THESEUS EXPLORATION.

THE HEAZLEWOOD PROSPECT-WARATAH.

S.P.L. 37.

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THESEUS EXPLORATION N.L.

THE HEAZLEWOOD PROSPECT - TASMANIA

CONTENTS.

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THESEUS EXPLORATION N.L.

THE HEAZLEWOOD PROSPECT - WARATAH, TASMANIA

S.P.L.37

SUMMARY:

Pursuant to the option held by Theseus Exploration N.L. on the Heazlewood Prospect, the Company's Senior Geologist carried out an extensive geochemical survey of part of the prospect in order to establish as precisely as possible in which areas follow up drilling would be justified, if at all.

The results of this survey, in addition to information available from previous work carried out by Amax Mining (Australia) Inc., were processed by electronic computer. As a consequence of the computer programme, three areas have been defined which can justifiably be drilled.

INTRODUCTION:

During 1968 and 1969 Amax Mining Inc. carried out an extensive exploration programme over the Heazlewood Prospect. This programme involved geology, geochemistry and geophysics and terminated with the drilling of four diamond drill holes. A vehicular accident incapacitated virtually all the geological staff working on the property at the time and, as a consequence, work was suspended for a short period. Subsequently, Amax requested an extension of time, which was declined, following which they relinquished their option.

Theseus approached the lessees of the property in 1970 with a view to option should there be sufficient justification. An analysis of Amax' work revealed that insufficient detail had been paid to sampling of the mine, geochemistry and geophysics and on this basis Theseus contracted to option the property to undertake further exploration.

Theseus'option agreements with the Heazlewood Nickel Prospecting Syndicate N.L. include ML31M/57, a mineral lease of 80 acres valid until 1981, and S.P.L. No. 37, a Special Prospector's Licence of approximately six square miles surrounding the mineral lease, valid until May 7th, 1971, and subject to half-yearly licence renewals.

The location of and access to the property as well as topography, climate and regional and local geology are adequately dealt with in Amax' report which is appended. The following discussion will be concerned solely with those areas in which information was misinterpreted or incomplete.

MINERALIZATION:

The mode of mineralization on the property is complex in keeping with nickel sulphide mineralization elsewhere in the world. The primary mineralization is heazlewoodite ($Ni_3 S_2$, 73% Ni, 27% S) and the secondary minerals range from millerite and pentlandite (lesser violarite and bravoite) to the carbonates, zaratite and hellyerite. Appreciable quantities of cobalt are present in the mineralized zones (maximum to date 0.24% Co). No discrete cobalt mineral has been identified to date, neither do Edwards nor Williams of the C.S.I.R.O. mention cobalt as being enclosed in the heazlewoodite. For the moment its mode of occurrence is problematic. Conspicuous by its absence is any associated copper mineralization which characterizes the pyrrhotite-pentlandite assemblage. Similarly, no members of the platinum group are present.

The heazlewoodite occurs in a series of narrow mineralized shear zones in serpentinite which have a maximum width of 12". The shears have a predominantly north-westerly strike and dip to the north-east at angles ranging from 60° to 80° (most frequently 80°). Mineralization in the shears is discontinuous and patchy. The maximum measured length of continuous mineralization along a shear is approximately one hundred and fifty feet and in this shear (see Amax' map of the mine geology) sulphide mineralization is recognizable only at the most north-westerly end. Mineralization in the remainder of the shear is marked by extensive zaratite "spotting" of the hanging wall, i.e. rounded coatings of zaratite on the serpentinite in the shape of a fifty cent coin. This type of zaratite mineralization indicates the other mineralized shears in the mine.

Channel sampling in the mine by Theseus was carried out in the vicinity of recognizable or suspected mineralization. The rock chips were gathered normal to the strike of the shear zones in contrast to Amax' sampling which was carried out parallel to the shear zones and consequently has little meaning.

On the occasion of Theseus' initial inspection of the property two 50 lb. samples of broken muck were taken from the floor of the branch drives on the south side of the main adit. The location of these two samples is shown by HB.1 and HB.2 on the appended geological map of the Lord Brassey Mine. The results of all rock sampling by Theseus in the mine is tabulated below. -

Sample No.	Ni %	S %	Co ppm	Cu ppm	Zn ppm	Ti ppm
HB.2	1.46	N/d	720	N/d	N/d	N/d
HB.1	7.60	N/d	1400	N/d	N/d	N/d
HC.1	0.46	0.20	559	20	79	Bld
HC.2	0.37	0.16	425	20	49	Bld
HC.3	0.26	0.08	250	15	49	Bld
HC.4	0.35	0.09	259	20	50	Bld
HC.5 (1) *	0.52	0.44	308	80	64	Bld
(2) *	4.61	1.24	879	130	72	200
HC.6	0.36	0.11	117	20	56	Bld
HC.7	0.26	0.19	175	20	62	Bld

N/d = No determination

Bld = Below limit of detection

Sample Nos. HC.1 to HC.7 were channel samples over 42"

* These two samples must be composited

Ideally, the nickel-sulphur ratio in Heazlewood is 3:1, hence sulphur determinations were carried out to test for sulphide status. Amax' sampling in the mine area yielded an average sulphur content of less than ± 0.01%. The channel samples from Theseus' programme contained significant sulphur concentrations hence it is reasonably concluded that the nickel analyses represent sulphide mineralization.

The results furnished by the 50 lb. bulk samples suggest that bulk sampling provides more satisfactory results than channel sampling. It is suspected that much of the mineralization may occur as heazlewoodite fillings of hair-line fractures in the host rock and that channel sampling of this type of mineralization is not likely to be as satisfactory as bulk sampling.

Rubenach has suggested that the compositional differences of the entire ultrabasic suite at Heazlewood may be explained by magmatic segregation. It is doubtful though that the origin of the nickel sulphide can be similarly explained. No associated copper or zinc sulphides are present and these should be expected as they are ubiquitous in basic magmas and should have settled out as sulphide species in association with nickel (Desborough).

The sulphide mineralization was probably introduced at a later date, possibly early in the deformation event. Serpentinization of the host rock post-dates the sulphide mineralization (Williams) and it is thus possible that there may have been remobilisation of the sulphides subsequent to emplacement.

GEOCHEMISTRY:

Amax' programme involved a very limited coverage by geochemical soil sampling in the belief that "sufficient outcrop was available to permit mapping with an acceptable degree of accuracy". Theseus' feeling was that geochemistry was essential to adequately isolate areas of interest as surface examination indicated that outcrop was, in fact, not as extensive as suggested and, in addition, a very useful pathfinder element (i.e. cobalt) was present to further aid in the demarcation of the mineralized areas.

Sampling was carried out between lines 1500'N and 8000'N, each line being 500 feet apart with station interval at 100 feet; sample depth ranged from 2" to 6". The samples were analysed for nickel and cobalt as well as elements that could possibly cause 'fixation' of these in the soils, viz. iron (nickel) and manganese (cobalt).

Anomalous nickel concentration in the soils were values in excess of 1620 ppm. This value was derived from the equation $C = \bar{X}r + ASr$, where C is the critical value (anomalous threshold), $\bar{X}r$ is the average of the regional population, A is an arbitrarily valued constant, in this instance 3, and Sr is the standard deviation for the regional population (Langford). The anomaly values for iron and cobalt were similarly derived.

Soil pH for all samples along lines 4500'N and 5000'N was determined. Crooke has suggested the hydrolysis of nickel above pH 6.5, however examination of the pH and nickel profiles along these lines shows that while anomalous nickel concentrations occur in soils with pH 6.5, so also do sub-anomalous or non-anomalous nickel concentrations. The effect of soil pH appears to be minimal.

All soil samples were analysed by perchloric acid - atomic absorption spectrophotometry at General Superintendence Laboratories in Sydney. Rock samples were analysed by fusion - A.A.S.

The results of the sampling programme were included with additional data in a computer programme.

COMPUTER PROGRAMME:

A programme was selected which would enable Theseus to compare the concentration of nickel at a point with any factor that could effect this concentration, i.e. iron, cobalt, manganese, magnetic intensity (Gam), topography (RL) or rock type (Rl to R6). The rock types were as follows:

R1 - Serpentinized Peridotite
R2 - Serpentinite
R3 - Bronzitite
R4 - Hornfels
R5 - Grossularitised Gabbro
R6 - Felspathic Peridotite

The results of the programme are reported in full in the appended statement by K.C. Crellin of the Scientific and Technical Computing Centre in Brisbane. By way of clarification, acceptable F values (i.e. 3.85) at the 99% confidence level (0.99) are exceeded ten fold in most comparisons. The multiple correlation coefficient can have a maximum value of 1.0000. Wherever particularly high F values coincide with a high multiple correlation coefficient the variables in the particular function have been chosen to represent the best predictors of nickel concentration, i.e. Ni = f(Fe, Co). The final regression equation includes a constant of 20.604, an iron coefficient of 34.68 (iron concentration was measured in % and not ppm) and a cobalt coefficient of 1.499. The magnitude of the coefficients is not a measure of their significance, except in the case of the rock types as these were all coded either as 1 (present) or 0 (absent).

Estimated values of nickel concentration at each sampling point were computed with the actual values obtained. The difference between the two values was calculated as a positive or negative residual value and plotted and contoured. (Plan HWD.6)

Nickel anomalies, using Langford's equation, occur to the West, north-west and north-east of the Lord Brassey Mine, the largest of these anomalies being to the north-east. The residual anomalies are largely coincident with the soil anomalies. However, in most instances the soil anomalies are now more clearly demarcated and the trends of the areas defined by sub-anomalous or non-anomalous nickel concentrations are more meaningful.

It should be noted that the 'peak and valley' nature of the nickel profiles for lines 4500'N and 5000'N are due in part to samples from very shallow soils (less than two inches deep) or to the absence of a sample in which case the computer has read the value as 0 ppm nickel. One example of a poor sample is afforded by that taken 900 feet west of the base line along line 4500'N. At this position there are appreciable 'valleys' in the iron, cobalt, nickel and pH profiles. On the nickel contour map (Plan HWD.2) the lateral discontinuity of the nickel anomaly between the base line and 500'W along line 4500'N is due to the computer reading 'missing sample' as 0 ppm nickel. Nickel values for these sampling points should have been interpolated from points on the east and west as with other points on the grid where this has taken place. 'Missing samples' represents points at which a representative soil sample could not be taken due to extensive outcrop and/or scree.

The good correlation of nickel with cobalt and iron appears to bear an apparent relationship to rock type, i.e. the serpentinite. Coincident iron-cobalt-nickel highs usually occur over serpentinite. The strong correlation between nickel concentration and the grossularitised gabbro will necessitate further sampling as this relationship was not anticipated.

Nodular iron laterites are present in the vicinity of the mine but these do not appear to have had the effect of concentrating nickel in the soils to produce questionable anomalies - this is best illustrated by the element profiles along line 4500'N where many of the nickel peaks are quite independent of iron concentration. Cobalt concentration bears little or no relationship to manganese concentration in the soils (see appended laboratory analyses for some of the more appreciable manganese and cobalt concentrations).

Significantly one of the poorest correlations was nickel vs. magnetic intensity. Similarly, matching nickel with cobalt plus magnetic intensity decreases the correlation coefficient obtained with cobalt alone. It seems reasonable therefore to conclude that zones of high magnetic intensity cannot be related to nickel mineralization. It is important to note that all Amax' drill holes were located on I.P. anomalies. Examinations by Theseus and McPhar of the I.P. effects of the drill cores showed that the I.P. anomalies could adequately be explained by the magnetite content of the serpentinite at these particular localities. McPhar's view was that I.P. effects due to magnetite concentration would completely mask any I.P. effect due to nickel sulphide mineralization.

Theseus' soil sampling did not yield nickel and cobalt results as high as those of Amax in view of the shallower depth of samples in all cases. Profiles of Theseus' sampling are similar to profiles of Amax' sampling along lines sampled by both companies with the difference that Theseus' profiles are at a lower scale. Deeper sampling if employed by Theseus would raise the scale of the anomalies already obtained and in all probability leave the extent and distribution of these anomalies unaltered.

The scale of soil nickel concentrations obtained thus far could also be raised by improved analytical techniques. As an example, four samples Nos. 742 to 745 were reassayed by perchloric/nitric acid-A.A.S. instead of perchloric acid-A.A.S. and the respective analyses are shown below:

Sample No.	Perchloric-A.A.S. ppm Ni	Perch.-Nitric-A.A.S. ppm Ni
742	800	1100
743	1119	1440
744	1008	1920
745	845	1510

CONCLUSIONS AND RECOMMENDATIONS:

Anomalous nickel concentrations in the soils of the Heazlewood area have been obtained and the soil anomalies confirmed for the most part by removing extraneous influences. The residual anomalies obtained from the computer analysis have allowed three positive areas to be defined which are appreciably above the regression surface and, as such, constitute good drilling targets.

Bulk sampling of muck in the mine, while not from the wall rock, contained significant nickel concentrations. Channel sampling assays from the mine were encouraging in one instance only but nevertheless the presence of nickel sulphide mineralization in all instances was indicated.

Drilling carried out in the area to date has been on geophysical anomalies not associated with nickel mineralization; similarly, drilling in the vicinity of the mine could not have intersected the major mineralized shear as is shown by the projection of this shear on to the drill hole section.

Rubenach has suggested an anticlinal structure in the vicinity of the mine. The appearance of the residual anomalies north of the mine suggest northward extension of nickel concentrations in the rocks which may represent mineralization in a folded structure.

It is recommended that initially two diamond drill holes be drilled from north-east of the mine towards the south-west (i.e. against the N.E. dipping mineralized shears) at angles of between 45° and 60° so as to test both the

007

major geochemical anomaly and proven mineralization in the mine. These holes should be at least 750 feet deep so as to intersect a considerable section nearly normal to the mineralized shears and will aid in the elucidation of the distribution of these shears. As an example, they may occur en echelon both horizontally and vertically. If drilling of these two holes proves successful the anomalies to the west of the mine should also be drilled.

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16th March, 1971.

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THESEUS EXPLORATION N.L.

This report records the results of a multiple regression analysis of 1074 measurements of Fe, Mn, Ni, Co, Gam, RL over a field. Six rock types were encountered and these were treated as dummy variables viz = 1 if present, = 0 if absent.

The dependent variable Ni was associated with all possible combinations of Fe, Mn, Co, Gam and RL and the results of the regression analyses are attached, and sumarised below

Independent Variables	F-Value	Multiple Correlation
Fe	77.21	0.5800
Mn	28.09	0.3946
Co	99.89	0.6294
Gam	20.89	0.3473
RL	21.61	0.3525
Fe Mn	67.81	0.5809
Fe Co	101.24	0.6572
Fe Gam	67.59	0.5803
Fe RL	68.49	0.5828
Mn Co	88.24	0.6314
Mn Gam	24.64	0.3952
Mn RL	25.51	0.4010
Co Gam	87.37	0.6295
Co RL	87.45	0.6297
Gam RL	19.21	0.3551
Fe Mn Co	90.19	0.6578
Fe Mn Gam	60.31	0.5812
Fe Mn RL	61.06	0.5836
Fe Co Gam	89.97	0.6574
Fe Co RL	90.19	0.6578
Fe Gam RL	61.18	0.5840
Mn Co Gam	78.41	0.6314
Mn Co RL	78.52	0.6317
Mn Gam RL	22.97	0.4033
Co Gam RL	77.76	0.6299

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Independent Variables	F-Value	Multiple Correlation
Fe Mn Co Gam	81.14	0.6580
Fe Mn Co RL	81.32	0.6584
Fe Mn Gam RL	55.22	0.5847
Fe Co Gam RL	81.24	0.6582
Mn Co Gam RL	70.70	0.6320
Fe Mn Co Gam RL	73.99	0.6587

The multiple correlation coefficient is defined as

$$R^2 = \frac{\text{Sum of squares due to regression}}{\text{Total (corrected) sum of squares}}$$

and the larger this coefficient the better the fitted equation explains the variation in the data.

We can thence examine the leaders of each set above and see if there is any consistent pattern of variables in the leading equations in each set

Variables in Equation	Multiple Correlation
Ni = f (Fe)	0.5800
Ni = f (Co)	0.6294
Ni = f (Fe, Co)	0.6572
Ni = f (Fe, Mn, Co)	0.6578
Ni = f (Fe, Co, Gam)	0.6574
Ni = f (Fe, Co, RL)	0.6578
Ni = f (Fe, Mn, Co, Gam)	0.6580
Ni = f (Fe, Mn, Co, RL)	0.6584
Ni = f (Fe, Mn, Co, Gam, RL)	0.6587

The value of R tends to increase as the number of variables in the fitted equation increases. Thus it would appear that the best fitted equation is Ni = f (Fe, Co).

However, we can calculate "partial" F values to determine the significance of entering Mn, Gam, RL into this equation to obtain the other leaders given above.

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	"Partial F"	F	F
		0.95	0.99
Mn/Fe Co	1.44		
Gam/Fe Co	0.30	3.84	6.63
RL/Fe Co	1.41		
Mn Gam/Fe Co	1.72	3.00	4.61
Mn RL/Fe Co	2.70		
Mn Gam RL/Fe Co	3.53	2.60	3.78

Since these F values are less than the appropriate tabulated F values at the 1% level we can conclude that at this level the addition of Mn, Gam, RL in the regression equation is not worthwhile. At the 5% level we could include Mn, Gam and RL but the addition of these variables is probably not worthwhile.

Hence it is concluded that the "best" regression equation is

$$
\begin{aligned}
Ni &= 20.604 + 34.68\ Fe + 1.499\ Co \\
&\quad + 114.7\ R1 + 206.1\ R2 + 93.6\ R3 \\
&\quad = 119.6\ R4 + 292.3\ R5 + 181.7\ R6
\end{aligned}
$$

ROCK TYPES

Since the rock types are dummy variables the coefficients for the rock types estimate the differences between the rock types and these do not depend on Fe and Co values. Hence it can be concluded that the rock types can be ordered into decreasing Ni significance as follows

Rock Type 5
2
6
4
1
3

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011

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Sample Number	Fe	Mn	Ni	Co				
HWD 450	1.76 %	141	94	30				
451	3.84 %	90	81	24				
452	1.53 %	83	119	23				
453	0.56 %	54	122	31				
454	1.08 %	73	237	25				
455	3.38 %	191	438	43				
456	2.49 %	184	96	51				
457	0.68 %	48	143	10				
458	0.25 %	34	37	BLD				
459	1.19 %	78	387	28				
460	2.05 %	111	366	25				
461	6.71 %	191	410	125				
462A	1.51 %	82	501	24				
463A	3.52 %	179	441	51				
464A	3.70 %	232	418	67				
481	2.10 %	110	3080 ✓	292				
482	5.34 %	234	648 ✓	96				
483	7.37 %	191	860 ✓	160				
484	7.02 %	212	1700 ✓	166				
485	6.23 %	116	536 ✓	45				
486	3.50 %	96	2220 ✓	168				
487	2.04 %	203	1050	64				
488	2.43 %	110	1680	96				
489	9.40 %	185	1490	266				
490	1.38 %	111	1010	341				
491	2.86 %	144	2060	274				
492	4.26 %	217	900	119				
493	6.64 %	122	1690	278				
494	6.80 %	270	1950	257				
495	3.77 %	258	2470	450				
496	4.53 %	167	1540	128				
497	7.56 %	223	421	125				
498	1.25 %	91	265	101				

LIMIT OF DETECTION:

ALL RESULTS IN: ppm, except where indicated otherwise.

CHIEF CHEMIST

012

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Sample Number	Fe	Mn	Ni	Co				
WD 499	4.69 %	122	910 ✓	436				
500	11.42 %	1060	653 ✓	191				
501	12.95 %	1480	1060 ✓	277				
502	13.09 %	1440	798 ✓	245				
503	12.65 %	1060	845 ✓	238				
504	8.03 %	690	662 ✓	256				
505	9.43 %	217	1310 ⓧ	292				
507 ⓧ	14.04 %	1820	1210 ✓	259				
508	13.71 %	1400	1060 ✓	213				
509	6.98 %	165	867 ✓	194				
0	9.68 %	680	746 ✓	142				
511	10.63 %	80	1140 ✓	160				
512	9.12 %	73	650 ✓	87				
513	4.45 %	48	405 ✓	44				
514	6.49 %	590	509 ✓	83				
515	6.61 %	660	520 ✓	88				
516	8.97 %	226	985 ✓	281				
517	6.03 %	349	270	59				
518	14.34 %	298	810	127				
519	8.94 %	740	490	117				
520	9.87 %	820	1140	310				
521	7.93 %	690	850	187				
522	10.05 %	480	690	117				
3	4.65 %	303	610	221				
524	7.65 %	269	1040	338				
525	6.56 %	118	1110	314				
526	8.85 %	147	1580	382				
527	14.89 %	146	470	73				
528	2.84 %	2970	560	339				
529	10.47 %	109	1340	350				
530	10.61 %	165	2340	670				
531	11.06 %	298	2720	560				
532	18.14 %	580	3310	760				

LIMIT OF DETECTION:

ALL RESULTS IN: ppm, except where indicated otherwise.

CHIEF CHEMIST

013

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Page: 17

Sample Number	Fe	Mn	Ni	Co			
533	10.65 %	209	2780	440			
534	10.18 %	184	2585	370			
535	11.15 %	146	2380	310			
536	5.17 %	188	2420	470			
537	5.35 % x	238	1660 x	380 x			
537A	7.79 %	352	1070	160		—	
538A	6.94 % ⊗	256	1845 ⊗	410 ⊗		—	
✓ 539	6.46 % x	324	2250 x	420 x			
539A	4.07 %	153	950	20		—	
540A	7.63 % ⊗	252	2490 ⊗	490 ⊗		—	
✓ 541	12.98 % x	154	2350 x	465 ✓			
✓ 542	18.26 % x	1500	1020 x	409 ✓			
542A	8.05 %	420	105	83	x	—	
✓ 543	7.54 % x	405	210 x	138 ✓			
543A	6.98 %	2850	250	114	x	—	
✓ 544	15.04 % x	228	1370 x	490 ✓			
544A	11.74 %	3230	320	230	x	—	
✓ 545	13.16 % x	1590	1660 x	340 x			
545A	11.25 %	2330	730	320	x	—	
✓ 546	11.59 % x	1400	990 x	366 x			
546A	18.06 %	5680	1490	320	✓	—	
547A	18.16 %	1900	1050	260	✓	—	
✓ 547	1.88 % x	41	156 x	30 ✓			
548	0.94 %	68	411	19			
49	1.19 %	119	213	69			
550	3.34 %	119	340	78			
551	3.83 %	83	610	106			
554	5.98 % X	91	490	16			
555	1.43 %	45	280	19			
556	1.59 %	27	220	34			
557	0.74 %	26	510	31			
558	1.46 %	48	240	44			
559	1.84 %	75	120	21			

LIMIT OF DETECTION:

ALL RESULTS IN: ppm, except where indicated otherwise.

CHIEF CHEMIST

THESEUS EXPLORATION N. L.

FINAL REPORT: THE HEAZLEWOOD PROSPECT, TASMANIA

SUMMARY

During the period 28th May to 28th June, 1971, two diamond drill holes terminated Theseus' examination of this prospect. These drill holes were TDH.1 and TDH.2 and were drilled to 462' and 1144' and were inclined to the south-west at 60° and 50° respectively. It was intended to intersect nickel sulphide mineralization observable in the mine, as well as the extensions of this mineralization, and determine the source of a soil nickel anomaly that was defined by Theseus' sampling carried out in January of this year.

Sub-economic nickel mineralization was intersected in both drill holes in the form of zaratite (nickel carbonate) and heazlewoodite (nickel sulphide). The nature of the mineralization precludes the possibility of economic nickel mineralization and it is recommended that no further work be carried out on this prospect.

GEOLOGY

Rock nomenclature used by Rubenach on the property is followed in this report, i.e.

(i) a melanocratic, coarse to medium-grained rock composed of ±85% mafics, ±10% soft, white kaolin (weathered felspar) and ±5% biotite and magnetite is a serpentinized felspathic harzburgite, or when the white material is absent, serpentinized harzburgite;

(ii) leaf-green or grey, medium to coarse-grained rocks are probably serpentinized pyroxenites, and

(iii) zones mapped as 'garnet zone' in the drill logs are rodingite dykes composed of ±50% white hydro-grossular and ±50% pyroxene (diallage).

As recommended in Theseus' initial report on the Heazlewood area, it was decided to drill two holes north-east of the mine. As the main zone of mineralization is a 12" wide fracture filling in the mine which dips north-east at approximately 80°, the first hole, TDH.1, was located 180° north-east of surface workings on this main mineralized zone. The hole was

../2

angled at -60° to the south-west. In the surface workings as well as in the mine much zaratite (nickel carbonate) mineralization was present in the main mineralized zone. TDH.1 was therefore intended to intersect mineralization at approximately 200 feet below the mine workings and in so doing intersect fresh sulphides exclusively.

Hole TDH.1 was in serpentinized felspathic harzburgite from the collar to 392 feet; from 382 feet to 401 feet pale green serpentinite; from 401 feet to 443 feet serpentinized bronzitite, and from 443 feet to 461'8" (E.O.H.) serpentinized felspathic harzburgite. Nickel mineralization in this hole occurred as zaratite with the exception of a very minor occurrence of heazlewoodite at 87'3" and a 2" fracture filling of heazlewoodite at 293'3". The mineralization with one exception only occurred in 1/16" to 2" fracture zones on the hanging wall and/or the foot wall contacts of pale green serpentinite with the serpentinized harzburgite. A 24" fracture zone from 113'-115' occurred in harzburgite alone.

The core was split in five foot intervals which included all the significant visible mineralization. The split core was submitted to a Sydney laboratory for analysis for nickel, cobalt and total sulphur. This laboratory was unable to furnish reproducable assay results and the core was submitted to a Brisbane laboratory. The results from this laboratory have been accepted as accurate as they most closely correspond with the observed geology. These results are shown below:-

Assay Interval	Ni (ppm)	Co (ppm)	S (%)
52' - 57'	1439	293	1.83
75' - 80'	1256	314	2.07
82'4" - 87'4"	1177	246	-
87'4" - 92'4"	1652	252	2.39
92'4" - 97'4"	1115	291	0.45
97'4" - 102'4"	1747	263	0.38
111'6" - 116'6"	5020	379	2.41
283'5" - 288'5"	1897	243	2.05
288'5" - 293'5"	9020	282	0.33
293'5" - 298'5"	1362	247	0.19
298'5" - 303'5"	951	262	2.10

TDH.2 was sited at a lower elevation than TDH.1 and some 600' to the north-east of TDH.1. It was angled at -50° to intersect all ground beneath the largest residual soil-nickel anomaly, as well as those zones in TDH.1 which contained nickel mineralization, most particularly the main zone of mineralization. This hole was in serpentinized harzburgite from the collar to approximately 243' and in serpentinized felspathic harzburgite from 243' to 1144'4".

../3

Target depth to the main zone of mineralization was 850' - 950' and the hole was drilled to 1144' to ensure that no displacement of this zone could have taken place due to faulting.

Mineralization in this hole occurred as zaratite alone at five localities; (i) between 239'1" and 239'3", (ii) between 241'3" and 243'0", (iii) at 247'2", (iv) at 301', and (v) at 346'6". In all instances the mineralization was not considered to be sufficiently encouraging to sample.

CONCLUSIONS

The most disturbing aspect of Theseus' exploration programme on the Heazlewood prospect was the inaccuracy of the sample results provided by the General Superintendence laboratory in Sydney. Assays for nickel, cobalt, iron and sulphur could not be reproduced with any degree of satisfaction. This fact was not established until the Company's Senior Geologist requested a re-assay of 251 samples by an alternative technique. It was further established, as noted above, when check assays of the split core were requested.

Initially all the soil samples taken on the property were analysed for nickel by perchloric acid -AAS while the check assays on the 251 samples were carried out by perchloric acid - nitric acid - AAS. The results from the check assays showed significant increases in the concentration of nickel and iron in the soils. Most significantly it showed that nickel was being concentrated in those soils containing high concentrations of iron. This relationship was not apparent from the initial assays and, as a consequence, a costly computer programme was utilized to establish the relation between nickel and iron, cobalt, manganese, magnetic intensity, rock type and topography.

It appears, therefore, that the high soil nickel anomalies in the vicinity of the mine were due in part to the concentrating effect of much iron oxide in the soils. No doubt a bona fide soil nickel anomaly would have occurred in this area in any event produced by the numerous outcrops of narrow mineralized shears, but the soil iron oxides have had the effect of spuriously enhancing this anomaly so that it becomes impossible to demarcate with any confidence.

Sulphate analyses of the soils were carried out to check for the presence of weathered sulphides. The most significant sulphate analyses occur in the vicinity of the mine but the validity of these assays is questionable as they were provided by General Superintendence.

../4

The patchy and discontinuous nature of the sulphide mineralization in the mine has persisted to depth. As noted in a previous report, sulphide mineralization in the mine occurs at one locality only. This zone of mineralization does not carry sulphides along strike to the south-east in the mine, rather the mineralization is present as zaratite fillings in this fracture zone. The numerous minor mineralized fractures intersected in TDH.1 do not persist to TDH.2. The nature of the mineralization can thus best be described as discontinuous fracture fillings. These fractures in most instances lie at the contact between a greenish-grey serpentinite and a melanocratic serpentinite. This light coloured rock was probably intruded as narrow dyke-like bodies along shear zones in the harzburgite. These shear zones apparently remained active and acted as the loci for subsequent nickel mineralization. Serpentinization of the entire rock mass took place after the emplacement of the nickel mineralization according to Williams.

It is felt that further work on the property is not likely to establish economic nickel sulphide mineralization and that the option with the syndicate should be terminated.

7th September, 1971.

H.T. DUMMETT
Senior Geologist

018

71-795

833020

— DRILLING LOG —

Client ☐☐☐☐ / St ☐☐ - Proj ☐☐☐

Drilling Company TRAYAN DRILLING

Drilling Machine EDECO

Driller T. VICK & B. CLARK

Field Sampler

Date Commenced 15 5 1971

Date Completed 24 5 1971

SURVEY DATA

Station	Azimuth	Inclination
0	237° 00'	60° 00'
150	?°	60° 00'
300	?°	59° 00'
450	?°	59° 00'

THESEUS EXPLORATION N.L.

Drill Hole No. TDH1

Grid Name

Northing Co-ord 4450

Easting Co-ord

Bearing of hole at Collar 237 00

Inclination of hole at Collar 60 00

Core Size	FOOTAGE From	FOOTAGE To	Interval Drilled	Recovery Core	Recovery %	Core
NX CB	0.0*	8.0*	8.0*	7.0*	88	
NM LC	8.0	14.7	6.7	6.7	100	
NM LC	14.7	24.9	10.2	9.8	98	
BQ	24.9	42.0	17.3	13.8	82	
	42.0	48.9	6.9	3.1	99	
	48.9	63.1	14.2	16.8		
	63.1	72.10	9.9	9.4	94	
	72.10	81.5	8.7	8.6	99	
	81.5	92.10	11.5	11.4	99	
	92.10	102.8	9.10	8.8	90	
	102.8	113.0	10.4	10.3	99	
	113.0	127.1	14.1	14.1	100	
	127.1	137.8	10.7	10.6	99	
	137.8	144.10	7.2	6.8		
	144.10	159.0	14.2	14.2	100	
	159.0	168.7	9.7	9.7	100	
	168.7	182.10	9.4	9.4	100	
	182.10	206.0	15.2	15.2	100	
	206.0	210.5	4.5	4.5	100	
	210.5	222.2	11.9	11.8	99	
	222.2	229.5	7.3	7.3	100	
	229.5	239.5	10.0	9.11	99	
	239.5	256.4	16.11	18.4	100	
	256.4	283.5	27.1	26.4	99	
	283.5	297.10	14.5	14.3	99	
	297.10	304.4	6.6	6.1	98	
	304.4	314.6	10.2	10.2	100	
	314.6	324.8	10.2	10.2	100	
	324.8	343.0	18.4	18.4	100	
	343.0	357.10	14.10	14.2	98	
	357.10	368.0	10.2	10.0	99	
	368.0	384.10	16.10	16.10	100	
	384.10	395.0	10.2	10.2	100	
	395.0	405.2	10.2	10.2	100	
	405.2	415.4	10.2	10.2	100	
	415.4	425.6	10.2	10.2	100	
	425.6	431.8	6.2	6.2	100	
	431.8	439.4	7.8	7.8	100	
	439.4	457.0	17.8	17.8	100	
	457.0	461.8	4.8	4.8	100	

DAILY

-0
15/5
(18')
-18'
16/5
(45')
-63'1"
17/5
(58')
-113'0"
18/5
(31'10")
-141'10"
19/5
(50')
-190'10"
20/5
(47'7")
-239'5"
21/5
(57'5")
-297'10"
22/5
-351'10"
23/5
(73'10")
-431'8"
24/5
(30')
-461'8"E.O.H.

REMARKS

Core throughout was broken only at cleavages, along serpentine shears/veinlets or angular breaks both sides of which matched. Core loss was minimal, so was grinding.

SPLIT CORE:

52' - 57'
75' - 80'
82'4" - 87'4"
92'4" - 97'4"
92'4" - 102'4"
116'6" - 116'6"

283'5" - 288'5"
288'5" - 293'5"
293'5" - 298'5"
298'5" - 303'5"

* Figure after decimal point in each column is inches not decimals of a foot.

Form S32

SAMPEY EXPLORATION SERVICE

019 71-795

833021

Drill Hole No. ☐T D H 1
Client ~~I H D 1~~ / St. ☐ - Proj. ☐☐☐

THESEUS EXPLORATION N.L.

GEOLOGICAL LOG

DRILLING COMMENCED 15/5/71.

HEAZLEWOOD PROSPECT. PAGE 1/5

Sampled By H.T. DUMMETT Date 20/5/71.
Logged By HTD. Date 17/5/71.

ANGLES				ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS								FOOTAGE	GRAPHIC LOG	ROCK CODE				SAMPLE
		Others																
Schistosity	Joints	Detail	Angle	PYR OX	OLIV INE	FEL SPAR	BIOT		NICK EL	COB ALT	SULP			SERP	ROD	MINN	FAULT	
				±85%		±10%	±5%		%	%	%	0		A				
												10						
												20						
												30						
												40						
												50						
									.14%	.03	1.83%			[illegible]	X-	-		
														A	X-	-		
												60						
												70						
									.13	.03	2.07			[illegible]				
																X		
												80						
									.12	.02	-					X		
																X X		
									.17	.03	2.39	90						
																X		
									.11	.03	0.45					X		
									.17	.03	0.38					X		
												100						
												110		▼				

GEOLOGICAL DESCRIPTION

'A' SERPENTINITE: Rock is coarse-grained, consisting of serpentinized roumded grains of pyroxene and olivine - whole rock is soft and can be easily scratched with a knife. Zones in the serpentinite consist of an interstitial soft white material possibly weathered (kaolini) plagioclase. Surface weathering to ± 15'. - present as iron oxide (brownish-yellow) coatings on fracture surfaces. Fibrous or semi-fibrous serpentine seams, dip 40^{o}, at 16'6" (1/8"), 18' (3/4"), 20' (1/8"). Originally rock was probably a felspathic harzburgite.

54'6" - 55'8"; 45^{o}, 14" Zone marked by distinct 1/16" zaratite staining on H/W contact! Zone consists of a palé green serpentinite. (~~rodingite~~) with a fine to medium grain and small (2mm.) dk-green phenocrysts. At 55', minor zaratite staining. ±3" of the H/W and ±4" if the F/W show emerald green discoloration of the weathered felspars.
56'1" - 1/8" zaratite veinlet. 45^{o}.

77'6" - 79'6". H/W contact 50^{o}, F/W contact 50^{o}. 24" of pale green ~~rodingite.~~ serpentinite.
78'6" - vertical shear marked by dark apple green serpentine - ½" wide. F/W marked by two hairline zaratite veinlets and emerald green discoloration of felspar for 2".
84'0" - 87'3" Pale green fine to med. grained serpentinite ~~rodingite.~~ H/W contact ± 45^{o} with 4" zone of emerald green fsp. discol'n. - also 1/16" zaratite veinlet. F/W is marked by 1/4" f-gr. apple-green zone (40^{o}), then a 3" zone of green fsp. discol'n containing a small bleb of heazlewoodite and a 1/16" zaratite veinlet.
90'3" - 1/4" zaratite zone in green discol'n - 10^{o}.
92'3" - 96'6" - 24" zone of patches of 'A' serpentinite and green serpentinite ~~rodingite~~ and abundant dark bluish green serpentine veinlets. Possible zaratite staining.

Client ☐☐☐☐ St. ☐ Proj. ☐☐☐

Form S 31

SAMPEY EXPLORATION SERVICES

020

833022 Drill Hole No. T D H 1
Client ☐☐☐☐/ St. ☐- Proj. ☐☐☐

THESEUS EXPLORATION N.L. GEOLOGICAL LOG HEAZLEWOOD PROSPECT. PAGE 2/5

Sampled By H.T. DUMMETT Date 20/5/71
Logged By H.T. DUMMETT Date 19/5/71

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS								FOOTAGE	GRAPHIC LOG	ROCK CODE				SAMPLE	GEOLOGICAL DESCRIPTION
			Others																	
Layering	Schistosity	Joints	Detail	Angle	PYR OX	OLIV	BIOT	FSP		NICK EL	COB ALT	SULP			SERP	ROD	MIN	FAULT		
					±85%		±5%	±10%		%	%	%	110		A					97'10" - 15° - 1½". Emerald green alteration zone
										.50	.04	2.41					X			with distinct zaratite staining on F/W contact.
																				Possibly throughout this zone.
																				113' - 115'-24" - H/W contact 35°, F/W contact 5°.
																				Zone of heavy zaratite staining in fractured
																				'A' serpentinite. Mineralization as irregularly
																				shaped small (±2mm.) patches or discontinuous
																				wavy hairline veinlets.
													130							'A' Serpentinite has become finergrained
																				than in the topmost fifty feet - the compositions
																				are still the same. Small (1/10"-1/8")
																				fractures intersecting the core frequently have
																				hairline - 1/10" tension gashes normal to the
													140							fracture filled with dark bluish green serpentine.
													150							
													160							
													170							
													180							180' - 35° - 3/8" - pale green serpentine veinlet
																				with tension gashes.
													190							
																R	X			194'4" - 45° - 1/16" - zaratite - between this
																	X			footage and 195' - rock discolored green - 195' -
																				wavy fractures filled with zaratite.
													200							195'-196'-45°-12" - Hard white rodingite dyke.
																				F/W of the dyke as with the H/W is marked by
																				zaratite.on shears parrallel to F/W. Green stain
																				zone 2" into F/W. This dyke is cut by a ½"
																				serpentinite-~~serpentine~~ dyke (60°). NOTE:
													210							Serpentinization is post rodingite intrusion.
																		F		211'-215' Shear zone - sub parrallel to core.
																	X	F		Wavy shear planes lined with pale green
																		F		serpentine and minor zaratite staining.
													220							

5 cm

Form S.31

Drill Hole No.
Client ☐☐☐☐
St. ☐
Proj. ☐☐☐

021

833023

Drill Hole No. T H D 1
Client ☐☐☐☐ / St. ☐ - Proj. ☐☐☐

GEOLOGICAL LOG

THESEUS EXPLORATION N.L.
HEAZLEWOOD PROSPECT.
PAGE 3/5.

Sampled By H.T. DUMMETT Date 22/5/71.
Logged By H.T. DUMMETT Date 22/5/71.

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS								FOOTAGE	GRAPHIC LOG	ROCK CODE				SAMPLE	GEOLOGICAL DESCRIPTION
Layering	Schistosity	Joints	Others Detail	Others Angle	PYR.	OLIVINE	BIOT	FSP.	GAR (GRO)	NICKEL	COBALT	SULP.			SERP	ROD	MIN	FAULT		
					80%		10-15%	±10%		%	%	%	220		A					From 220'-227' Serpentinite is intersected by
																				abundant regular or irregular wavy veinlets of dark
																				green serpentinite.
																				218' Minor zaratite staining on fracture.
																	X			
													230							
																				235'9"-40°-3½"- ~~Rodingite~~ Pale green serpentinite dyke, white with ½"
																~~R~~	X			serpentine veinlet on F/W contact. Small shear
													240							(1/10"). 3/4" below F/W contact has minor zaratite
																				staining.
																				Core over thirty feet from 220' is intersected by
																				numerous thin serpentine veinlets, usually 1/10"-
																				1/8"; where these are parallel to core axis, the cor
													250							parts readily. Zones in the serpentinite from 240'
																				on are almost barren of felspar - these zones are up
																				to 6" long.
																		F		258'-40°-2"- Fault- sheared serpentinite.
													260							
																				266'7"-270' Core intersected by numerous very
																				irregular white hairline veinlets (Fsp?)
													270							
													280							
																				283'9"-60°-1/4"- Green serpentine veinlet.
										.19	.02	2.05								
													290							290'-297'10"-45°- Ore Zone. From 290'0" - 293'3"
										.90	.03	0.33					X			mineralization is in the serpentinite as finely
																~~R~~	X	S		disseminated zaratite or patches or irregular
										.14	.03	0.19					X			hairline veinlets.
																	X			293'3"-293'5"-45°- Shear zone, 60% sheared
																	X			serpentinite/~~rodingite~~, 40% heazlewoodite.
										.10	.03	2.10	300			~~R~~	X X			293'5"-294'8"- Pale green ~~rodingite~~ serpentinite dyke, F/W
																	X			contact dips at 35°. 294'8"-297'10" - Zaratite
																				mineralization as above from 290'-293'3".
																	X			297'10"-298'4"-6" zone of highly sheared but intact
													310							'A' serpentinite forming H/W contact of ~~rodingite~~ pale green serp
																~~R~~	X			dyke. 298'4" - 300'9" - Pale green ~~rodingite~~ serpentinite dyke
																				F/W contact 70°. Dyke contains sparsely disseminat
																				zaratite. F/W contact is a hairline shear with
																				zaratite staining. 305'- Minor zaratite on
													320							hle. shear of serpentine.
																				From 305' - the serpentinite contains irreg-
																~~R~~	X			ular interstitial spaces filled with white
																				grossularite.
													5							

5 cm

Drill Hole No.
Client ☐☐☐☐
St. ☐
Proj. ☐☐☐

Form S.31

SAMPEY EXPLORATION SERVICES

022

833024 Drill Hole No.__ T H D 1
Client St. Proj.

GEOLOGICAL LOG

THESEUS EXPLORATION N.L.

HEAZLEWOOD PROSPECT. PAGE 4/5.

Sampled B

Date

Logged By H.T. DUMMETT. Date 24/5/71.

FOOTAGE	PYR.	OLIVINE	BIOT	FSP	GARN (GROSS)	NICKEL	COB ALT	TOTAL SULP.	SERP	ROD	MINN	FAULT
330	±75%		±10%	±10%	5-10%				A			
340					±5%							
350											x	
360											x x	
380										R R	x	
400	50% Dark	50% Grey	5-10%	?	5-10%				B			
420											x x	
430											x	
440												

GEOLOGICAL DESCRIPTION

309'-50°-1"- ~~RODINGITE.~~ Pale green serpentinite. 309'1"-309'2"- hairline shears with zaratite staining. 309'3"-45°-½" rodingite.

322'6";322'9", 2x75°- zaratite staining on serpentine cleavages. 322'6"-3/8" ~~rodingite~~ pale green serpentinite

351'-50°-4½" ~~Rodingite~~ Pale green serpentinite dyke- with serpentinite inclusion. Both the H/W and F/W contacts are hairline shears stained by zaratite. Another hle. shear - 30°- in the dyke also zaratite stained - this staining is present in the dyke as well.

359'6"-30°, 1/8"-3/8". Pale whitish green dyke - probably grossularite - very hard.

363'9"-45°-1/16"- Serpentine veinlet plus zaratite.

364'9"-50°-1/4" " " " "

377'-45°-3/4"- Hard white gross. veinlet.

380'10" -45°-2" ~~Rodingite~~ Green serpentinite with zaratite staining

382'-401'-70°-19'. Light green, medium-green ~~Rodingite~~ Serpentinite(?) dyke with very numerous wavy and regular white and green bands intersecting - unfractured, hard, heavy. The F/W contact of this dyke is gradational.

From 401' the serpentinite(?)('B' SERPENTINITE) is coarse-grained, lighter in colour and apparently unserpentinized. Approximate compositions 50% dark rounded pyrox/olivine (up to 1 centimetre), 40% greyish brown material - bronzite(?) (Grain boundaries indistinct), 5-10% shiney brown biotite, ±5% occassional large white patches (up to 2 cm. diameter) of grossularite. Neither the fabric nor the colour of the rock throughout this section is uniform. There are patches of lighter green material or lighter grey material. This zone may represent some form of transition.

425'6"-4"-Zone of very large grossularite ~~grians~~ grains (up to 2 centimetres - also at 430'.

426', 428'-Hle. shears, 15°, zaratite staining.

436'-1/16"x2.Serpentine shears with zaratite staining. 437'6" - Hle. shear with zaratite staining.

Drill Hole No.__ Client St. Proj.

5 cm

Form S.31

833025

Drill Hole No. THD1
Client ☐☐☐☐/ St. ☐- Proj. ☐☐☐

GEOLOGICAL LOG

THESEUS EXPLORATION N.L. HEAZLEWOOD PROSPECT. PAGE 5/5

023

Sampled By Date
Logged By H.T. DUMMETT Date 24/5/71.

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS								FOOTAGE	GRAPHIC LOG	ROCK CODE				SAMPLE	GEOLOGICAL DESCRIPTION
Layering	Schistosity	Joints	Others Detail	Others Angle	PYR.	OLIVINE	BIOT	FSP.	GARN GROS						SERP	ROCD	MINN	FAULT		
													440		B					
															A					From 443' - 'A' serpentinite - change from 'B'
					±75%		±10%	±10%	±5%								X			to 'A' gradational.
																				445'6" - Shear with zaratite staining.
													450							
																				454'9" - 15° - 3/4" - Rodingite-pyrox pegmatite.
																				459'9"-30°-1/16" Shear with minor zaratite
													460				X			staining.
																				461'8" End of hole
													0							

5 cm

024

71-795

833026

— DRILLING LOG —

Client ☐☐☐☐ / St ☐ - Proj ☐☐☐

Drilling Company TRAYAN DRILLING

Drilling Machine EDECO STRATADRILL

Driller T. VICK / B. CLARK

Field Sampler HTD.

Date Commenced 28 5 1971

Date Completed 19

SURVEY DATA		
Station	Azimuth	Inclination
0	237° --'	50° 00'

Drill Hole No. TDH2

Grid Name

Northing Co-ord 5000

Easting Co-ord 1600

Bearing of hole at Collar 237 00

Inclination of hole at Collar 50 00

	Core Size	FOOTAGE From *	FOOTAGE To	Interval Drilled	Recovery Core	Recovery %	Core	DAILY	REMARKS
	NX CB	0·0	8·0	8·0	7·0				
	NM LC	8·0	20·0	12·0	12·0	100		20'	Core very broken from 0'-37'6" 28/5
	BQ	20·0	25·8	5·8	5·7	99			
x		25·8	36·4	10·6	10·6	100		31'	
		36·4	43·0	6·8	6·8	100			
		43·0	53·2	10·2	10·2	100			29/5
		53·2	75·5	22·3	22·3	100		39'	
		75·5	99·4	23·11	23·11	100			30/5
		99·4	113·2	13·10	13·10	100			
		113·2	123·3	10·1	10·1	100		40'	
		123·3	131·5	8·2	8·2	100			31/5
		131·5	149·4	17·11	17·11	100			
		149·4	157·8	8·4	7·10			35'	
		157·8	166·10	9·2	9·0				2/6
		166·10	176·6	9·8	8·8				Core loss in probably clayey gouge.
		176·6	186·8	10.2	10.2	100			
		186·8	196·2	9·6	9·6	100			
		196.2	203.4	7·2	7·0			50'	
		203·4	213·3	9·11	9·9				
		213·3	216·10	3·7	3·6				3/6
		216·10	231·10	15·0	15·0	100			
		231·10	247·1	15·3	15·2			50'	
		247·1	264·2	~~14·1~~ 17·1	~~14·0~~ 17·1	100			4/6
x		264·2	272·6	~~10·2~~ 8·4	~~10·0~~ 8·4	100			
		272·6	282·6	10·0	10·3				
		282·6	292·0	9·6	10·2	100			
x		292·0	303·3	11·5	11·0				
		303·5	316·6	13·1	12·6				
		316·6	326·6	10·0	10·0	100			
		326·6	336·8	10·2	10·2	100			
		336·8	346·4	9·8	9·8	100			
		346·4	356·4	10·0	10·0	100			
		356·4	366·6	10·2	10·2	100			
		366·6	376·8	10·2	10·2	100			
		376.8	386·10	10·2	10·2	100			
		386·10	397·0	10·2	10·2	100			
		397·0	414·0	17·0	16·8				
		414.0	424·1	10·1	10.1	100			
		424·1	434·3	10·2	10·2	100			
		434·3	444·0	9·9	9·9	100			
		444·0	449·5	5·5	5·5	100			
		449.5	464·4	14·11	14·11	100			
		464·4	474·4	10·0	10·0	100			
		474·4	484·4	10·0	9·9				
		484·4	494·6	10·2	10·2	100			

* Figure after decimal point in each column is inches not decimals of a foot.

Form S32

SAMPEY EXPLORATION SERVICES

833027

— DRILLING LOG —

Client ☐☐☐☐/☐-☐☐☐ (St, Proj)

Drilling Company TRAYAN DRILLING

Drilling Machine EDECO 36

Driller A. VICK / B. CLARK

Field Sampler HTD

Date Commenced 28 05 1971

Date Completed ☐☐ ☐☐ 19☐☐

SURVEY DATA

Station	Azimuth		Inclination	
0	237°	-- '	50°	00 '
200	- °	'	50°	'
400	- °	'	50°	'
600	- °	'	49°	'
850	- °	'	49°	'
1100	- °	'	48°	'

THESEUS EXPLORATION N.L.

Drill Hole No. TDH2

Grid Name

Northing Co-ord 5000

Easting Co-ord 1600

Bearing of hole at Collar 237 00

Inclination of hole at Collar 50 00

Core Size	FOOTAGE		Interval Drilled	Recovery		Core	REMARKS
	From	To		Core	%		
BQ	494.6	504.4	9.10	9.10	100		
	504.4	514.4	10.0	10.0	100		
	514.4	524.4	10.0	10.0	100		
	524.4	534.4	10.0	10.0	100		
	534.4	544.4	10.0	10.0	100		
	544.4	550.4	6.0	5.5			
	550.4	564.6	14.2	14.2	100		
	564.6	569.4	3.10	3.10	100		
	569.4	579.4	10.0	9.8			
	579.4	584.4	5.0	4.9			
	584.4	594.4	10.0	10.0	100		
	594.4	603.10	9.6	9.6	100		
	6o3.10	614.1?	10.3	10.3	100		
	614.1	623.0	8.11	8.11	100		
	623.0	633.2	10.2	10.2	100		
	633.2	646.8	13.6	13.6	100		
	646.8	653.1	6.5	6.5	100		← Core highly broken.
	653.1	657.2	4.1	4.1	100		
	657.2	671.0	13.0	13.9	99		
	671.0	679.2	8.2	8.2	100		
	679.2	692.0	12.10	12.10	100		
	692.0	705.3	13.3	13.0	98		
	705.3	708.3	3.0	3.0	100		
	708.3	713.0	4.9	4.7	96		
	713.0	723.0	10.0	10.0	100		
	723.0	729.0	6.0	5.10	97		
	729.0	735.4	6.4	6.4	100		
	735.4	740.6	5.2	5.2	100		
	740.6	750.7	10.1	10.1	100		
	750.7	754.0	3.5	3.5	100		
	754.0	756.0	2.0	2.0	100		
	756.0	764.6	8.6	8.6	100		
	764.6	772.0	7.8	6.4	82		
	772.0	782.4	10.4	10.4	100		
	782.4	792.6	10.2	10.2	100		
	792.6	801.4	8.10	8.10	100		
	801.4	805.4	4.0	4.0	100		
	805.4	814.4	9.0	9.0	100		
	814.4	820.6	6.2	5.11	95		
	820.6	830.8	10.2	10.2	100		
	830.8	845.6	14.10	12.0	80		
	845.6	848.0	2.6	2.6	100		
	848.0	854.4	6.4	6.4	100		
	854.4	860.0	5.8	5.8	100		
	860.0	868.10	8.10	8.10	100		

026

833028

— DRILLING LOG —

PAGE 3/3

Client ☐☐☐☐ / St ☐ - Proj ☐☐☐

Drilling Company TRAYAN DRILLING

Drilling Machine EDECO 36

Driller A. VICK / B. CLARK.

Field Sampler HTD

Date Commenced 28 05 1971

Date Completed 19

SURVEY DATA

Station Azimuth Inclination

THESEUS EXPLORATION N.L.

Drill Hole No. TDH2

Grid Name

Northing Co-ord 5000

Easting Co-ord 1600

Bearing of hole at Collar 237 00

Inclination of hole at Collar 50 00

	Core Size	FOOTAGE		Interval Drilled	Recovery		Core	REMARKS
		From	To		Core	%		
	BQ	868·10	885·4	16·6	16·6	100		
		885·4	892·2	6·10	6·10	100		
		892·2	902·4	10·0	9·11	99		
		902·4	909·9	7·5	7·1	95		
		909·9	914·2	4·5	4·5	100		
		914·2	922·0	7·10	7·10	100		
		922·0	932·2	10·2	10·2	100		
		932·2	941·0	8·10	8·10	100		
		941·0	947·0	6·0	6·0	100		
		947·0	952·2	5·2	3·5	66		
		952·2	960·0	7·10	6·5	81		
		960·0	964·4	4·4	4·4	100		
		964·4	974·4	10·0	10·0	100		
		974·4	984·4	10·0	10·0	100		
		984·4	994·4	10·0	9·9	97		
		994·4	1004·6	10·2	10·2	100		
		1004·6	1018·0	13·6	12·5	92		
DOUBLE		1018·0	1033·10	15·10	15·10	100		
TUBE		1033·10	1044·0	9·2	9·2	100		
TRIPLE		1044·0	1050·0	6·0	6·0	100		
TUBE		1050·0	1060·0	10·0	10·0	100		
		1060·0	1070·0	10·0	10·0	100		
		1070·0	1076·4	6·4	6·4	100		
		1076·4	1081·0	4·8	4·5	94		
		1081·0	1084·4	3·4	3·4	100		
		1084·4	1097·6	13·2	13·2	100		
		1097·6	1102·0	4·6	4·6	100		
		1102·0	1109·6	7·6	7·6	100		
		1109·6	1119·6	10·0	10·0	100		
		1119·6	1124·11	5·5	5·5	100		
		1124·11	1131·0	6·1	6·1	100		
		1131·0	1136·3	5·3	5·3	100		
		1136·3	1137·3	1·0	1·0	100		
		1137·3	1141·3	4·0	3·6	87		
		1141·3	1144·4	3·0	1·6	50		1144'4" EOH
TOTAL		·	·	·	·			

Form S32

SAMPEY EXPLORATION SERVICES

71-795

027

1.

833029

Drill Hole No. TDH2

Client ☐☐☐☐/ St. ☐- Proj. ☐☐☐

GEOLOGICAL LOG

THESEUS EXPLORATION N.L. DRILLING COMMENCED 28/5/71. HEAZLEWOOD PROSPECT. PAGE 1.

Sampled By Date

Logged By H.T. DUMMETT. Date 31/5/71

ANGLES: Schistosity	Joints	Others: Detail	Others: Angle	ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE: SERP	ROD	MIN	FAULT	SAMPLE	GEOLOGICAL DESCRIPTION
					0		C					'C' SERPENTINITE. Rock is medium-grained, dark olive green and composed of 100% mafic minerals - the whole serpentinized. There are no felspars or garnets as in the serpentinite in TDH 1. Surface weathering has changed the colour of the upper 8' to a khaki-green colour. Below 8' the rock becomes increasingly harder and darker olive green. Limonite (yellow-brown) coatings on shear/fracture planes is present down to 36'. Rock can be readily scratched by a blade.
					10							
					20							
					30							31'-6" zone of ± ten wavy discontinuous irregular 1/16" - 1/10" white chrysotile seams. 30°. This zone is intersected by a *younger* 1/4"-1/2" green serpentine band - 75°.
					40							
					50							
					60							
					70							From 74'6"-102'0" - rock has lightened to a dark khaki green and is intersected by numerous (three per foot) serpentine filled fractures or tension gashes filled by blue-green serpentine.
					80							
					90							98'6"-99'6"-12" zone. 3" fractured serpentinite-6" ~~Rodingite~~ pale green serp - 3" fxd. serpentinite. H/W contact 15°, F/W contact 20°.
					100							
					110							

Client ☐☐☐☐ St. ☐ Proj. ☐☐☐

5 cm

Form S.31

SAMPEY EXPLORATION SERVICES

028

833030

Drill Hole No.__ T D H
Client ☐☐☐☐ / St. ☐ - Proj. ☐☐☐

GEOLOGICAL LOG

THESEUS EXPLORATION N.L. HEAZLEWOOD PROSPECT. PAGE 2.

Sampled By ______ Date ______
Logged By H.T. DUMMETT Date 5/6/71.

ANGLES: Layering / Schistosity / Joints / Others (Detail, Angle)	ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE: SERP / ROD / MIN / FAULT	SAMPLE	GEOLOGICAL DESCRIPTION
	(See Previous Page).	110		C		'C' SERPENTINITE. Serpentinized Harzburgite. Massive, dark greenish-black; hard, good core recovery, unbroken-fabric appears consistently medium-grained but individual grains difficult to detect in some instances.
		120				
		130				
				F		135'10"-45°-3/4"- Finely fragmented material possibly fault gorge.
		140				
		150				
		160				
		170				
						173'6" - 40° - 7" Possible fault - core broken - 1' lost -
				~~R~~		174'4" - H/W 65°, F/W 60°- 6" ~~Rodingite~~ Pale green serpentinite. H/W contact is 3" sheared serpentinite.
		180				180'10"-182'2"- Zone of fractures in the serpentinite filled with massive, fibrous or semi-fibrous serpentine. Individual fractures are irregular, wavy, vary in thickness from hairline to 1/8"
		190				189'4"-50°-2" Serpentinite is a paler green colour - incipient rodingite development(?)
				~~R~~		191'4"-15°-2½". Pale greyish green ~~rodingite~~ serpentinite.
				~~R~~		195'1"-25°-13" ~~Rodingite~~ Pale green serpentinite - 3" green, 7" grey, 3" green. Contact green zone finely grained, gre zone, medium-grained.
		200				203'4"-205'7"- Broken and fragmented core.
		210				
		220				

5 cm

Client ☐☐☐ St. ☐ Proj. ☐☐☐

Form S.31

SAMPEY EXPLORATION SERVICES

833031 Drill Hole No. T D H 2
Client / St. - Proj.

GEOLOGICAL LOG

THESEUS EXPLORATION N.L.

HEAZLEWOOD PROSPECT.

PAGE 3/

Sampled By
Date

Logged By H.T. DUMMETT
Date 5/6/71.

ANGLES: Layering | Schistosity | Joints | Others: Detail, Angle

ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS

FOOTAGE | GRAPHIC LOG | ROCK CODE: SERP, ROD, MINN, FAULT | SAMPLE

GEOLOGICAL DESCRIPTION

(See Page One)

Mafics	FSP	MAG.
80-90%	5-15%	1-5%

Footage: 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 5

C

225'4"-3/4"-50°(?) - Clayey gouge, core broken over 4". Probable fault. F

231'6"-40° to 15° - 3/4"- Clayey gouge-fault.

F 232'6" (?) - 1/8"- " " "

F 237'8"-238'7". Fault Zone. Core broken over 11", approximately 8" clayey gouge. Contact of Harzburgite and felspathic harzburgite (both serpentinized) F

? X 238'9"-80°-4" - Sheared leaf-green ~~rodingite.~~ serpentinite.

A 239'1"-239'3"- Sheared Serpentinite - heavy zaratite staining. 239'3"-239'6½"-sheared green serpentinite.

X 239'6½"-241'3", F/W 75°, Pale greyish-green ~~rodingite.~~ serpentinite 241'3"-243'0" - Sheared serpentinized felspathic harzburgite with much zaratite staining as wavy hairline fracture fillings or emerald green discoloration of felspars. 243'0"-70°-5½". Green ~~Rodingite~~ serpentinite dyke with 1/4" F/W.

245'4"-246'5" Core broken.

247'2"- Minor zaratite staining.

C 252'1" - 40°-2" Pale greyish green ~~rodingite.~~ serpentinite

262'6" - 60°-3-3/4" " " "

A 264' - Felspathic harzburgite to harzburgite over ± 4" - until 269'.

269' - 1144'4" Serpentinized Felspathic harzburgite.

R 293'2"-20°-3/4" - Green ~~rodingite~~ serpentinite. with small (1mm.-7mm.) jasper red grains/inclusions-easily scratched with knife.

X 301' - Minor Zaratite staining.

301'10" - 25°-4"- Zone of 'rodingite' alteration.

R 311'6"-35°-1-1/4" Green ~~rodingite.~~ serpentinite.

326'6"-20°-2" Green ~~rodingite.~~ serpentinite

R

5 cm

Form S.31

Drill Hole No. Client St. Proj.

833032

Drill Hole No. n T D H 2
Client ☐☐☐☐ / St. ☐ - Proj. ☐☐☐

THESEUS EXPLORATION N.L.

GEOLOGICAL LOG

HEAZLEWOOD PROSPECT. PAGE 4/

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE				SAMPLE
Layering	Schistosity	Joints	Others Detail	Others Angle				SERP	ROD	MINN	FAULT	

Sampled By Date

Logged By H.T. DUMMETT Date 6/6/71.

GEOLOGICAL DESCRIPTION

330 — SERP: A — (See Previous Page)

340

340'6"-30°-±1/8" - Serpentinite filled veinlet. The harzburgite serpentinite in a ½" zone (envelope) adjacent to this veinlet is finer-grained than the normal fracture.

350

346'6"-346'10"-45°- Fractures with zaratite staining.

346'10" - H/W 30°, F/W 80°-4" and parallel to core - grey green rodingite.

360

Harzburgite (serpentinite) contains occassional large (up to 2 cm.) garnet blebs.

370

376'4"-75°-1"- Green grey ~~rodingite~~. serpentinite.

380

381'3"-70°- Hairline zaratite staining.

381'4"-±80°-8"- Grey serpentinite ~~rodingite~~. Some fibrous serpentine veinlets developed (1/8") in the pale serpentinite ~~rodingite~~ i.e. serpentinization is post pale serpentinite ~~rodingite~~ intrusion.

390

392'10"-80°-3'11". Grey serpentinite ~~rodingite~~ - F/W contact highly sheared.

400

401'6"- F/W 30°, H/W indefinite - Grey serpentinite. ~~rodingite~~.

410

420

430

435'11"-436'6" - F/W 45° - Garnet ~~Gamet~~ Zone. — ROD: G

5

Drill Hole No. ☐
Client ☐
St. ☐
Proj. ☐

031

833033

Drill Hole No. TDH 2
Client ☐☐☐☐ / St. ☐ - Proj. ☐☐☐

GEOLOGICAL LOG

THESEUS EXPLORATION N.L. HEAZLEWOOD PROSPECT. PAGE 5/

Sampled By Date
Logged By H.T. DUMMETT Date 16/6/71.

FOOTAGE	ROCK CODE	GEOLOGICAL DESCRIPTION
440		
	G	444' -8" - sub parallel to core thickness
	—	indefinite - garnet zone. Possibly the same
	G	zone from 445'8"-447'9".
450		
		456'1"-45°-2½" - Grey ~~rodingit~~e. serpentinite.
	R	456'7"-F/W±90°, H/W 45° - 2" - Grey ~~rodingit~~e. serpentinite.
460		
		Serpentinite is not typically serpentinized
		felspathic harzburgite - probably close to a
		serpentinized bronzitite.
470		
480	G	480'4"-4" - Contacts indefinite - Garnet zone.
490		
500		
510		509'-60°-3½" - Possible ~~rodingit~~e grey serpentinite altered zone
		- rather indistinct grey discoloration of serpentin
		-ite.
520		
	G	525' - Contacts indefinite - 4" - Garnet zone.
530		
		535'3"-30°-1" - garnet zone.
		539'9"-40°-3" - Carnet zone.
540	P	540'4"-549'9" - H/W ±45° - F/W sheared
		serpentinized medium-grained, leaf green
		pyroxenite.
		548'4"-550' Very soft, broken, friable
5		with clay-filled fractures.

5 cm

032

833034

Drill Hole No.___ T H D 2
Client ☐☐☐☐/ St. ☐- Proj. ☐☐

GEOLOGICAL LOG

THESEUS EXPLORATION N.L.

HEAZLEWOOD PROSPECT.

PAGE 6/

Sampled By Date

Logged By H.T. DUMMETT Date 16/6/71.

ANGLES: Layering	Schistosity	Joints	Others: Detail	Angle	ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE: SERP	RODG	MINL	FAULT	SAMPLE	GEOLOGICAL DESCRIPTION
						550		A	GR				550'4" - Contacts indefinite - 2" -Garnet Zone.
													550'4" - 552'9" - Grey-coloured serpentinite
													~~rodingite (?)~~
						560							
													560'-564'6" - Core very broken by fracture zone.
													up to 3/4" wide, parallel to core axis.
													Fracture filling, serpentine and calcite.
						570							
						580							
													582'3"-25°-1½" -Garnet Zone.
									G				
						590			G				589'4"- Contacts indefinite - ±2" -Garnet Zone.
													595'5"-599'4" Core broken, numerous 1/16"-3/8"
													serpentine filled fractures.
						600							
													601'4"-603'10" Core broken - numerous
													serpentine filled fractures.
													604'7"-605'6", 1½",½",½"-1½"-~~gamet~~ garnet. zones.
						610							
													615'8"-617'9" - Core broken and fractured.
						620							
													622'8"-623' - Broken and fractured core.
													623'-623'11" - Hairline serpentine shears and
													garnets.
									G				625'9"-50°-1½"-garnet zone.
													626'2"-45°-4½" " "
						630							626'10"-50°-1/8" - Calcite filled fractures.
													WATER LOSS.
													627'8"-45°-1" -garnet zone.
													629'- ? -3" - " "
													635'3"-637'6" - Core very broken, friable, some
						640							~~gametiferous~~ garnetiferous material.
													Muchgarnet in the core to 644'8".
													646' - Fracture sub-parallel to core-at least 1"
													wide with fragments of serpentinite in fracture
													cemented by white calcite.
						650							646'8½"- Core very broken - much fracturing
													fracture filling serpentine - to 657'2".
						660							

5 cm

Client ☐☐☐☐ St. ☐ Proj. ☐☐☐

033

7.

833035

Drill Hole No. TDH 2
Client ☐☐☐☐/☐-☐☐☐ St. Proj.

THESEUS EXPLORATION N.L.

GEOLOGICAL LOG

HEAZLEWOOD PROSPECT. PAGE 7/11.

Sampled By Date
Logged By H.T. DUMMETT. Date 1/7/71.

ANGLES: Layering | Schistosity | Joints | Others: Detail, Angle
ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS | GRAPHIC LOG | ROCK CODE | SAMPLE

FOOTAGE	GEOLOGICAL DESCRIPTION
660	660-661'4" Broken core.
	662'2" - F/W 30° - 5" - Garnet zone.
	668'4" - ±25°- 4" Garnet zone.
670	Thinner garnet zones, 1" to 1½" do occur in the interval 662'-668'.
680	680'8"-698'4" - Serpentinized medium-grained greyish green and grey pyroxenite.
690	
	699'11"-45°-10". Medium-grained, light-green garnetized zone with 2½" coarse-grained garnet zone on F/W.
700	700'4"-35°-1½". Zone with 3/4" garnet core and greyish green pyroxenitic (?) outer zones. From 700'4" garnet forms 5-20% of the rock composition - to 710'.
710	710'-715'6" Serpentinized Harzburgite.
	715'6"-720'6" Garnet zone.
720	720'6"-772'2" Greenish-grey, coarse-grained serpentinized pyroxenite.
730	
	735'4"-739'3" Garnet zone.
740	740'6"-743'7" Garnet zone.
	748'3"-750'8" Garnet zone.
750	
	757'-759'9" - Medium-grained grey pyroxenite
760	761'7"-762'9" Garnet zone.
770	

Drill Hole No. Client ☐ St. ☐ Proj. ☐

5 cm

034

Drill Hole No. TDH2

833036 ☐☐☐☐/☐-☐☐☐
Client St. Proj.

THESEUS EXPLORATION N.L. GEOLOGICAL LOG HEAZLEWOOD PROSPECT. PAGE 8/11.

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE	SAMPLE	Sampled By / Date
			Others							Logged By H.T. DUMMETT Date 1/7/71.
Layering	Schistosity	Joints	Detail	Angle						GEOLOGICAL DESCRIPTION

770

772'2"-793'6". Greyish brown, medium to coarse-grained pyroxenite. Approximate composition 25% white grossularite garnet, 75% brownish-grey pyroxene. Over last 4'9" large (up to 1 cm.) garnet grains.

780

790

793'6"-794'9" Grey medium-to coarse-grained pyroxenite (serpentinized).

794'9"-812'6" Medium-grained, equigranular, grey serpentinized. pyroxenite.

800

806'5"-807'7" Pyroxenite with dark-coloured inclusions approximately 1"x2" which are sub-parallel to each other.

810

812'6"-836'5"- Coarse-grained, garnetiferous, serpentinized pyroxenite.

820

830

835' Core very broken.

836'5"-838'7" Dark coloured (blackish) coarse-grained serpentinized harzburgite.

840

838'7"-847'. Fine to medium grained, hard grey pyroxenite.

847'0"-867'10" Grey pyroxenite as above from 794'-812'6".

850

851'6"-40°-3" Garnet zone.

852'5"-1" garnet zone on side of core.

852'10"-50°-2" Garnet zone.

860

860'-861'10" - Garnet zone.

867'10"-881'. Black serpentinized harzburgite.

870

880

☐☐☐ Client ☐ St. ☐☐☐ Proj.

Form S.31

SAMPEY EXPLORATION SERVICES

035

833037

Drill Hole No. TDH2

Client ☐☐☐☐/ St. ☐- Proj. ☐☐☐

THESEUS EXPLORATION N.L. GEOLOGICAL LOG HEAZLEWOOD PROSPECT. PAGE 9/11.

Sampled By Date

Logged By H.T. DUMMETT Date 1/7/71.

ANGLES: Schistosity | Joints | Others: Detail, Angle

ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS

FOOTAGE | GRAPHIC LOG | ROCK CODE | SAMPLE

FOOTAGE: 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990

GEOLOGICAL DESCRIPTION

881'-895'8" Grey, equigranular, medium-grained serpentinized pyroxenite. Contact with harzburgite sub-parallel to core from 881'-882'.

885'4"-886'4" Hard, dark grey, banded zone. F/W contact 65°. Bands dark grey and dark greenish-grey.

892'2"-55°-1". Garnet biotite zone.

895'8"-909'11". Dark greyish black coarse-grained serpentinized pyroxenite-bronzitite (?)

900'5"-903' Much interstitial garnet.

909'11"-55°-1½" Garnet zone.

910'1"-912". Medium-grained equigranular pyroxenite.

912'-45°-1-1/4". Garnet zone.

912'969'4". Black serpentinized harzburgite.

914'2"-916'. Zone of abundant leaf-green interstitial serpentine and irregular wavy veinlets of serpentine.

918'10"-920'4". Greyish-green pyroxenitic zone.

929'2"-65°-1½". Garnet zone.

934'7"-60°-1". Garnet zone.

936'6"-60°-1½". Grey alteration zone.

943'9"-65°-3/4". Garnet zone.

947'-6". Broken core.

948'6"-40°-3/4". Garnet zone.

953'8"-55°-4" - White quartz vein with fine to medium-grained dark inclusion (serp?).

4" on F/W of quartz vein is grey-green medium-grained pyroxenite.

953'-959'- Core broken, core loss, PY.

959'2"-960"-70°. Massive white quartz with three small (1CM.) serpentinite inclusions.

969'4"-75°-970'8" - Medium-grained grey serpentinized pyroxenite.

973'-974' - Medium-grained grey equigranular pyroxenite F/W 4" sheared serpentinite (harzburgite).

974'4"-H/W 65° to left, F/W 70° to right 4" garnet zone.

978' F/W 50° H/W 40°-3 bifurcating and joining garnet zones, 3/4", 1", ½".

978'9"-980'6"-6". Irregular and bifurcating garnet zones.

Client ☐☐☐☐ St. ☐ Proj. ☐☐☐

5 cm

Form S 31

833038

Drill Hole No. Client T D H 2 St. Proj.

036

THESEUS EXPLORATION N.L.

GEOLOGICAL LOG

HEAZLEWOOD PROSPECT. PAGE 10/11.

Sampled By Date

Logged By H.T. DUMMETT Date 1/7/71.

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE	SAMPLE	GEOLOGICAL DESCRIPTION
Layering	Schistosity	Joints	Others							
			Detail	Angle						
						990				From 990'10"-±1007' There are numerous irregular zones of grey alteration - ~~possible rodingite development~~.
						1000				999' - 45°-½". Garnet zone.
										1008'9"-80°-1/4". Garnet zone.
						1010				
										1017'3"-60°-2½". Grey equigranular pyroxenite with 3/8" garnet zone on F/W, 20°.
						1020				
										1024'5"-60°. Whitish-grey medium-to coarse-grained garnetiferous pyroxenite. F/W contact 3/4" garnet zone 55°, to 1027'8".
						1030				1030'2"-65°-8". Grey ~~rodingite~~ serpentinite alteration zone.
										1037'1" - 80° - 3/4" Garnet zone.
						1040				1040'-1040'10" Diffuse garnet zone.
										1041'8"-35°-1" Garnet zone.
						1050				
										1055'6"-60°-½" Garnet zone.
						1060				
										1061'5"-40°-½" Garnet zone.
										1062'4"-H/W 40°, F/W 55°, 1" Garnet zone.
										1064'11"-60°-½" Garnet zone.
										1065'8"-40°-1-1/4" Garnet zone.
						1070				1066'8"-40°-½" " "
										1067'9"-45°-½" " "
										1075'4"-1075'10" Irregular garnet zones.
										1077'5"-65°-3½" Greyish-green vein with hard black serpentinite inclusion.
						1080				1081' - 1081'9" Hard zone of sheared green and grey serpentinite.
										1083'6"-80°-1" Garnet zone.
										1085'9"-40°-3/4" " "
										1086'6"-1087'4" Diffuse garnet zone.
						1090				1088'4"- 65°-1½" Garnet zone.
										1088'4"-18" Broken core.
										1092'9"-50°-1-1/4" Garnet zone.
										1093'8" - F/W 80° - 7" Garnet zone.
						5				1096'4" - H/W 30°, F/W 50°, 4½" Garnet zone.

5 cm

Client ☐☐☐☐ St. ☐ Proj. ☐☐☐

Form S.31

SAMPEY EXPLORATION SERVICES

03

833039

Drill Hole No. T D
Client ☐☐☐☐/St. ☐-Proj. ☐☐

THESEUS EXPLORATION N.L. GEOLOGICAL LOG HEAZLEWOOD PROSPECT. PAGE 11/11.

ANGLES					ESTIMATED ABUNDANCE OF MINERALS AND/OR READINGS	FOOTAGE	GRAPHIC LOG	ROCK CODE	SAMPLE
Layering	Schistosity	Joints	Others: Detail	Others: Angle					

Sampled By   Date

Logged By H.T. DUMMETT   Date 2/7/71.

GEOLOGICAL DESCRIPTION

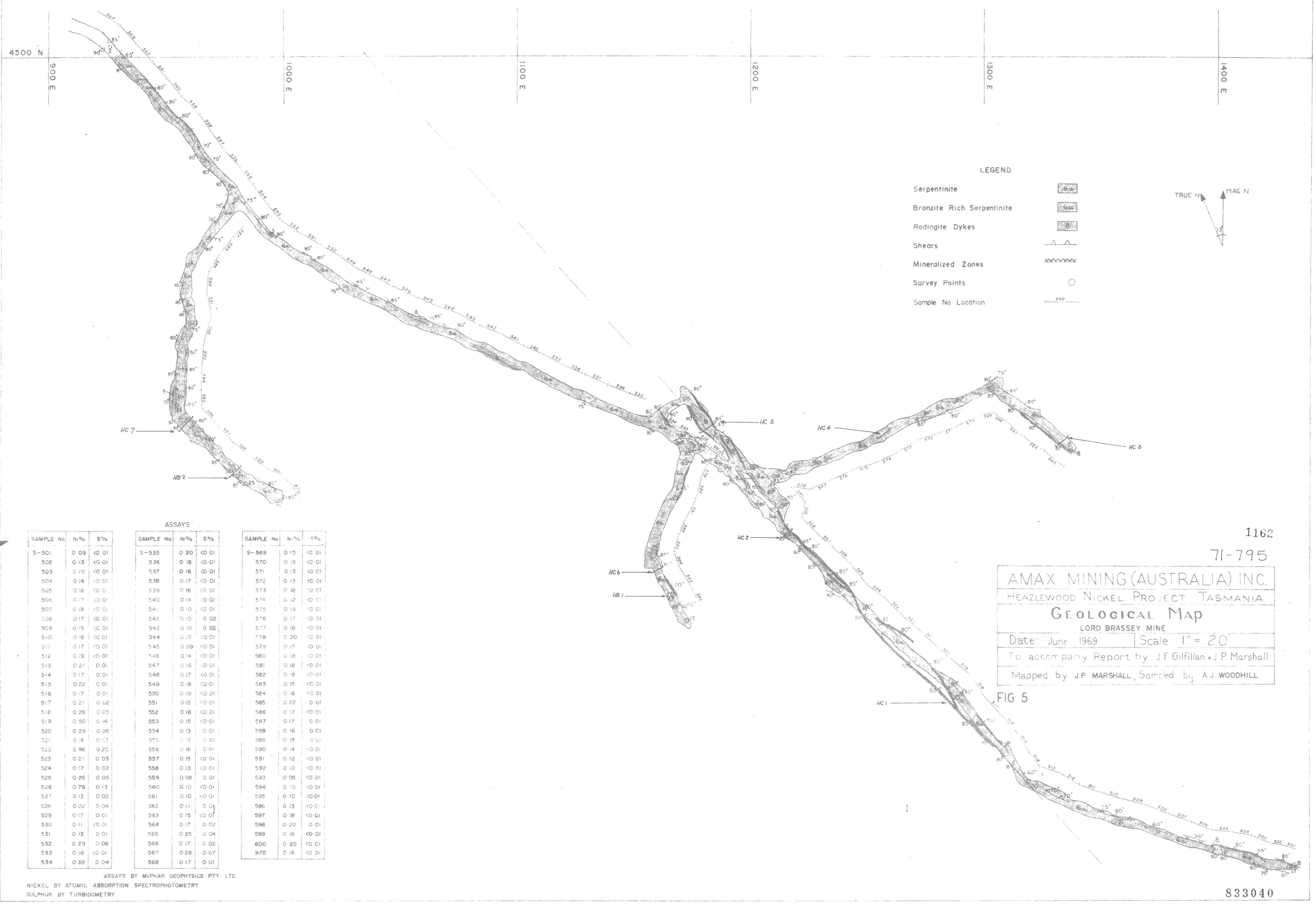
1100
1098'4"-60°-2" Garnet zone.
1099'3" F/W 30° - 10° Garnet zone.
1101' - Garnet zone up to 1½" wide - in places sub parallel to core - irregular.
1105'7" H/W 80° to 1109'6"-Grey to greenish fine
1110
to medium-grained serpentinized pyroxenite. F/W 60

1118'10" - 60°-2" Grey pyroxenite - these grey
1120
pyroxenites may represent some form of alteration.
1119' - 3½" - Contacts indefinite - zone of pink-
brown material - easily scratched - possibly
siderite.
119'4" - 1123'9"-F/W 10° Garnet Zone.
1131'6"-85°-1-3/4" Garnet Zone.
1130
1136'7" - 50° - 3/8" " "
1137'6" - 65° F/W - 2" "
1138'2" - 70° - ½" " "
1138'8" - 60° - 2" " "
1139'8" - 35° - 5" " "
1140

From 1141'3" to 1144'4" - Garnet zone,
EOH. 1144'4"
badly broken core, core loss.

E.O.H. 1144'4".

5 cm



1162

71-795

AMAX MINING (AUSTRALIA) INC.

HEAZLEWOOD NICKEL PROJECT TASMANIA

GEOLOGICAL MAP

LORD BRASSEY MINE

Date: June 1969 | Scale 1" = 20'

To accompany Report by J F Gilfillan + J P Marshall

Mapped by J.P MARSHALL, Sampled by A J. WOODHILL

FIG 5

ASSAYS

SAMPLE No.	Ni%	S%
S-501	0·09	<0·01
502	0·13	<0·01
503	0·10	<0·01
504	0·14	<0·01
505	0·18	<0·01
506	0·17	<0·01
507	0·19	<0·01
508	0·17	<0·01
509	0·19	<0·01
510	0·16	<0·01
511	0·17	<0·01
512	0·19	<0·01
513	0·21	0·01
514	0·17	0·01
515	0·22	0·01
516	0·17	0·01
517	0·21	0·02
518	0·28	0·05
519	0·50	0·14
520	0·29	0·06
521	0·19	0·03
522	0·96	0·20
523	0·21	0·03
524	0·17	0·02
525	0·25	0·05
526	0·78	0·13
527	0·12	0·02
528	0·20	0·04
529	0·17	0·01
530	0·11	<0·01
531	0·13	0·01
532	0·29	0·06
533	0·18	<0·01
534	0·39	0·04

SAMPLE No.	Ni%	S%
S-535	0·20	<0·01
536	0·19	<0·01
537	0·16	<0·01
538	0·17	<0·01
539	0·16	<0·01
540	0·14	<0·01
541	0·10	<0·01
542	0·10	0·02
543	0·10	0·02
544	0·15	<0·01
545	0·09	<0·01
546	0·14	<0·01
547	0·16	<0·01
548	0·17	<0·01
549	0·18	<0·01
550	0·19	<0·01
551	0·15	<0·01
552	0·16	<0·01
553	0·15	<0·01
554	0·13	0·01
555	0·12	0·01
556	0·16	0·01
557	0·15	<0·01
558	0·13	<0·01
559	0·08	0·01
560	0·10	<0·01
561	0·10	<0·01
562	0·11	0·01
563	0·15	<0·01
564	0·17	0·02
565	0·25	0·04
566	0·17	0·02
567	0·28	0·07
568	0·17	0·01

SAMPLE No.	Ni%	S%
S-569	0·15	<0·01
570	0·15	<0·01
571	0·13	<0·01
572	0·13	<0·01
573	0·18	<0·01
574	0·12	<0·01
575	0·19	<0·01
576	0·17	<0·01
577	0·18	<0·01
578	0·20	<0·01
579	0·17	<0·01
580	0·18	<0·01
581	0·18	<0·01
582	0·18	<0·01
583	0·15	<0·01
584	0·16	<0·01
585	0·22	0·01
586	0·17	<0·01
587	0·17	0·01
588	0·16	0·01
589	0·15	0·01
590	0·14	<0·01
591	0·12	<0·01
592	0·10	<0·01
593	0·05	<0·01
594	0·10	<0·01
595	0·10	<0·01
596	0·13	<0·01
597	0·18	<0·01
598	0·20	0·01
599	0·18	<0·01
600	0·20	<0·01
970	0·16	<0·01

ASSAYS BY McPHAR GEOPHYSICS PTY. LTD.

NICKEL BY ATOMIC ABSORPTION SPECTROPHOTOMETRY

SULPHUR BY TURBIDOMETRY

833040

71-795

THESEUS EXPLORATION N.L.

-HEAZLEWOOD PROSPECT-
N.W. TASMANIA

PLAN AND SECTION OF DRILL HOLES

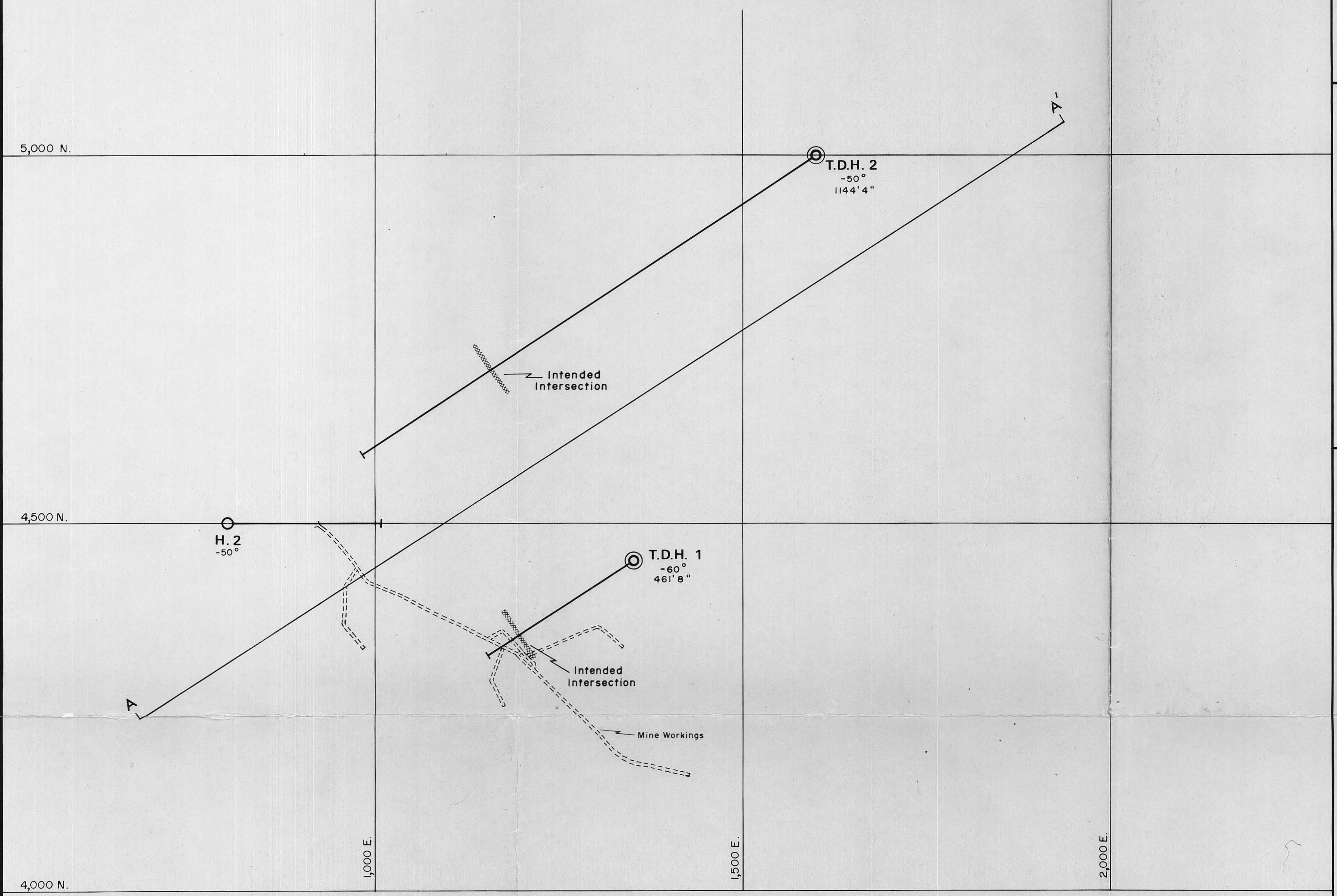
1161

833041

5 cm

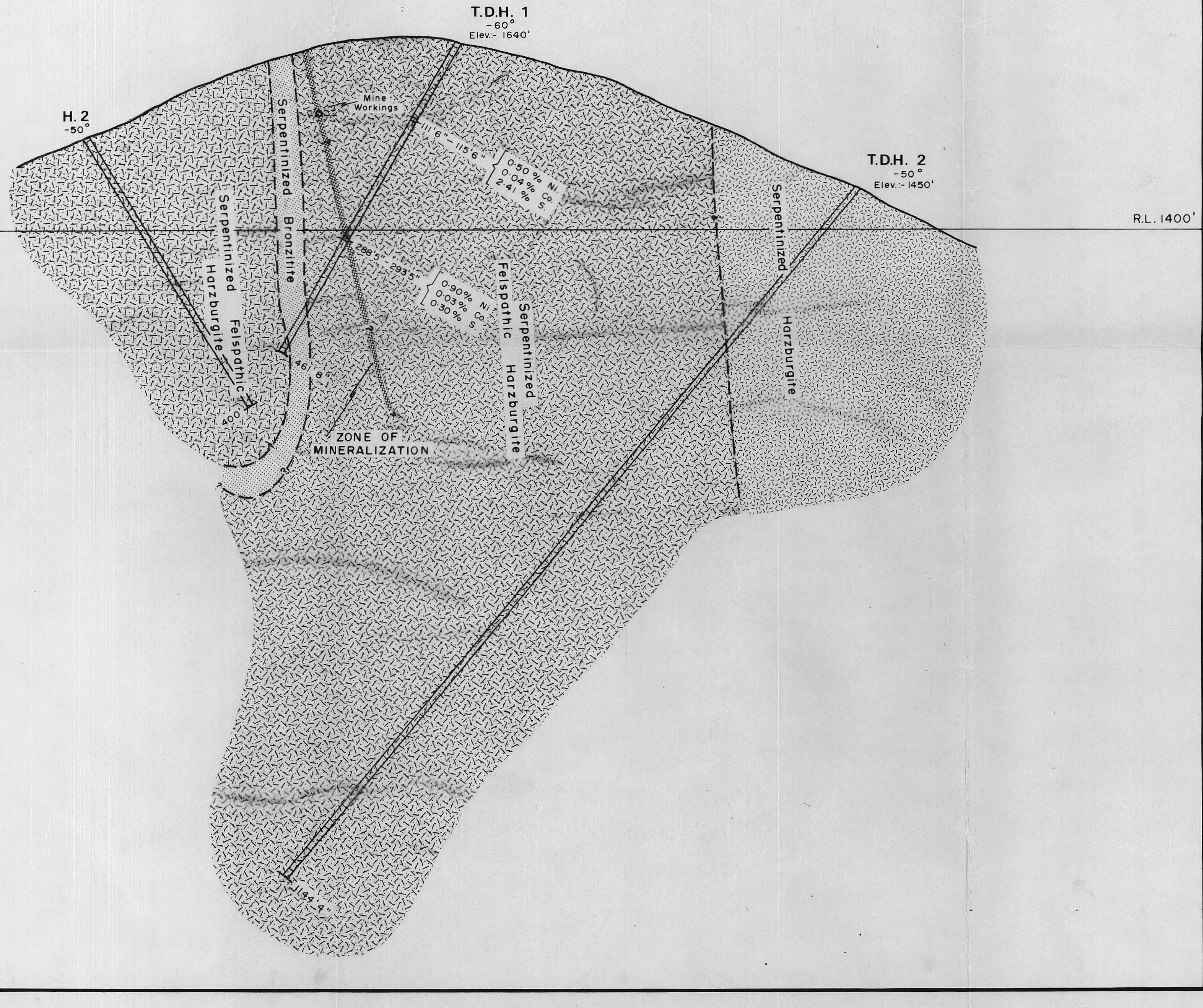
-PLAN OF DRILL HOLES-

AZIMUTH W. 33° S.



-DRILL HOLES T.D.H. 1, T.D.H. 2 & H. 2 (AMAX)-

SECTION A - A' ORIENTED 237° T.

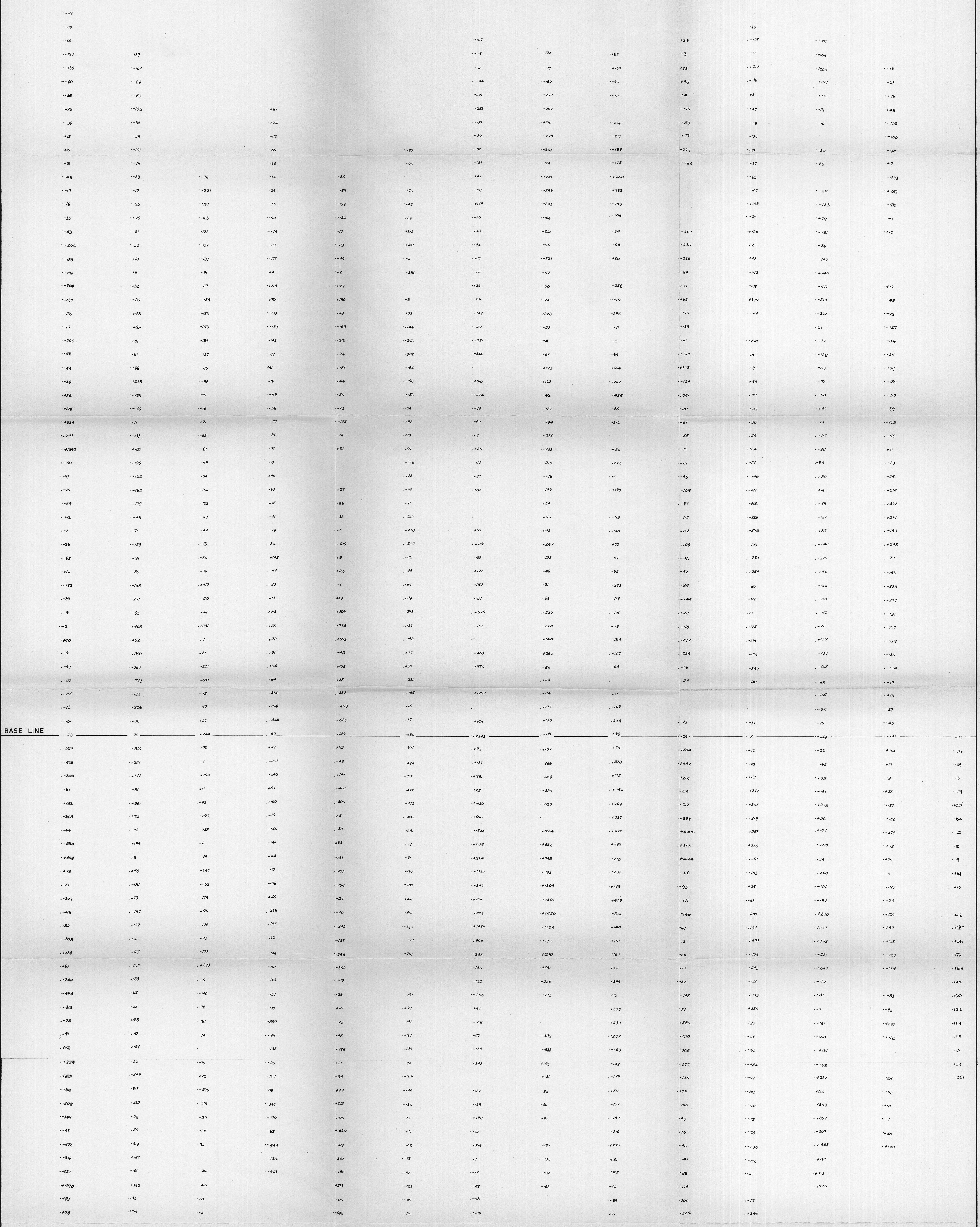


Approved by :-
Date :-

Drawn by :- S.R.M.
Date :- 23.8.71

Scale :- 100' = 1"

Plan Nº :-



71-795

THESEUS EXPLORATION N.L.

HEAZLEWOOD PROSPECT
N.W. TASMANIA

RESIDUAL NICKEL COMPONENT
STATION VALUES

5

1167
833042

5 cm

Approved by:-
Date:-

Drawn by:-
Date:- 11-3-71

Scale:- 250' = 1"

Plan No:- HWD. 5

71-795

THESEUS EXPLORATION N.L.

6

HEAZLEWOOD PROSPECT
N.W. TASMANIA

RESIDUAL NICKEL COMPONENT CONTOURS

INTERVAL +200 p.p.m.

833043

1168

1168

5 cm

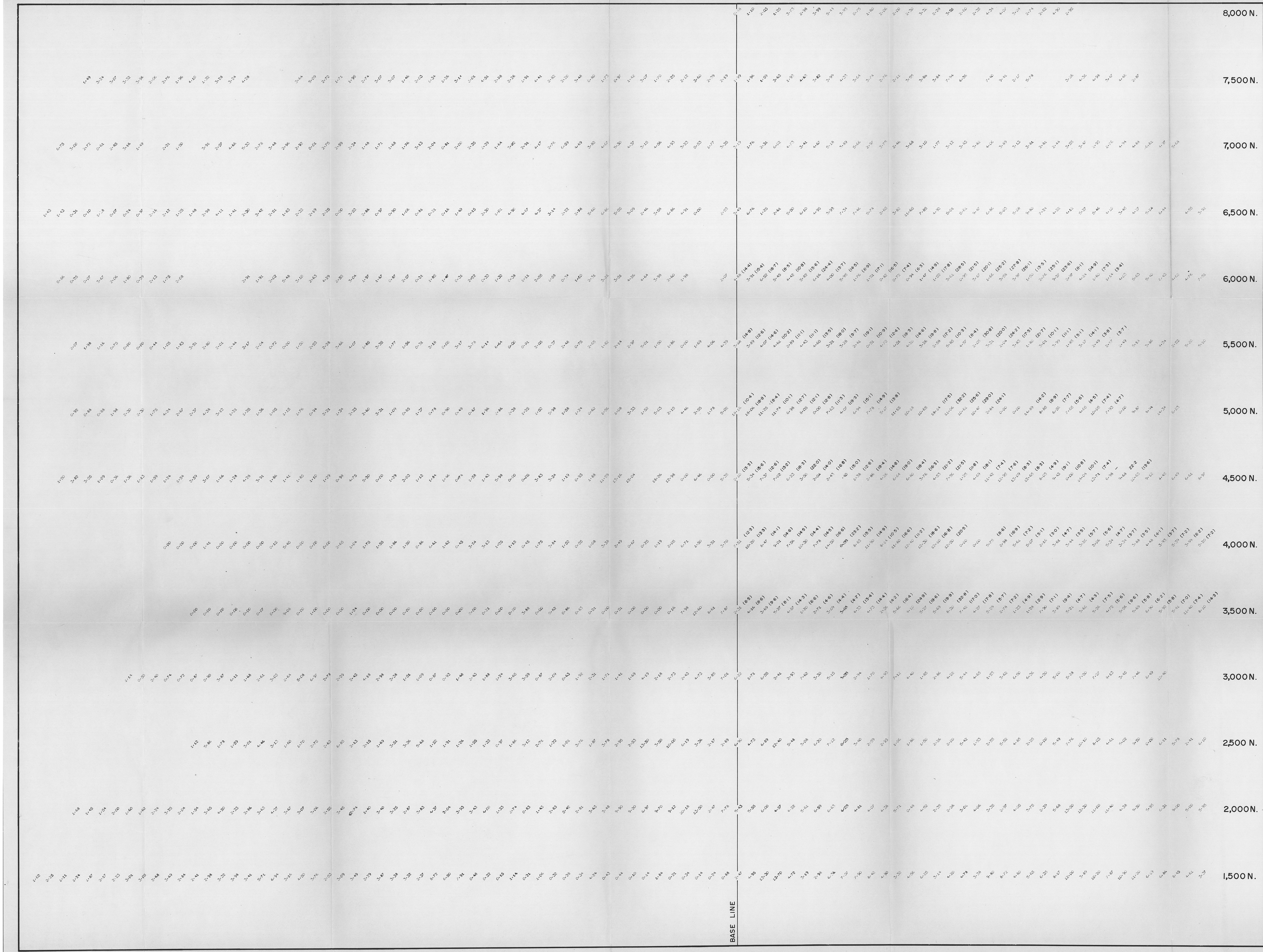
NOTE :-
Negative residuals not contoured

Approved by :- Date :-

Drawn by :- Date :- 11-3-71

Scale :- 250' = 1"

Plan Nº :- HWD. 6



71- 795

THESEUS EXPLORATION N.L.

5 cm

3

1165

HEAZLEWOOD PROSPECT
N.W. TASMANIA

IRON CONCENTRATION IN SOILS
(%)

833044

LEGEND

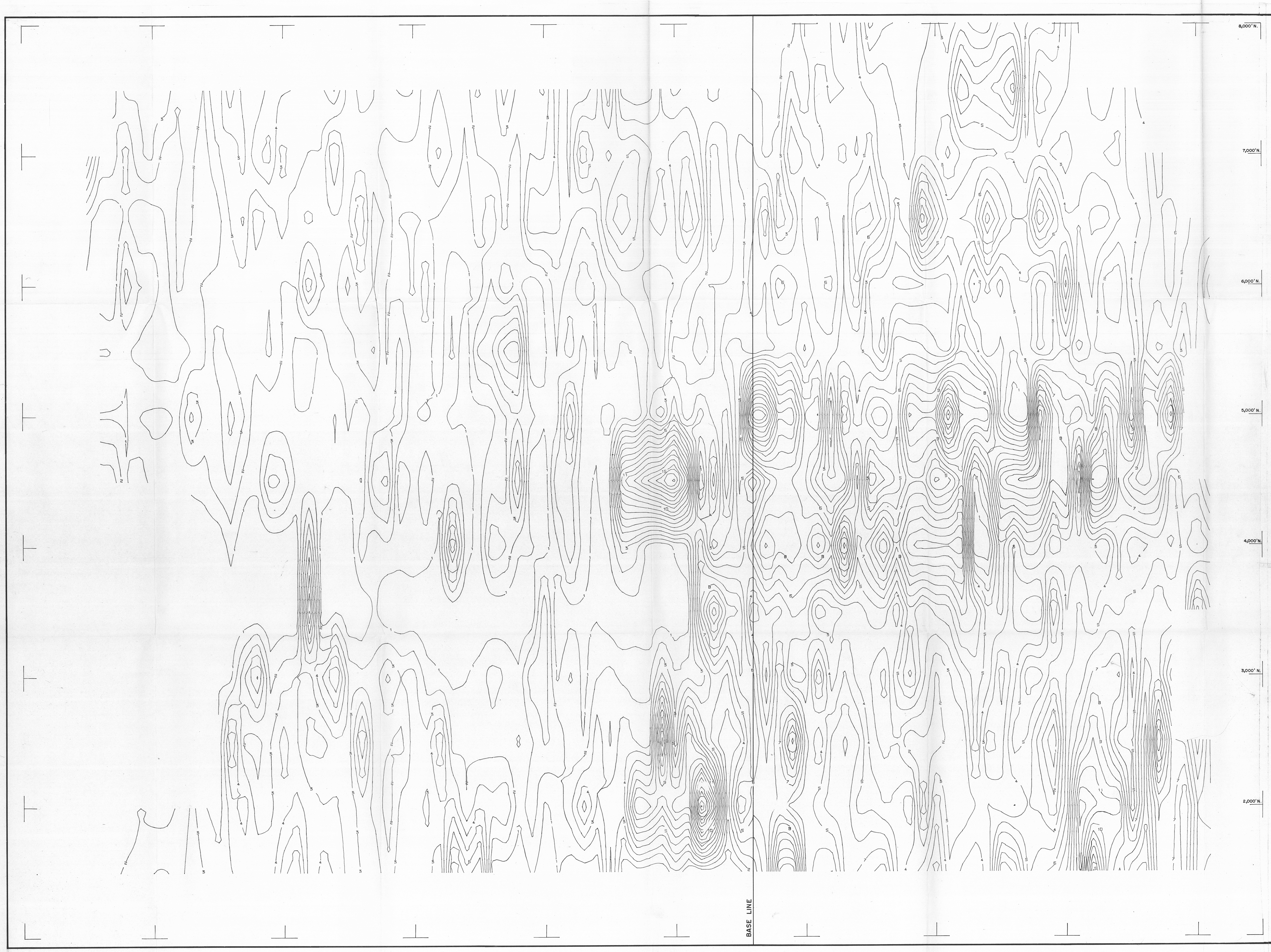
3·17	Original assay by Perchloric Acid
(10·8)	Reassay by Perchloric-Nitric Acid

Approved by :- Date :-

Drawn by :- Date :-

Scale :- 250' = 1"

Plan Nº :- HWD. 3



71-795

THESEUS EXPLORATION N.L.

8,33045

5 cm

1166

HEAZLEWOOD PROSPECT
N.W. TASMANIA

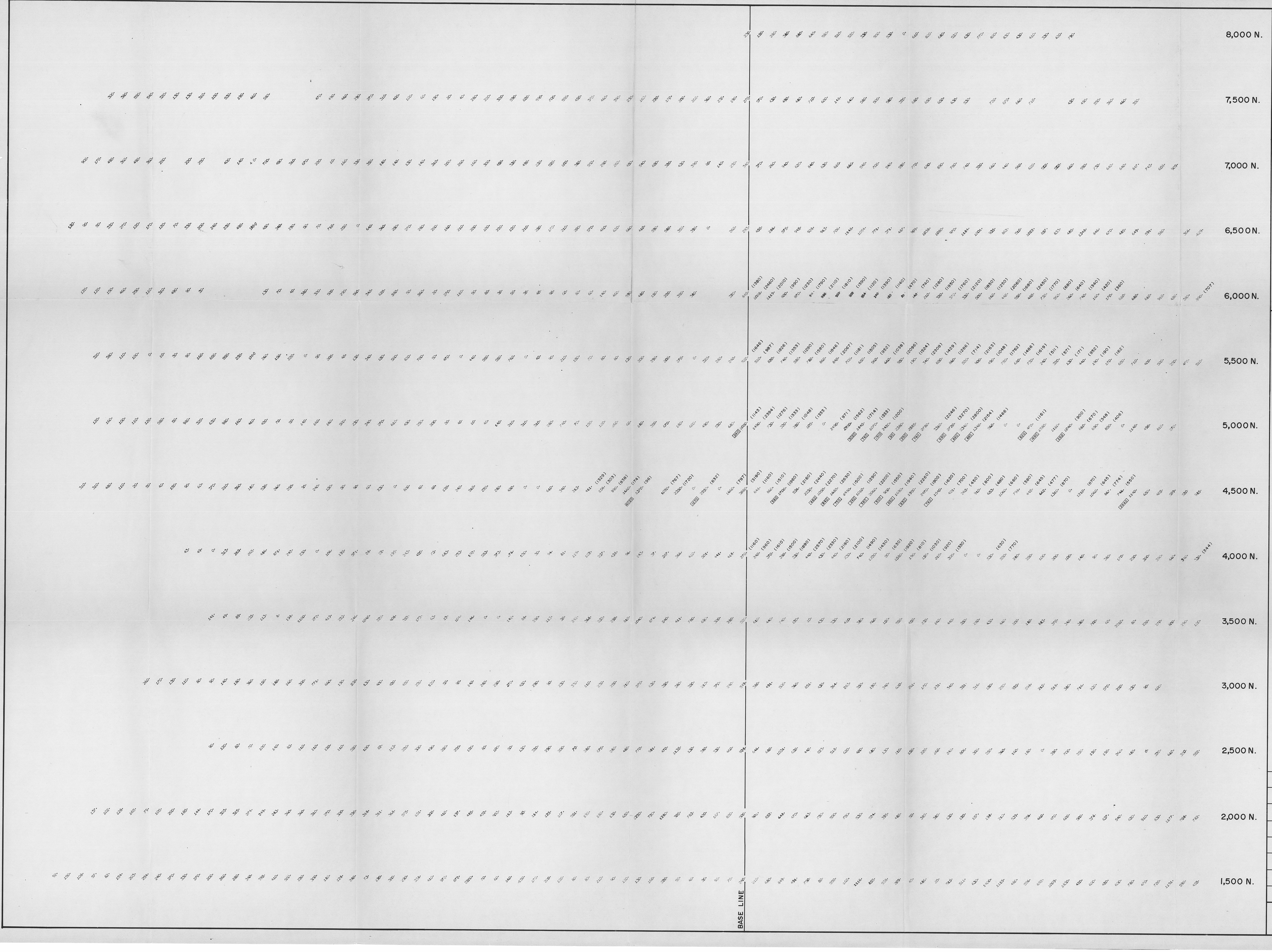
IRON CONCENTRATION CONTOURS
INTERVAL 1%

Approved by :- Date :-

Drawn by :- Date :-

Scale :- 250' = 1"

Plan Nº :- HWD. 4



71-795

THESEUS EXPLORATION N.L.

5 cm

833046

1163

HEAZLEWOOD PROSPECT
N.W. TASMANIA

NICKEL CONCENTRATION IN SOILS
(p.p.m.)

LEGEND

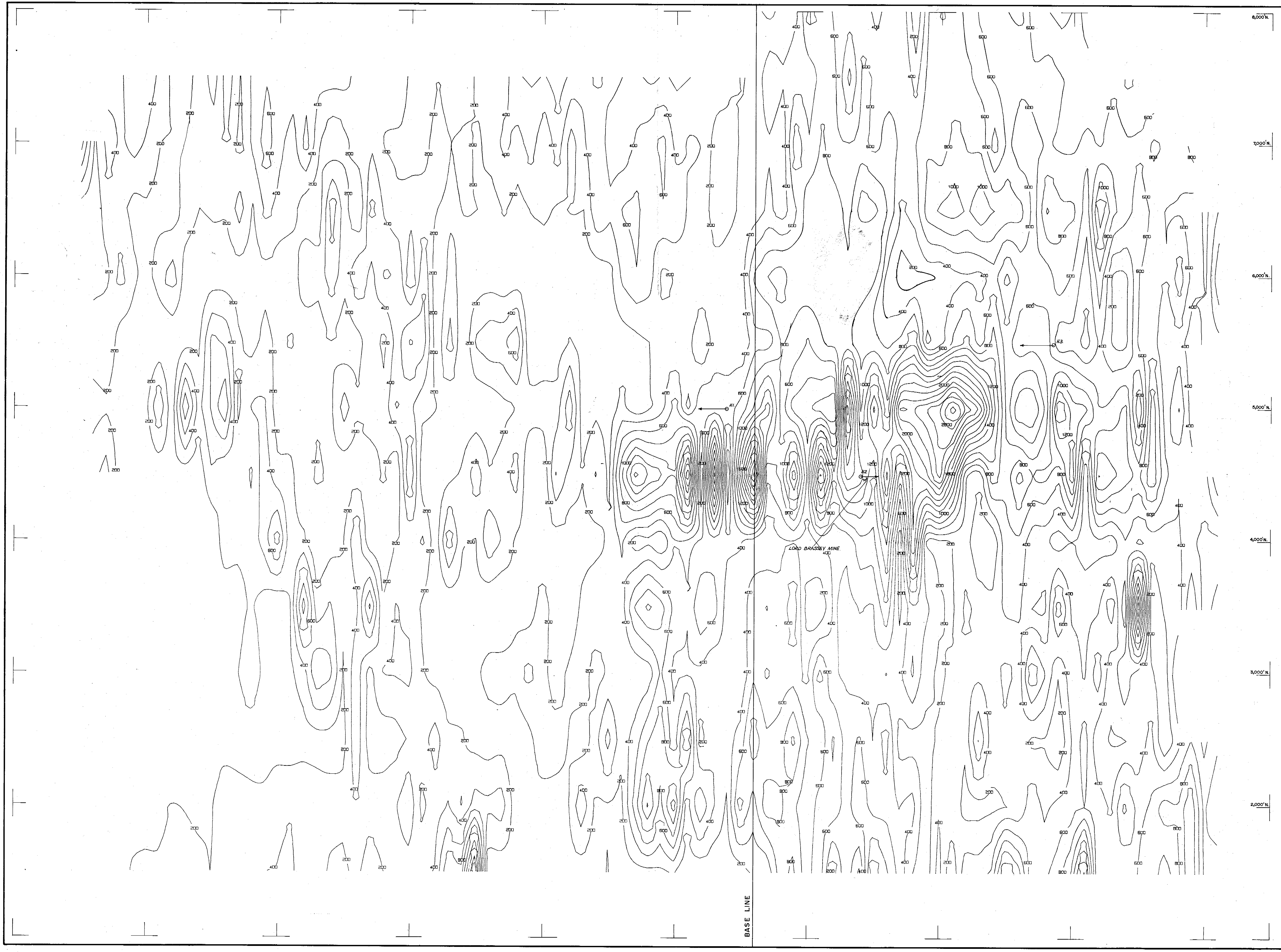
348	Original assay by Perchloric Acid
(1340)	Reassay by Perchloric-Nitric Acid
$\boxed{1040}$	Sulphate ($SO_4^=$) concentration (p.p.m.) Lower limit of detection = 100 p.p.m.

Approved by :- Date :-

Drawn by :- Date :-

Scale:- 250' = 1"

Plan Nº :- HWD. 1



833047 71-795

THESEUS EXPLORATION N.L.

1164 2

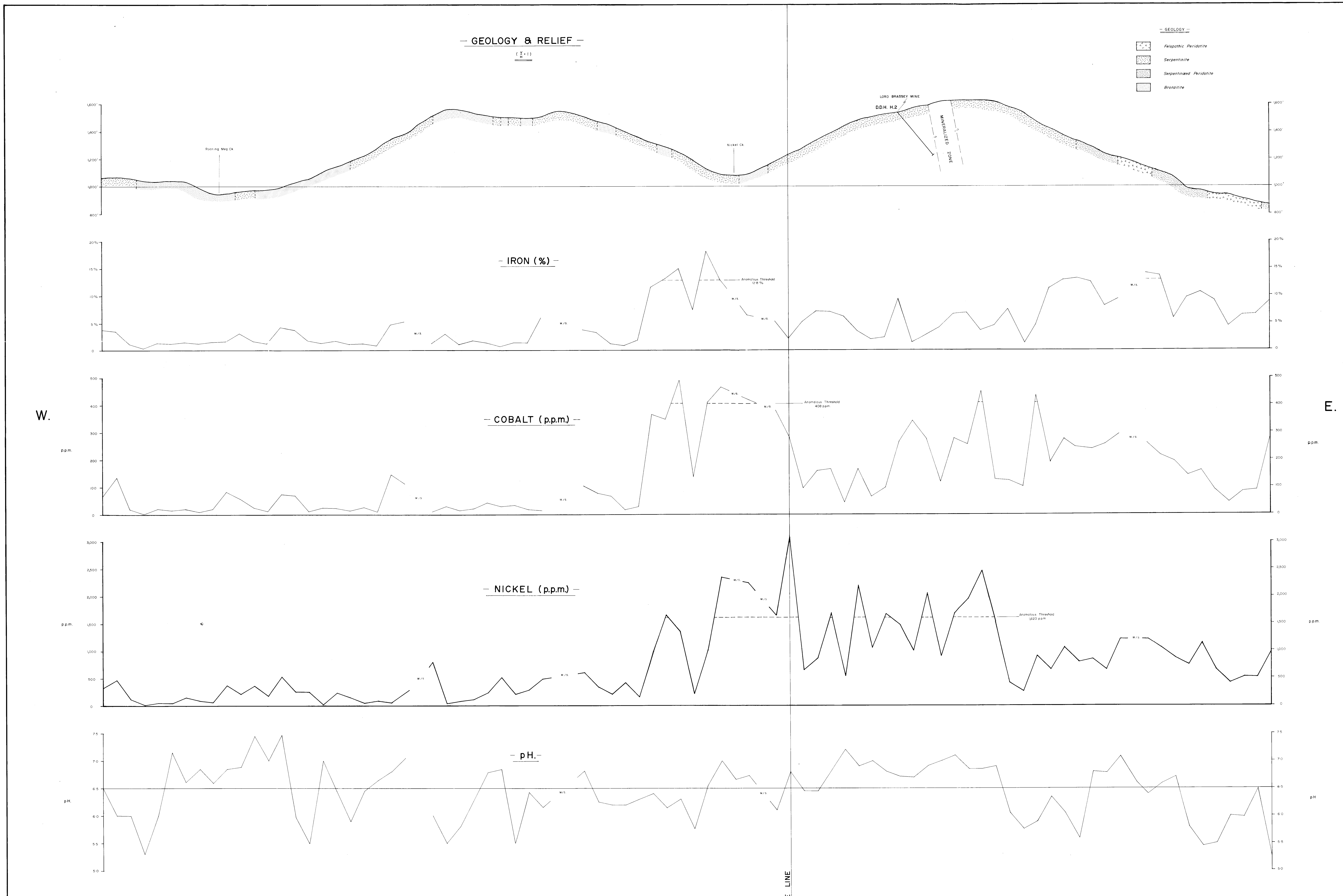
HEAZLEWOOD PROSPECT
N.W. TASMANIA

NICKEL CONCENTRATION CONTOURS
INTERVAL 200 p.p.m.

5 cm

Approved by :-	Date :-
Drawn by :-	Date :-
Scale :- 1" = 250'	

Plan Nº :-
HWD. 2



NOTE :-

M./S. stands for Missing Sample

1164

833048 71-795

THESEUS EXPLORATION N.L.

7

HEAZLEWOOD GROUP
N.W. TASMANIA

Geological, Topographic & Geochemical Profiles
Line 4,500 N.

1169

5 cm

Approved by :- Date :-

Drawn by :- S.R.M. Date :- 4-3-71

Scale :- 1" = 200'

Plan Nº :- HWD 7

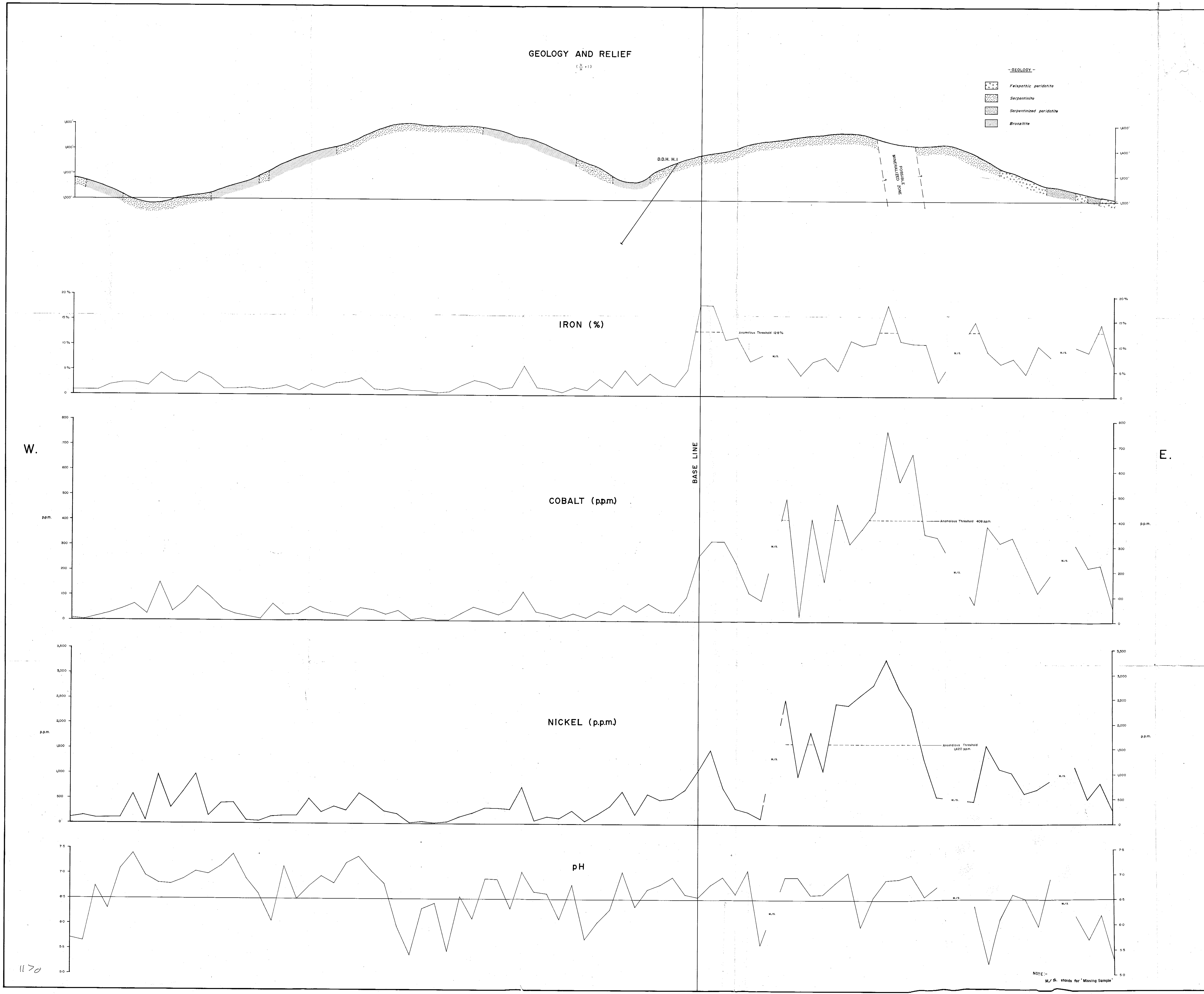
833049 71-795

THESEUS EXPLORATION N.L.

1170

HEAZLEWOOD GROUP
N.W. TASMANIA

Geological, Topographic a Geochemical Profiles
Line 5,000N.



NOTE:-
M./S. stands for 'Missing Sample'

5 cm

Approved by:-	Date:-
Drawn by:- S.R.M.	Date:- 3-3-71
Scale:- 1" = 200'	
Plan Nº:- HWD 8	