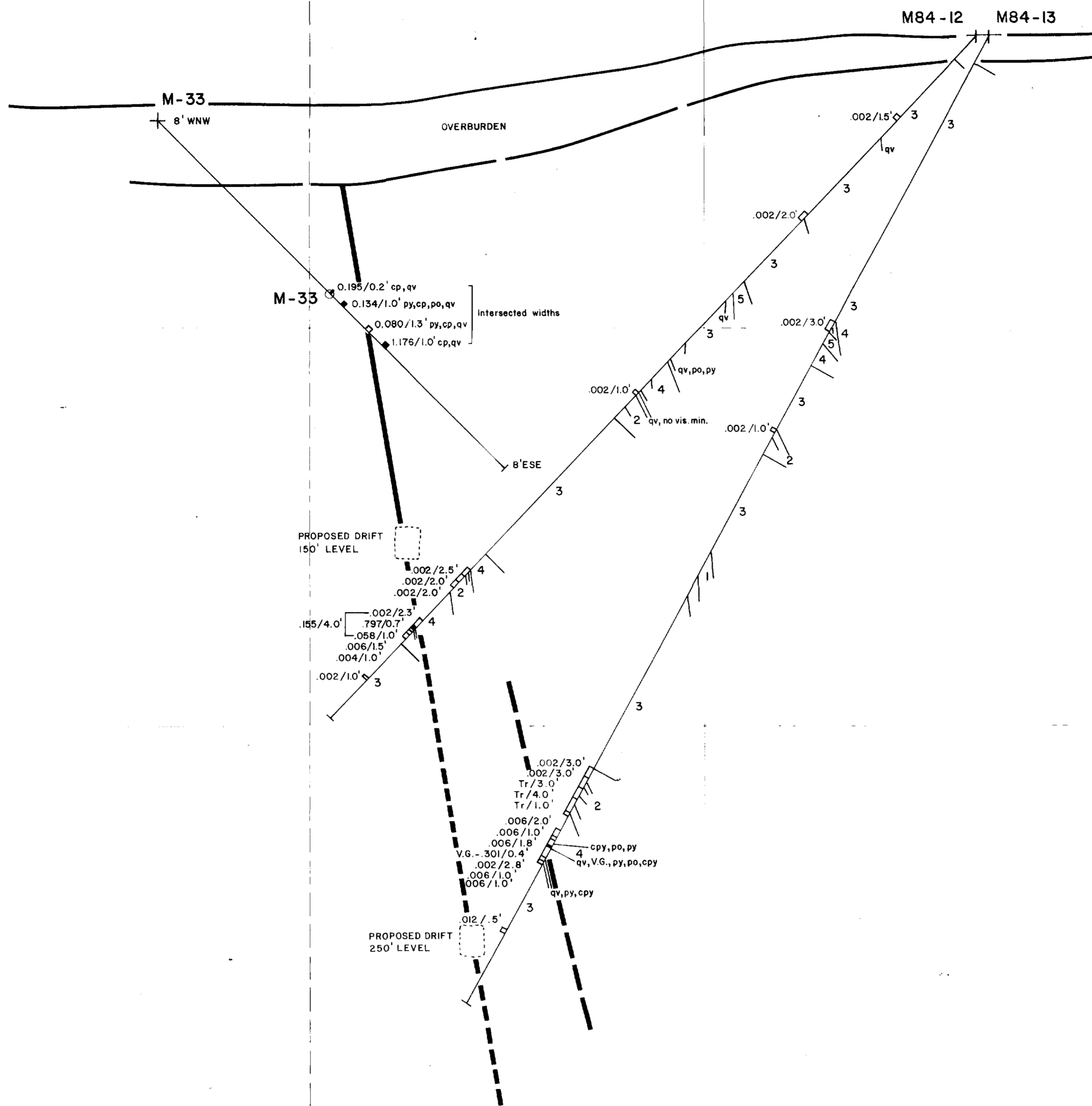
9 900'

9 800'

9 700'

9 600'

BASELINE



LEGEND

- 18' ESE Collar (projected from ESE 18' onto section)
- 1 1/2' Fire assay (Au oz troy/ton/sample length)
- M 35 Pierce point of D.D.H. M 35 on section
- Sample with ≥ 0.1 oz troy/ton gold
- 18' WNW End of hole (projected from WNW 18' onto section)

DIAMOND DRILL HOLE IDENTIFICATION

- M** Drilled for Murgold
- G** Drilled for Gomak
- R** Drilled for Rinaldi
- K** Drilled for Kingbridge
- O** Drilled for Olympia
- C** Drilled for Chesgo

ROCK TYPES

- [1] Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine grained intrusive.
- [2] Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- [3] Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- [4] Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- [5] Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- [6] Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- [7] Diabase Dyke

MINERALIZATION

- cpy, cp chalcoppyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- VG visible gold

POSITION OF VEIN

- Defined
- Approximate
- Inferred

Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

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Revised Dec. 1984. Geology by D.H. Drawn by M.B.

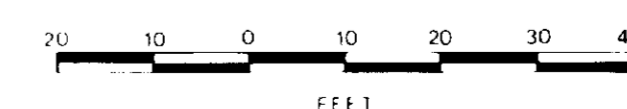
Watts, Griffiths & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 1 + 157 WNW

D.D.H. M33, M84-12, 13

CROSS-SECTION LOOKING WNW



SCALE 1" = 20'	SURVEY MURGOLD	APPROVED PGL
DRAWN BY FIONA	DATE 1983/01/31	PROJECT NO 308-6 DWG NO 3



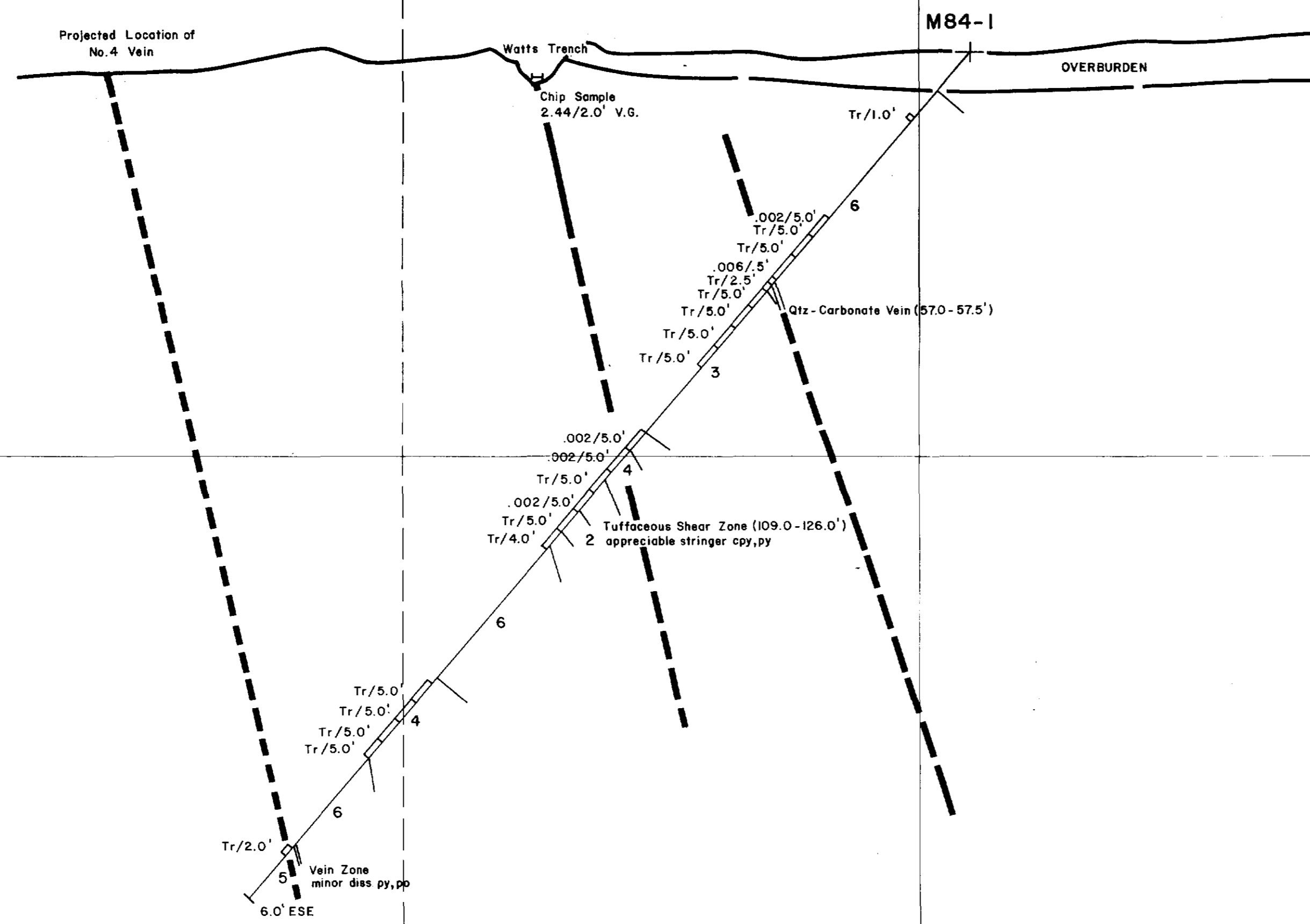
10 000' ELEVATION

9 900'

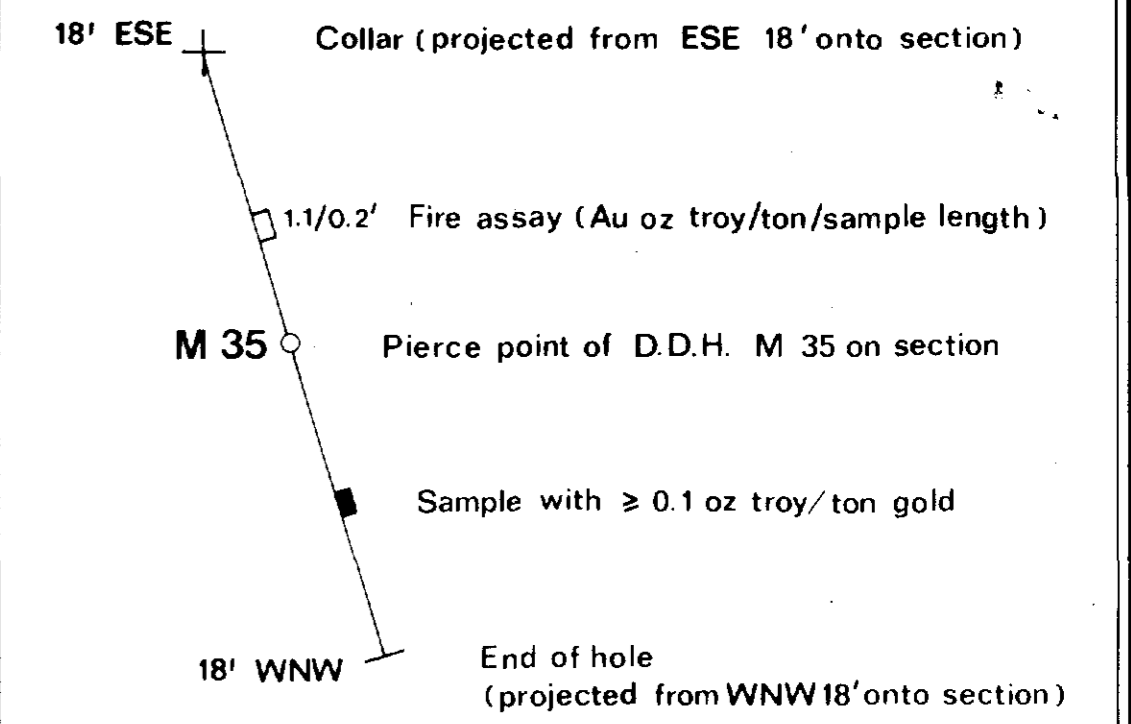
9 800'

9 700'

9 600'



LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M Drilled for Murgold
- G Drilled for Gomak
- R Drilled for Rinaldi
- K Drilled for Kingbridge
- O Drilled for Olympia
- C Drilled for Chesgo

ROCK TYPES

- 1 Andesitic - Basaltic Metavolcanic (†): Moderately altered, may be fine grained intrusive.
- 2 Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- 3 Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4 Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5 Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- 6 Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- 7 Diabase Dyke

MINERALIZATION

- cpy chalcopyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

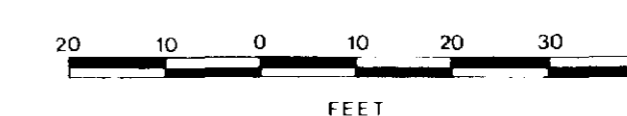
- Defined
- Approximate
- - - - - Inferred

Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

CROSS-SECTION LOOKING WNW



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1	Revised Dec. 1984. Geology by D.H. Drawn by M.B.

Watts,Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 2 + 189 WNW

D.D.H. M84-1

SCALE 1" = 20'	SURVEY MURGOLD	APPROVED PGL
DRAWN BY: FIONA	DATE 1983/01/31	PROJECT DWG NO: 5



41P125W0851 63.4436 CHESTER

10 000' ELEVATION

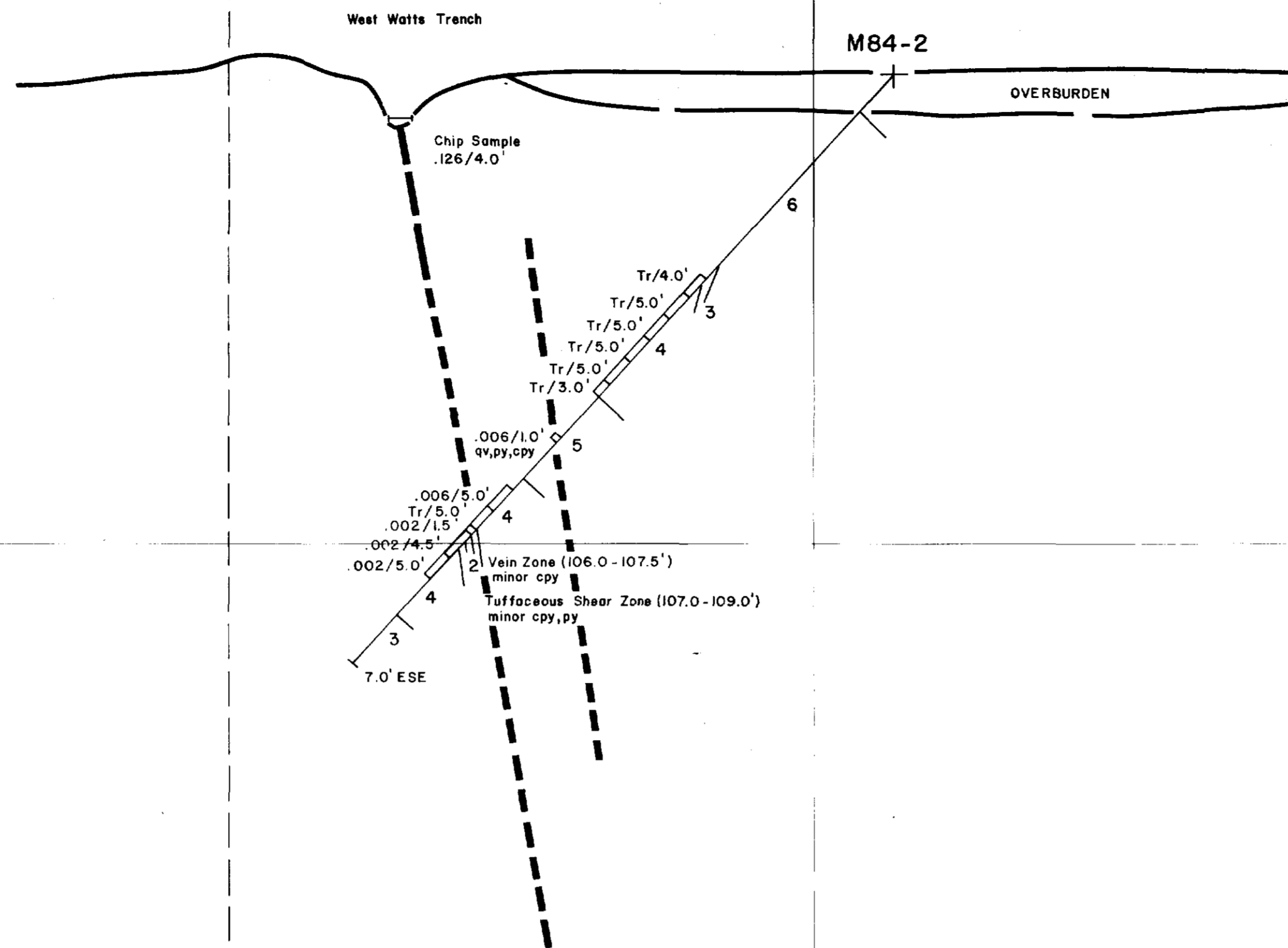
9 900'

9 800'

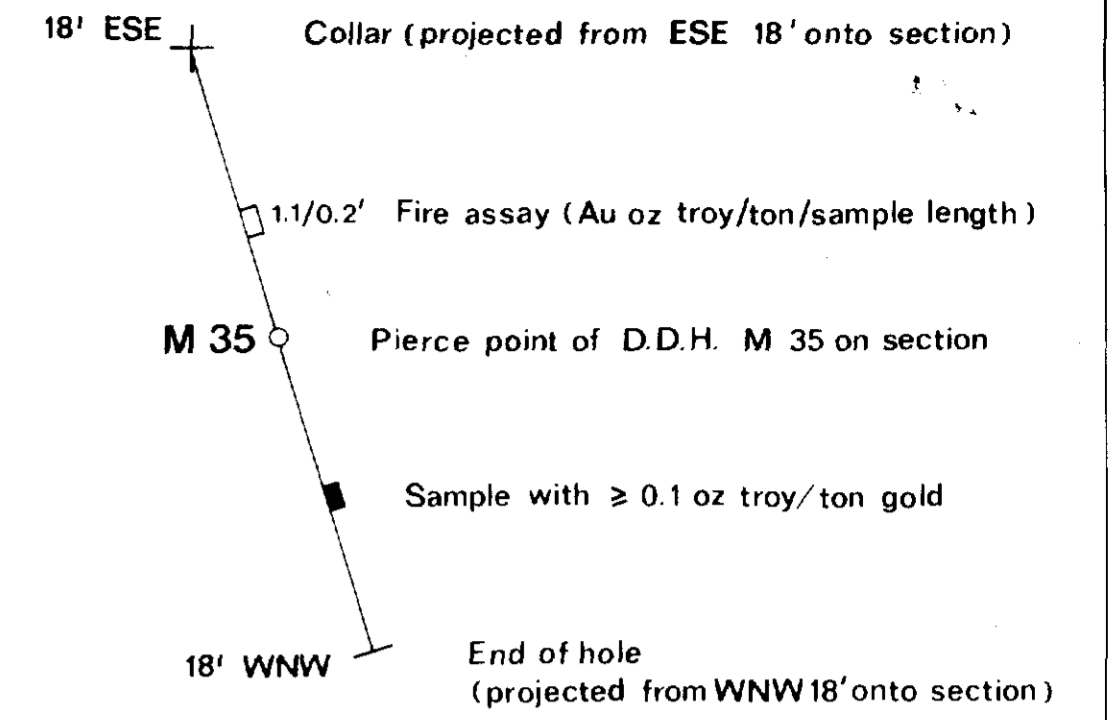
9 700'

9 600'

BASELINE



LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M Drilled for Murgold
- G Drilled for Gomak
- R Drilled for Rinaldi
- K Drilled for Kingbridge
- O Drilled for Olympia
- C Drilled for Chesgo

ROCK TYPES

- 1 Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine-grained intrusive.
- 2 Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- 3 Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4 Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5 Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- 6 Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- 7

MINERALIZATION	POSITION OF VEIN
cpy chalcopyrite	Defined
po pyrrhotite	Approximate
py pyrite	Inferred
asp arsenopyrite	
qv quartz vein (or veinlets)	
sv siliceous vein	
V.G. visible gold	
Proposed D.D.H.	

NOTE

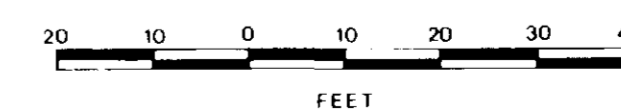
Sections were prepared from data submitted by Murgold Resources Inc.

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1	Revised Dec. 1984. Geology by D.H. Drawn by M.B.

Watts,Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM
SECTION 2 + 237 WNW
D. D. H. M84-2

CROSS-SECTION LOOKING WNW



SCALE: 1" = 20'	SURVEY: MURGOLD	APPROVED: PGL
DRAWN BY: FIONA	DATE: 1983/01/31	PROJECT NO: 308-6 DWG NO: 6



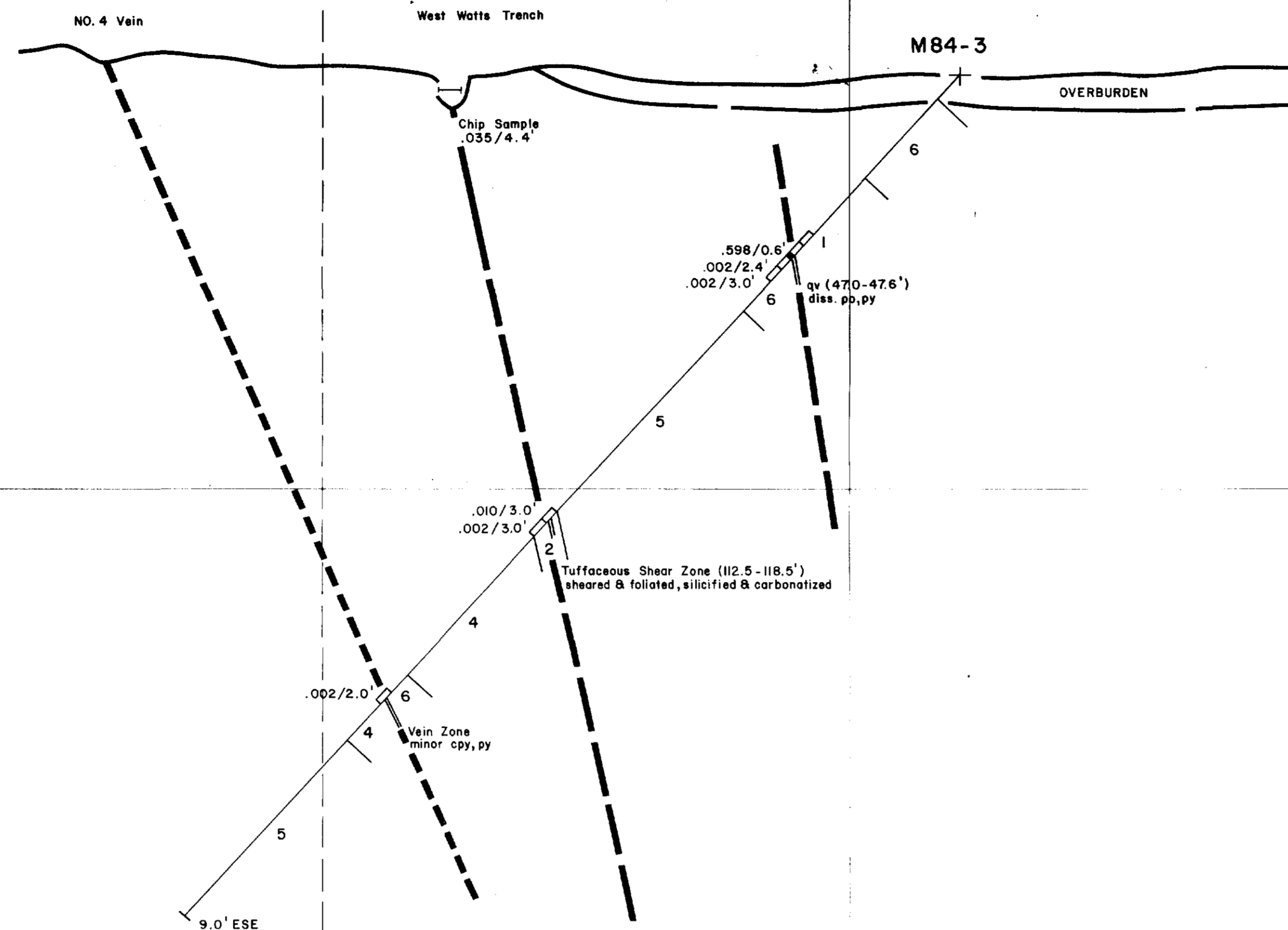
10 000' ELEVATION

9 900'

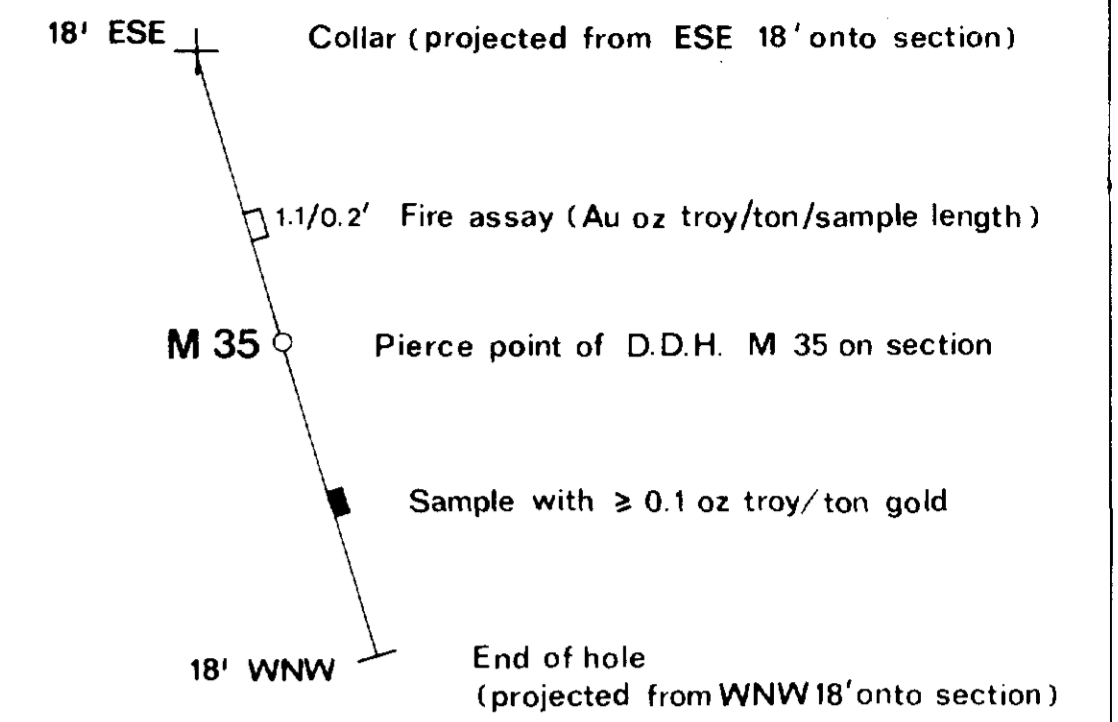
9 800'

9 700'

9 600'



LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M** Drilled for Murgold
- G** Drilled for Gomak
- R** Drilled for Rinaldi
- K** Drilled for Kingbridge
- O** Drilled for Olympia
- C** Drilled for Chesgo

ROCK TYPES

- 1** Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine-grained intrusive.
- 2** Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- 3** Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4** Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5** Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- 6** Migmatite: Intrusive injection zone, dioritic intrusive intruding basic - intermediate volcanics, moderate alteration.
- 7**

MINERALIZATION

- cpy chalcopyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

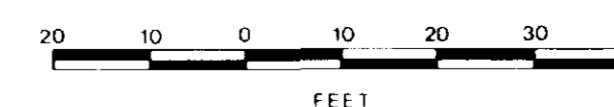
- Defined
- - - Approximate
- - - - Inferred

— Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

CROSS-SECTION LOOKING WNW



7	
6	
5	
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2	
1	Revised Dec. 1984. Geology by D.H. Drawn by M.B.

Watts, Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 2 + 288 WNW

D.D.H. M84-3

SCALE 1" = 20'	SURVEY MURGOLD	APPROVED PGL
DRAWN BY: FIONA	DATE: 1983/01/31	PROJECT NO. 308-6 DWG NO. 7



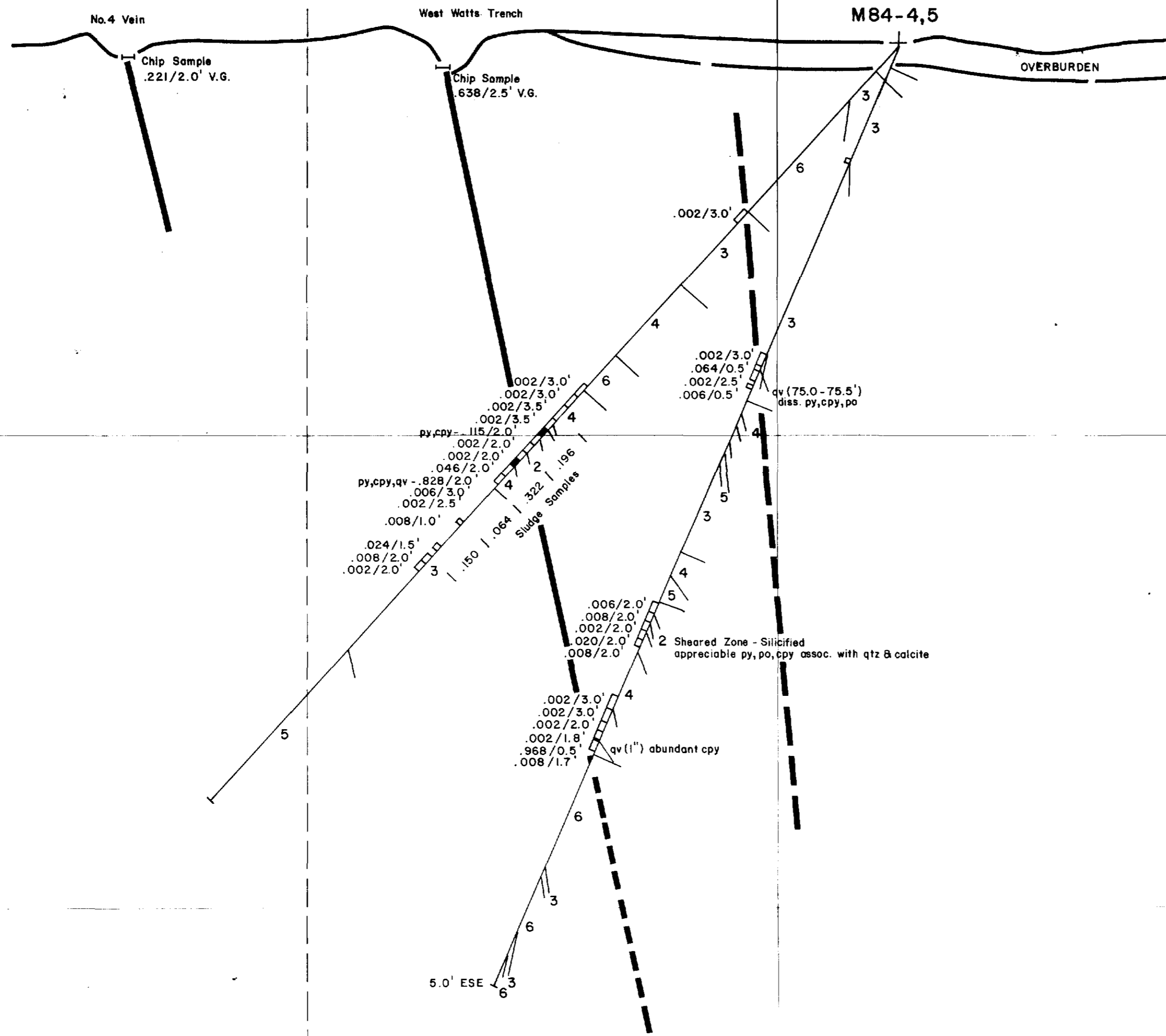
10 000' ELEVATION

9 900'

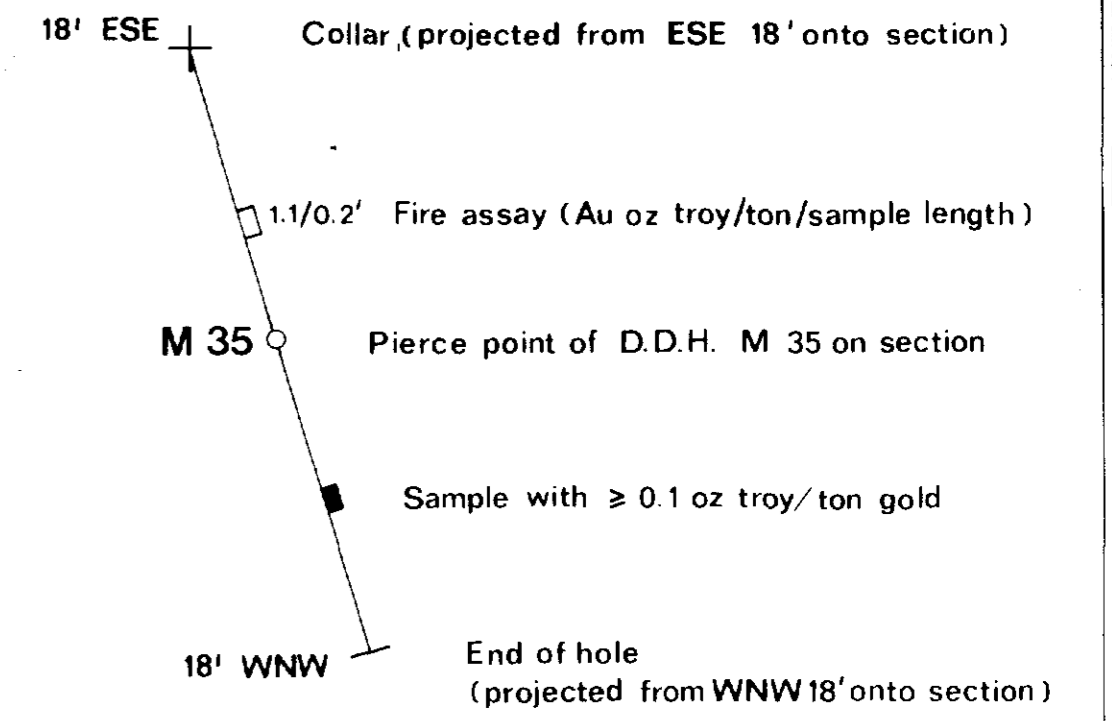
9 800'

9 700'

9 600'



LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M Drilled for Murgold
- G Drilled for Gomak
- R Drilled for Rinaldi
- K Drilled for Kingbridge
- O Drilled for Olympia
- C Drilled for Chesgo

ROCK TYPES

- 1 Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine grained intrusive.
- 2 Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- 3 Diorite-Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4 Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5 Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- 6 Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- 7 Diabase Dyke

MINERALIZATION

- cpy chalcopyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

- Defined
- Approximate
- - - - - Inferred

Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

CROSS-SECTION LOOKING WNW



7	
6	
5	
4	
3	
2	
1	Revised Dec. 1984. Geology by D.H. Drawn by M.B.

Watts, Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 2 + 331 WNW

D.D.H. M84-4,5

SCALE 1" = 20'	SURVEY MURGOLD	APPROVED PGL
DRAWN BY FIONA	DATE 1983/01/31	PROJECT NO 308-6 DWG NO 8



10 000' ELEVATION

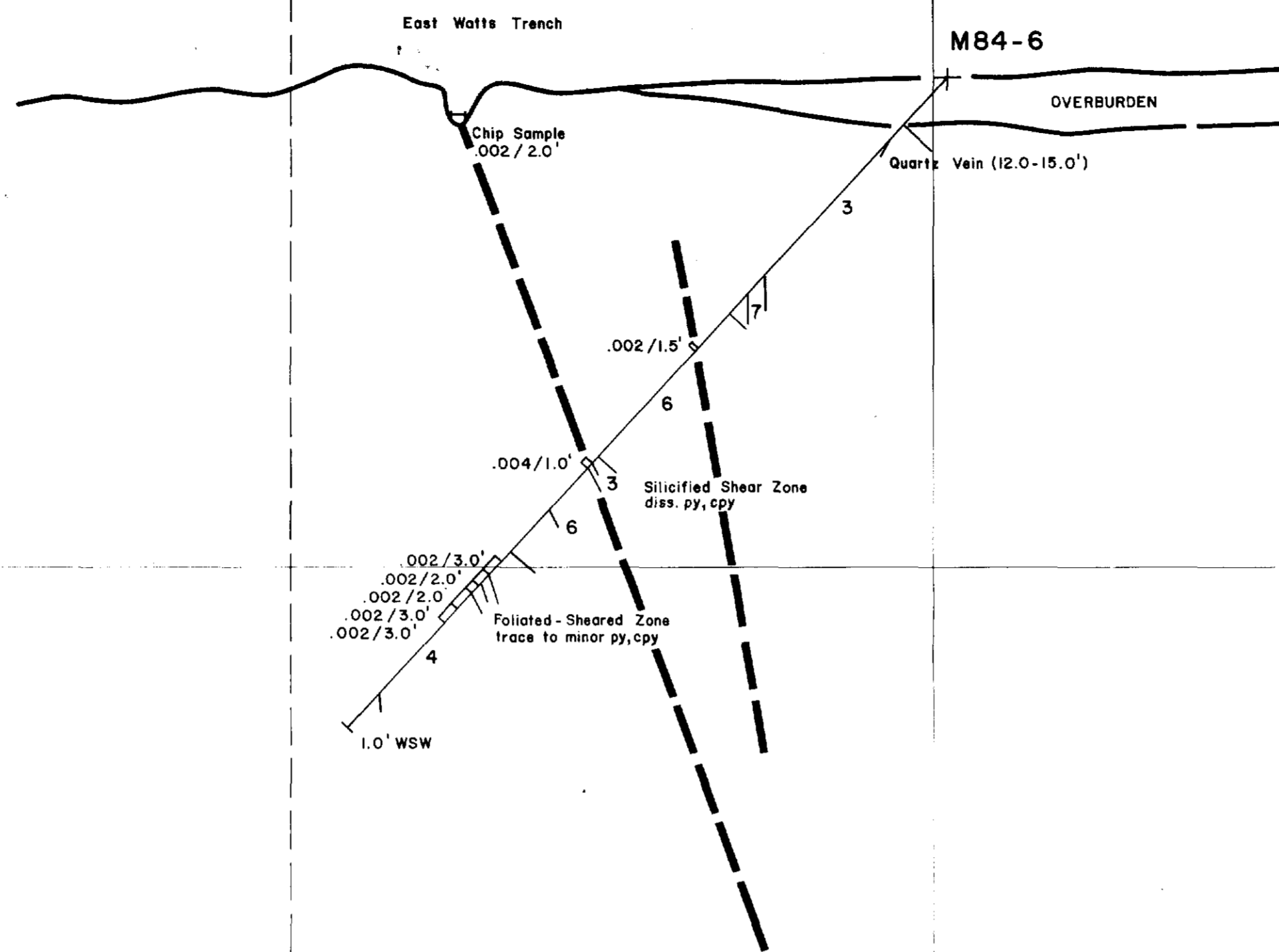
9 900'

9 800'

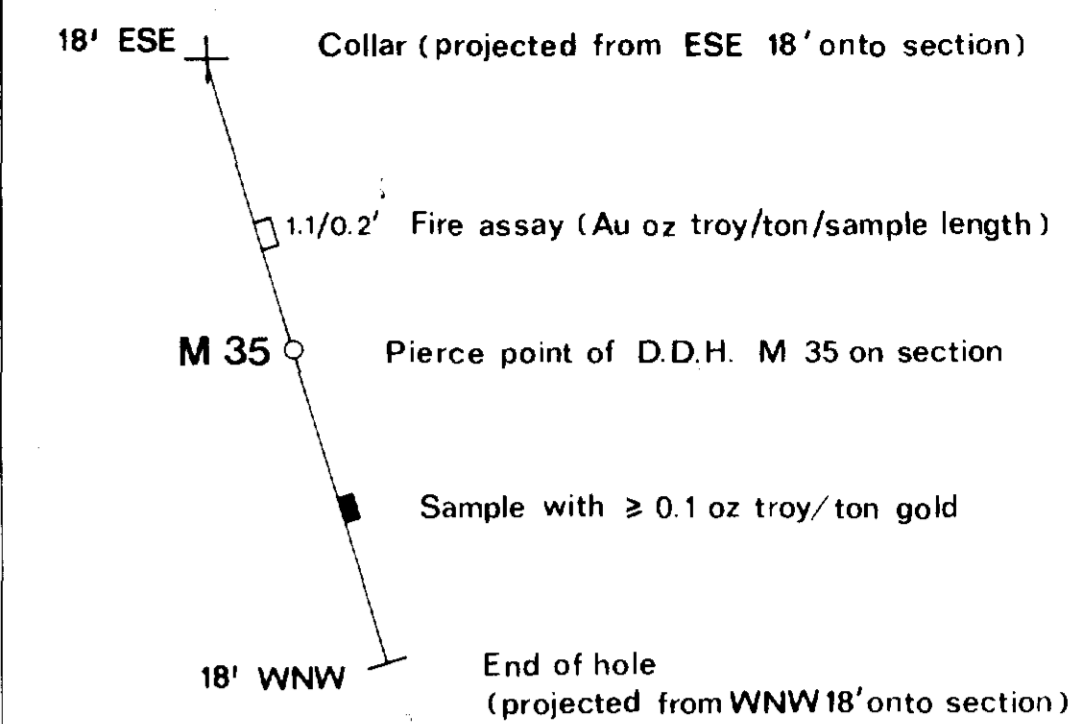
9 700'

9 600'

BASE LINE



LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M** Drilled for Murgold
- G** Drilled for Gomak
- R** Drilled for Rinaldi
- K** Drilled for Kingbridge
- O** Drilled for Olympia
- C** Drilled for Chesgo

ROCK TYPES

- 1** Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine-grained intrusive.
- 2** Sheared Tuffaceous Unit: Intense alteration zone, strongly foliated, silicified & carbonatized, strong shearing.
- 3** Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4** Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5** Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- 6** Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- 7** Diabase Dyke

MINERALIZATION

- cpy chalcopyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

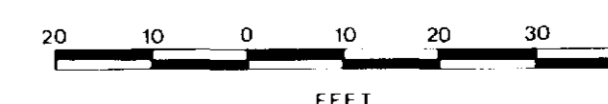
- Defined
- Approximate
- - - - - Inferred

----- Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

CROSS-SECTION LOOKING WNW



7	
6	
5	
4	
3	
2	
1	Revised Dec. 1984. Geology by D. H. Drawn by M.B.

Watts, Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 2 + 142 WNW

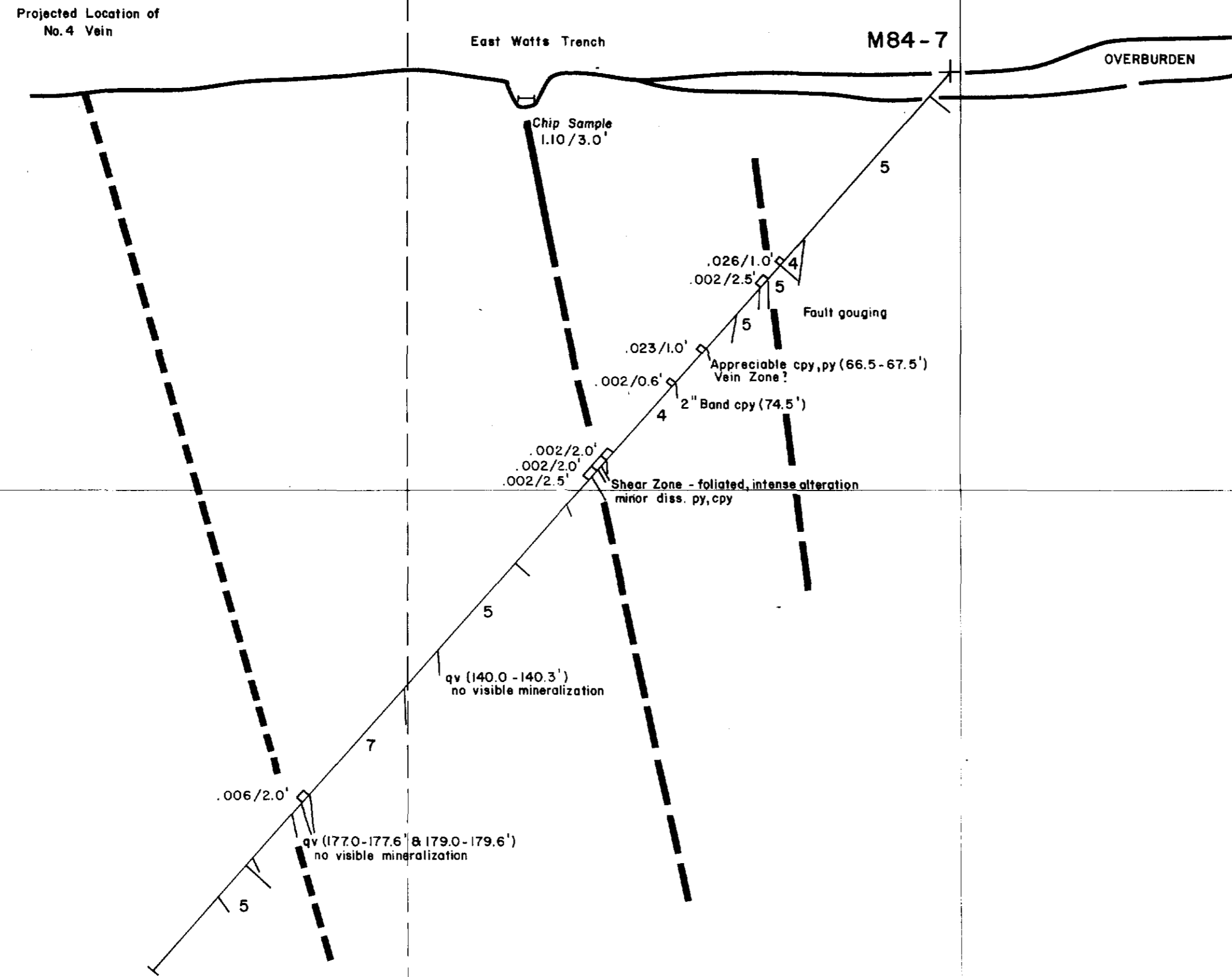
D.D.H. M84-6

SCALE: 1" = 20'	SURVEY: MURGOLD	APPROVED PGL
DRAWN BY: FIONA	DATE: 1983/01/31	PROJECT DWG NO: 308-6 9



4171249861 63.4436 CHESTER

10 000' ELEVATION



9 900'

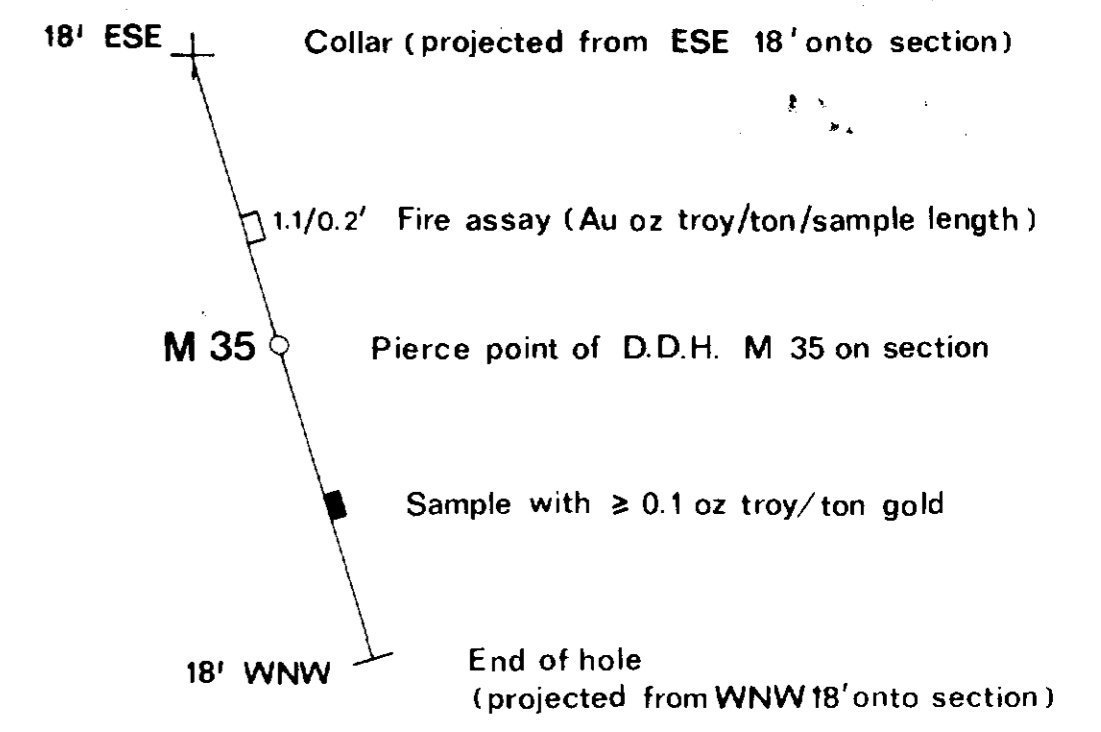
9 800'

9 700'

9 600'

BASELINE

LEGEND



DIAMOND DRILL HOLE IDENTIFICATION

- M Drilled for Murgold
- G Drilled for Gomak
- R Drilled for Rinaldi
- K Drilled for Kingbridge
- O Drilled for Olympia
- C Drilled for Chesgo

ROCK TYPES

- 1 Andesitic - Basaltic Metavolcanic (?): Moderately altered, may be fine grained intrusive.
- 2 Sheared Tuffaceous Unit: Intense alteration, strongly foliated, silicified & carbonatized, strong shearing.
- 3 Diorite - Quartz Diorite: Largely medium to coarse grained, relatively unaltered.
- 4 Silica - Carbonate - Chlorite Alteration Zone: Moderate to intense propylitization, massive to foliated.
- 5 Alaskite - Granodiorite: Largely fine to medium grained, usually unaltered.
- 6 Migmatite: Intrusive injection zone, dioritic intrusive intruding basic-intermediate volcanics, moderate alteration.
- 7 Diabase Dyke

MINERALIZATION

- cpy chalcopyrite
- po pyrrhotite
- py pyrite
- asp arsenopyrite
- qv quartz vein (or veinlets)
- sv siliceous vein
- V.G. visible gold

POSITION OF VEIN

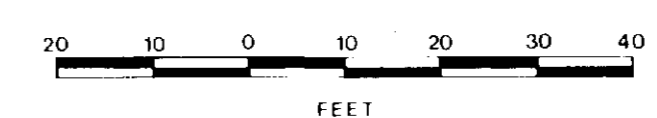
- Defined
- Approximate
- - - - - Inferred

Proposed D.D.H.

NOTE

Sections were prepared from data submitted by Murgold Resources Inc.

CROSS-SECTION LOOKING WNW



7	
6	
5	
4	
3	
2	
1	Revised Dec. 1984. Geology by D.H. Drawn by M.B.

Watts,Griffis & McQuat Limited
MURGOLD RESOURCES INC.

NO 3 VEIN SYSTEM

SECTION 2 + 097 WNW

D.D.H. M84-7

SCALE: 1" = 20'	SURVEY: MURGOLD	APPROVED: PGL
DRAWN BY: FIONA	DATE: 1983/01/31	PROJECT NO: 308-6 DWG NO: 10

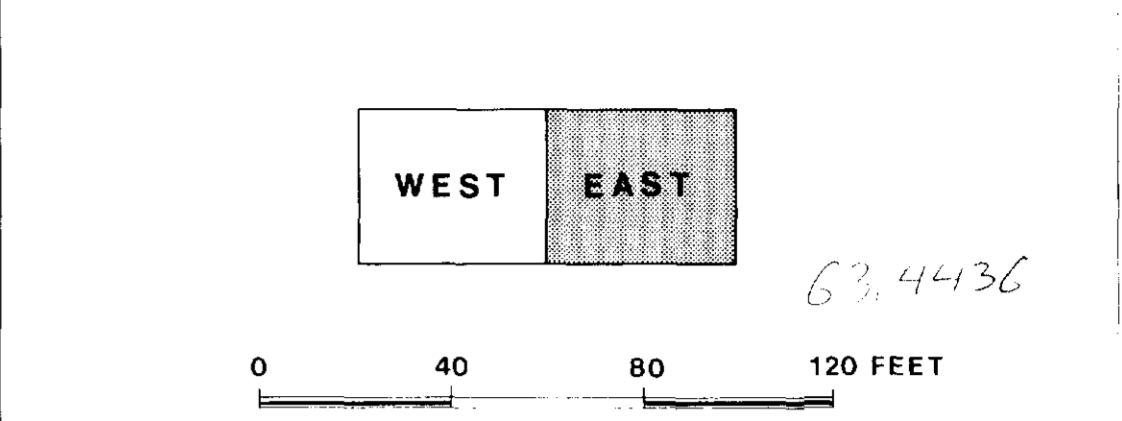


30 000' N

Watts,Griffis & McQuat Limited
 MURGOLD RESOURCES INC.
SURFACE PLAN
NO. 2,3,4,5 VEINS
 EAST SHEET

SCALE: AS SHOWN SURVEY: MURGOLD APPROVED: P.G.L.
 DRAWN BY: JAN DATE: 1983/02/17 PROJECT NO: 308-6 DWG NO: 1

1	
2	
3	
4	
5	
6	
7	



LEGEND

- 0+285 WNW**
Vertical cross-section: located 285 feet WNW from survey station T-1, oriented N 020° and looking WNW
 - Survey station with elevation in feet, datum is 10,000 feet
 - Surface diamond drill hole showing: location, identification, elevation, inclination, drilled length, selected assay results (Au oz Tr/ton/length in feet drilled)
0.42/0.6'
- DIAMOND DRILL HOLE IDENTIFICATION**
- M** Drilled for Murgold
 - G** Drilled for Gomak
 - R** Drilled for Rinaldi
 - K** Drilled for Kingbridge
 - O** Drilled for Olympia
 - C** Drilled for Chesgo
- Fault (inferred)
 - Vein (defined)
 - Vein (approximate)
 - Vein (inferred)
 - Muskeg
 - Shaft
 - Pit
 - Trench

29 800' N

29 600' N

29 400' N

29 200' N

29 000' N

28 800' N

28 600' N

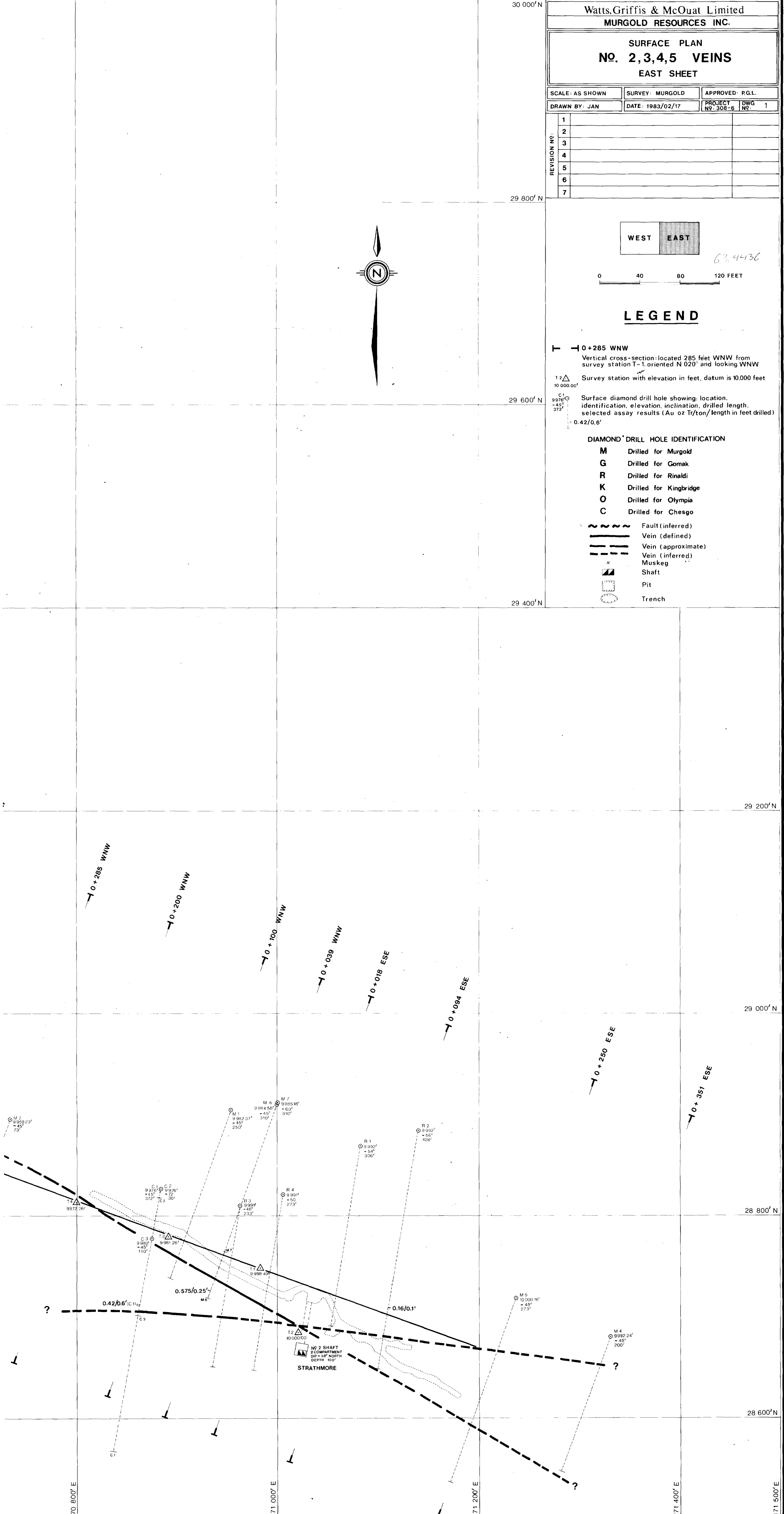
170 800' E

171 000' E

171 200' E

171 400' E

171 500' E



Watts, Griffis & McQuat Limited
MURGOLD RESOURCES INC.

SURFACE PLAN
NO. 2, 3, 4, 5 VEINS
EAST SHEET

SCALE: AS SHOWN SURVEY: MURGOLD APPROVED: P.G.L.

DRAWN BY: JAN DATE: 1983/02/17 PROJECT NO: 308-6 DWG NO: 2

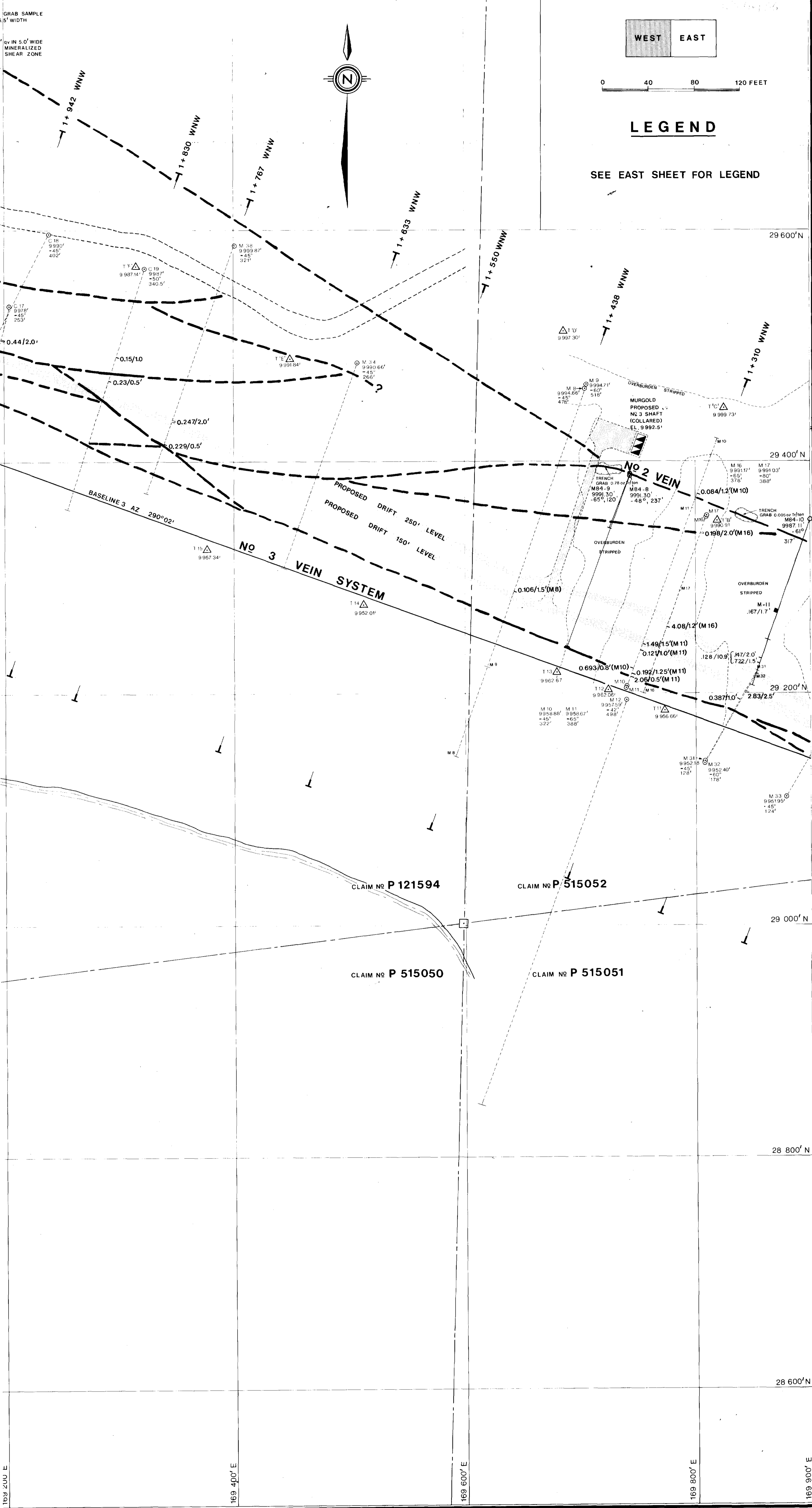
REVISION NO.	
1	
2	
3	
4	
5	
6	
7	



0 40 80 120 FEET

LEGEND

SEE EAST SHEET FOR LEGEND



CLAIM NO P 121594

CLAIM NO P 515052

CLAIM NO P 515050

CLAIM NO P 515051