

**REPORT ON THE**  
**GARRISON GOLD PROJECT**

**GARRISON TOWNSHIP**  
**DISTRICT OF COCHRANE**  
**ONTARIO**

**LATITUDE 48 DEGREES 30' 58" NORTH**  
**LONGITUDE 79 DEGREES 57' 11" WEST**  
**N.T.S. 32 D/12**

**WITH SPECIAL REFERENCE TO A**  
**DIAMOND DRILL PROGRAM**  
**DURING THE DESIGNATED PERIOD OF**  
**OCTOBER 29, 1991 TO DECEMBER 31, 1991**

**FOR**

**JONPOL EXPLORATIONS LTD.**  
**AND**  
**T. AND H. RESOURCES LTD.**  
**420 -111 Richmond St. West,**  
**Toronto, Ontario**  
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**BY**

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**FEBRUARY 5, 1992**



32D12SW0031 OM91-146 GARRISON

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## SUMMARY

The Garrison Gold Project, consisting of 60 patented and 5 staked claims is located in Garrison Township, District of Cochrane, northeastern Ontario. The property is 40 kilometres (25 miles) north of Kirkland Lake, Ontario with a portion of its northern boundary just south of Highway 101.

During the period October 29 to December 31, 1991, Bradley Bros. diamond drilled (BQ) a total of 13,335 feet (4064 metres) in a total of 6 holes including one wedge hole.

The drill program was initially designed to test the deeper portions of the previously defined J.P. gold zone associated with an albite-sericite-carbonate assemblage which has a confirmed tonnage of 212,975 tons grading 0.254 OPT. gold at a cutoff grade of 0.08 OPT. These figures are based on close spaced diamond drilling and underground bulk testing. The drilling confirmed that the mineralized zones found in the upper part of the J.P. zone are present below an elevation of 8700 feet with datum at 11,000 feet a.s.l., with the zone being vertical, but the mineralization appears to rake relatively steeply to the east. Except for hole N91-154 all of the holes intersected the albite-sericite-carbonate zone outside of the raking gold mineralized zone. N91-154 intersected two gold zones which ranged from 7 to 8.5 feet and graded in the 0.05 to 0.06 OPT. range with the best assay of 0.127 OPT. gold over 2.5 feet.

A new gold zone (North Wall Zone) associated with a very pyritic carbonated "tholeiite" was discovered in the North Wall "Tholeiites" in an area previously thought to be barren of mineralization. The zone consists of carbonated or bleached "tholeiite" containing up to 15 percent pyrite and arsenopyrite. The new zone dips to the north west and strikes approximately parallel to the regional foliation (070 degrees). N91-155, 156, 157, and 158 all intersected the zone which is 10 to 12.5 feet in width and averages 0.085 OPT. gold with the best section grading 0.211 OPT. gold over 6 feet.

In addition to the new gold zone, a massive sulfide horizon associated with a flow top was discovered in hole N91-156. The massive sulfide zone consists of a 4.5 foot intersection containing 85 percent pyrite, 3-6 percent chalcopyrite, and minor sphalerite. The zone averaged 2 percent copper, 0.01 OPT. gold, 0.91 OPT. silver and 0.68 percent zinc. A down the hole EM-37 survey failed to pick up the zone, reason unknown.

In the light of the new discoveries and to follow up on the indicated rake of the deeper portion of the J.P. zone it is recommended that a combined program of surface geophysics and further diamond drilling be done. The geophysics should be run over the North Wall "Tholeiites" to test for any near surface expression of both the new gold zone and the massive sulfide.

The estimated cost of the proposed program which includes 3000 metres of diamond drilling, down hole geophysics and surface geophysics is \$200,000.00.

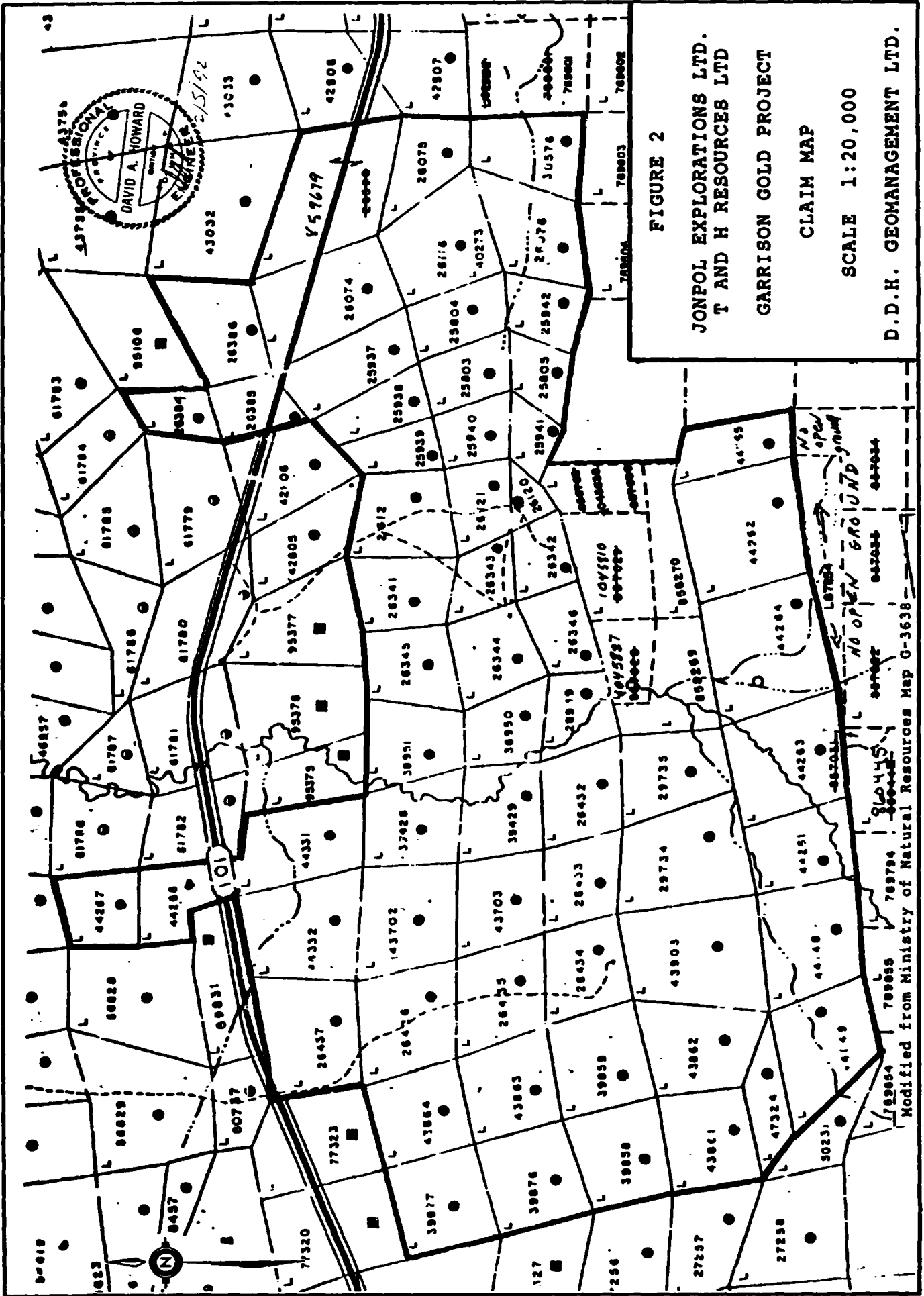


FIGURE 2

JONPOL EXPLORATIONS LTD.  
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GARRISON GOLD PROJECT

CLAIM MAP

SCALE 1:20,000

D.D.H. GEOMANAGEMENT LTD.

Modified from Ministry of Natural Resources Map G-3638

## **INTRODUCTION**

Jonpol Explorations Ltd./T. & H. Resources Ltd., 420 - 111 Richmond St. West, Toronto, Ontario, M5H 2G4 requested D.D.H. Geomanagement Ltd., 422 - 470 Granville St., Vancouver, B.C., V6C 1V5 to manage a diamond drill program on the J.P. portion (old Newfield option) of the Garrison gold project in Garrison Township, District of Cochrane, Ontario. D.D.H. Geomanagement Ltd. has been involved with the exploration of the property since June 1987 and the writer has been associated with the project since that time.

The subject of this report will be restricted, except for historical reference to past data and results, to the B.Q. diamond drill program and down hole geophysics undertaken during the designated program period.

The purpose for the drill program was to determine the grade and extent of deep gold mineralization previously identified in earlier diamond drilling.

## **LOCATION AND ACCESS**

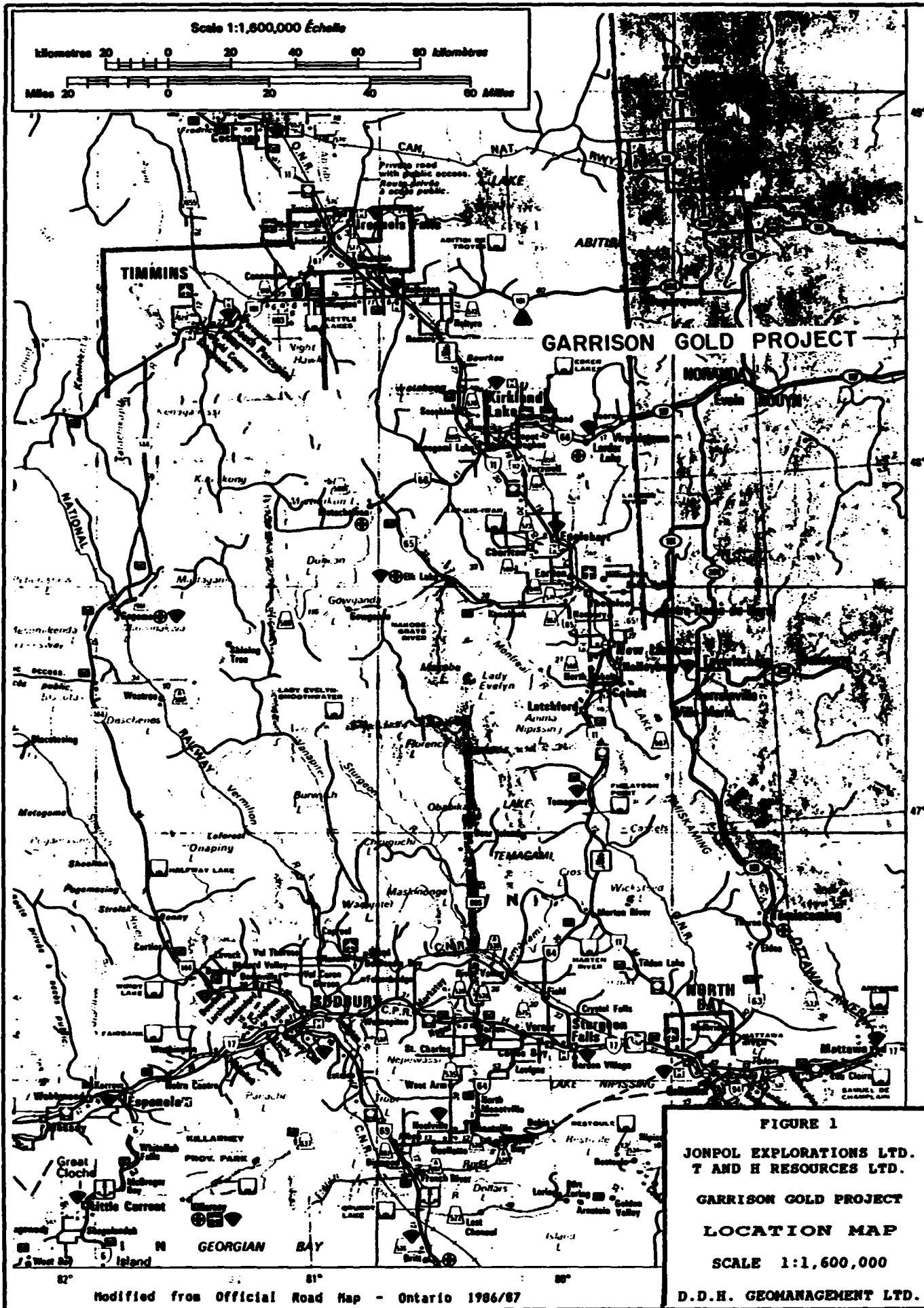
The Garrison Gold Project covers a portion of both the Munro Fault Zone (M.F.Z.) and the Porcupine-Destor Fault Zone (P.D.F.Z.) in Garrison Township, District of Cochrane, northeastern Ontario. The property is 40 kilometres (25 miles) north of Kirkland Lake, 35 kms (22 miles) east of Matheson and 100 kms (62 miles) east of Timmins, Ontario (Figure 1). Coordinates of the property are 48 degrees, 30' 58" north latitude and 79 degrees 57' 11" west longitude. The N.T.S. area is 32 D/12.

Access is via Highway 101 as the property is immediately south of the Highway (Figure 2). During 1988, a 0.8 km (0.5 mile) gravel road was constructed allowing 2-wheel drive access.

Topographically, the elevations on the property range from 950 to 1,000 feet (289 to 305 m) with swamp and covered areas between hummocks of clay rimmed outcrop. Esker and sandy soil areas are covered by jackpine and balsam while the wet areas are covered with spruce, cedar and tag alder.

## **PROPERTY AND TITLE**

The Garrison Gold Project comprises several properties which have been acquired since 1985 such that the current property has been expanded to that shown in Figure 2. The following claims are controlled by Jonpol Explorations Ltd. as to an undivided 64.3 % and by T. & H. Resources Ltd. as to an undivided 35.7 %:





- (a) Garrcon - patented claims L26120, L26121, L26122, L26341, L26342, L26343, L26344, L26345, L38949, L38950 and L38951.
- (b) Linton/Hobbs - patented claims L26384, L26385, L26075, L26076, L30576, L26116(L40273), L26074 and L859679.
- (c) Brydges - patented claims L25803, L25804, L25805, L25937, L25938, L25939, L25940, L25941 and L25942.
- (d) Newfield - patented claims L26435, L26436, L26437, L39428, L39429, L43702, L44331, L44332, L26434, L26433, L26432, L29734 and L29735.

Jonpol Explorations Ltd. and T. & H. Resources Ltd. in the same proportion have concluded an option to earn a 100 % interest in the following claims:

- (a) Hastings - L39858, L39859, L39876, L39877, L43861, L43862, L43863 and L43864.
- (b) Wright-Hargreaves - L43903, L44148, L44149, L44261, L44262, L44623, L44624, L44625, L44626, L44627 and L47324.
- (c) Other staked claims - L858269, L858270, L1045810, L1045837 and L1045838.

## **HISTORY**

According to Satterly (1949), the former properties known as Newfield, Garrcon, Brydges, Linton, Hastings and Wright-Hargreaves where drilled in the period 1935 to 1946. Some additional work in the form of drilling was undertaken by Long Lac Mineral Exploration Ltd. in 1983 on the former Wright-Hargreaves claim L43903 and by Kerr Addison Mines in 1983 on the former Garrcon claims L26344 and L26343. The following work has been completed on the Jonpol/T. & H. property (Newfield, Garrcon, Brydges and Linton-Hobbs Wright-Hargreaves) since 1985:

### **Surface drilling**

- (a) 242,800 feet of B.Q.
- (b) 2,120 feet of 3" diameter air track.

### **Underground**

- (a) 605 feet - 22'x9' vertical shaft,
- (b) 607 feet - 5'x7' cross-cut,
- (c) 485 feet - 5'x7' drifting in the J.P. Zone,
- (d) 11,970 feet - AXT diamond drilling,
- (e) bulk sampling of 79 rounds.

**Metallurgical testing - Lakefield Research, Ontario.**

Results to date on the Jonpol/T. & H. property (Newfield, Garrcon, Brydges and Linton-Hobbs) indicate the following:(see Figure 3)

(1) The Garrison gold project investigated some 2.2 miles (3.5 kms) of strike length along the Munro Fault Zone in which metakomatiitic volcanic rocks host gold-albite-sericite-pyrite mineralization.

(2) Surface drilling has indicated five (5) gold shoots along one mile of strike length. Of the total of 199 holes, some 92% have intercepts less than 1,000 feet of depth. The five zones from west to east are J.D., J.P., R.P., Garrcon West and Garrcon East which have a mineral inventory to a depth of 1,000 feet of 513,800 tons at 0.28 opt gold over 11 feet width (> 0.15 opt gold) or 1,050,200 tons at 0.18 opt gold over 10 feet width (> 0.08 opt Au).

(3) Other zones within the Garrcon but not within the Munro Fault Zone which are not included in the above mineral inventory, are Garrcon North with 166,800 tons at 0.16 opt gold and the Garrcon Shaft/South zone with 102,800 tons at 0.18 opt gold.

(4) Metallurgical testing has shown that the material from the Munro Fault Zone gives 50 % recovery with direct cyanidation. Flotation concentrates contained 95 % of the contained gold in the rougher concentrate which when cleaned could produce cleaner concentrates in the 4 to 8 opt gold range. Pressure oxidation/cyanide leach tests of the concentrate recovered 99% of the contained gold suggesting a potential gold recovery of 95 % using that system. Arsenic content ranges from 0.3 to 0.4 % As in the underground bulk sample rounds.

In late 1990, Jonpol/T. & H. concluded an option agreement with Lac Minerals Ltd. which expanded the existing property and allows Jonpol/T. & H. the opportunity to investigate the westerly indicated extension of the J.D. Zone onto the Hastings ground (specifically claims L39876 and L43863) and to investigate the gold zone mentioned by Satterly (1949) which zone was at that time inferred to be associated with syenitic intrusive rocks in the Porcupine-Destor Fault Zone. As of the current date, the "903" zone is under one ownership for the first time, i.e., claims L43862 (formerly Hastings), claim L43903 (formerly Wright-Hargreaves) and claim L29734 (formerly Newfield) (see Figure 3).

## **REGIONAL GEOLOGY**

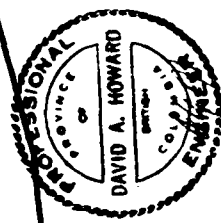
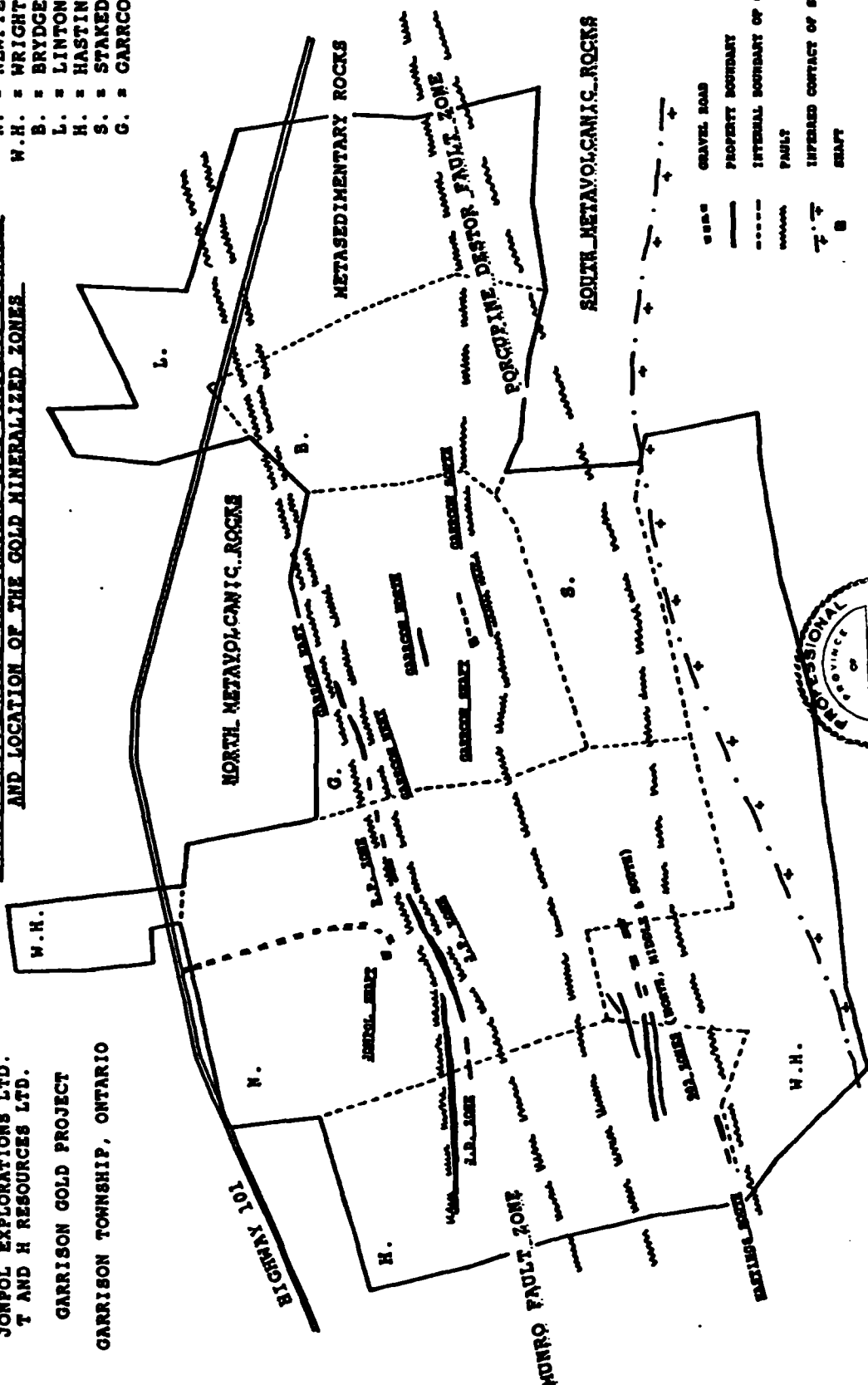
The regional geology along the M.F.Z. (Munro Fault Zone) and P.D.F.Z. (Porcupine Destor Fault Zone) has been taken from Jensen (1986 and 1981), Jensen and Langford (1985), MERQ-OGS (1983) and

**DIAGRAM ILLUSTRATING THE JANUARY 1991 PROPERTY BOUNDARY  
AND LOCATION OF THE GOLD MINERALIZED ZONES**

- N. = NEWFIELD PROPERTY
- W.H. = WRIGHT-HARGREAVES
- B. = BRYDGES PROPERTY
- L. = LINTON PROPERTY
- H. = HASTINGS PROPERTY
- S. = STAKED CLAIMS
- G. = GARRISON PROPERTY

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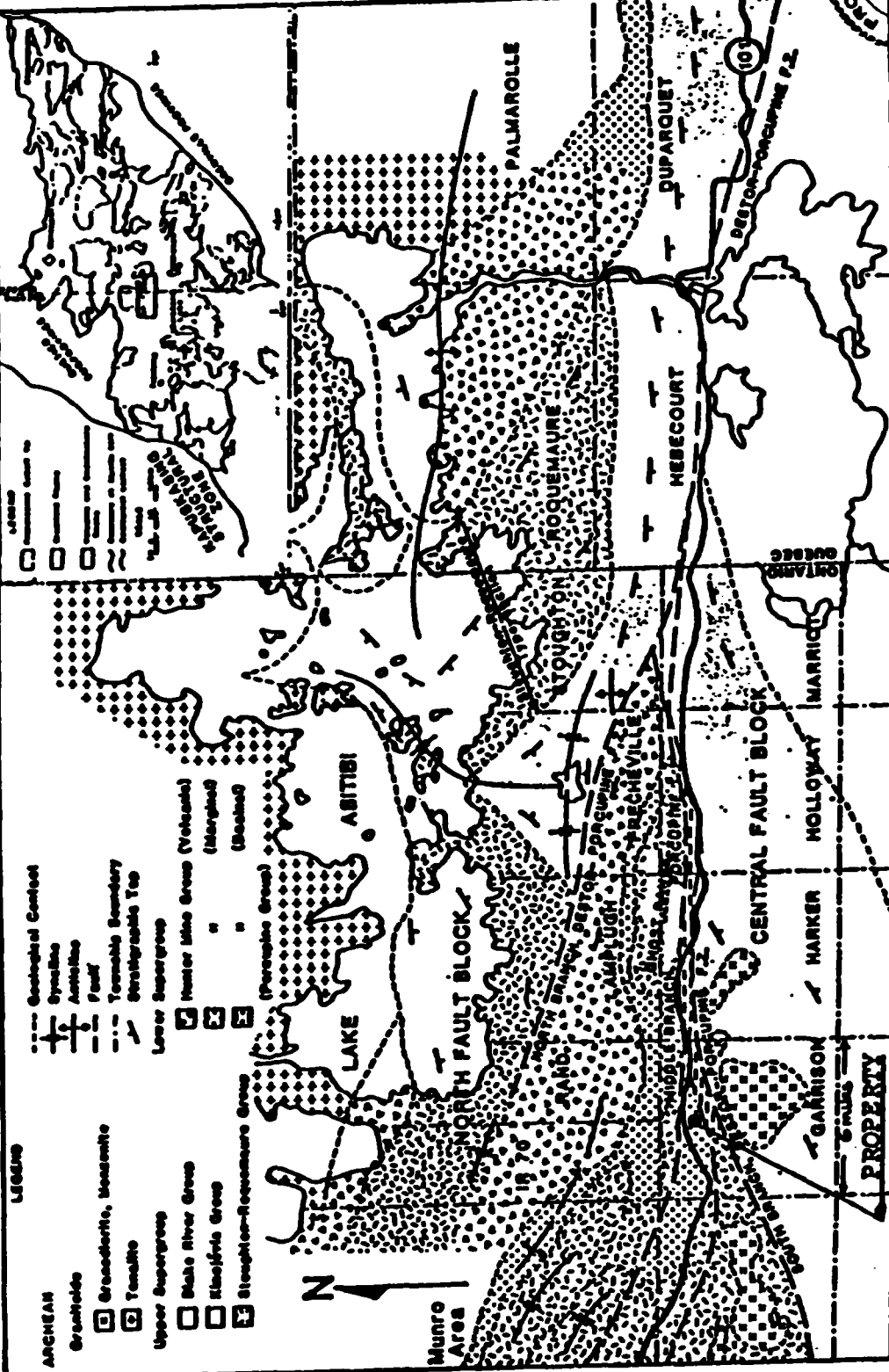
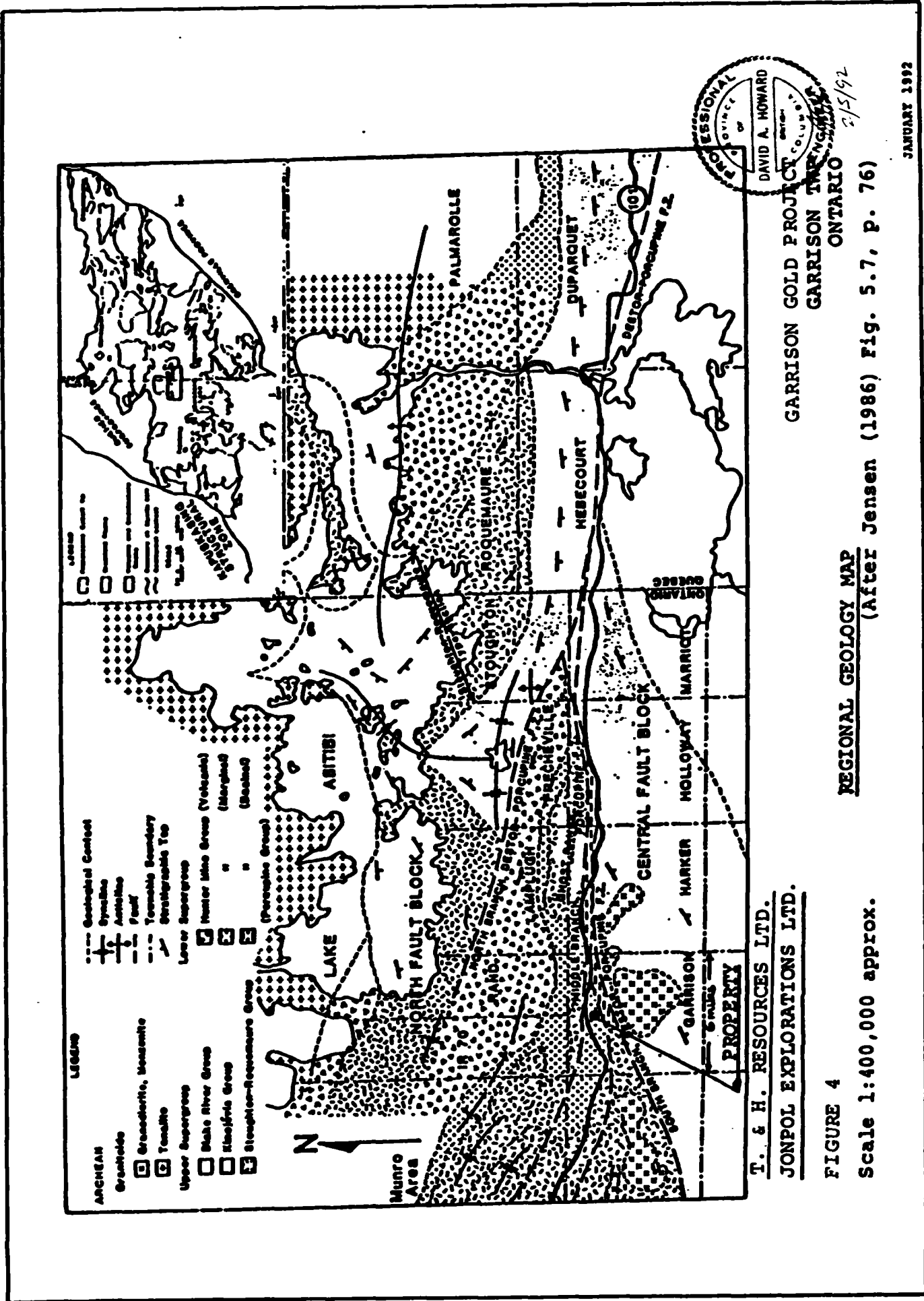
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(Geology modified after Satterly (1949))  
D.D.H. GEOMANAGEMENT LTD.      JANUARY 1992

SCALE  
1:24,000 OR 1" = 2000'

FIGURE 3



LEGEND

ARCHEAN  
Granitoids

□ Gneissitic, Monzonitic  
□ Tonalite

Upper Supergroup  
□ Snake River Group  
□ Kibikivik Group  
□ Stoughton-Roquevalle Group

Geological Contact  
--- Syncline  
--- Anticline  
--- Fault  
--- Tectonic Boundary  
--- Stratigraphic Top

Lower Supergroup  
□ Huron Mine Group (Volcanic)  
□ (Marginal)  
□ (Basal)  
□ (Porphyry Group)

PROPERTY

T. & H. RESOURCES LTD.  
JONPOL EXPLORATIONS LTD.

FIGURE 4

Scale 1:400,000 approx.

REGIONAL GEOLOGY MAP  
(After Jensen (1986) Fig. 5.7, p. 76)

GARRISON GOLD PROJECT  
GARRISON TOWNSHIP  
ONTARIO

PROFESSIONAL  
PROVINCE OF  
DAVID A. HOWARD  
GEOLOGIST  
2/5/92

Satterly (1949).

The Garrison gold project is located along the M.F.Z. which is located immediately north of the P.D.F.Z. within metavolcanic rocks of the Abitibi subprovince of the Superior Province of the Canadian Pre-cambrian (Archean age)(see Figure 4). The Porcupine-Destor and the Kirkland Lake-Larder Lake Fault Zones form the north and south limits of an Archean megacauldron. Volcanic rocks were formed during cycles of volcanism that consisted of komatiitic volcanism followed by tholeiitic, calc-alkalic and ultimately by alkalic volcanism. The property lies on the north side of the megacauldron, the core of which contains 20,000 feet of Kinojevis Group tholeiitic volcanic rocks overlain by the Blake River Group. A group of mafic to felsic sodic alkalic flows and sills, conglomerate, wacke and siltstone occur along the P.D.F.Z. which constitute the Porcupine-Destor Complex. To the north of the P.D.F.Z. are rocks of the Stoughton-Roquemaure Group which is composed of ultramafic to basaltic komatiitic and Mg-rich tholeiite flows. Also present on the north are pillowed and massive calc-alkalic basalts as well as cherty tuff and iron formation of the Hunter Mine Group which has been assigned an age of 2,710 +/- 2 million years. The later two Groups are intruded by ultramafic to mafic sills, quartz feldspar porphyry and stocks of syenodiorite, monzonite, granodiorite and syenite.

## PROPERTY GEOLOGY

The general geological setting for the Garrison Gold Project is taken from Satterly (1949) (see Figure 5). The main structural features of the property are the M.F.Z. and P.D.F.Z. both of which traverse the claims at an attitude of about 070 degrees (N 70E).

To the north of the M.F.Z. are generally non-schistose basaltic komatiite and tholeiite flows which in Figure 5 are shown as the "Northwall Metavolcanic Rocks". Within the M.F.Z., there are a sequence of schistose metamorphosed ultramafic flows that have been largely folded, contorted, sheared and intruded by porphyritic and non porphyritic syenite, dark basaltic, biotite lamprophyre and quartz diabase(?) dykes. Between the M.F.Z. and P.D.F.Z. occur a generally shattered but non-sheared fine-grained grey-green to pinkish red sandstone type sedimentary rock which in the literature is referred to as greywacke or arkose depending on the colour and local specularite content. The P.D.F.Z. to the south of the "Metasedimentary Rocks" in Figure 5 contains rocks which are similar to those observed in the M.F.Z. with the exception of a lack of preserved olivine peridotite cumulate portions of komatiitic flows and absence of gold associated with sodic-potassic alteration of the komatiitic flows to produce the albite-sericite-carbonate-pyrite-gold mineralization found in the M.F.Z. The same types of rocks appear to have intruded the P.D.F.Z. as are found in the M.F.Z. To the south of the P.D.F.Z.

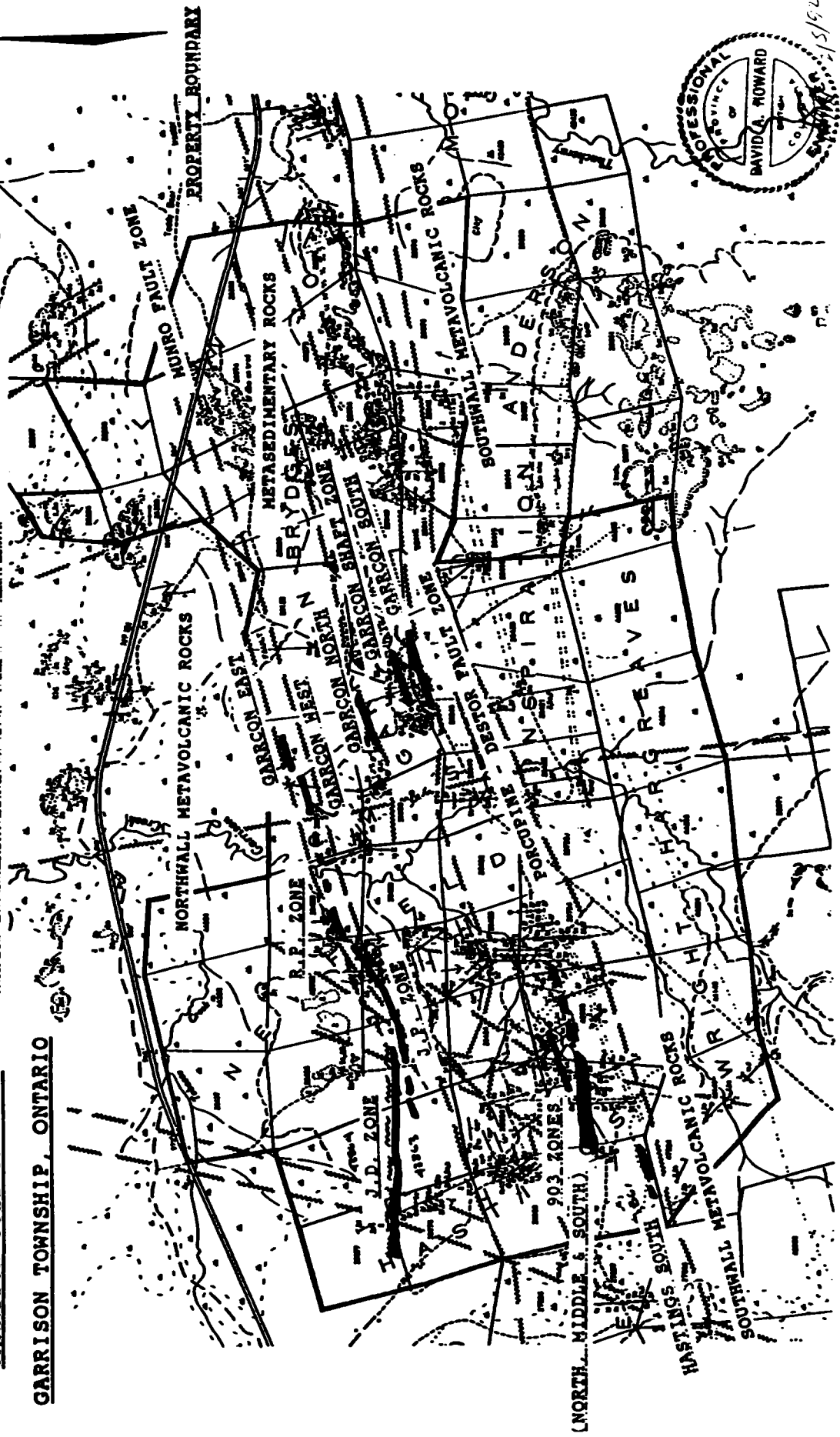
FIGURE 5

JONPOL EXPLORATIONS LTD.  
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GARRISON GOLD PROJECT

GARRISON TOWNSHIP, ONTARIO

DIAGRAM ILLUSTRATING THE JANUARY 1991 PROPERTY BOUNDARY  
AND LOCATION OF THE GOLD MINERALIZED ZONES



GEOLOGY BASE AFTER SATTERLY (1949)

D. D. H. GEOMANAGEMENT LTD. JANUARY 1992

SCALE 1:24,000 OR 1" = 2000'

occur less foliated tholeiitic appearing rocks with a high magnetic susceptibility which are thought to be Fe-rich tholeiites of the Kenojevis Group. The proximity of the large Garrison syenite stock may in time prove to have played more of a role in the local geology than is known at present.

Rock type descriptions used in this report are outlined below.

- (1) "T" "Tholeiite" (could be a basaltic komatiite)
- (2) Chl-K Dark green chloritized komatiite flows with spinifex texture - relatively undeformed.
- (3) Chl-S-T Chlorite-sericite-minor talc schist with a characteristic olive green colour.
- (4) C-S-M Carbonate-sericite-mariposite assemblage with an apple green colour, relatively undeformed to weakly schistose, usually does not contain buff dykes.
- (5) C-M-S Carbonate-mariposite-sericite schist with a stockwork texture and an emerald green colour, contains buff dykes which may be brecciated.
- (6) Chl-T Chlorite-talc-carbonate assemblage, variably foliated from relatively undeformed to schistose, dark green colour.
- (7) A Albite-sericite-carbonate-pyrite gold bearing assemblage, referred to as albitite but actually an alteration phase of the original komatiite flow.
- (8) C-S-M Carbonate-sericite-chlorite assemblage, variably foliated with hardness of 5.
- (9) S Dark green to black talc-chlorite-carbonate assemblage either foliated or brecciated showing original komatiite flow and spinifex texture.
- (10) O-P Black to dark green olivine peridotite with relict olivine or serpentinite pseudomorphs, cumulate portion of original komatiite flow, spinifex texture, includes non olivine pyroxenitic komatiite.

- (11) MS Metasedimentary rocks including fine-grained well sorted sandstones, argillites and siltstones, colours vary from grey-green (ferrous iron) to pink (ferric iron), disseminated pyrite and specularite locally common.
- (12) BD "Buff dyke" - term applied to a sericitized fine-grained rock with sharp dyke-like boundaries, generally with disseminated pyrite, restricted generally to mariposite-bearing host rocks.
- (13) SD Syenite dyke - fine-grained pink to orange to reddish coloured felsic intrusive rock.
- (14) BSD Biotite syenite dyke - fine-grained syenite intrusive rock with either biotite or chloritized biotite. Chilled margins are common. Locally the chilled margins have been altered to a "buff dyke" appearing rock with mariposite flakes when the host rock is mariposite-bearing.

**DRILL PROGRAM DURING DESIGNATED PERIOD**

During the period from October 5 to December 19, 1991, Bradley Bros. Limited, P.O. Box 2367, Rouyn-Noranda, Quebec, J9X 5A9 completed the following B.Q. diamond drill holes using a Boyles 25-A:

<u>HOLE NO.</u>	<u>LINE at STATION</u>	<u>BEARING</u> (azimuth)	<u>DIP</u>	<u>LENGTH</u> (feet)
N91-154	L28W, Sta. 30N	160	-60	2571.5
N91-155	L30W, Sta. 30N	160	-65	2328
N91-156 *	L32W, Sta. 30N	160	-70	2043*
N91-156A	L32W, Sta. 30N	160	-70	3283
N91-157	L32W, Sta. 31N	160	-70	1463
N91-158	L30W, Sta. 31N	160	-70	3322.6

\* Hole N91-156 lost at 2043 feet, hole 91-156A wedged off of 91-156 at 1676 feet (lost footage = 367 feet).



Total footage drilled in program 13,335.1

The dates for each hole and the claim number on which the hole was drilled is outlined below:

<u>HOLE NO.</u>	<u>DATE STARTED</u>	<u>DATE FINISHED</u>	<u>CLAIM NO.</u>
N91-154	10/31/91	11/10/91	L43702
N91-155	10/11/91	11/21/91	L43702
N91-156	10/21/91	11/30/91	L43702
N91-156A	11/30/91	12/16/91	L43702
N91-157	12/5/91	12/10/91	L43702
N91-158	12/10/91	12/19/91	L43702

The drill holes are plotted on Figure 6 which shows their relative location, vertical projection and their relationship to the respective claims.

All of the holes except for N91-157 were directional surveyed using a Sperry-Sun level rotor gyro and the results have been plotted using this data (See Appendix C). The decision to use the gyro unit over the more conventional Single Shot was the magnetic nature of a large portion the rocks in and surrounding the Munro Fault Zone. Previous surveys using the Single Shot have lead to a number of questions regarding the actual location of the various rock units and mineralized intercepts. The gyro surveys show that the holes have a consistent migration to the right or in the direction of rotation. Using this knowledge it will be possible to more effectively evaluate past drilling results.

## RESULTS OF DRILLING

The present diamond drill program was conducted to test the downward extension of the previously defined J.P. gold zone within the Munro Fault Zone. The J.P. zone to date has exhibited the best continuity in grade and width along strike. This zone was bulk sampled underground on the 476 foot level over a strike length of 465 feet with an average grade of 0.255 OPT. gold and an average width of 11.8 feet. A mineral inventory based on a polygonal determination between lines 29+00W and 35+00W and a depth of 700 feet using all drill data plus underground sampling yielded 212,975 short tons with a grade of 0.254 OPT. at a cutoff grade of 0.08 OPT. (Howard, 1990).

Downward continuity (Figure 7) is suggested, but not confirmed by previous holes N-99 wedge and hole N-87. Hole N-87 intersected 0.23 OPT gold over 8 feet or 0.15 OPT over 14 feet as well as 0.17 OPT over 10 feet and 0.12 over 5 feet all in a zone of 0.05 OPT over an intercept of 95 feet from 2,078 to 2173 feet. Hole N-99



wedge intersected 0.18 OPT gold over 9 feet or 0.14 OPT over 30 feet in a zone of 0.06 OPT over an intercept of 88 feet from 1,984 to 2,008 feet.

Both of these holes (87 & 99 wedge) intersected the favourable horizon at least 500 feet below the deepest holes in the J.P. zone which are from west to east N-114,-97, -85, -102, -101, -100 (See figure 7). Assays from questionable zones in these holes ranged from nil to 0.06 OPT gold or in other words there appeared to be a gap in the mineralization below an elevation of 9000 or about 1100 feet below the surface. In addition to the lack of favourable assays there was also a lack of favourable rock types or rock sequences and/or structural problems that suggested that there would be a gap in the gold mineralization. Note on Figures 8,9 and 10 the missing units 4, 5 and 7 (carbonate-sericite-mariposite and albite-sericite-carbonate assemblages) between the elevations of 8700 and 9500 feet (datum is taken as 11,000 feet so all depths are positive).

Hole N91-154 (Appendix A) intersected a zone of emerald green to apple green, well foliated mariposite-sericite-carbonate assemblage containing narrow bands of albite-sericite-carbonate which contained up to 3 to 4 percent very fine grained pyrite from 2210 to 2376 feet. The entire zone is slightly anomalous in gold with the best values being 0.05 OPT gold over 7 feet from 2304 to 2309 feet and 0.057 OPT gold over 8.5 feet from 2341 to 2349.5 feet with the latter containing a section of 0.127 OPT over 2.5 feet. This intersection is geologically identical to the mineralized section in both N88-87 and N88-99 wedge with the possible exception of slightly less pyrite.

Hole N91-155 (Appendix A) veered sharply off section to the west and appears to have missed the J.P. zone either by being stopped too soon or that hole N88-99 wedge is further east than as shown. It is the writers opinion that the latter is the case because when hole 99 wedge was being drilled the drillers were using a very high drill pressure which has been shown to be the cause of excessive wandering (Compare N91-155 with the rest of the 1991 drilling. Hole 155 was drilled with very high head pressure).

Although N91-155 missed the J.P. zone it did intersect a new gold zone in the North Wall "Tholeiites". This new zone (North Wall Zone) consists of a pyritic zone containing up to 15 percent arsenopyrite and pyrite with arsenopyrite usually being the major sulfide in a pale grey (bleached?), moderately calcareous carbonated "Tholeiite" from 1116 to 1162 feet. The North Wall Zone differs from the J.P. zone host rock mineralogy as well as gold distribution. In the J.P. zone the entire zone was normally anomalous in gold (at least geochemically) whereas the North Wall Zone is either gold bearing or barren. In hole N91-155 within the zone there are intercepts from 1123 to 1133 feet averaging 0.048 OPT. gold over 10 feet and from 1157 to 1162 feet averaging 0.039

OPT. gold over 5 feet. This zone despite the low assays is a very strong zone which can be traced to other more significant intersections. Surrounding the carbonated or bleached zone is a halo up to 10 feet in width containing fine grained lucoxene. It should be pointed out that all of the carbonated zones in all of the holes have this lucoxene halo.

Hole N91-156/N91-156A (Appendix A) intersected a zone of emerald green to apple green, well foliated mariposite-sericite-carbonate assemblage containing a few narrow bands of albite-sericite-carbonate which contained trace to 2 percent fine grained pyrite from 2538 to 2720 feet. Gold grades in this zone were anomalous, but low with a range of 0.003 to 0.056 and with only a partial correlation of grade to the presence of the albite-sericite-carbonate nor to pyrite content. This zone correlates with the J.P. zone, although it appears to be from the low gold grades on the bottom edge of the raking gold zone (See figure 7).

The North Wall Zone was intersected between 1200 and 1210.5 feet where it consisted of light grey to pale tan carbonated "tholeiite" containing 5 to 15 percent fine to coarse grained pyrite and 1 to 2 percent fine to medium grained arsenopyrite. This zone averaged 0.049 OPT. gold over 10.5 feet with a range of 0.035 to 0.063 OPT. gold. Several other narrow carbonated "tholeiite"/arsenopyrite zones are present below the main North Zone and were all anomalous in gold (0.010 to 0.026 OPT).

All previous exploration work on the Garrison Township Jonpol/T & H property had been directed toward gold zones associated with the Munro Fault Zone. A new massive sulfide zone discovered in hole N91-156 within the North Wall "Tholeiites" has added new potential to an already attractive property.

The new massive sulfide zone consists of a 4.5 foot intersection containing approximately 85 percent pyrite, 3 to 6 percent chalcopyrite, minor fine grained sphalerite and a couple percent magnetite locally in a carbonate gangue from 826 to 830.5 feet. From 830.5 to 843 feet the amount of pyrite sharply decreases to 3 to 4 percent plus some chalcopyrite. The zone is associated with a flow top within the "Tholeiites" as evidenced by pillow textures and some hyaloclastite. Assays for the zone are listed below:

Interval (ft.)	Cu (%)	Au (opt)	Ag (opt)	Zn (%)
824-826	0.01	0.002	0.01	0.01
826-828	3.07	0.010	1.62	0.42
828-830.5	1.14	0.011	0.69	0.90
830.5-833	0.02	nil	0.01	0.04
833-836	0.02	nil	0.02	0.10
836-839	0.18	0.002	0.07	0.08
839-843	0.04	0.002	0.04	0.03

Assays for Ni, Pb, Pt, Pd and Rh were negligible.

At the present time it is impossible to state how the new massive sulfide zone is situated in space. From the flow top textures present below the massive sulfide section it would suggest that the flow top is facing southerly. Drill hole N91-157 passes within 30 feet north of the zone without any indication of the zone or the flow top being present. A down the hole EM survey by Quantec Consulting Inc. of Toronto, Ontario using a Geonics EM-37 failed to detect the zone in any of the holes including N91-156. The results of all the EM down hole surveys are located in Appendix D. It is not known why the survey failed to detect the massive sulfide even when it was in very close proximity. Two different machines were used so it can not be attributed to equipment failure.

Hole N91-157 was initially drilled as a follow up to the new massive sulfide discovery, but as previously mentioned it failed to intersect the new zone (See figure 10). Hole N91-157 did intersect the North Wall Zone from 1240 to 1252.5 feet. This intersection consists of carbonated "Tholeiite" containing 8 to 10 percent coarse crystalline arsenopyrite and 2 to 3 percent coarse grained pyrite. The zone averaged 0.087 OPT. over 12.5 feet with the assays ranging from 0.038 to 0.153 OPT. Several other narrow carbonated zones within the Northwall "Tholeiites" are present below the main North Wall Zone, but contain less sulfide and are only geochemically anomalous in gold.

In hole N91-158, the J.P. zone appears to be restricted to a narrow zone that extends from 2607 to 2631 feet. The interval contains a light grey, very fine to medium grained, porphyritic felsite dyke with poorly developed chill margins. Fine grained mariposite is associated with fine fractures throughout the unit. There is no evidence of albite-sericite-carbonate so the only criteria for correlating the unit with the J.P. mineralized zone is the presence of mariposite and the fact that the unit is slightly anomalous in gold (0.003-0.009 OPT. gold). It is the writer's opinion that the J.P. zone is missing in the vicinity of this hole and that the anomalous nature and presence of mariposite is only a coincidence.

The North Wall Zone in hole N91-158 is contained in a carbonated "Tholeiite" zone that extends from 1246 to 1295 feet. The zone is essentially identical to the zone found in the other holes. The zone contains trace to 10 percent pyrite and locally up to 3 percent coarse grained arsenopyrite. As a general rule the better gold grades are associated with the areas of highest arsenopyrite. The best grade section (1276-1282 feet) averages 0.211 OPT. gold over 6 feet in a zone of 0.090 OPT. over 16 feet.

The North Wall Zone strikes between N 69 E and N 78 E and dips 54 to 56 degree northwest (three point problem) or is essentially parallel to the regional foliation.

## CONCLUSIONS AND RECOMMENDATIONS

The present drill program has confirmed that the mineralized horizon(s) or at least the mineralized zone(s) found in the upper part of the J.P. Zone are present below an elevation of 8700 with the zone being vertical, but the mineralization appears to have a steep rake to the east rather than being vertical as previously thought (See figures 7 to 10). Low assay results and the lack of high sulfide content (> 5%) in the sections containing the albite-sericite-carbonate assemblage, plus the possibility of holes in the zone suggest that holes N91-156A and 158 are either below the main J.P. type zone or on the lower margin. Hole N91-154 intersected the zone in what is hopefully only a low grade section. In the top portion of the J.P. zone (above 10,300) such holes in the higher grade section were noted.

In order to test the hypothesis that the J.P. zone rakes steeply to the east, it is recommended that one further deep hole be drilled from station 30+00 North on Line 26+00 West. A easterly rake would conform to what has been found on the Teddy Bear property of Noranda's located in the Harker-Holloway Townships.

The newly defined North Wall Zone appears to be continuous between sections 30+00 West and 32+00 West with a probable extension to section 28+00 West where it appears to intersect the Munro Fault Zone (See figure 6). The zone is open to the southwest and in addition has an apparent increase in grade with depth (at least on section 30+00W). The weighted average grade of the four intersections is 0.085 OPT. over an average width of 9.75 feet. The fact that the zone dips to the north and has an apparent increase in grade in that direction could suggest that there is another structure north of the Munro Fault zone that is gold bearing.

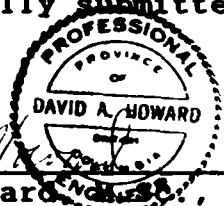
The presence of a massive sulfide zone in the North Wall "Tholeiites" presents a interesting exploration problem particularly since it appears not to respond to down hole geophysics or at least the EM-37 system. Since most of the drill holes from the present drill program will probably remain open for at least the near future it is recommended that another down hole system be tried on hole N91-156. Massive sulfide deposits commonly occur in clusters so the possibility exists that other deposits could be found in the area and as such should be searched for.

In order to test for the possible presence of a near surface massive sulfide as well as a parallel gold bearing zone to the Munro Fault Zone it is recommended that geophysical surveys including magnetometer, VLF-EM and Max-Min be run on the existing grid between lines 24+00 West and 42+00 West from station 20+00 North to the north property boundary, a total distance of approximately 18,000 feet or 5.5 kilometres. An allowance should be made for drill testing the anomaly(ies) if any are defined (say 6 - 150 metre holes).

**ESTIMATED COST OF PROPOSED PROGRAM**

Diamond Drilling	\$150,000.00
3000 metres BQ @ \$50/m	
Including core boxes, fuel and mob/demob	
Geophysics (down hole)	2,000.00
Geophysics (surface)	5,000.00
5.5 km. Mag., VLF-EM, Max-Min	
Transportation	6,000.00
Includes truck rental and airfare	
Assaying	4,500.00
300 samples @ \$15/sample	
Accommodation/Board	4,500.00
60 mandays @ \$75/manday	
Labour (core splitter etc.)	3,500.00
Supervision/Engineering	12,000.00
Report	5,000.00
	-----
Sub-total	\$192,500.00
Contingency	7,500.00
	-----
Total	\$200,000.00

Respectfully submitted,

  
*D. A. Howard*  
D. A. Howard, P. Eng.

D.D.H. GEOMANAGEMENT LTD.

February 3, 1991

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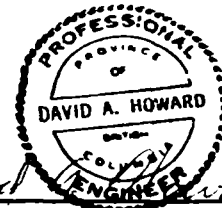


## Certification

I, David A. Howard, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a geologist residing at 9040 Glenallan Gate, Richmond, B.C., with an office at 422-470 Granville Street, Vancouver, B.C.
2. I am a registered Professional Engineer of the Province of British Columbia. I graduated from Montana State University in 1964 and from the University of Washington in 1967.
3. I have practised my profession continuously since June, 1966.
4. I am the author of this report which is based on personal supervision of the described drill program and from data contained in the files of D.D.H. Geomanagement Ltd., government publications and other reports.
5. I hold shares in the common stock of Jonpol Explorations Ltd. and T and H Resources Ltd.
6. This report may be utilized for development of the property, provided that no portion may be used out of context in such a manner as to convey a meaning which differs from that set out in the whole.
7. Consent is hereby given to Jonpol Explorations Ltd. and to T and H Resources Ltd. to use or reproduce this report or any part of it for the purpose of development of the property, or related to the raising of funds.

Dated at Vancouver, B.C., this *5<sup>th</sup>* day of February, 1990.



David A. Howard, M.Sc., P.Eng.  
D.D.H. Geomanagement Ltd.

**APPENDIX A**

**DRILL HOLE LOGS**

**N91-154  
N91-155  
N91-156/N91-156A  
N91-157  
N91-158**

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison

DATE Nov. 1, 1991 PAGE: 1 OF 8

HOLE N91-154 DIP -60 AZMIUTH 160 LOGGED BY D.A. Howard

CORE SIZE BQ TOTAL FOOTAGE 2571.5 DIP TEST (YES)/NO

DIP FOOTAGE AND DEGREE 57° @ 656', 53° @ 1966'  
54° @ 1312' LOCATION Line 28+00W A 3C+00N  
41' @ 2571.5'

CASING LEFT IN HOLE: (YES)/NO CASING FOOTAGE 13.3'

DRILL TIME: START Oct. 31, 91 FINISH Nov. 10, 1991 MECHANICAL TIME \_\_\_\_\_

MISCELLANEOUS PROBLEMS Sperry Super test to 2300'

Elev approx 10,979

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
0-133'	Over burden		
13 - 1810.5	Dark green, v.f.g., dense, mod. massive, hard (No s.o.-s.s) "Tholeiite" (basaltic komatiite) w/ a few narrow (2mm - 20cm) qz/carb ± chl veins. Tr dis v.f.g. to f.s. py. Veins both parallel and non parallel to poorly defined foliation. Fol. where defined 50-70° Most fine veins, dis in the range. Approx 1 vein/ft (Ave). No increase in py near or in veins. Section slightly magnetic 170-178 Veins ± 60° contain 20%± epidote, no py increase 178-499 Very massive. Few 1-5mm qz/carb veins @ 50-60. mod. magnetic, Tr py same in veins. Vein density < 1/ft. Occasional vein of epidote. 499-593 Extra massive, No qz/carb veins. More epidote coated fractures. Tr dis py. @ 25-60° No foliation 431-433 qz/carb/chl. w/ Tr py vein @ 30° Vein well brecciated 593-935 More intense fracturing. Narrow random oriented qz/carb veins common. 20-70° fracture to 9cm. Occasional speck of py in vein. Approx 10 fractures/ft.	431-433 5306	002

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 3, 1991 PAGE: 2 OF 8

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
717-718	1 ft. qz/carb/±chl clot w/ Tr dii py. Top contact 60° Lower contact 20° - opposed contacts ∴ a clot!		
890-891	qz/carb/chl vein w/ rounded thin frags w/ reaction rim - 1-2% coarse py matrix to reaction rim Contacts -40° 1/4" reaction rim on contact.	890-891.5	5207 Nil
920	Fol. 40° very weak		
935-	Reddish fracture (qz/carb etc) density 3.5/ft. More shatter type veins:		
968-998	Slightly coarser grained, massive, ±5% f.s. epidote coarse colour change. Tr dii py. May be a interflow sed. Minor red hematite along fractures.		
1096-1116	Breccia? - rounded frags w/ mainly f.s. chl cement ± carb/ga - Possible pillow frags? Very little py. Non mag. Narrow reaction rims on some rounded frags. Gradational contacts.		
1212-1215	Breccia? zone - same as above except it contains 3-4% f.s. py in interstially i.e. as cement locally. Contacts 40°	1212-1215	5308 Nil
1226-1229	Same as above - contacts 50°	1226-1229	5309 Nil
?			
1326.5-1329.5	Mixed, partially brecciated qz/carb/chl vein @ 50°-Top, grad. - bottom 3-4% sulfide w/ 1-2% fine-med. gr. arsenopyrite. More massive qz vein 1327-1328. Tr amount of arsenopyrite 2-3' into either hanging - foot walls.	1326.5-1326.5	5321 .002
		1326.5-1329.5	5320 .011
		1329.5-1332	5322 .002
		1332-1335	5323 .002
1346-1347	Barren qz/carb/chl vein @ 40°		
1354-1355	" " " " " " " " @ 50°		
1369-1370	± Brecciated qz/carb/chl vein @ 30°		
136-1437	Partially brecciated qz/carb/chl vein at 40° w/ few blebs cpy.		



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 7, 1991 PAGE: 4 OF 8

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
	<p>1916.5 Contact 30° sharp. Intense brecciation                      1902 to contact - some rounding of                      fragment. Intense hairline fracturing of                      Frgs. Tr + py. Graptitic slaps 1904-1906</p>		
<p>1916.5-1957.5  (3)</p>	<p>Olive green + gray f.s. well foliated 35-40°                      med hard H=25 Chl/Ser. / talc schist                      w/ minor micropelite brecciation section.                      Non-mag. Tr py assoc w/ carb.</p>		
	<p>1943.5-1952.5 Med tan v.l.g. dense,                      weakly foliated (40°) - defined by f.s. chl/microp                      flakes. Felsite / buff dyke. H=6                      Tr py. Contacts parallel to fol. (40°)</p>		
	<p>1957.5 Contact 60° parallel to fol.                      Grad. in part - decreasing in hardness                      towards contact.</p>		
<p>1957.5-2041</p>	<p>Dark green/white bedding, f.s. soft                      H=3-4 well foliated 60°                      Chl-Talc schist ± carb. Tr f.s. py</p>		
	<p>2010.5-2011 Chl fault gouge @ 40°</p>		
	<p>2011-2012 Purple-blk f.-med.g. biotite                      lamp dyke Contact, 90° in fault zone.</p>		
	<p>2013-2021 Major Fault zone @ 40° Med                      gouge development, highly brecciated, broken                      bleached (pale gray) chl-talc mineral.                      pucker chips cleavage.                      Effect of bleaching 10' either side of fault.                      Fol. below fault 40°</p>		
<p>2041</p>	<p>Contact 30° Somewhat gradational                      Increase in grain size, less chl                      increase in hardness, well defined fol.                      20-30°</p>		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 8, 1991 PAGE: 5 OF 8

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
<p>2041-2146 (5)</p>	<p>Emerald green f.s. well foliated 40°                      mariposite / carb / 1 sericite assembl.                      Upper contact gradational over 5'. Zone contains                      mainly chl - carb - ser. May be marginal phase                      of Chl-Talc schist. Mariposite content increases                      sharply at 2046'                      Nil to Tr. py.</p> <p>2050-2053 Buff dyke @ 40° parallel to f.l.                      Nil py.</p> <p>2070-2079 Buff dyke @ 40° irregular                      nil py</p> <p>2098-2098 Buff dyke @ 40°                      Nil py</p> <p>2123-2133 Coarser grained buff dyke w/ pinkish                      carb veins @ 40° Some chl or epidote.                      - var, fine grained.</p> <p>2141-2146 Med tan v.l.g. buff dyke.                      Tr py. Well fractured. qb/carb veins</p>	<p>2141-2146, 5211</p>	<p>.002</p>
<p>————— Contact 30° sharp</p>			
<p>2146-2210</p>	<p>Dark green f.s., locally well fol. 40°                      locally brecciated, high carb vein content                      Chl-Talc schist Hc 32 Nil Py</p> <p>2199-2200.5 Fault zone @ 40°                      Chl gouge + frags - like a crushed zone</p> <p>2202-2203 Fault zone - same as above</p> <p>2210 Contact Gradational over 20'                      First Mariposite at 2230. - 2210-2230                      sharp carb increase and increase in hercynite.</p>		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 9, 1991 PAGE: 6 OF 8

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2210-2276	Emerald green to apple green except as noted in contact zone, f.s., well foliated (40°) locally contorted, mod hard H= 5-5.5 Mariposite/sericite/carb assemb. Minor qz/carb veins Nil py to 2287		
2287-2304	Dark green and white w/ pale yellow banding (Sericite alt.) chl-carb schist Tr. v.f.s. dis py H= 4-6 variable depends on hard type. Fol. = 30° Minor qz/carb veins Contact 40°	3 2287-2290 5342 3 2290-2293 5343 3 2293-2296 5344 3 2296-2299 5345 3 2299-2302 5346 2 2302-2304 5347	.017 .012 .010 .009 .008 .009
2304-2316.0	Dark to lighter tan, intensely brecciated very hard H=6, v.f.s. albite/sericite/carb assemb mixed w/ a few large fragments of mariposite/carb assemb. Sericite alt. common shaly fracture 3-4% v.f.s. dis py	2 2304-2307 5348 2 2307-2309 5349 3 2309-2312 5350 4 2312-2316 5351	.090 .027 .005 .018
2316.5-2341	Mariposite - Carb assemb w/ occasional frag of ab/ser/carb Tr py Fol = 30 Locally brecciated. H= 5.5-6	2 2316.5-2319 5352 3 2319-2322 5353 5 2322-2327 5354 5 2327-2332 5355 5 2332-2337 5356 4 2337-2341 5357 2 2341-2343 5358 2 2343-2345 5359 2 2345-2347 5360 2 2347-2349.5 5361 62.5 2349.5-2354 5362 2 2354-2359 5363	.005 .002 .011 .004 .011 .012 .033 .022 .029 .127 .002 .002
2343-2345	Good M.Z.		
2376	Contact @ 40° Gradational - decreasing mariposite, increasing chl.	2 2373-2376 5364	.003

} .05%

} .057  
8.5



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 10, 1991 PAGE: 7 OF 8

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY	
2376-2440 (18)	Dark to light green and white, highly contorted, locally well foliated 20-50° w/ some at 0°, high g/c carb content, mod hard H= 4-5. Unit gradational into bita mariposite/carb assembl and chl-talc assembl. Textured U.M. features rare. Tr. dis. py. Contains rare clots of M.Z type, metab. sed. and buff dyke material, commonly w/ high py content. (Mainly between 2378 and 2388) Non mag. Carb - Ser. - Chl assembl.	2376-2378 2378-2381 2381-2386 2386-2388	S365 S366 S367 S368	.005 .003 .003 .005
	2440 Contact 30° sharp discordant			
2440-2500	Light to dark tan, brownish red to green v.f.g. tightly foliated (Variable) hard H=5.5-6, some chl sections, locally kink banded, minor brecciation, typical Meta Sediments - Very massive non mag. 2451-2455 Band of carb/ser/chl assembl contacts brecciated @ 36° w/ py. 2455-2470 Dark reddish orange, v.f.g., locally po. phytic (mod. gr. pheno - slightly abundant) Syenite dyke w/ 6-8° chl margins. Intrase micro fracturing w/ some 1/4" g/c carb veining Tr - 1% v.f.g. dis. py. Non mag. Top contact 90° Bottom contact 40°	2455-2458 2458-2463 2463-2468 2468-2470	S369 S370 S371 S372	.006 .005 .006 .020
	2500 Contact 70° sharp slickensides on underlying Chl-carb assembl. High g/c carb content			

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 1, 1991 PAGE: 8 OF 8

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2500-2571.5	<p>Dark green, v.f.g. well foliated (40-60°) locally well developed slickensided cleavage parallel to foliation, soft H= 1-3 except near upper contact where it is 3 to 5 due to high carb. &amp; quartz content - Chl-Talc schist w/ 4' of Chl-Carb assembl at contact.</p> <p>H.1 to Tr v.f.g. py. Slightly magnetic. Contains several narrow sections of fine gr. dark green to blk well fol. (±60°) pyritic Meta-Sed or basic dyke assembl</p> <p>Entire section appears to be a shear zone, particularly between 2503 and 2532. This zone is intensely slickensided and contains several narrow (6-8") gouge/breccia zones (Fault Zone)</p>		
2528-2530	<p>Pyritic med sed. (1-2") H= 5                      Top contact 50' Bottom 40'</p>	2528-2530	5373 .006
E.O.H. 2571.5			

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 12, 1991 PAGE: 1 OF 6  
 HOLE N91-155 DIP -65° AZMIUTH 160 LOGGED BY D.A. Howard  
 CORE SIZE BQ TOTAL FOOTAGE 2328.0 DIP TEST YES/NO  
 DIP FOOTAGE AND DEGREE 55° @ 656' 57° @ 984' LOCATION Line 30 W Q 30 N  
 CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 98'  
 DRILL TIME: START Nov. 8, 1991 FINISH Nov. 21, 1991 MECHANICAL TIME \_\_\_\_\_  
 MISCELLANEOUS PROBLEMS Elec. 10,994 (La Rose survey)

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
0-9.8	Overburden		
9.8-1844	Dark green, v.f.s. mod. massive, hard (H=5-5.5) "Tholeiite" (basaltic komatiite) w/ a few narrow (1/16-3") qu/carb ± chl veins Tr. dis. f.s. py. Poorly defined f.l. 35° Locals more epidote along f.l., slightly mag. Most qu/carb veins at 20-40° - random orientation.		
142-144	Qu/carb cemented breccia, angular frags Tr + f.s. py in qu/carb cement Opposing 20° contacts - slickensided.	142-144 5374	Nil
312-345	Narrow epidote envelope on qu/carb veins at 30-60° Tr py in envelope. Hauling to 1" dis epidote in wall on		
645-646 } 646.5-647.5 }	Qu/carb/chl vein @ 30° slightly b. crystalline Tr py in chl portion	645-647.5 5385	.002
741.5-744	Qu/carb cemented breccia, angular frags Tr py in qu/carb on margins of Thal frags. Contacts, 30°	741.5-744 5386	N.I.
758.5-759.5	Qu/carb/chl Frs vein @ 30° slightly fol at 30° Tr py a few ang Thal frags.		
627-766	Above ave. qu/carb vein 20-40° + s.c.		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 15 1991 PAGE: 2 OF 6

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
990-1027	<p>Breccia zone w/ sub rounded Thal frag showing alteration rims. Mainly chl cement w/ minor gal/carb. Some qtz zone in 91-154 (1096-1215)</p> <p>Flaw Top</p> <p>Contains several narrow (3-4") zones of pyritic material (mainly dark chl) 8-10% f.s. py. pillows - flow top breccia?? Halcyonite etc. Assay of 91-154 runs.</p> <p>No well defined contacts</p>		
1098.5-1102.5	<p>light grey, f.s. equigranular hard H=5 locally pyritic Tr-1% inter-flaw sed.?</p> <p>Top contact grad./pyritic lower contact 60°</p>		
1002.5-1116	<p>v.f.s. dense Thal. - may also be sed. contact 55° sharp @ 1116</p>		
1116-1162	<p>Pale to med. grey, dense, equigran. hard (5-5.5), med. calc. f.s. sed(?) Eschal. some as 1098-1102 Tr to very pyritic (Tr-15%) f.s. cubic py. Tr cpy Lower contact - 55°</p>	<p>1116-1119 5377 .002                  1119-1123 5378 .007                  1123-1127 5379 .027                  1127-1130 5380 .064                  1130-1133 5381 .061                  1133-1135 5382 .008</p>	065
1130-1133	<p>Gal/carb./py vein @ 50° 15% f.s. py plus Tr f.s. arsenopy. Dis up along fract.</p>	<p>1135-1138 5383 N.1                  1138-1142 5384 N.1                  1142-1145 5385 N.1                  1145-1148 5386 .002                  1148-1151 5387 .002                  1151-1154 5388 N.1                  1154-1157 5389 N.1</p>	
1153-1160	<p>Heavy py + 5-6% f.s. needle arsenopyrite along 50° fol. Horizontal in center foot of zone</p>	<p>1157-1160 5390 .049                  1160-1162 5391 .025                  1162-1165 5392 N.1</p>	
1162-1264.5	<p>Dark green, v.f.s. equigranular non fol. hard H=5-5.5 Typical Tholeiite. Very massive Very few gal/carb veins, Tr py Some epidote. Lower contact 50° sharp noted by narrow band of coarse grained material.</p>		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 16, 1991 PAGE: 3 OF 6

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
1264.5-1301	Darker green changing to a med gray away from contact, v.f.g. equigranular hard (H=5-5.5) massive, weakly fol. (SS) locally very pyritic with narrow sections containing up to 6-7% v.f.g. needle green pyrite. Coars. gr arsenopyrite also locally present. Zinc very similar to zone 1116-1162. (F.s. sed??)	1266-1267.5 1267.5-1268 1268-1272 1272-1274 1274-1276 1276-1278 1278-1280 1280-1283 1283-1286 1286-1290 1290-1294 1294-1298 1298-1301 1301-1304	5393 N.I. 5394 .002 5396 N.I. 5396 N.I. 5397 .002 5398 .011 5399 .002 5400 .058 5401 .020 5402 .007 5403 .006 5404 .002 5405 .006 5406 N.I.
1274 →	med gr. 1274-1280 only, fr. sulfides		
1280-1283	High total sulphide content (410%) mostly arsenopyrite 3" qu/carb. @ 50° vein opens barren.		
1283-1301	Tr - 1% total sulfides mostly py.		
1301-1326.5	Green Thuleite - massive w/ leucocoxene - similar to transition zone above (1264.5-1274) Contact 10° sharp	1321-1324 1324-1326.5 1326.5-1329 1329-1332 1332-1334.5 1334.5-1337	5407 N.I. 5408 .011 5409 .019 5410 .003 5411 .018 5412 .002
1326.5-1334.5	Med. gray, v.f.g. equigranular hard (H=5-5.5) massive, weakly fol. (SS) pyritic (both py + Arpy) Tr - 10%. Arsenopyrite mostly fine to med gr. locally up to 8% or 80% of total sulfide.		
1324-1325	- Same as 1326.5-1334.5		
1334.5 -	Green Thuleite - massive Tr py		
1366.5	5" qu/carb/chl vein @ 50° No sulfides		
1567.5-1569	Broken core - poss. fault rubble - No angle. top contact Bottom contact 50° (maybe)		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 17, 1991 PAGE: 4 OF 6

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY	ASSAY
	1581 - 4" qz/carb/chl vein @ 50° w/ 1-2% needle Aspy on contact. Also Tr Aspy in foot and hanging wall. Vein in ultra-f. sds. type Thul. Slight bleaching.	1580-1586	54/3	.002
	1615-1844 Featureless, massive green Thul. Very few qz/carb veins, local epidote conc. Tr dis py.			
	1844 Contact 40° sharp 1/2" qz/carb/chl vein on contact.			
1844-1858	Major Fault zone - Mixed chl-talc schist, qz/carb veins, ? frag. of Thul - All brecciated minor chl gouge - very rubbley 1ft qz/carb/chl vein at lower contact also brecciated @ 40°			
1858-2166	Dark green to black, v.f.g., soft (H=1-3) locally foliated (50°), finely veined-qz/carb locally brecciated Chl-talc schist (locally, not is a soapstone or what has been logged in past as a soapstone) (Def. unit 6) w/ harder sections between high talc sections. Very rare speck of py.			
	1885.5-1899 Dark gray to blk fin to med. s. biotite Lamp dyke. Contact 40° Tr py H=5.5			
	1922-1925 Lamp dyke (same as above) Contacts 50°			
	1932-1935 Med gray f-m. gr. bio Lamp dyke. Contacts 40°			
	1940-1944 Lamp dyke - same as above contacts 30°			

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 19, 1991 PAGE: 5 OF 6

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
1949 -	Marked increase in deformation and amount of fine grained veins. Contains narrow sections of olive green material (sericite alt.) w/ M.M. flow textures. Rapid change in fol from 0 - 70°. Some zones // to core axis. Several narrow (1/2-1") zones zone in interval 1966-1995.		
2020-2022 } 2024-2026 }	Dark brown, v.f.s. hard (H=6) alt zones, brecciated. Tr - 1% dis f.s. py. Does not look like M.B material. Contacts either 50° or brecciated.	2020-2022 2022-2024 2024-2026	5414 .027 5415 .003 5416 .002
	2038-40 Fault zone, gouge @ 50°		
2061 - 2070	Dark tan to purplish tan, v.f.s. hard (H=6) to greenish gray. Chl-Ser(?) - Albite(?) assembl., micro-brecciated (resembles a M.B. sed.) Tr - 1% f.s. dis py + some on fracture. Unit has high chl. content. Mixed w/ Chl-Talc which is lighter green and contains no obvious sulfides.	2058-2061 2061-2064 2064-2066 2066-2070 2070-2073	5417 .002 5418 .002 5419 .002 5420 .002 5421 N.I
2122- 2124	Fault zone @ 30° Fragt zones quite pyritic ± 1%	2122-2126	5422 .003
2126- 2166	Transition zone to massive porphyritic. Well foliated (50-60°) Mod. carb vein content - Still a chl-talc schist. Zone intensely brecciated. Contains large frags. of fractured porphyrite.		
2166	Contact - gradational		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project. TOWNSHIP Garrison  
 DATE Nov. 20, 1991 PAGE: 6 OF 6

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2166 - 2328.8	Dense blk, v.f.g. featureless, magnetic ch-Talc grading into cumulate olivine peridotite. Rare gr/carb veining H= 2-3. Quite talcose. Vms at 30-50°		
2177 - 2178	Brecciated gr/carb vein at 60° 40% gr/carb Nil sulfide.	2178-2181	5423 .002
2181 - 2186.5	Dark green to dark purple to tan hard H=6 alb/ser/carb assembl w/ T= 2% v.f.g. to coarse gr. py. H. about py 2181 to 2185	2181-2185	5424 .012
		2185-2187.5	5425 .002
		2187.5-2191	5426 .002
2185.5 - 2186.5	Brecciated gr/carb vein @ 40° Nil sulfide. 20% gr/carb.		
2242 - 2253	Fault zone @ 45° Intersid, brecciated, increased talc content Nil py.		
2253 - 2282	More talcose - almost a ch-Talc. increased gr/carb herkin veining Nil py.		
2282 -	Massive cumulate olivine peridotite		
2280 -	6' Fault zone at 35° Talc zone		
2328.8	E.O.H.		



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison

DATE Nov. 22, 1991 PAGE: 1 OF 13

HOLE N91-156 DIP -70° AZIMUTH 160 LOGGED BY D. Howard

CORE SIZE BQ TOTAL FOOTAGE N91-156 (3293) DIP TEST YES/NO

DIP FOOTAGE AND DEGREE 63° @ 100m, 67° @ 200m, 67° @ 300m, 66° @ 400m, 66° @ 500m, 64° @ 600m LOCATION Line 32W A 30N

CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 12'

DRILL TIME: START Nov. 21, 1991 FINISH Nov 11, 1991 MECHANICAL TIME

MISCELLANEOUS PROBLEMS Elv. 0.996.9 Lost hole between 1712 and 3043. Wells off at 1676. New hole # N91-156A (156A (600m) = 63°, 66° @ 700m, 63° @ 800m, 57° @ 899m

FOOTAGE DESCRIPTION ASSAY NO. ASSAY

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
0-9'	Overburden		
9-1713	Dark green, v.f.g. massive, hard (H=5-5.5) 'Tholeiite' (basaltic komatiite) w/ a few narrow qz/carb veins at 45-50° Tr finely dis. py w/ occasional clots Poorly defined fol. @ ±50° - slight chl w/ epid. flkns.  119.5-120 6° qz/carb vein at 50° Mid brecciated ±1% dis. py in qz/carb vein/breccia cement  170-273 Marked increase in ilucovone content. Does not define fol. - random orientation  251-273 Very hard healed breccia zone - rt cement, v.f.g. H=6 Tr py some foreign frags (gray felah) - 1/2" shal change to lighter green colour.  559-561 Qz/carb + minor chl vein @ 25° Tr py assoc w/ chl selvages MnO <sub>2</sub> brecciation		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 24, 1991 PAGE: 2 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY	
664-702	Pale greenish tan, v.f.s. (exagonal) med. hard (H=5) well foliated (15-30) sed type Tholeiite - Prob. a anorthite Fol due to shearing to dis py. looks something like border phase in hole N91-154 - A few narrow gulfed veins. Top contact 20° Lower contact 25°			
826-830.5	Massive Sulphide - Mostly v.f.s pyrite w/ 3-4% cpy. 1% sphd. Section 90% + sulfide. Carb gangue Slight brecciation. Magnetite crosscutting Top contact 30° sharp sulfides. Bottom contact 20° sharp.	824-826 826-828 828-830.5 830.5-833 833-836 836-839 839-843	5927 5928 5929 5930 5931 5932 5933	Cu As .01 .01 3.67 1.62 1.14 0.69 .01 .01 .02 .02 .18 .07 .04 .04
824-826	Top contact zone slightly fractured - 2" carb vein + a few clots of			
830.5-843	Bottom contact zone - med frct, 3-4% pyrch. remains & 2" carb. No obvious alteration of either contact zone. Assay for Pb, Zn, Cu, Au, Ag. Flow top/bottom features present			
850-853	Minor py + 1% cpy - assay later.			
906-	Fol 20-25°			
942-949	4-5% finely dis py + aspy assoc. w/ 2" 2" carb vein - vein barren. No obvious alt. of sulfid. being well ex. 2" vein at 50°			
936-	3" 2" carb vein at 30° 4-5% sulfid. in well ex - py only.			
1048-1049	Sulfide zone - 4-5% py + aspy assoc. w/ 6" barren 2" carb vein at 50°			
1113	1/2" 2" carb vein w/ 6" envelope of pyritic material py + aspy 4-5% at 50°			

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Nov. 26, 1991 PAGE: 3 OF 13


FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY	
1200-1210.5	light grey to pale tan, v.f.s. hard (H= 5.5-6) pyritic carbonated Tholeiite - Some sericite alt. (cont. light yellow) 5-15% fine to coarse gr. py w/ 1-2% f.s. to med. gr. aspy both nodules + cubic Several narrow qz/carb veins w/ 1-2% med. gr. py w/ minor aspy in section 1200 to 1207 veins 2-12" (2) Sharp increase in aspy from 1207 to 1210.5 (reverse % py and aspy) Top contact 60° sharp lower contact 60° slightly fuzzy. No obvious alteration at wellrock at contacts	1198-1200 1200-1204 1204-1207 1207-1210.5 1210.5-1212.5	5434 5435 5436 5437 5438	.002 .063 .045 .035 .002
1267-1271	light grey, v.f.s. Hard (H= 5.5-6) slightly brecciated (qz/crb ± py cement) carb. Thol. (Similar to above w/o py) Tr - 1% dia py. Contacts 70° sharp.	1267-1271	5439	.010
1313-1316	light grey, v.f.s. hard (H= 5.5) carb. Thol. - Not brecciated - almost no qz/crb. Tr - .5% py + Tr Aspy. Grad. contacts (Alteration zone?)	1313-1316	5440	.011
1366.5-1368.5	Very pyritic thol grading into a grey carb thol. contained in a 1" qz/crb/dk Tr Aspy, py vein @ 70° Hls. surrounding vein 8" Hls. 10-15% formed gr py + aspy (about equal %) Pyritic thol - 10% f.s. py w/ minor Aspy. lower Contacts - somewhat grad. Upper Contact 40° sharp	1366.5-1368.5	5441	.026
1545-1713	Very massive - almost no qz/crb veins - Tr py - about same as previous.			

0.049



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Oct. 5, 1991 PAGE: 5 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
1715-2373	Dark green to blk, fine to coarse grained granular to cumulate textured olivine peridotite. Cumulate olivine clusters 3-5mm, H=3-4, Unfoliated, locally massive, commonly broken, generally magnetic, Ni <sup>2+</sup> sulfides. Stray slickenside development throughout, No gu/carb veining except when noted.		
1737-1738	Chl/carb/gu schist band, n.i. sulfides. Well foliated 30°, gu/carb brecciated. Non mag. Probably correlated w/ gu/carb/dol vein in 1491-156 at 1738. Very strong slickenside development across axis of core 		
1768-1777	7' core loss. No obvious fault.		
1795-1820	Several 1-2' sections of intensely slickensided peridotite - Small displacement faults		
1886-1887	Carb-Chl schist band, intensely deformed. Contacts 20° slickensided, Ni py. 80% carb Minor gu		
1911	3" chl surge zone @ 30°		
1944-1948	Cumulate olivine clusters up to 10mm and massive		
1948-1968	More slickensided and broken - Smaller olivine clusters		
1948-2079	Decreased definition of olivine clusters (more waxy in character) w/ total disappearance by 2079. Transition to a more Chl-Talc schist but still U.M. Slightly softer. Increase in carbonate in matrix plus increase in hercynite carb veins		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE \_\_\_\_\_ PAGE: 6 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2079-	Complete transition to featureless Chl-Talc-carb assemblage. Blk, v.f.s. soff(40-3) logged as soapstone in other holes. Minor qtz carb veins. Could have also been logged as basic dyke. Tr v.f.s. dr py. Unit prob chill margins (bas.) of olivine peridotite flow. Most qtz carb veins at 40° very magnetic		
2190- 2192	Breccia zone, angular frags, qtz carb cement contacts 40° steep.		
2181- 2219	Marked increase in qtz carb veins, (hairline to 2") Majority at 40° but also some random.		
2199- 2219.5	Intense deformation, marked increase in carbonate content - up to 50-60%, Micro brecciation. hunkin fracturing, locally well foliated (40°) marked by light, high carbonate bands - Overall med gray colour. Tr py.		
2219.5	Contact 40° end of foliation		
2219.5-	Blk, v.f.s. undeformed equivalent of above section. Would have been previously logged as basic dyke. - Actually, v.f.s. olivine peridotite, Tr v.f.s. py. Only slightly magnetic.		
2304-2304.5	Fault zone - broken core. No contact		
2304.5- 2306.5	Dark brownish grey, very f.s. highly deformed H= 4-4.5 Tr py Slight resemblance to alb-Sr - carb cement except darker.	2304.5-2306.5	5442 .002
2306.5-2311	60% qtz carb veins / brecciated Tr py in Chl portion Contacts 30°	2306.5-2311	5443 .002

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec. 6, 1991 PAGE: 7 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2350-2373	5-6 to 12" qtz/carb/chl veins at 30 to 40' Mod. brecciated Tr py.		
2372-2373	1-12" (includ in above) vein w/ sprk of MoS <sub>2</sub>	2372-2373	5444 .003
2373	Contact 20° sharp 12' qtz/carb/chl vein at contact. (Includ. w/ upper unit.		
2373-2379	Dark tan to dark greenish tan, <sup>hard</sup> (H=6), micro brecciated, unfoliated alb(?) - Ser - <sup>carb</sup> Carb assemb. Tr py. chl only local. Not typical alb - Ser - Carb assemb. More gray - may be a felsite dyke.	2373-2376 2376-2379	5445 .007 5446 .002
2379	Contact 20° sharp.		
2379-2452	Dark to light olive green f. to med. gr. well foliated (30°), locally, intensely deformed relatively soft (H=4-4.5) Chl-Ser-Talc assemb w/ high carbonate content. Tr dis py. Locally sections are more granular than schistose. locally intense qtz/carb veins parallel to fl.	2379-2382	5447 .002
2426-2428.5	Greenish pink v.f.s. porphy. brecciated, hard (H=6) bio (chl) syenite feldsp. pheno 1-3m Biotite all. to Chl. 0.5-1% v.f.s. dis py. Top contact brecciated lower contact 60°	2426-2428.5 2428.5-2432 2432-2435 2435-2437.5	5455 .006 5456 .002 5457 .002 5458 .006
2428.5-2435	Intensely brecciated, may in part be hornfelsed. (Very hard) Tr py.		
2435-2437.5	Same as 2426-2428.5 - Syenite w/ coarse section Chl-Ser-Talc. Upper contact 60° brecciated Lower contact 20° Chl slip		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec. 7, 1991 PAGE: 8 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2452-2538±	<p><u>2452</u> Contact - Gradational - marked by decrease in sericite to 0% and increase in chl.</p>		
	<p>Dark green v.f.s. relatively soft (H=3.4) well foliated (30-50°), high carb content (has to 1/4" qtz/carb veins // f. fol.) Chl-Talc schist. Tr disc py non mag. Relatively massive - cores well. Contains irregular fragments (1-2") of undeformed H.M.</p>		
	<p>2493-2497. Dark grey, v.f.s. finely porphyritic, (actite phenos) hard (H=6) brittle (chl) syenite dyke. Thin chll margins. Tr disc py. Contacts 35° steep</p>	2493-2497	5459 N.I
	<p>2503-2538 Transition Zone. defined by marked reduction in chl, increase in carb/sericite, lightening in colour and marked increase in hardness. 4p f. S.S. Increase in py to 25%-1%. Intensely fractured.</p>	2505-2510 2510-2515 2515-2520 2520-2525 2525-2530 2530-2535 2535-2540 2540-2545	5460 .002 5461 .002 5462 .008 5463 .010 5464 .002 5465 N.I 5466 N.I 5467 .003
	<p><u>2538±</u> Contact - Gradational                      Reduction in chl to none and increase carb, sericite and finally mariposite.</p>		



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec. 8, 1991 PAGE: 9 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2538-2720	Apple green grading into emerald green, well foliated ( $\pm 50^\circ$ ), v.f.g., mod hard (H=5-5.5) mariposite-carb-(sericite) schist. local yellow beds are sericite. Tr dis py. Odd clot of buff dyke material.		
2558-2563	Purplish tan, v.f.g., Hd (H=6) dense, micro brecciated alb/ser/carb assemb. Tr - 1% v.f.g. dis py To light in colour to be M. Z may be a v.f.g. felsite dyke Contacts $50^\circ$ sharp.	2555-2558 2558-2563	5468 .002 5469 .008
2616	4' band of typical alb/ser/carb assemblage at $40^\circ$ 1-2% v.f.g. dis py. In a bleached zone that extends from 2605 to 2616	2611-2614 2614-2616 2616-2618 2618-2623 2623-2626 2626-2628 2628-2631	5470 .006 5471 .048 5472 .010 5473 .006 5474 .013 5475 .015 5476 .014
2626-2628	Intense sericite alt. (Yellow) 1-2% f.g. dis py Fol. $40^\circ$	2631-2635.5 2635.5-2637.5	5477 .006 5478 .003
2628-2631	Alb-Ser-Carb assemb, purple tan 1% v.f.g. dis py. Strong micro breccia	2637.5-2640 2640-2644 2644-2647	5479 .005 5480 .023 5481 .003
2635.5-2637.5	Pale tan alb-Ser-Carb mod. fracture 1% f.g. py Fraggs contacts $40^\circ$	2647-2652 2652-2657 2657-2662 2662-2667	5482 .014 5483 .020 5484 .009 5485 .014
2637.5-2644	Mariposite-Carb assemb w/ narrow 1-3' bands of Alb-Ser-Carb. Musk at $40^\circ$ (20% A.S.C.) Tr py in MC + 1% in A.S.C.	2667-2672 2672-2675 2675-2678	5486 .014 5487 .007 5488 .008
2644-2678	Rare 1" clot of alb-Ser-Carb. Overall Tr - 1% v.f.g. dis py		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec. 9, 1991 PAGE: 10 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2678-2681 3'	Alb-Ser-Carb w/ a 4" band of M.C. U.S- 1% v.f.g. dis py Contact/Fol 40°	3 2678-2681	5489 .007
		2 2681-2683	5490 .011
		3 2683-2686	5491 .017
2681-2686	4-3" band. of Alb/Ser-Carb in M.C. Tr dis py except for ASC bands.	3 2686-2689	5492 .008
		3 2689-2692	5493 .018
		2 2692-2694	5494 .043
		2 2694-2696	5495 .056
		4 2696-2700	5496 .009
2686-2694 8'	Alb-Ser-Carb assembl w/ several narrow bands of chl-Ser-Carb assembl. Everything pyritic 1-2% v.f.g. dis. Strong brecciation 2692-94 Harlan's g/c carb veins	5 2700-2705	5497 .014
		5 2705-2710	5498 .004
		5 2710-2715	5499 .011
		5 2715-2720	5500 .009
2694-2700	Several 4-5" clots aligned along 20° foliation (Alb-Ser-Carb.) Highly deformed Mariposite-Carb.		
2700-2720	Decreasing mariposite fr. w/ increasing chl. Tr + py throughout		
<u>2720</u>	Contact - Gradational marked by sharp increase in chl.		
2720-3003 (8)	Dark green, white banded, v.f.g., rel. soft (H=3-4) chl-carb-Talc schist. Well foliated (40-60°) Highly deformed 30-40% carb banding very deformed. Contains narrow bands (1'-5') of possible mariposite bearing material. plus some buff dyke material. A small patches of pink g/c common assoc w/ g/c carb blobs. Very little py except for Tr near upper contact or as noted. Mariposite bearing material contains Tr dis py.		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec. 10, 1991 PAGE: 11 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2767-2772	Tan v.f.s., hard (H=6) shaly, porphyritic w/ chl flakes Buff dyke Tr + ultra f.s. bio py Contacts - irregular $\approx$ rt to l. core	2767-2772 3001	.010
2781-2783	Dark purplish green, f.s. bio (chl) syenite dyke @ 50° magnetic H=6. Tr py.	2781-2783 3016	.002
2791.5-2793	Bio (chl) syenite dyke at 60° parallel f. fol. (Same as above).	2791.5-2794 3017	.002
2793-2793.5	Fault zone (chl zone) @ 60°		
2793.5-2794	Continuation of syenite dyke.		
2814.5-2819.5	Dark purple brown, v.f.s. H=1 H=6, mod. fractured buff (chl) syenite dyke(s) Tr - 0.5% ultra f.s. py. Contacts 50° parallel to fol. mod magnetic.	2814.5-2819.5 3018	.002
2819.5-	More talcose H=1-3, fol 50° Very little py.		
2876-77	Dark brown, v.f.s. porphy. bio (chl) syenite dyke. 0.5% cherty py. Contact 50° steep parallel to fol. magnetic		
2890-91	Dark brown v.f.s. bio (chl) syenite Tr py, magnetic, Contacts 60°		
2923-2927	Dark brownish grey, v.f.s. hard H=6, equigranular bio (chl) syenite dyke (i) Tr - 1% v.f.s. bio py magnetic. Contacts - Top 40°, Bot. 70° Both parallel to fol.	2923-2927 3015	.007

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec 12, 1991 PAGE: 12 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2951.5-2953.5	Dark pinkish grey, v.f.g. hard (H=6) equigranular bio (chl)? sparse dyke Tr - 1% f.s. di py. Top contact. <sup>80</sup> possible fault. Bottom contact 60° parallel to fol.	2951.5-2953.5	3019 002
2969-2974	Blk, fine to med gr., porphyritic (white feldsp. p.p. 1-2mm) biotite lamp (?) dyke Tr py. Fresh biotite. Slightly magnetic. Contacts 70°	2969-2974	3020 002
3009	2" clut of py.		
3014-3018	Blk. mottled dark grey, v.f.g., brecciated less deformed U.M. H=4.5-5. 3-4% fine to coarse gr (sam) py cubes. Contacts 50° sharp. (New unit - have not seen before.)	3014-3018	3021 N.I
3022-3027	Tr - 1% f.s. di py	3022-3027	3022 N.I
3027-3029	Dark grey, fine to med gr. equigranular bio (chl) lamp? 1-2% f.s. di py. Contacts 50°	3027-3029	3023 004
		3029-3031	3024 1
		3031-3033	3025 1
3029-3023	Mixed zone w/ band of above and less deformed dark green f.s. U.M. Tr py. Contacts 50°	3029-3036	3026 005
3033-3083	Grey mottled dark green less deformed U.M. Tr py		
3083	Contact 40° sharp. Contact zone defined by dyke (see below)		
3083-3092	Dark green, v.f.g. equigranular matrix slightly porphyritic matrix dyke. Maybe a diabase. Tr py. Mod. magnetic. Contacts 45° sharp. No chill margins	3083-3088	3027 N.I
		3088-3092	3028 N.I
		3092-3095	3029 N.I
		3095-3100	3030 N.I
		3100-3105	3031 N.I
		3105-3110	3032 N.I
3092-3095	Undeformed dark green U.M. N.I py	3110-3115	3033 N.I
3095-3115	Dark greenish grey, v.f.g. porphyritic (Feldspar Phenocrysts), matrix dyke. Could be called a dark felsite. Tr-1% fine to coarse grained (cubic) py. Mod. magnetic. Contacts 45° sharp		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Jan 8, 1991 PAGE: 13 OF 13

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
3115- 3283	<p>Dark green to blk, v.f.s. locally well fol. (50')                      to massive. (Fol. deformed by spines for test) (But                      spindled development - 3145 to 3156) relatively undeformed                      H.M. Local py development (coarse grained) over                      narrow intervals (&lt; 1ft), Slightly magnetic.                      Relatively hard (3-4.5)</p> <p>3283.3 F.O.H. (1001 metre)</p>		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison

DATE Dec. 7, 1991 PAGE: 1 OF 2

HOLE N91-157 DIP -70' AZMIUTH 160 LOGGED BY O.A. Howard

CORE SIZE BQ TOTAL FOOTAGE 1463 DIP TEST YES/NO

DIP FOOTAGE AND DEGREE 66°E 100m 61°E 200m LOCATION L 32W A 31N

CASING LEFT IN HOLE: YES/NO CASING FOOTAGE 3m (9.8')

DRILL TIME: START Dec 5, 1991 FINISH Dec 10, 1991 MECHANICAL TIME

MISCELLANEOUS PROBLEMS Elev. est. 12,221

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
0-10'	Overburden		
10-	<p>Dark green, v.f.g. uniform textured hard m.s massive "Tholeiite" (Basaltic komatiite) w/ a few narrow (1/8-1/4") gal/carb veins. Local epidote veins common in some sections. Narrow sections of v.f.g. lucoxene locally present. Tr. v.f.g. dia py. var. mesoctic. Most gal/carb and epidote veins at 40-50'</p> <p>254 - Possible Flow Top at 30' Tr. epy</p> <p>269.5-271 Silicified zone containing mariposite bearing fragments. Qu more green than white, Tr. dia py. Contacts diffuse.</p> <p>322-338 Weakly developed fol. 40° aligned v.f.g. lucoxene. Minor sericite bedding. Tr. epy in gal/carb veins at 332. In close proximity to pink stained gal/carb local brecciation.</p> <p>424-429 Bleached light grey, carbonated Th.l. band w/ to to 1% v.f.g. py and calc. Sr aspy calc w/ two 2" gal/carb veins @ 50'. 4-5% calc in cut around veins. Contact 50° or at least foliation.</p>	424-429	5448 .011

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec. 8, 1991 PAGE: 2 OF 3

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
488-497	Grey med gr. carb cemented breccia zone up to 1% f.s. di py	488-492 492-497	5449 .002 5450 .002
602-608.5	Pale greenish grey to dark grey, v.f.s. carbonatized Thal. assoc w/ flow top at 608-608.5 well developed hyaloclastite. Flattened amygdalae common below 608.5 to 636 Carbonatized zone contains up to 10% v.f.s. py and aspy. Contact around 606-607. Aspy ultra fine grained.	602-605 605-608.5	5451 N.1 5452 .031
654-670	Flow top breccia, Intruss carb alt. some sericite Amygdaloidal for several feet either side of zone Slightly magnetic. Tr to 1% v.f.s. di py Upper contact gradational, lower contact sharp @ 20° Zone intensely deformed.		
767	Well developed pillow flow py chng margin. Pyritic flow top 767-769 8-10% med. gr. py. Flow top extant to 777. Locally very pyritic.		
782.5-789	Qu/carb/jchl vein @ 40° Nil sulfides		
791-794	Qu/carb cemented breccia vein @ 30° Tr to 1% v.f.s. py in Thal Frag only.		
873-878	Flow Top. Well developed Hyaloclastite and small deformed pillows. Rare amygdalae for several feet below zone. Locally med magnetic. Tr py.		
1002-1008	Grey carbonatized zone. Weakly fol. 40° Tr - 1% ultra f.s. di py.	1002-1008	5453 .002
1102-1105	Grey carbonatized zone at 40° 5-6% f.s. di py + aspy Weakly fol. at 40° L-1-2" qu/carb vein @ 40° 5% luciferine in 3' hole in both sides of zone	1102-1105	5454 .025

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Dec 10, 1991 PAGE: 3 OF 3

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
1147.5-1150	Pale greenish grey carbonized zone w 5-6% aspy and 2-3% py - both med. gr crystalline contacts 50° 5-10% luconene v.f.s. in 2-3' hole.	1147.5-1150 3002	.120
1240-1252.5	Grey carbonized zone @ 50° 8-10% coarse xth. aspy and 2-3% cgr. py. Locally, py % exceeds aspy. luconene hole extends to 1264, none above	1240-1243 3003 1243-1246 3004 1246-1249 3005 1249-1252.5 3006	.093 .153 .072 .038
1306-1326	Grey carbonized zone at 50° sharp contacts. To h. locally 2-3% fine to med. gr. py. 2-1" tourmaline vein at 1309 and 1314. Micro brecciation between 1308 and 1314	1306-1308 3007 1308-1312 3008 1312-1315 3009 1315-1319 3010 1319-1322 3011 1322-1326 3012	.011 .009 .002 .002 N.1 .002
1350-1351.5	Grey carbonized zone at 60° contains 1-3" g/cr-b/f tourmaline vein 4-5% f-med gr di py 2-3% di f-med gr aspy Some carbonization 1345-1350 luconene hole to 1360	1345-1350 3013 1360-1351.5 3014	.003 .017
1463	E.O.H.		

.087



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison

DATE Dec. 11, 1991 PAGE: 1 OF 6

HOLE N91-15B DIP -70° AZMIUTH 160 LOGGED BY D.A. Howard

CORE SIZE BQ TOTAL FOOTAGE 3322.6 (1013m) DIP TEST YES/NO

DIP FOOTAGE AND DEGREE 68° @ 100m, 66° @ 200m LOCATION L 30W STA. 31+06N

CASING LEFT IN HOLE: (YES) NO CASING FOOTAGE 13'

DRILL TIME: START Dec 10, 1991 FINISH \_\_\_\_\_ MECHANICAL TIME \_\_\_\_\_

MISCELLANEOUS PROBLEMS Gyre test to 2835'

Elev. cont. ID 978

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
0-13	Overburden		
13-2165	<p>Dark green, v.f.g. mod. massive hard (H=5-5.5) "Tholeiite" (Basaltic Komat.ite) w/ a few narrow qu/corb veins. Color is somewhat variable (shades of green, some slightly grey sections particularly near top of hole). No defined fol. Mod magnetic. Tr. dis. f.s. pt.</p> <p>340-<sup>559</sup> Increase in qu/corb veins 8-10 feet./ft.</p> <p>488-559 Zone intensely brecciated - qu/corb cemented breccia zone at 500-502, 510-523, 548-551</p> <p>574-575 Flow Top/bottom breccia - rounded frags</p> <p>575-579 Qu/corb cemented breccia angular frags.</p> <p>579-605 Widely dispersed amygdulose, mostly flattened</p>		

**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Jan 7, 1992 PAGE: 2 OF 6

'91-158

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
770-794	Slight bleaching, med. brecciation - small dislocation of frags. w/ a pyritic/assy zone 775-778 2-3% t.h. sulfides. Med pale tan (sericite) alteration - Possible flow top. Poorly developed fol. 50°	775-778	3034 .010
836	Well developed pillow features, amygs.		
1108-1120	Well developed small scale pillow features w/ local chert of py. Pillow features extend to 1216		
1246-1295	Greenish gray to pale gray (bleached) v.f.s. carbonated Tholeiite. Bleaching increases toward centre of zone. Tr - 10% v.f.s. to coarse ground py - increasing content toward centre to base of unit. 10% py section also contains 2-3% coarse gr. aspy (cubic) (1277-1283) Top contact gradational. lower contact sharp (30)	1246-1251 1251-1256 1256-1261 1261-1266 1266-1269 1269-1272 1272-1276 1276-1279 1279-1282 1282-1287 1287-1291 1291-1295	3035 .002 3036 .011 3037 .002 3038 .005 3039 .022 3040 .018 3041 .015 3042 .224 3043 .198 3044 .006 3045 .002 3046 .018
1295-1652	Dark green, v.f.s to med. gr. locally slightly porphyritic (matrix phenocrysts) very massive, only slight g/sulf remains Tholeiite / v.f.s. gabbro. The unit appears to have a dyke like character w/ a chill margin 1295-1300 and a med. gr. gabbro texture 1300-1309. The gabbro section appears almost like a product of differentiation. Section below 1309 is slightly porphyritic. Tr py except as noted		
1305-1309	8-10% combined sulfides py + 2-3% aspy. med-coarse gr. sulfide zone @ 50°	1305-1309	3047 .017
1310-1372	Breccia / bleached zone at 70° 1% py, 2% white alk enclaves on chert veins	1311-1373	3048 .013



**DIAMOND DRILL LOG**

PROPERTY Garrison Gold Project TOWNSHIP Garrison  
 DATE Jan 10, 1992 PAGE: 4 OF 6

N 91-150

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY
2574-2607	Dark green to blk, v.f.s. crudly foliated (variable) Chl-Talc ± carb assemb. Prob. logged as soapstone earlier. May also be an attraction hole due to intrusions below. Nil py.		
	<u>2607</u> Contact - irregular; angular or broken at approx. 40°		
2607-2631	Light gray, v.f.s. to med gr (pheno:) porphyritic felsite dyke w/ poorly developed chill margin. Tr. f.s. py. Well fractured to brecciated. Minor macro-porosity development along some fractures. qz/carb veins common. v.f.s. matrix w/ med gr. feldsp. phenos. H=6	2607-2610 2610-2613 2613-2616 2616-2619 2619-2622 2622-2625 2625-2628 2628-2631	3049 3050 3051 3052 3053 3054 3055 3056 .004 .006 .003 006 .009 .005 .003 .004
	<u>2631</u> Contact - Very irregular at x 50° no faulting		
2631-2758	Black, v.f.s. locally brecciated to massive, carbonate rich, commonly slickensided. Soapstone to Chl-Talc assemb. Not fol. Nil py. qz/carb veins common Unit 9. Some relict olivine present in more massive sections.		
	<u>2758</u> Contact sharp @ 40° slickensided. Not faulted.		
2758-3091	Dark green to black & white, v.f.s., foliated (40-70°) w/ hooked carb boudins(?) or bands highly contorted. Approx 20% qz/carb banding. Chl-Talc-Carb schist. H=3 py. Locally resembles soapstone.		
	2781.5-2783.5 fault zone (gouge) @ 30°		
	2848-2851 Pink, f.s. bio (chl) syenite dyke at 50° 2-3% f.s. di. py	2848-2851	3057 .003

## DIAMOND DRILL LOG

PROPERTY Garrison Gold Project TOWNSHIP GarrisonDATE Jan 11, 1992PAGE: 5 OF 6

N91-158

FOOTAGE	DESCRIPTION	ASSAY NO.	ASSAY	
2971-2986	Med. greenish gray, f.s. hard (H=6) pseudo porphyritic (quartz clots) chloritic feldspar (?) dyke. w/ 4-5% coarsely dis. py clusters. Clusters composed of f.s. py - irreg. shaped. Contacts 55-60° wavy + sharp. No chill margin.	2971-2974 2974-2977 2977-2980 2980-2983 2983-2986	3058 3059 3060 3061 3062	.017 .014 .020 .010 .012
3031-3036	Very dark green to black, slightly purple mottled, f.s. relatively hard H=5-5.5 less deformed, unaltered (?) U.M. w/ 1-2% v. f.s. dis. py. Contacts 50° sharp. Possible basic dyke.	3031-3036	3063	.002
3060.5-3065.5	Dark gray, f.s. hard (H=6) uniform ground chloritic feldspar dyke w/ 1-2% f.s. dis. py. narrow (1/2") poorly developed chill margin. Top contact 0°, Bottom contact 70°	3060.5-3065.5	3064	.030
3071-3073	Dark gray, fine gr., hard (H=6) slightly pop. (2mm feldspar phenocrysts) feldspar dyke. w/ 1% f.s. dis. py. Contacts 45° sharp w/ 1/8" chill margin.	3071-3073	3065	.005
3091-3322	Dark green, f.s. relatively fractured magnetic mod. undeformed U.M. May be a basic dyke. w/ Tr. to 1% f.s. dis. py. 1-3% f.s. xthm magnetite also present. Section contains several narrow (1/2") chert-like sections. Section relatively hard H=4.5-5. Zone similar to margin zone in J.P. west drift. Top contact 40° sharp, chert slip. Bottom contact - Gradational over 3' from 3127	3091-3096 3096-3101 3101-3106 3106-3111 3111-3116 3116-3121 3121-3126 3126-3130	3066 3067 3068 3069 3070 3071 3072 3073	N.I. N.I. .002 N.I. N.I. .002 .002 .002



**APPENDIX B**

**ASSAY CERTIFICATES**



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# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

## Assay Certificate

1W-4348-RA1

Company: JONPOL EXPLORATION LTD.

Date: NOV-05-91

Project:

Copy 1. 420-111 RICHMOND ST. W. TORONTO, ONT

Ann:

2. M5H 2G4

3. HOLD FOR PICK-UP

We hereby certify the following Assay of 6 CORE samples submitted NOV-04-91 by JOHN POLLOCK JR..

Sample Number	Au oz/ton	Au check oz/ton		
5301	0.002	0.002	N 87-4	837-842
5302	Nil		"	842-847
5303	0.002		"	847-850
5304	Nil		"	850-855
5305	Nil		"	855-860
5306	0.002		N 91-154	431-433

Au was determined using 1AT fusions.

Certified by *R. Landon*





Established 1928

# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

## Assay Certificate

1W-4399-RA1

Company: **JONPOL EXPLORATIONS LTD.**

Date: NOV-12-91

Project:

Copy 1. HEAD OFFICE

Attn: **JOHN POLLOCK**

2. HOLD FOR PICK-UP

We hereby certify the following Assay of 10 CORE samples submitted NOV-08-91 by JOHN POLLOCK.

Sample Number	Au oz / ton	Au oz / ton
5307	Nil	
5308	Nil	
5309	Nil	
5310	0.002	
5311	0.011	
5312	0.002	
5313	0.002	
5314	0.012	0.012
5315	Nil	
5316	Nil	

Au was determined using 1 AT fusions

Certified by *Gonna Gardner*



Established 1928

# Swastika Laboratories

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Assaying - Consulting - Representation

## Assay Certificate

1W-4400-RA1

Company: **JONPOL EXPLORATIONS LTD.**

Date: NOV-12-91

Project:

Copy 1. HEAD OFFICE

Attn: **JOHN POLLOCK**

2. HOLD FOR PICK-UP

We hereby certify the following Assay of 7 CORE samples submitted NOV-07-91 by JOHN POLLOCK.

Sample Number	Au oz/ton	Au check oz/ton
5317	0.009	0.010
5318	0.005	
5319	Nil	
5320	0.002	
5321	0.008	
5322	Nil	
5323	Nil	

Au was determined using 1 AT fusions

Certified by Donna Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705) 642-3244. FAX (705) 642-3300



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A Division of Assayers Corporation Ltd.

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## Assay Certificate

1W-4407-RA1

Company: JON POL EXPLORATION

Date: NOV-12-91

Project:

Atta:

We hereby certify the following Assay of 11 CORE samples submitted NOV-08-91 by .

Sample Number	Au oz/ton
5324	Nil
5325	Nil
5326	Nil
5327	Nil
5328	Nil
5329	Nil
5330	Nil
5331	Nil
5332	Nil
5333	Nil
5334	Nil

Au was determined using 1 AT fusions

Certified by Donna Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705) 642-3244. FAX (705) 642-3300



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## Assay Certificate

1W-4409-RA1

Company: **JON POL EXPLORATION**

Date: NOV-14-91

Project:

Attn:

We hereby certify the following Assay of 13 CORE samples submitted NOV-11-91 by .

Sample Number	Au oz/ton	Au check oz/ton
5335	Nil	
5336	Nil	
5337	0.002	
5338	Nil	
5339	Nil	
5340	Nil	
5341	0.002	
5342	0.019	0.014
5343	0.012	
5344	0.010	
5345	0.009	
5346	0.008	
5347	0.008	

Au was determined using 1 AT fusions

Certified by Donna Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705) 642-3244. FAX (705) 642-3300



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## Assay Certificate

1W-4414-RA1

Company: JON POL EXPLORATIONS LTD

Date: NOV-14-91

Project:

Copy 1. 420-111 RICHMOND ST.W. TORONTO

Attn: JOHN POLLOCK

2. HOLD

We hereby certify the following Assay of 26 CORE samples submitted NOV-12-91 by .

Sample Number	Au oz/ton	Au check oz/ton	Au 2nd oz/ton	$\Delta_{rc}$
5348	0.098	0.082		.090
5349	MZ 0.027			
5350	0.005			
5351	0.018			
5352	0.005			
5353	0.002			
5354	0.011			
5355	0.004			
5356	0.011			
5357	0.012			
5358	0.033			
5359	0.022			
5360	0.029			
5361	0.116	0.127	0.138	0.127
5362	0.002			
5363	0.002			
5364	0.003			
5365	0.005			
5366	0.003			
5367	0.003			
5368	0.005			
5369	0.006			
5370	0.005			
5371	0.008			
5372	0.023	0.016		.020
5373	0.006			

Au was determined using 1 AT fusions

Certified by Donna Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705) 642-3244. FAX (705) 642-3300



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## Assay Certificate

1W-4465-RA1

Company: **JON POL EXPLORATIONS**

Date: NOV-21-91

Project:

Attn: **JOHN POLLOCK**

We hereby certify the following Assay of 30 CORE samples submitted NOV-19-91 by .

Sample Number	Au oz/ton	Au check oz/ton		
5374	Nil	142-144	N81 155	
5375	0.002	645-675		
5376	Nil	741.5-744		
5377	0.002	1116-1119		
5378	0.007	1119-1123		
5379	0.027	1123-1127		
5380	0.064	0.065		} 0.046/11
5381	0.061	1130-1133		
5382	0.008	1133-1135		
5383	Nil	1135-1138		
5384	Nil	1138-1142		
5385	Nil	1142-1145		
5386	0.002	1145-1148		
5387	0.002	45-51		
5388	Nil	1151-1154		
5389	Nil	1154-1157		
5390	0.049	1157-1160	} 0.039/5	
5391	0.025	1160-1162		
5392	Nil	1162-1165		
5393	Nil	1262-1264.5		
5394	0.002	1264.5-1268		
5395	Nil	1268-1272		
5396	Nil	1272-1274		
5397	0.002	1274-1276		
5398	0.011	1276-1278		
5399	0.002	1278-1280		
5400	0.058	0.056	} 0.045/6	
5401	0.020	1283-1286		
5402	0.007	1286-1290		
5403	0.006	1292-1294		

Au was determined using 1 AT fusions

Certified by Donna Gardner



Established 1928

# Swastika Laboratories

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Assaying - Consulting - Representation

## Assay Certificate

1W-4476-RA1

Company: **JONPOL EXPLORATIONS LTD.**

Date: **NOV-22-91**

Project:

Copy 1. Suite 420-111 Richmond St. W. Toronto.

Attn: **JOHN POLLOCK**

2. hold

We hereby certify the following Assay of 23 core samples submitted NOV-21-91 by .

Sample Number	Au oz/ton	Au check oz/ton
5404	0.002	
5405	0.006	
5406	Nil	
5407	Nil	
5408	0.011	
5409	0.019	0.019
5410	0.003	
5411	0.018	0.017
5412	0.002	
5413	0.002	
5414	0.027	
5415	0.003	
5416	0.002	
5417	0.002	
5418	0.002	
5419	0.002	
5420	0.002	
5421	Nil	
5422	0.003	
5423	0.002	
5424	0.012	0.012
5425	0.002	
5426	0.002	

Au was determined using 1 AT fusions

Certified by Donna Gardner



Established 1928

# Swastika Laboratories

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Assaying - Consulting - Representation

## Assay Certificate

1W-4525-RA1

Company: **JON POL EXPLORATION**

Date: DEC-03-91

Project:

Copy 1. TORONTO

Attn: **JOHN POLLOCK**

2. HOLD FOR PICK UP

We hereby certify the following Assay of 8 CORE samples submitted NOV-29-91 by .

Sample Number	Au oz/ton	Au check oz/ton
5434	0.002	
5435 1200-1204 (4)	0.063	0.062 } 0.49 / 10.5
5436 1204-1207 (3)	0.045	
5437 1207-1210.5 (3.5)	0.035	
5438	0.002	
5439	0.010	
5440	0.011	
5441	0.024	0.028

Au was determined using 1 AT fusions

Certified by Donna Gardner





Established 1928

# Swastika Laboratories

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Assaying - Consulting - Representation

## Assay Certificate

1W-4501-RA1

Company: **JON POL EXPLORATIONS LTD.**

Date: DEC-04-91

Project:

Copy 1. Suite 420-111 Richmond St. W. Toronto

Attn:

We hereby certify the following Assay of 7 core samples submitted NOV-27-91 by .

Sample Number	Au Au check		Ag oz/ton	Cu %	Ni %	Pb %	Zn %	Pt ppb	Pd ppb	Rh ppb
	oz/ton	oz/ton								
5427	0.002		0.01	0.01		0.01	0.01			
5428	0.010		1.62	3.07	0.02	0.01	0.42	<10	<5	<5
5429	0.011	0.011	0.69	1.14	0.02	0.01	0.90			
5430	Nil		0.01	0.02		0.005	0.04			
5431	Nil		0.02	0.02		0.005	0.10			
5432	0.002		0.07	0.18		0.005	0.08			
5433	0.002		0.04	0.04		0.005	0.03			

Certified by *Sonja Gardner*



Established 1928

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Assaying - Consulting - Representation

## Assay Certificate

1W-4560-RA1

Company: **JON POL EXPLORATIONS**  
 Project:  
 Ass: **JOHN POLLOCK**

Copy 1. TORONTO  
 2. HOLD FOR PICKUP

Date: DEC-11-91

We hereby certify the following Assay of 6 CORE samples submitted DEC-06-91 by .

Sample Number	Au oz / ton
5442	0.002
5443	0.002
5444	0.003
5445	0.007
5446	0.002
5447	0.002

*FAT 10  
 PDH*

Certified by *Sonja Gardner*



Established 1928

# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

## Assay Certificate

1W-4597-RA1

Company: JON POL EXPLORATIONS

Date: DEC-19-91

Project:

Atta: JOHN POLLOCK

We hereby certify the following Assay of 26 CORE samples submitted DEC-13-91 by .

Sample Number	Au oz/ton	Au check oz/ton	
3001	0.010		
3002	0.020		Ave
3003	0.095	0.091	.093
3004	0.158	0.149	.153
3005	0.071	0.073	.072
3006	0.038		
3007	0.011		
3008	0.004		
3009	0.002		
3010	0.002		
3011	Nil		
3012	0.002		
3013	0.003		
3014	0.017	0.017	
3015	0.007		
3016	0.002		
3017	0.002		
3018	0.002	0.002	
3019	0.002		
3020	0.002		
3021	Nil		
3022	Nil		
3023	0.004		
3024	Nil		
3025	Nil		
3026	0.005		

Au was determined using 1 AT fusions

Certified by Donna Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0  
 Telephone (705) 642-3244. FAX (705) 642-3300



Established 1928

# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Page 1 of 2

1W-4584-RA1

## Assay Certificate

Company: **JON POL EXPLORATIONS**

Date: DEC-19-91

Project:

Copy 1. TORONTO

Attn: **JOHN POLLOCK**

2. HOLD FOR PICKUP

We hereby certify the following Assay of 53 CORE samples submitted DEC-11-91 by .

Sample Number	Au oz / ton	Au check oz / ton
5448	0.011	
5449	0.002	
5450	0.002	
5451	Nil	
5452	0.030	0.032
5453	0.002	
5454	0.022	0.028
5455	0.006	
5456	0.002	
5457	0.002	
5458	0.006	
5459	Nil	
5460	0.002	
5461	0.002	
5462	0.005	
5463	0.010	
5464	0.002	
5465	Nil	
5466	Nil	
5467	0.003	
5468	0.002	
5469	0.008	
5470	0.006	
5471	0.050	0.045
5472	0.010	
5473	0.006	
5474	0.013	
5475	0.015	
5476	0.014	
5477	0.006	

Certified by Dona Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0

Telephone (705)642-3244.

FAX (705)642-3300



Established 1928

# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Page 2 of 2

1W-4584-RA1

## Assay Certificate

Company: **JON POL EXPLORATIONS**  
Project:  
Attn: **JOHN POLLOCK**

Date: DEC-19-91

Copy 1. TORONTO  
2. HOLD FOR PICKUP

We hereby certify the following Assay of 53 CORE samples submitted DEC-11-91 by .

Sample Number	Au oz/ton	Au check oz/ton
5478	0.003	
5479	0.005	
5480	0.023	
5481	0.003	
5482	0.014	
5483	0.020	0.020
5484	0.009	
5485	0.014	
5486	0.014	
5487	0.007	
5488	0.008	
5489	0.007	
5490	0.011	
5491	0.017	
5492	0.008	
5493	0.018	
5494	0.043	
5495	0.057	0.054
5496	0.009	
5497	0.014	
5498	0.004	
5499	0.011	
5500	0.009	

Certified by Donna Gardner



Established 1928

# Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

## Assay Certificate

2W-0034-RA1

Company: **JON POL EXPLORATION LTD**

Date: JAN-16-92

Project:

Copy 1. TORONTO

Attn: **JOHN POLLOCK**

2. HOLD

We hereby certify the following Assay of 15 CORE samples submitted JAN-09-92 by .

Sample Number	Au oz/ton	Au oz/ton		
3034	0.010			
3035	0.002			
3036	Nil			
3037	0.002			
3038	0.005			
3039	0.022			
3040	0.018			
3041	0.015			
3042	0.222	0.225	} .211/6	1276 - 1279
3043	0.199	0.196		1279 - 1282
3044	0.006			
3045	0.002			
3046	0.018			
3047	0.017			
3048	0.013			

Certified by Lorna Jarvis

**APPENDIX C**  
**Drill Hole Survey Data**

## SPERRY-SUN DRILLING SERVICES

JONPGL EXPLORATION

1991-11-09

H-91-154

CX-LB-10497

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
0.00	58.42	160.00	0.00	0.00	0.00	0.00	0.00
100.00	58.58	160.25	85.27	49.14 S	17.76 E	52.15	0.21
200.00	59.00	160.07	170.79	97.87 S	35.35 E	103.87	0.43
300.00	59.08	160.79	256.55	146.34 S	52.58 E	155.23	0.38
400.00	59.50	161.59	342.53	194.68 S	69.05 E	206.26	0.59
500.00	59.17	162.76	428.54	243.23 S	84.66 E	257.24	0.68
600.00	59.50	161.94	514.56	291.84 S	100.12 E	308.23	0.54
700.00	59.17	163.23	600.57	340.50 S	115.39 E	359.22	0.74
800.00	58.92	162.77	686.33	389.69 S	130.43 E	410.66	0.34
900.00	59.08	162.53	772.04	438.85 S	145.60 E	462.16	0.21
1000.00	59.53	163.17	858.04	487.62 S	160.85 E	513.20	0.56
1100.00	59.67	162.78	944.29	536.01 S	175.67 E	563.80	0.24
1200.00	59.75	163.12	1030.64	584.23 S	190.46 E	614.23	0.19
1300.00	59.50	163.37	1116.91	632.65 S	205.04 E	664.80	0.28
1400.00	59.75	164.19	1203.18	681.20 S	219.16 E	715.36	0.48
1500.00	59.25	163.94	1289.35	730.00 S	233.10 E	766.11	0.52
1600.00	58.83	165.05	1375.10	779.57 S	246.85 E	817.55	0.71
1700.00	58.42	165.62	1460.48	829.94 S	260.03 E	869.59	0.51
1800.00	57.83	168.20	1545.40	881.36 S	271.97 E	922.29	1.48
1900.00	57.42	167.96	1629.86	933.75 S	283.04 E	975.68	0.44
2000.00	55.17	167.63	1713.04	987.99 S	294.77 E	1031.02	2.26
2100.00	52.50	165.10	1793.77	1045.32 S	308.72 E	1089.95	3.06
2300.00	51.00	163.15	1950.83	1164.39 S	342.61 E	1213.75	0.96

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET  
 THE VERTICAL SECTION WAS COMPUTED ALONG 163.60 $\frac{1}{2}$  (GRID)

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
 DISPLACEMENT IS 1213.75 FEET, IN THE DIRECTION OF 163.60 $\frac{1}{2}$  (GRID)



## SPERRY-SUN DRILLING SERVICES

JONPOL EXPLORATION  
H-91-155

1991-11-18  
CX-LB-10500

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
0.00	63.04	160.00	0.00	0.00	0.00	0.00	0.00
100.00	62.17	162.09	88.79	43.52 S	14.93 E	44.72	1.30
200.00	60.50	164.43	176.53	89.45 S	28.72 E	91.74	2.01
300.00	58.67	165.85	262.76	138.39 S	41.68 E	141.67	1.97
400.00	57.83	168.65	347.80	189.70 S	53.28 E	193.84	1.69
500.00	58.03	169.91	432.55	241.86 S	63.16 E	246.69	0.70
600.00	58.42	170.65	517.56	293.76 S	72.05 E	299.20	0.55
700.00	57.67	170.89	602.40	346.01 S	80.54 E	352.00	0.76
800.00	58.83	172.65	687.44	398.08 S	88.09 E	404.55	1.49
900.00	58.83	175.01	773.01	449.52 S	93.65 E	456.29	1.23
1000.00	59.00	175.90	858.65	500.99 S	97.74 E	507.91	0.49
1100.00	59.00	176.79	944.36	552.39 S	101.03 E	559.39	0.46
1200.00	59.17	178.64	1030.16	603.72 S	103.08 E	610.69	0.96
1300.00	59.00	179.57	1115.95	655.09 S	103.88 E	661.92	0.51
1400.00	58.67	180.03	1201.52	706.84 S	104.06 E	713.46	0.41
1500.00	58.50	181.02	1286.86	758.96 S	103.58 E	765.31	0.54
1600.00	57.67	183.22	1371.74	811.79 S	101.61 E	817.72	1.43
1700.00	57.25	183.54	1456.04	865.48 S	98.44 E	870.89	0.45
1800.00	56.83	185.40	1539.95	919.72 S	94.20 E	924.49	1.10
1880.00	56.83	185.48	1606.92	963.28 S	90.05 E	967.48	0.05

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET  
THE VERTICAL SECTION WAS COMPUTED ALONG 174.66½ (GRID)

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
DISPLACEMENT IS 967.48 FEET, IN THE DIRECTION OF 174.66½ (GRID)

244' west of Section

## SPERRY-SUN DRILLING SERVICES

JONPOL EXPLORATION  
H-91-155

1991-11-18  
CX-LB-10500

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
0.00	63.04	160.00	0.00	10720.00 N	10250.00 E	0.00	0.00
100.00	62.17	162.09	88.79	10676.48 N	10264.93 E	44.72	1.30
200.00	60.50	164.43	176.53	10630.55 N	10278.72 E	91.74	2.01
300.00	58.67	165.85	262.76	10581.61 N	10291.68 E	141.67	1.97
400.00	57.83	168.65	347.80	10530.30 N	10303.28 E	193.84	1.69
500.00	58.03	169.91	432.55	10478.14 N	10313.16 E	246.69	0.70
600.00	58.42	170.65	517.56	10426.24 N	10322.05 E	299.20	0.55
700.00	57.67	170.89	602.40	10373.99 N	10330.54 E	352.00	0.76
800.00	58.83	172.65	687.44	10321.92 N	10338.09 E	404.55	1.49
900.00	58.83	175.01	773.01	10270.48 N	10343.65 E	456.29	1.23
1000.00	59.00	175.90	858.65	10219.01 N	10347.74 E	507.91	0.49
1100.00	59.00	176.79	944.36	10167.61 N	10351.03 E	559.39	0.46
1200.00	59.17	178.64	1030.16	10116.28 N	10353.08 E	610.69	0.96
1300.00	59.00	179.57	1115.95	10064.91 N	10353.88 E	661.92	0.51
1400.00	58.67	180.03	1201.52	10013.16 N	10354.06 E	713.46	0.41
1500.00	58.50	181.02	1286.86	9961.04 N	10353.58 E	765.31	0.54
1600.00	57.67	183.22	1371.74	9908.21 N	10351.61 E	817.72	1.43
1700.00	57.25	183.54	1456.04	9854.52 N	10348.44 E	870.89	0.45
1800.00	56.83	185.40	1539.95	9800.28 N	10344.20 E	924.49	1.10
1880.00	56.83	185.48	1606.92	9756.72 N	10340.05 E	967.48	0.05

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET  
THE VERTICAL SECTION WAS COMPUTED ALONG 174.66½ (GRID)

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
DISPLACEMENT IS 967.48 FEET, IN THE DIRECTION OF 174.66½ (GRID)

## SPERRY-SUN DRILLING SERVICES

JONPOL EXPLORATION  
H-91-156

1991-12-04  
CX-LB-10528

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
0.00	70.00	160.00	0.00	10650.00 N	10075.00 E	0.00	0.00
100.00	69.67	161.55	93.87	10617.45 N	10086.35 E	34.36	0.63
300.00	69.67	162.44	281.41	10551.36 N	10107.82 E	103.73	0.16
400.00	69.50	160.74	375.13	10518.26 N	10118.84 E	138.54	0.62
500.00	69.17	161.73	468.69	10484.85 N	10130.19 E	173.74	0.48
600.00	69.00	163.32	562.10	10450.80 N	10140.91 E	209.39	0.59
700.00	68.75	164.44	655.38	10416.17 N	10150.92 E	245.41	0.48
800.00	68.58	165.52	748.53	10381.04 N	10160.34 E	281.79	0.43
900.00	68.75	167.00	841.68	10345.70 N	10168.98 E	318.16	0.56
1000.00	68.00	167.33	934.64	10309.77 N	10177.16 E	355.00	0.76
1100.00	67.75	166.90	1027.28	10273.06 N	10185.56 E	392.64	0.30
1200.00	67.75	167.14	1119.83	10236.16 N	10194.07 E	430.49	0.09
1300.00	67.50	166.60	1212.30	10199.09 N	10202.72 E	468.55	0.33
1400.00	67.42	166.54	1304.66	10161.80 N	10211.62 E	506.87	0.09
1500.00	66.75	167.41	1396.77	10123.86 N	10220.39 E	545.80	0.75
1600.00	66.25	168.30	1488.48	10084.88 N	10228.78 E	585.63	0.61
1700.00	65.53	165.63	1579.76	10045.10 N	10238.00 E	626.46	1.31
1800.00	65.42	166.15	1670.73	10004.85 N	10248.12 E	667.96	0.25
1900.00	65.33	167.15	1761.64	9964.30 N	10257.75 E	709.62	0.42
2000.00	65.50	168.12	1852.58	9923.67 N	10266.66 E	751.19	0.44
2090.00	65.17	169.54	1934.36	9886.82 N	10273.93 E	788.68	0.75

THE DOGLE6 SEVERITY IS IN DEGREES PER 100.00 FEET  
THE VERTICAL SECTION WAS COMPUTED ALONG 165.39½ (GRID)

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
DISPLACEMENT IS 788.68 FEET, IN THE DIRECTION OF 165.39½ (GRID)

## SPERRY-SUN DRILLING SERVICES

JUNPOL EXPLORATION  
H-91-1581992-01-10  
CX-LB-20029

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
0.00	58.84	150.00	0.00	10813.00 N	10215.00 E	0.00	0.00
100.00	58.53	150.36	83.16	10778.81 N	10227.32 E	35.23	0.33
200.00	58.50	150.90	166.21	10744.26 N	10239.47 E	72.75	0.20
300.00	58.25	150.97	279.17	10709.42 N	10251.51 E	109.51	0.25
400.00	57.57	150.77	371.87	10673.97 N	10253.81 E	146.95	0.59
500.00	57.25	161.11	464.23	10637.74 N	10276.32 E	185.20	0.44
500.00	56.42	161.58	556.16	10600.46 N	10288.91 E	224.46	0.85
700.00	56.00	161.88	647.66	10562.16 N	10301.56 E	264.74	0.47
800.00	55.58	162.09	738.87	10523.16 N	10314.24 E	305.70	0.43
900.00	55.33	162.83	829.63	10483.56 N	10326.76 E	347.19	0.40
1000.00	55.03	163.48	920.60	10443.39 N	10338.92 E	389.15	0.41
1100.00	54.75	163.49	1011.15	10402.71 N	10350.99 E	431.57	0.26
1200.00	54.25	163.43	1101.41	10361.44 N	10363.25 E	474.61	0.50
1300.00	53.75	162.98	1191.29	10319.47 N	10375.91 E	516.42	0.54
1400.00	53.25	163.00	1280.78	10276.80 N	10388.97 E	553.02	0.50
1500.00	53.00	162.69	1369.98	10233.61 N	10402.30 E	588.20	0.29
1500.00	52.42	162.54	1458.85	10189.85 N	10416.00 E	654.01	0.59
1700.00	52.08	161.61	1547.35	10145.55 N	10430.33 E	700.52	0.55
1800.00	51.83	162.43	1635.61	10100.84 N	10444.85 E	747.47	0.46
1900.00	51.75	162.48	1723.73	10055.77 N	10459.10 E	794.70	0.89
2000.00	52.00	163.42	1811.92	10010.70 N	10472.92 E	841.81	0.51
2100.00	52.00	165.39	1900.22	9965.49 N	10485.54 E	888.75	0.92
2200.00	51.42	167.95	1988.28	9919.38 N	10496.46 E	936.11	1.34
2300.00	51.17	168.59	2075.99	9872.35 N	10506.23 E	984.06	0.40
2400.00	50.92	169.47	2163.48	9824.82 N	10516.44 E	1032.35	0.49
2500.00	50.17	171.52	2250.56	9776.32 N	10523.55 E	1081.28	1.26
2600.00	59.17	173.50	2336.87	9726.26 N	10530.12 E	1131.33	1.42
2700.00	59.03	174.44	2422.68	9675.19 N	10535.51 E	1182.03	0.50
2800.00	58.67	175.31	2508.26	9623.67 N	10540.13 E	1232.97	0.58
2835.00	58.58	175.53	2538.14	9605.50 N	10541.59 E	1250.88	0.40

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET  
THE VERTICAL SECTION WAS COMPUTED ALONG 164.87½ (GRID)

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
DISPLACEMENT IS 1250.88 FEET, IN THE DIRECTION OF 164.87½ (GRID)

**APPENDIX D**

**Down hole EM survey results**

**JONPOL\_EXPLORATIONS\_LTD.**

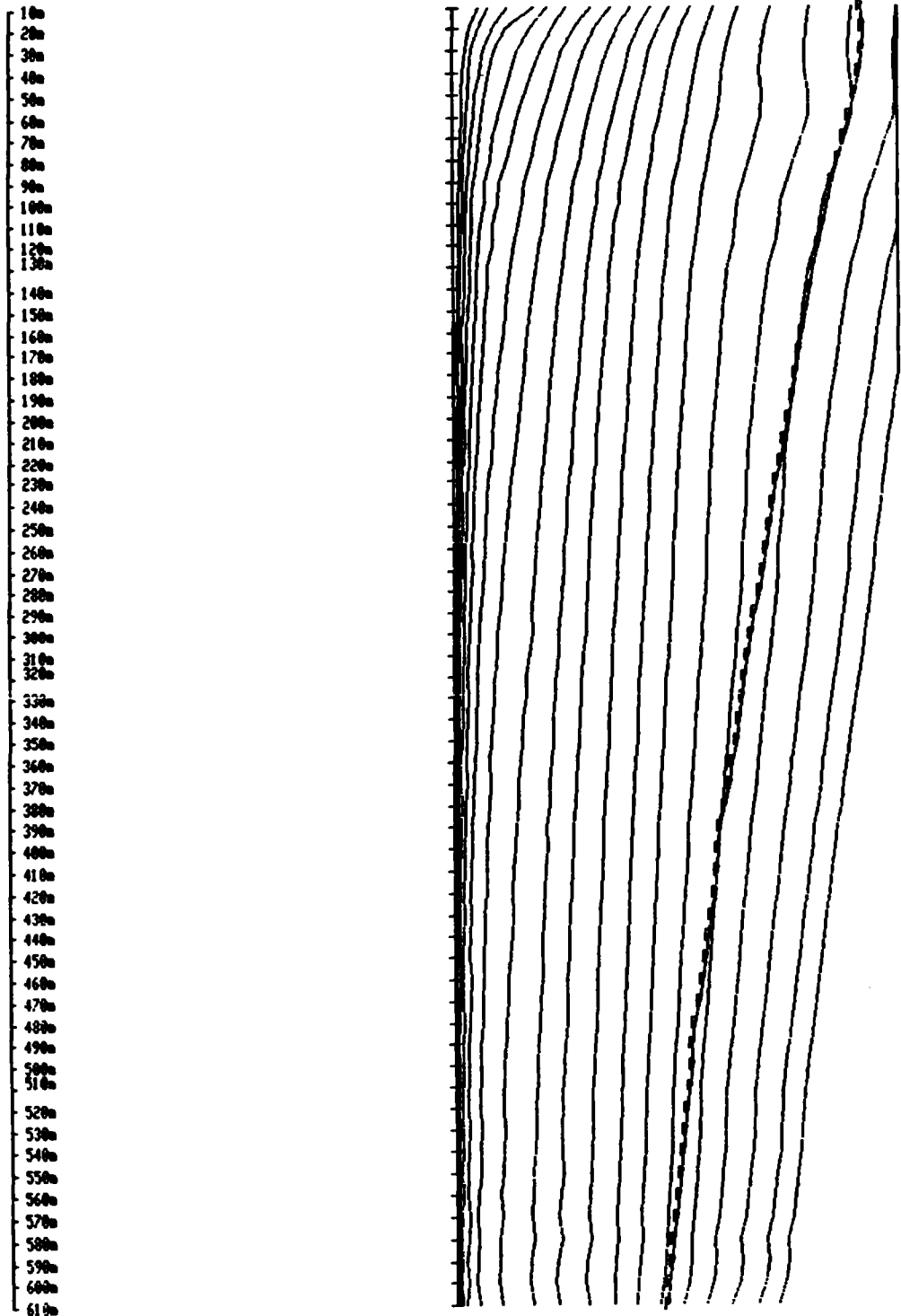
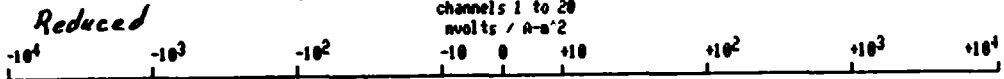
**TRANSIENT EM SURVEY**

Project:	GARRISON_TWP	Tx Loop:	1C
Grid:	GARRISON	Current:	16 Amps
System:	Geonics_EM-37	Position:	L36W-L26W;2200N-3200W
Hole:	91-154	Turn-off:	200 us
Survey mode:	Borehole	Frequency:	30 Hz
Date:	11/12/91	Gain:	6

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:2000

Voltage Scale: lin to 10 then log  
channels 1 to 20  
volts / A-m<sup>2</sup>



JONPOL\_EXPLORATIONS\_LTD.

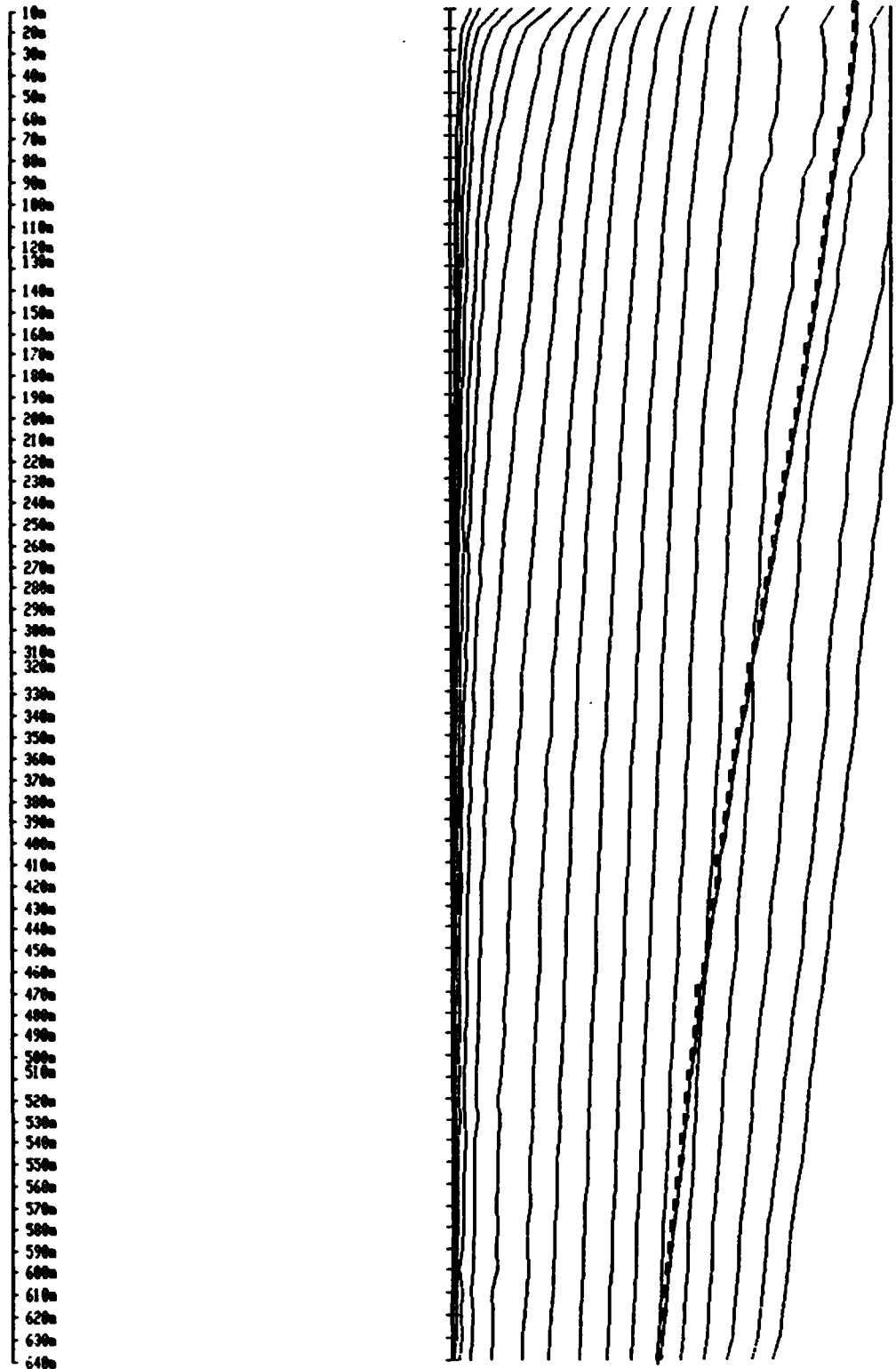
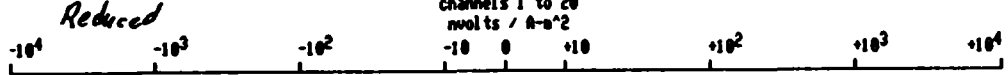
TRANSIENT EM SURVEY

Project: GARRISON\_TWP Tx Loop: 1C  
Grid: GARRISON Current: 16 Amps  
System: Geonics\_EM-37 Position: L36W-L26W;2200N-3200N  
Hole: 91-155 Turn-off: 205 us  
Survey mode: Borehole Frequency: 30 Hz  
Date: 10/12/91 Gain: 6

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:2000

Voltage Scale: lin to 10 then log  
channels 1 to 20  
mvolts / A-s<sup>2</sup>



JONPOL\_EXPLORATIONS\_LTD.

TRANSIENT EM SURVEY

Project: GARRISON\_TWP Tx Loop: 2H  
Grid: GARRISON Current: 16 Amps  
System: Geonics\_EM-37 Position: L36W-L26W;J200N-4200N  
Hole: 91-155 Turn-off: 205 us  
Survey mode: Borehole Frequency: 30 Hz  
Date: 10/12/91 Gain: 6

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

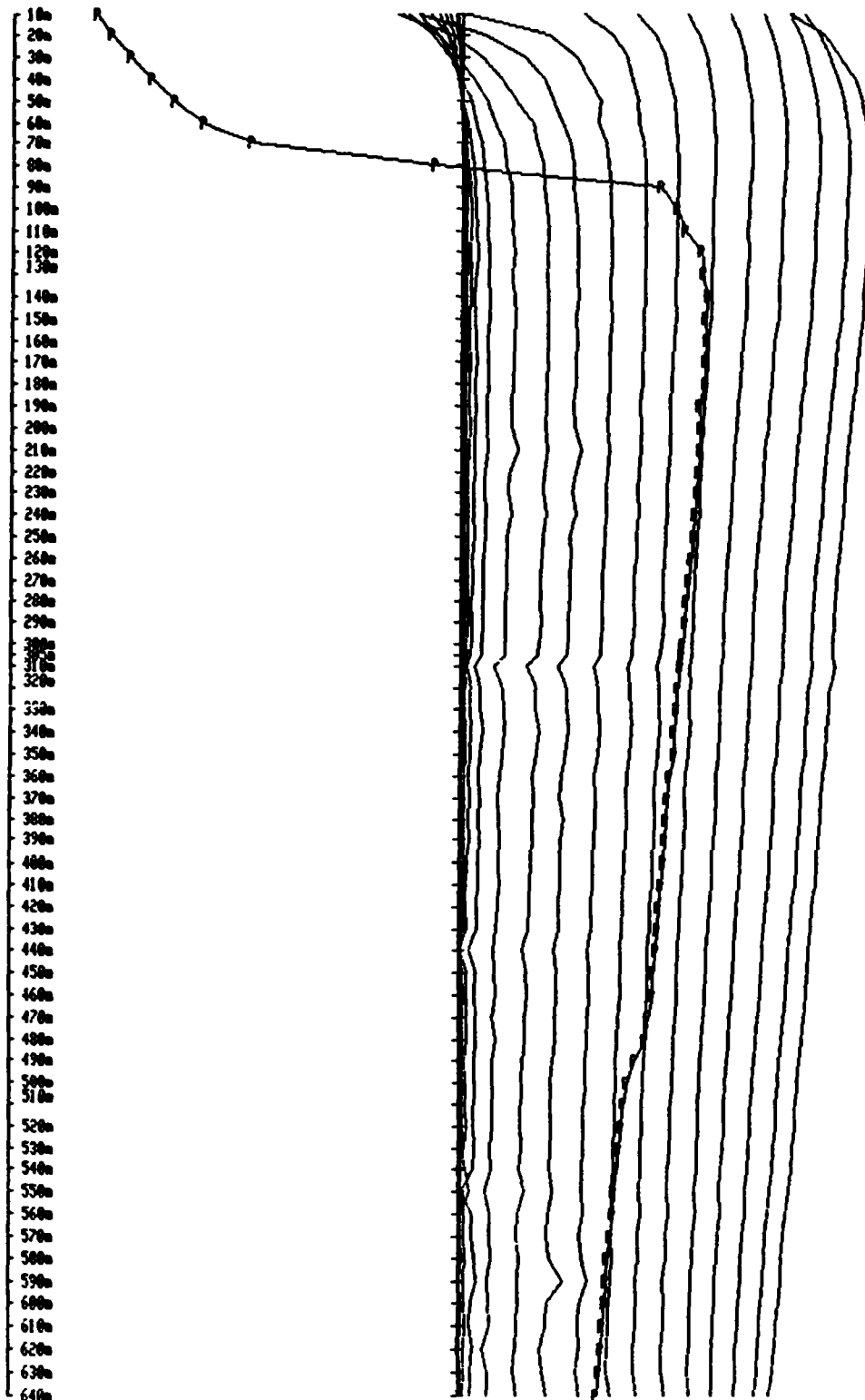
Scale: 1:2000

*Reduced*

Voltage Scale: lin to 10 then log

channels 1 to 20  
volts / A-m<sup>2</sup>

-10<sup>4</sup> -10<sup>3</sup> -10<sup>2</sup> -10 0 +10 +10<sup>2</sup> +10<sup>3</sup> +10<sup>4</sup>





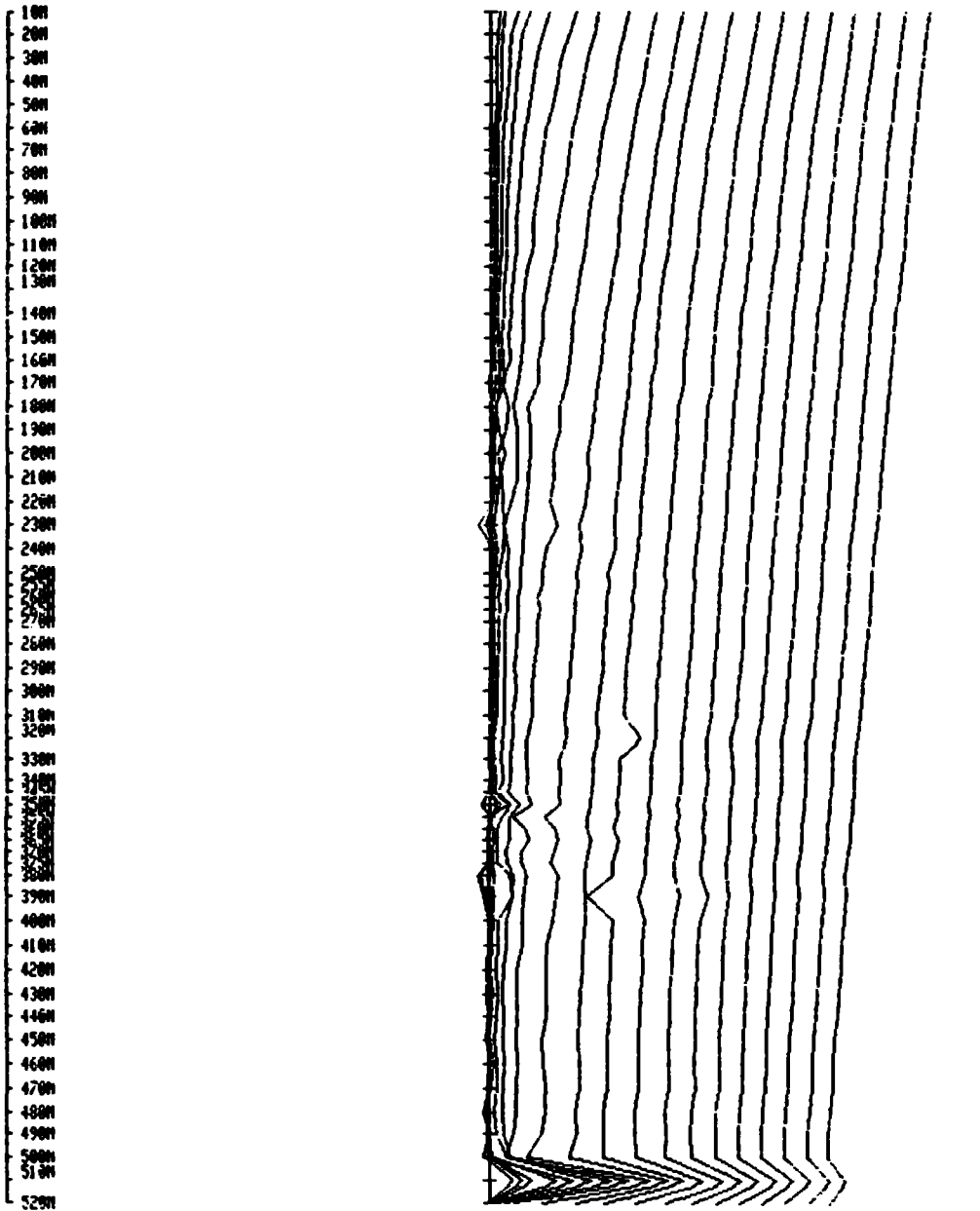
**JONPOL\_EXPLORATIONS\_LIMITED**

**TRANSIENT EM SURVEY**

Project:	\	Tx Loop:	Collar-1
Grid:	\	Current:	18 Amps
System:	Geonics EM-37	Position:	22N-32W; 26W-36W
Line:	N-91-156	Turn-off:	280 us
Survey mode:	BOREHOLE	Frequency:	30 Hz
Date:	11/01/92	Gain:	6

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:2000      Voltage Scale: lin to 10 then log      Vertical Component dB:wt  
*Reduced*      channels 1 to 20  
 nvolts / A-m<sup>2</sup>



# JONPOL\_EXPLORATIONS\_LTD.

## TRANSIENT EM SURVEY

Project:	GARRISON_TWP	Tx Loop:	1C
Grid:	GARRISON	Current:	16 Amps
System:	Geonics_EM-37	Position:	L36W-L26W;2200N-3200N
Hole:	91-157	Turn-off:	205 us
Survey mode:	Borehole	Frequency:	30 Hz
Date:	10/12/91	Gain:	6

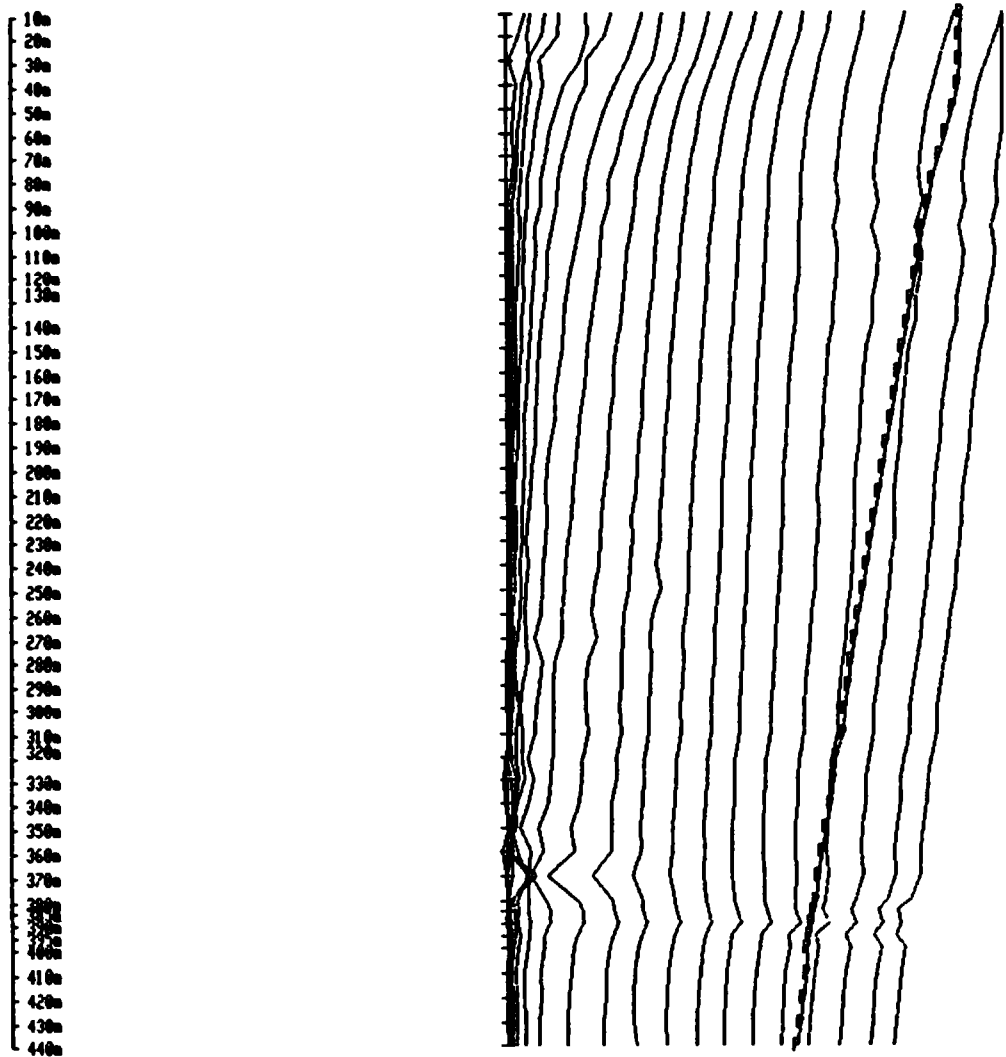
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:2000

Voltage Scale: lin to 10 then log  
channels 1 to 20  
volts / A-m<sup>2</sup>

*Reduced*

-10<sup>4</sup>      -10<sup>3</sup>      -10<sup>2</sup>      -10      0      +10      +10<sup>2</sup>      +10<sup>3</sup>      +10<sup>4</sup>



# JONPOL\_EXPLORATIONS\_LTD.

## TRANSIENT EM SURVEY

Project:	GARRISON_TWP	Tx Loop:	2H
Grid:	GARRISON	Current:	17 Amps
System:	Geonics_EM-37	Position:	L36W-L26W;3200N-4200W
Hole:	91-157	Turn-off:	200 us
Survey mode:	Borehole	Frequency:	30 Hz
Date:	11/12/91	Gain:	6

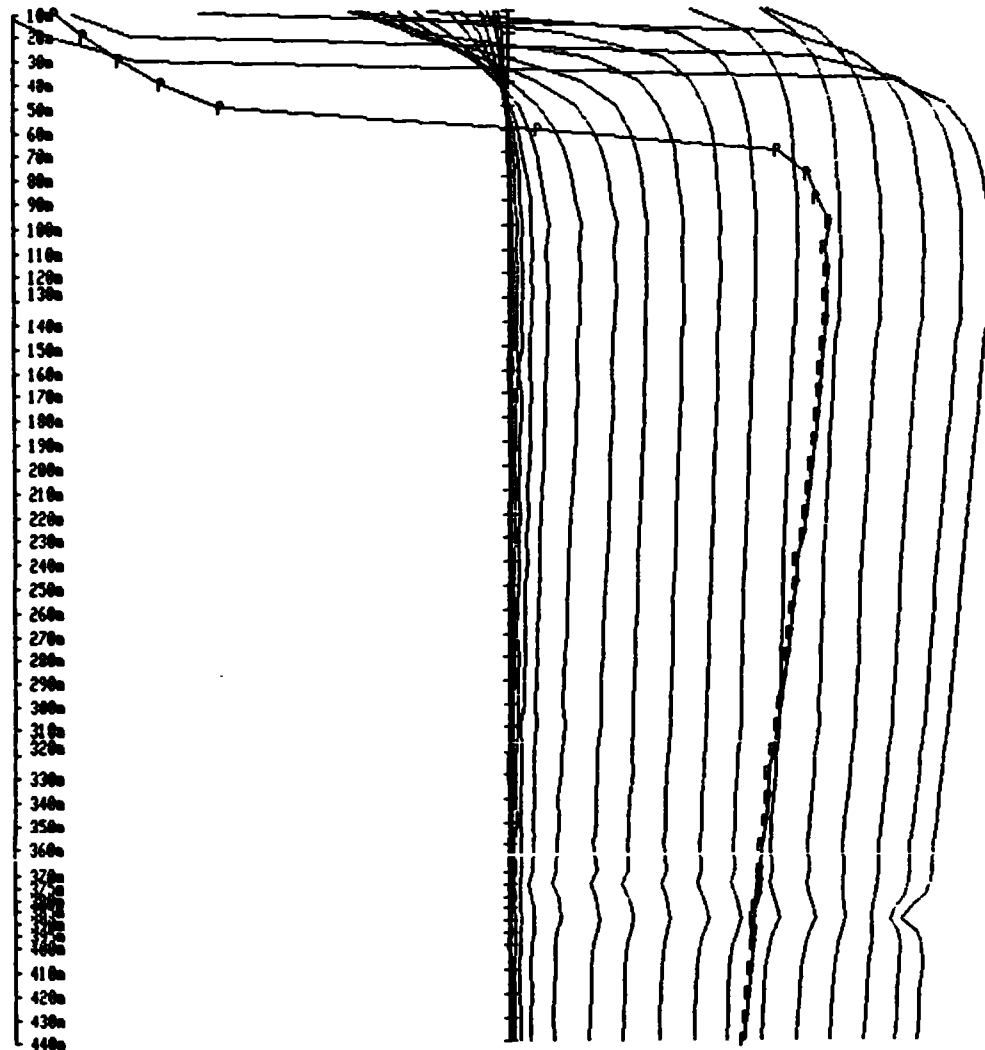
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

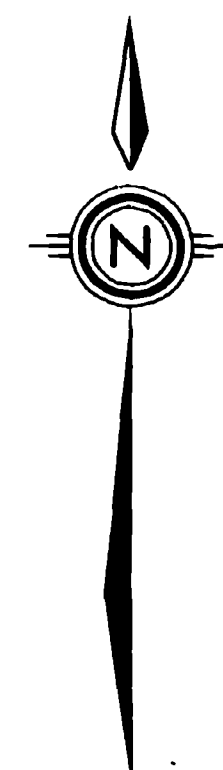
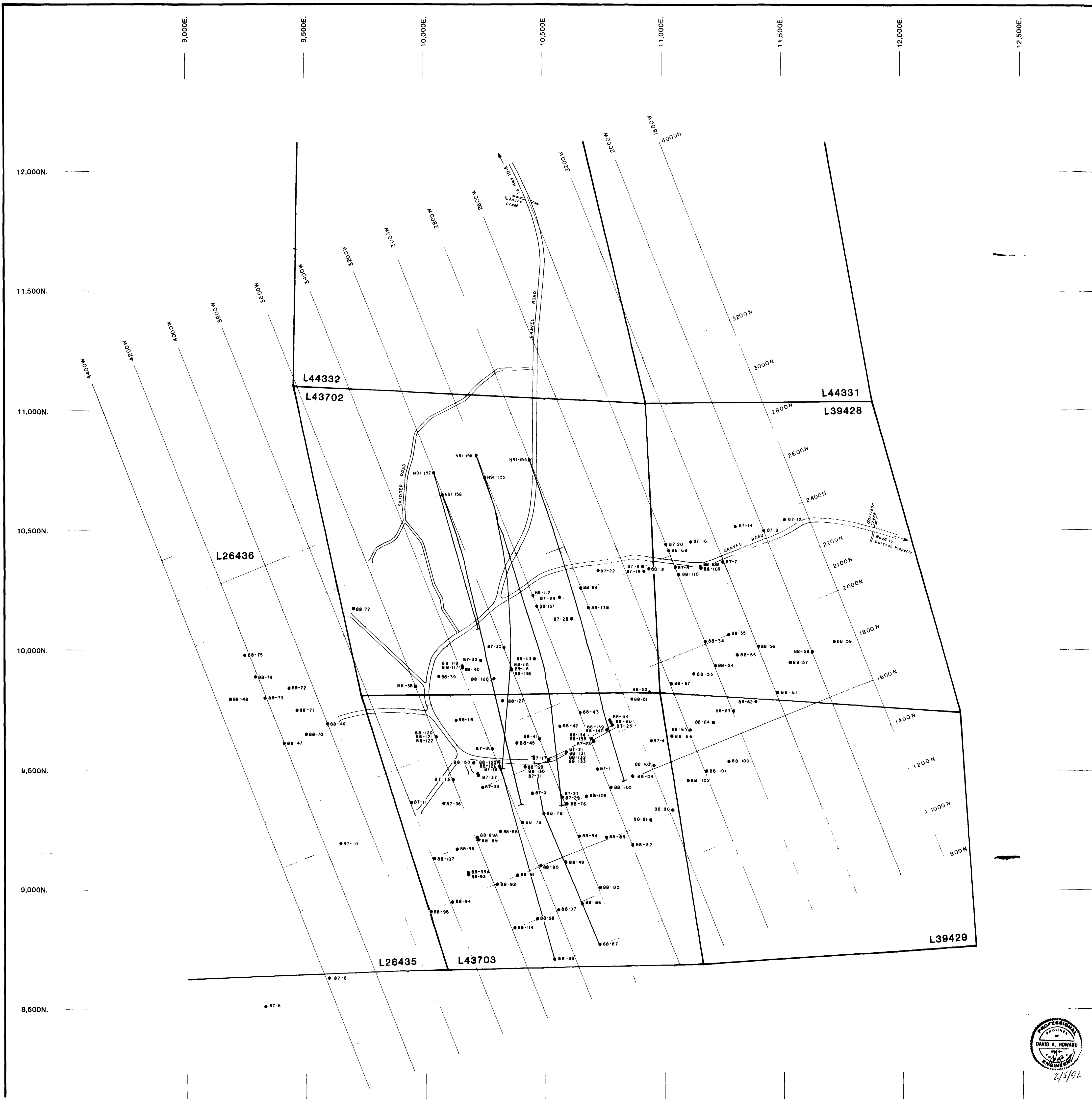
Scale: 1:2000

Voltage Scale: lin to 10 then log  
channels 1 to 20  
mvolts / A-m<sup>2</sup>

*Reduced*

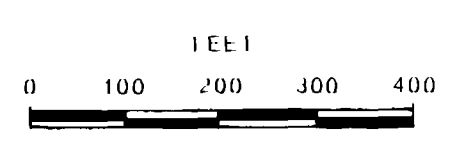
$-10^4$      $-10^3$      $-10^2$      $-10$      $0$      $+10$      $+10^2$      $+10^3$      $+10^4$





● 88-62 Diamond Drill Hole

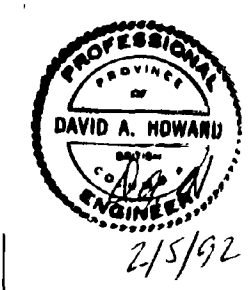
NOTE: Partial assays and geology above 10,000 elevation.

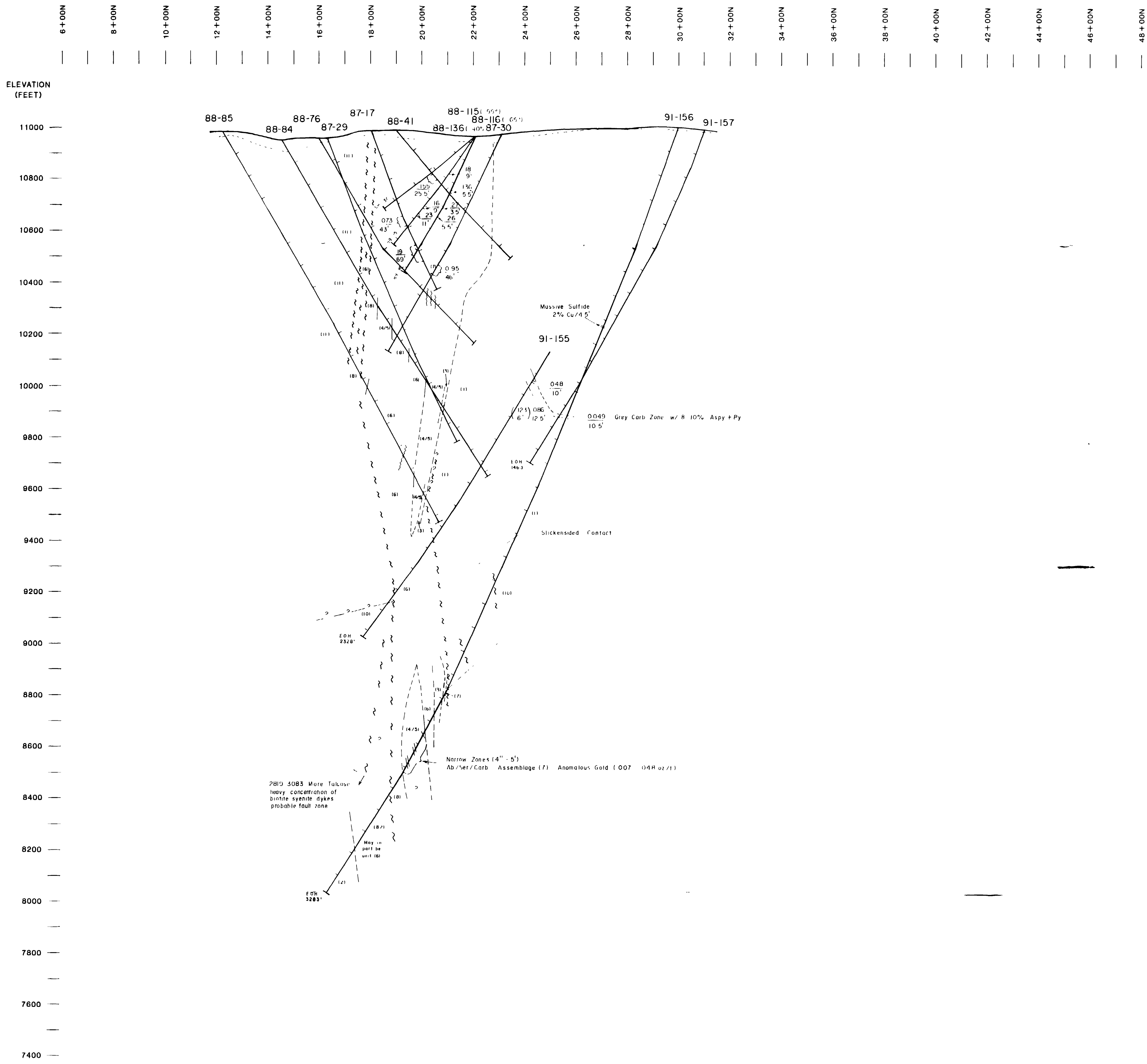


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**GARRISON GOLD PROJECT**  
GARRISON TOWNSHIP, ONTARIO

**DRILL LOCATION PLAN**

GEOLOGY BY: D.A.H. DATE: JANUARY, 1992  
SCALE: 1" = 200' FIGURE NO. 6  
D.D.H. GEOMANAGEMENT LTD.





**LEGEND**

<b>NORTH WALL</b>	
1	*T* "Tholeiite" (Chemically a basaltic komatiite)
<b>MUNRO FAULT ZONE</b>	
2	Chl-K Dark green chloritized komatiite flows with spinifex texture - relatively undeformed.
3	Chl-S-T Chlorite - sericite - minor talc schist with a characteristic olive green colour.
4	C-S-M Carbonate - sericite - mariposite assemblage with an apple green colour, relatively undeformed to weakly schistose, usually does not contain buff dykes.
5	C-M-S Carbonate - mariposite - sericite schist with a stockwork texture and an emerald green colour, contains buff dykes which may be brecciated.
6	Chl-T Chlorite - talc - carbonate assemblage variably foliated from relatively un-deformed to schistose, dark green colour.
7	A Albite - sericite - carbonate - pyrite gold bearing assemblage, referred to as schist but actually an alteration phase of the original komatiite flow which locally has a north wall margin showing incomplete replacement of chlorite. .... indicates alteration boundary.
8	C-S-Chl Carbonate - sericite - chlorite assemblage, variably foliated with hardness of 5. May be a boundary assemblage of the chlorite-talc-carbonate assemblage.
9	S Dark green to black talc-chlorite-carbonate assemblage either foliated or brecciated showing original komatiite flow and spinifex texture.
10	O-P Black to dark green olivine peridotite with relict olivine or serpentine pseudomorphs, cumulate portion of original komatiite flow, spinifex texture, includes non olivine pyroxenitic komatiite.
<b>SOUTH WALL</b>	
11	MS Metasedimentary rocks including fine-grained well sorted sandstones, argillites and siltstones, colours vary from grey - green (ferrous iron), disseminated pyrite and specularite (hematite) locally common.
<b>INTRUSIVE ROCKS</b>	
12	BD "Buff dyke" - term applied to a sericitized fine-grained rock with sharp dyke-like boundaries, generally with disseminated pyrite, restricted generally to mariposite-bearing host rocks. See comment below under BSB.
13	SD Syenite dyke - fine-grained pink to orange to reddish coloured felsic intrusive rock. Biotite syenite dyke - fine-grained syenite intrusive rock with either biotite or chloritized biotite. Chilled margins are common. Locally the chilled margins have been altered to a "buff dyke" appearing rock with mariposite flakes, when the host rock is mariposite-bearing.
14	BSD

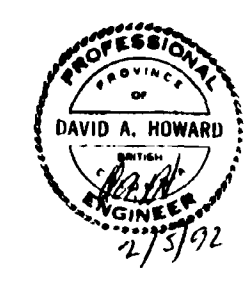
NOTE: Partial assays and geology above 10,000 elevation.

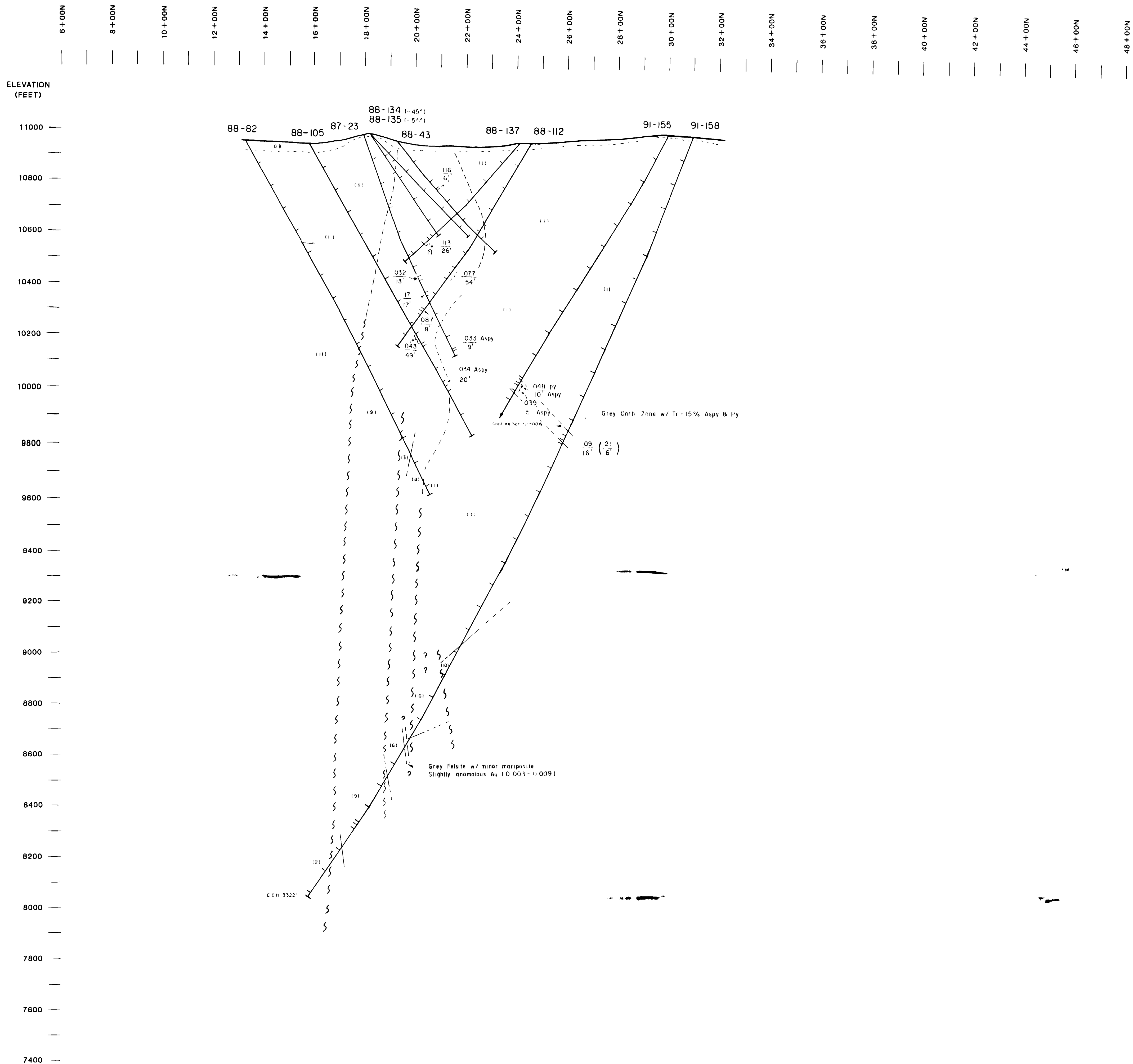


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**GARRISON GOLD PROJECT**  
GARRISON TOWNSHIP, ONTARIO

**SECTION 32+00 W.**

GEOLGY BY: D.A.H. DATE: JANUARY, 1992  
SCALE: 1" = 200' FIGURE NO. 10  
D.D.H. GEOMANAGEMENT LTD.

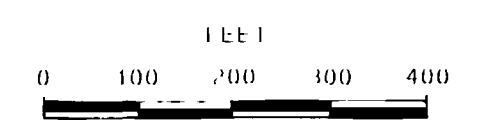




**LEGEND**

<b>NORTH WALL</b>		
1	TT*	"Tholeiite" (Chemically a basaltic komatite)
<b>MUNRO FAULT ZONE</b>		
2	Ch-K	Dark green chloritized komatite flows with spinlex texture - relatively undeformed.
3	Ch-S-T	Chlorite - sericite - minor talc schist with a characteristic olive green colour.
4	C-S-M	Carbonate - sericite - mariposite assemblage with an apple green colour, relatively undeformed to weakly schistose, usually does not contain buff dykes.
5	C-M-S	Carbonate - mariposite - sericite schist with a stockwork texture and an emerald green colour, contains buff dykes which may be brecciated.
6	Ch-T	Chlorite - talc - carbonate assemblage variably foliated from relatively undeformed to schistose, dark green colour.
7	A	Albite - sericite - carbonate - pyrite gneiss bearing assemblage, referred to as albite but actually an alteration phase of the original komatite flow which locally has a north wall margin showing incomplete replacement of chlorite. ... indicates alteration boundary
8	C-S-Ch	Carbonate - sericite - chlorite assemblage, variably foliated with hardness of 5. May be a boundary assemblage of the chlorite-talc-carbonate assemblage
9	S	Dark green to black talc-chlorite-carbonate assemblage either foliated or brecciated showing original komatite flow and spinlex texture.
10	O-P	Black to dark green olivine peridotite with relict olivine or serpentine pseudomorphs, cumulate portion of original komatite flow, spinlex texture, includes non olivine pyroxenitic komatite.
<b>SOUTH WALL</b>		
11	M5	Metasedimentary rocks including fine-grained well sorted sandstones, siltstones and shales, colours vary from grey-green (ferrous iron), disseminated pyrite and specularite (hematite) locally common.
<b>INTRUSIVE ROCKS</b>		
12	BD	"Buff dyke" - term applied to a sericitized fine-grained rock with sharp dyke-like boundaries, generally with disseminated pyrite, restricted generally to mariposite-bearing host rocks. See comment below under BSD.
13	SD	Syenite dyke - fine-grained pink to orange to reddish coloured felsic intrusive rock. Biotite syenite dyke - fine-grained syenite intrusive rock with either biotite or chloritized biotite. Chilled margins are common. Locally the chilled margins have been altered to a "buff dyke" appearing rock with mariposite flakes when the host rock is mariposite-bearing.
14	BSD	

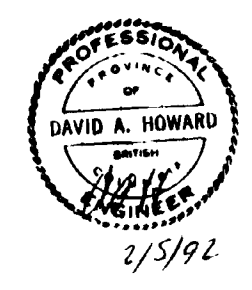
NOTE Partial assays and geology above 10,000 elevation.

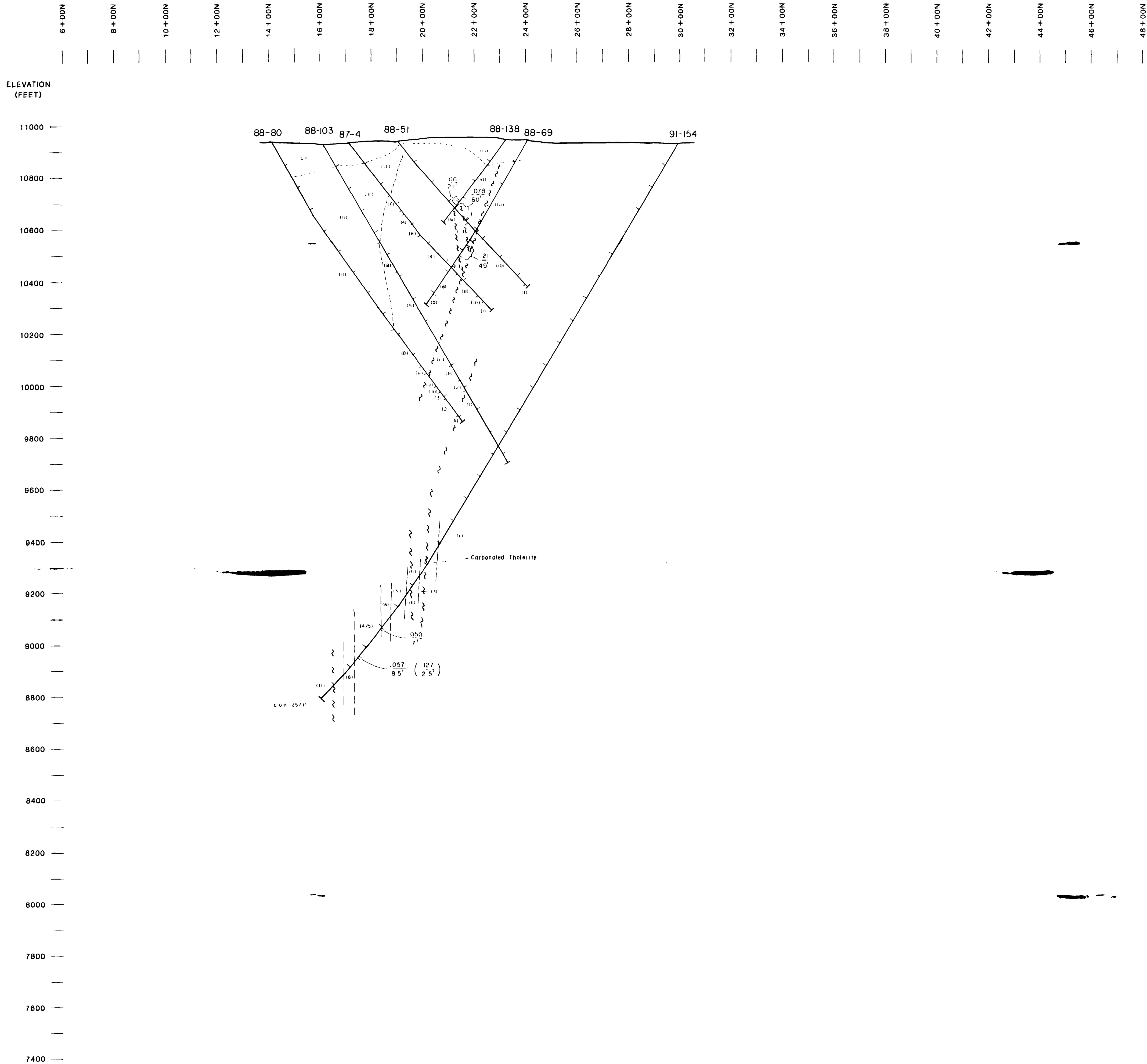


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GARRISON GOLD PROJECT  
GARRISON TOWNSHIP, ONTARIO**

**SECTION 30+00 W.**

GEOLGY BY: D.A.H.	DATE: JANUARY, 1992
SCALE: 1" = 200'	FIGURE NO: 9
D.D.H. GEOMANAGEMENT LTD.	





**LEGEND**

**NORTH WALL**

1 "T" "Tholeiite" (Chemically a basaltic komatiite)

**MUNRO FAULT ZONE**

2 CH-K Dark green chloritized komatiite flows with spinifex texture - relatively undeformed.

3 CH-S-T Chlorite - sericite - minor talc schist with a characteristic olive green colour.

4 C-S-M Carbonate - sericite - mariposite assemblage with an apple green colour, relatively undeformed to weakly schistose, usually does not contain buff dykes.

5 C-M-S Carbonate - mariposite - sericite schist with a stockwork texture and an emerald green colour, contains buff dykes which may be brecciated.

6 CH-T Chlorite - talc - carbonate assemblage - variably foliated from relatively undeformed to schistose, dark green colour.

7 A Albite - sericite - carbonate - pyrite gold bearing assemblage, referred to as albite but actually an alteration phase of the original komatiite flow which locally has a north wall margin showing incomplete replacement of chlorite ... indicates alteration boundary.

8 C-S-CH Carbonate - sericite - chlorite assemblage, variably foliated with hardness of 5. May be a boundary assemblage of the Chlorite-talc-carbonate assemblage.

9 S Dark green to black talc-chlorite-carbonate assemblage either foliated or brecciated showing original komatiite flow and spinifex texture.

10 O-P Black to dark green olivine peridotite with relic olivine or serpentine pseudomorphs, simulate portion of original komatiite flow, spinifex texture, includes non olivine pyroxenitic komatiite.

**SOUTH WALL**

11 MS Metasedimentary rocks including fine-grained well sorted sandstones, siltstones and shales, colours vary from grey - green (ferrous iron), disseminated pyrite and specularite (hematite) locally common.

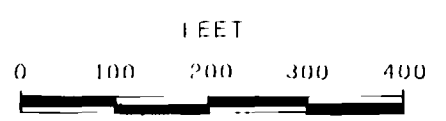
**INTRUSIVE ROCKS**

12 BD "Buff dyke" - term applied to a sericitized fine grained rock with sharp dyke-like boundaries, generally with disseminated pyrite, restricted generally to mariposite-bearing host rocks. See comment below under BSD.

13 SD Syenite dyke - fine-grained pink to orange to reddish coloured felsic intrusive rock. Biotite syenite dyke - fine-grained syenite intrusive rock with either biotite or chloritized biotite. Chilled margins are common. Locally the chilled margins have been altered to a "buff dyke" appearing rock with mariposite flakes when the host rock is mariposite-bearing.

14 BSD

NOTE Partial assays and geology above 10,000 elevation.



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**GARRISON GOLD PROJECT**  
GARRISON TOWNSHIP, ONTARIO

**SECTION 28+00 W.**

GEOLOGY BY: D.A.H. DATE: JANUARY, 1992  
SCALE: 1" = 200' FIGURE NO. 8  
D.D.H. GEOMANAGEMENT LTD.

