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GEOPHOTO MINERALS REPORT 1972/25

REPORT ON DIAMOND DRILLING ON
THE LUTWYCHE PROSPECT, EL6/68-N.E. TASMANIA

PREPARED BY

GEOPHOTO RESOURCES CONSULTANTS

FOR

TEXINS DEVELOPMENT PTY. LTD.

I.R. MORTIMORE
DECEMBER, 1972.

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GEOCHEMICAL LABORATORY REPORTS

* (See below)

GEOLOGICAL SECTIONS,	D.D.H. 1	Drg No. 1/160
	D.D.H. 2	Drg No. 1/164
	D.D.H. 5	Drg No. 1/166
	D.D.H. 6	Drg No. 1/165

* GEOLOGICAL PLAN + Position of

HOLES SEE REPT No. 171/21

-2 SHEETS

DRG. NO. 1/148

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INTRODUCTION

Between mid-March and June 1972 a drilling programme was conducted over the Lutwyche Prospect on targets recommended for testing in Geophoto Minerals Report 1971/21.

The text of this report deals with the aspects and results of that programme and should be read in conjunction with the above mentioned report and as a follow-on from it.

Drilling was by a trailer mounted Longyear 38 Diamond Drill which recovered a core by either conventional (NX) or wireline (NQ) drilling techniques.

Four holes were drilled of an originally proposed programme of six holes.

Each hole was drilled throughout in rocks which comprise the Silurian Mathinna Beds of this area.

Complete geological logs of core recovered from the four holes are included in separate reports. The following is a summary of relevant data obtained from the cores and results of assays carried out on selected intersections.

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LUTWYCHE D.D.H.1

	<i>11.5N+6.1E</i>	
Co-ordinates of collar	7.5N+6.1E	Bearing 156° (True)
Proposed Depth	600 feet	Depression 45°

The aim of this hole was to test the width and mineralised content of a quartzitic formation in the S.W. sector of the Lutwyche Grid. Here a number of prospect trenches and cuts have exposed numerous joint controlled fissure type veins contained within quartzites and carrying wolframite and molybdenite in a predominantly quartz gangue.

With the veins dipping northwards and striking basically E-W, the hole was designed to investigate these veins while at the same time determining the width of the quartzite formation by obliquely cutting across it.

With the hole drilled to a depth of 646 feet the objectives were achieved.

To a depth of 240 feet finely laminated, grey shales, siltstones, mudstones and greywackes, hornfelsed to varying degrees were encountered. These often appeared mottled with biotite, chlorite and/or sericite minerals elongated along foliation planes.

Below this depth, followed 175 feet of blue grey to black fine grained quartzite, very hard and generally unfoliated.

The remaining 231 feet of this hole encountered alternating bands of quartzite (to 33 feet width-core length) and hornfelsed shales, siltstones etc. as above.

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Throughout the hole shearing and/or brecciation was in evidence over intervals varying up to 36 feet (core length). These were characterised by silicification and a meshwork of randomly oriented veinlets (rarely exceeding $\frac{1}{4}$ " thickness, maximum 19 inches). The veins were generally of quartz, associated with tourmaline, chlorite, biotite and sericite, and less commonly of feldspar or calcite. Sections were often impregnated with fine grained tourmaline.

Within the quartzites, as expected, joint controlled quartz veining was a dominant feature with individual veins to a maximum 7 inches width. The density of this veining was not however in accordance with surface indications with large sections carrying only isolated veining.

Further, mineralisation was limited to minor blebs of molybdenite along the margins of individual veins and minor chalcopyrite associated with pyrite. The latter was common throughout the hole within veins and vugs and along joint and cleavage planes.

A total of 112 feet 6 inches (27 sections) of core was sampled and assayed for Cu, Mo, Bi, W and Sn.

In general the assays were poor, the only intersections of note being between 93 feet and 95 feet 6 inches (3.0%W, 425 p.p.m. Bi) 140 feet and 145 feet (0.35%W) and 190 feet and 192 feet (0.12% Mo).

A re-examination of section 93 feet to 95 feet 6 inches showed distinct bunches of wolframite but not estimated to be more than 0.5% of the section. This raises a query on this

particular assay, although the apparently erroneous result may be explained by the uneven distribution of wolframite in veins which is commonly observed.

It is interesting to note that the three assays mentioned above were found within sheared sections in the hornfelsed shales. It had been thought the mineralised veining in this sector of the Lutwyche Grid was wholly confined to the quartzites. This appears to be not the case.

LUTWYCHE D.D.H. 2

	<i>8.8N+14.5E</i>	
Co-ordinates of collar	14.75N+9.3E	Bearing 167° (True)
Proposed Depth	700 feet	Depression 60°

The hole was designed to test at depth a number of sub-parallel E-W striking quartz veins which at the surface are generally narrow (to 8 inches) but often carry appreciable wolframite.

Drilled to the proposed depth of 700 feet, the hole encountered throughout, hornfelsed shales, siltstones, mudstones and greywackes similar in nature to those in D.D.H.1.

These had undergone similar stresses with shearing well pronounced over various intervals.

Distinct veins were intersected at various horizons associated with zones of shearing. Although direct correlation with surface veins is difficult, it appears these veins may extend to depth. The most prominent were 61 feet to 61 feet 6 inches

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(6 inches), 167 feet to 168 feet 3 inches (15 inches), 221 feet to 222 feet 3 inches (15 inches), 229 feet to 230 feet (12 inches), 291 feet 6 inches to 292 feet 3 inches (9 inches), 378 feet 10 inches to 385 feet (6 feet 2 inches), 391 feet 2 inches to 398 feet (6 feet 10 inches), 398 feet 8 inches to 401 feet 6 inches (2 feet 10 inches), 443 feet 6 inches to 444 feet 6 inches (12 inches) and 636 feet to 639 feet (3 feet).

All widths are core lengths but true widths can be expected to be similar in dimension.

These quartz veins often contained small inclusions of country rock, biotite, sericite and tourmaline.

Without exception the quartz was seen to be barren apart from minor chalcopyrite associated with pyrite. This was verified by the assays carried out on 80 feet of core (16 sections).

One point of interest from this particular hole is the fact that the vein widths are in general greater than those on the surface and in certain instances are of an economic mineable width if not economic grade.

LUTWYCHE D.D.H. 5

Co-ordinates of collar 14N+11E
Proposed depth 700 feet

Bearing 167° (True)
Depression 70°

This hole located 600 feet W.N.W. of D.D.H.2 was drilled to test a zone of complex fracturing with numerous randomly oriented, occasionally mineralised, quartz veins. It has been suggested that this area may represent the surface expression of a bulge in the granites which undoubtedly underlie the Silurian metasediments of the Lutwyche area.

The hole was terminated at the depth of 728 feet having encountered lithologies and structures very similar to those of D.D.H.2.

From the core it could not be ascertained that this area had undergone any more intensive deformation than areas tested in previous holes.

In general, veining was again of the meshwork type of veinlets ($< \frac{1}{4}$ inch width) through silicified sheared and/or brecciated sections. These sections varied to 50 feet in thickness (core length).

More prominent quartz veins were encountered between 97 feet and 97 feet 6 inches (6 inches), 110 feet 4 inches and 110 feet 10 inches (6 inches), 118 feet 8 inches and 119 feet 8 inches (12 inches), 146 feet 9 inches and 148 feet 2 inches (17 inches) 226 feet and 228 feet (24 inches) and finally 645 feet 8 inches and 647 feet 9 inches (25 inches).

These were either barren or carried only trace mineralisation.

One section, 160 feet to 165 feet, an intensely sheared section with quartz, chlorite, muscovite and biotite filling the shear, yielded an assay of 0.61%W. $\equiv W O_3$

Of the remaining 31 sections sampled for assay (total 160 feet) only results to 800 p.p.m.W, 80 p.p.m. Mo, 310 p.p.m. Bi and 50 p.p.m. Sn were recorded.

LUTWYCHE D.D.H. 6

Co-ordinates of collar 4.9N+2.25E
Proposed depth 730 feet

Bearing 030° (True)
Depression 55°

As in the case of D.D.H. 1, this hole was designed to test the density and potential of quartz veining within quartzites which outcrop in this sector of the Lutwyche Grid.

The depth attained was 706 feet.

Within this depth, alternating bands of hornfelsed shales, siltstones, etc. and quartzites were encountered to the 200 feet level with deep weathering to 90 feet with iron/manganese oxides and kaolin well developed and the core broken and crumbly.

Between 200 feet and 450 feet a thick sequence of the hornfelsed series was met, these being succeeded by 115 feet of dark quartzites.

Below 565 feet to total depth, hornfelsed rock types, often silicified, were encountered.

Evidence of intense shearing was again commonly found in all rock types, characterised by an irregular mesh of veinlets of quartz, calcite, biotite, sericite and tourmaline. As was a feature in previous holes, many veins show displacement along fractures, often quartz filled themselves, cutting obliquely across them suggesting two distinct phases of movement and accompanying injection of hydrothermal solutions.

The quartzites, an assessment of which was the objective in the drilling of this hole, again carried joint controlled veining but of much less significance than observed on the surface or in D.D.H. 1.

Once again, as in D.D.H.1, the few intersections worth noting were found within sheared sections of the hornfelsed rock types.

Of the core sent for assay (127 feet 9 inches in 31 sections) only 398 feet to 399 feet 3 inches (4.1%W, 830 p.p.m. Bi), 401 feet 3 inches to 404 feet 3 inches (0.20%W) and 611 feet to 616 feet (500 p.p.m.W, 0.107% Bi) carried any significant mineralisation.

No section of combined economic width or grade were encountered.

CONCLUSIONS

The above summaries cover the main points of interest which can be extracted from the drill logs and assays.

Of the holes drilled, although it carried virtually no mineralisation, D.D.H. 2 is probably the most interesting in that it carried a number of distinct quartz veins which could be roughly correlated to surface indications and which in general either maintained their widths or substantially increased it to be of an economically mineable width at a depth of 350 feet below the surface.

The holes Lutwyche D.D.H.1 and D.D.H.6 gave no encouragement on the potential of quartzitic formations to the S.W. of the Lutwyche area. Here a high ratio of quartz to country rock (quartzite) was required to give any resemblance of a possible economically viable bulk deposit. The vein density fell well short of that required for this to be a possibility. Furthermore, within the quartzites, no values of significance for W, Mo, Bi, or Sn were encountered. This was surprising when on the surface wolframite and molybdenite are easily distinguishable in the old prospect trenches and open cuts. Also tin values, characteristically associated with fracture planes in quartzites near by at the Pinnacle Tin Prospect and the Great Pyramid Mine, were expected but did not materialise.

At this point of time, with the geological and geochemical data on hand to evaluate this prospect, it is difficult to put forward a case for further expenditure on drilling when the state of exploration on other prospects within EL6/68 is considered.

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Results to date do not amount to a conclusive argument in favour of continued exploratory drilling.

However, should it be decided sometime in the future that further investigation is warranted then it is considered this be made along the following lines:-

- (a) Further testing of the veins located in the drilling of Lutwyche D.D.H. 2 either laterally to the east or west or at depth (600 feet to 800 feet).
- (b) If an agreement could be made with Scamander Mining Corp.N.L. to jointly prospect their 50 acre lease (97M69) which lies directly to the north of the Lutwyche Grid area, two or three drill holes could be used to test the mineralised veins exposed in the old workings of the Carson de Beers Mine.

Apart from these two avenues of exploration, no further work on other sectors of the Lutwyche Grid is recommended.

I.R. Mortimore
December, 1972.

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APPENDIX

DIAMOND DRILL HOLE RECORDS

LUTWYCHE D.D.H. 1

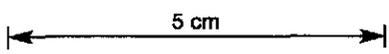
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DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE... LOCATION... F.L. 6/68... HOLE NO. D.D.H.1...
 CO-ORDINATES OF COLLAR... 6.1E+7.5N... BEARING... 156° True... INCLINATION...

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
REC. FROM	TO			
10	0-5	Spotted hornfelsed shale; broken, weathered and crumbly with limonite and haematite prominent alteration along joints; core strongly mottled with fine to coarse grained chlorite confined to particular bands (original bedding). A few haematite stained quartz veins are present; a good foliation defined by the chlorite bands makes an angle of 12° with the core axis. No mineralization apparent.		-1.
				-2.
15	5-10	As above.		-3.
				-4.
				-5.
				-6.
40	10-15	As above; prominent quartz veins to 1/4" wide are parallel to and crosscut the core axis from 11'-12'; coarse chlorite mottled bands common near 11'; some quartz veining near 14'6".		-7.
				-8.
				-9.
				-10.
30	15-20	As above; core light grey in colour, haematite and limonite stained; quartz veining minor.		-11.
				-12.
				-13.
70	20-25	As above; main zone of weathering ends at 23' tho' joints and fractures at depth continue to be lined with haematite and limonite; foliation weakly defined by fine grained chlorite blebs in bands at 13° to the core axis; a few stringer-like quartz veins near 21' with an echelon displacement by later crosscutting shears. No mineralization apparent.		-14.
				-15.
				-16.
98	25-30	As above; core generally unweathered except along joints and fractures where limonite is prominent; quartz veining quite minor except near 25'; core very finely mottled with chlorite.		-17.
				-18.
				-19.
00	30-35	As above; a few 1/8" thick quartz veins at irregular intervals contain minor chlorite and rusty iron oxides after pyrite and chalcopryrite? Joints are rusty coloured after pyrite.		-20.
				-21.
				-22.
				-23.
00	35-40	As above; foliation at 13° to core axis; 1/8" thick quartz veins prominent from 36' onwards; thin quartz stringers and veins showing an echelon displacement by small shears prominent in the interval of 40'; chlorite mottling on fine to medium grain size. No mineralization apparent.		-24.
				-25.
				-26.
				-27.
				-28.



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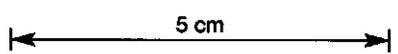
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DIAMOND DRILL HOLE RECORD

PROSPECT . . . LUTWICHE . . . LOCATION . . . E.L. 6/68 . . . HOLE NO. . . D.D.H.1 . . .
 11.5N + 6.1E
 CO-ORDINATES OF COLLAR . . . BEARING . . . 156° True . . . INCLINATION 45°

% SECTION
 'EC. FROM ' TO ' DESCRIPTION STRUCTURE LITHOLOGY

100	40-45	Hornfelsed shale; fine grained, medium grey in colour, veined by meshwork of quartz stringers to 1/8" thickness. Minor pyrite is associated with the quartz and as a joint lining. Slight shearing of the core is noticeable; a weak foliation is developed at 20° to the core axis.		-1. -2. -3.
100	45-50	As above; prominently mottled bands containing chlorite and/or biotite clots are common; moderately to intensely sheared from near 45' onwards with disruption of bedding and quartz veining; iron staining after pyrite on joints.		-4. -5. -6.
100	50-55	As above; core quite micaceous, mottled with biotite clots; intense shearing and fragmentation of core and quartz veining to 52'9" where shearing only moderate. Noticeable shearing ends near 54'6"; a weak foliation (bedding) defined by mafic rich bands makes an angle of 5° with the core axis at 55'.		-7. -8. -9.
100	55-60	As above; frequent biotite mottling; moderate shearing over one half of the width of the core with disruption of quartz veins; iron staining after pyrite on joints.		-10. -11. -12. -13.
100	60-65	As above; micaceous and mottled with biotite; generally unshered and only weakly veined with quartz; foliation defined by biotite rich mottled bands makes an angle of 3° with the core axis.		-14. -15. -16.
100	65-70	As above; small scale shearing associated with quartz veining, prominent biotite mottling; minor pyrite associated with quartz veins and as a joint lining.		-17. -18. -19.
100	70-75	As above with weak veining and very local small scale shearing to 74'; 74'1"-74'6", 1" wide white quartz vein with minor associated molybdenite - note botryoidal iron precipitation associated with fractures in the quartz. The vein makes an angle of 22° with the core axis; weak foliation at 15° to the core axis at 73'.		-20. -21. -22. -23.
100	75-80	As above; foliation at 76' makes an angle of 20° with the core axis; a few thin quartz veins are thicker to 1/4", quite irregular with meshwork tendencies and somewhat sheared. Coarse mottling of the core with biotite clots is common.		-24. -25.
		Pyrite mineralization on joints is noticeable; a few thin calcite veins are also present.		-26. -27.
				-28.



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DIAMOND DRILL HOLE RECORD

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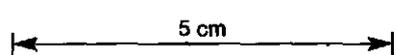
SPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. D.D.H. 1...
 6.15+7.5N
 COORDINATES OF COLLAR... BEARING 156° True... INCLINATION 45°

% SECTION
 EC. FROM ' TO '

DESCRIPTION

STRUCTURE
 LITHOLOGY

100	80- 85	Hornfelsed shale; fine grained and mottled with re-crystallized biotite blebs; quartz veining prominent locally with slight folding and shearing of veins. Pyrite and chalcopyrite prominent on joint near 81'. Foliation defined by mafic bands is inclined at 20° to the core axis.		-1. -2. -3.
100	85- 90	As above; prominent mottling with a few coarse bands; no mineralization apparent.		-4. -5. -6.
100	90- 95	As above; prominent solid white quartz vein with a few bunches and associated pieces of wolframite and with traces of molybdenite. Flakes runs from 93'6"-95'1" and is inclined at 80° to the core axis. The vein crosscuts the bedding foliation which makes an angle of 5° with the core axis; pyrite is prominent on joints.	Mo Z W	-7. -8. -9.
100	95-100	As above; core weakly veined by 1/8" thick quartz veins with minor local pyrite-chalcopyrite. Core sheared for 3" adjacent to large quartz vein mentioned above.		-10. -11. -12. -13.
100	100-105	As above; prominently veined by biotite and chlorite (Note first appearance of these minerals as vein constituents). Quartz veining moderately well developed and is cut by the later introduced mafics. Pyrite is prominent on joints. Foliation developed at 5° to core axis.		-14. -15. -16.
100	105-110	As above; prominent biotite mottling throughout; quartz veins to 1/4" thickness parallel to and cross-cutting the core axis. Closely spaced stringers of biotite have been emplaced parallel to the foliation. Veins of biotite and chlorite with minor associated pyrite are also emplaced at 80° to the core axis.		-17. -18. -19.
100	110-115	As above; veined by biotite-chlorite with veins to 1/4" thickness in the interval 110'-114' and making an angle of 80° with the core axis - pyrite is quite prominently associated. Quartz veining minor to absent. From 114' onwards, prominent stringerlike, closely spaced, tourmaline meshwork veining tending to parallel original bedding planes. Minor muscovite veining.		-20. -21. -22. -23.
100	115-120	As above; moderately sheared with veining of quartz and biotite tending to follow foliation planes; iron staining prominent in joints.		-24. -25. -26.
				-27. -28.



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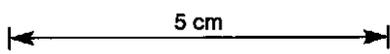
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DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO... D.D.H. 1.
 6.1E+7.5N
 CO-ORDINATES OF COLLAR... BEARING... 156° True... INCLINATION... 45°

% SECTION REC. FROM ' TO ' DESCRIPTION STRUCTURE LITHOLOGY

100	120-125	Hornfelsed shale; quartz rich and micaceous, fine grained, medium grey in colour, veined at irregular intervals by white quartz; a weak foliation defined by biotite mottling makes an angle of 5° with the core axis.		-1. -2. -3.
100	125-130	As above; quartz veining quite minor with a few tourmaline veins 1/8" thick at 80° to the core axis. Minor pyrite on joints.		-4. -5. -6.
100	130-135	As above; some weak quartz veining with minor chlorite associated.		-7. -8. -9.
100	135-140	As above; 136'6"-137'3", tourmaline rich zone, some quartz associated and with occasional flakes of molybdenite developed marginal to the irregular fine grained tourmaline masses. Minor chlorite is associated with quartz veins; 139'6"-140', white quartz vein containing a few prominent molybdenite segregations and some pyrite; tourmaline veins which cut the quartz are of later introduction. The quartz vein is inclined at 70° to the core axis.	* Mo	-10. -11. -12. -13.
100	140-145	As above; some pyrite and chalcopryrite in thin vein at 141'6". Some chlorite and tourmaline veining are common throughout.		-14. -15. -16.
100	145-150	As above, quartz veining minor to absent; 145'9" - 146'6" and 147', stringer-like and lensoid veins of pyrite - chalcopryrite 1/16" thick - minor chlorite associated. All veins crosscut the foliation.		-17. -18. -19.
	150-155	As above; generally unshered and weakly veined in a few places by quartz and tourmaline.		-20. -21. -22.
	155-160	As above; a few 1/16" thick quartz veins crosscut the foliation as do tourmaline veins to 1/4" thickness; the foliation is inclined at 5° to the core axis; no mineralization apparent.		-23. -24. -25.



-26.
-27.
-28.

DIAMOND DRILL HOLE RECORD



721018

SPECT... LUTWYCHE . LOCATION . F.L. 6/68 . . . HOLE NO. D.D.H. 1. . .

6.1E+7.5N

COORDINATES OF COLLAR... BEARING ... 156° True . . . INCLINATION . 45°

% SECTION
SEC. FROM ' TO '

DESCRIPTION

STRUCTURE
LITHOLOGY

100	160-165	Hornfelsed shale; fine grained, medium grey, weakly foliated with banding inclined at approx. 5° to the core axis; minor quartz veining; no mineralization apparent.	-1. -2. -3.
100	165-170	As above; 169'6"-170', white quartz vein cut and rimmed by finegrained black tourmaline; a few isolated flakes of molybdenite occur within the quartz vein, which is inclined at 70° to the core axis.	-4. -5. -6. Mo *
100	170-175	As above; unsheared and generally unveined; a weak foliation is defined by bands rich in biotite clots at 3° to the core axis.	-7. -8. -9.
100	175-180	As above; prominent mottled band at 7° to core axis from 175'-176'; foliation changes to 24° with the core axis near 177'.	-10. -11. -12. -13.
100	180-185	As above; unveined except for a few 1/8" thick cavities near 181' lined with small quartz crystals	-14. -15. -16.
100	185-190	As above; generally unveined and absence of mineralization.	-17. -18. -19.
100	190-195	As above; 190'2"-191'6", tourmaline rich sheared section at 24° to core axis but varies in inclination to parallel to core axis at one place. Good segregations of molybdenite to 1/2"; weak foliation at 14° to core axis at 194'; one vein of white feldspar at 194'4".	-20. -21. -22. Mo *
100	195-200	As above; 196', 1 1/2" thick quartz vein at 80° to core axis; foliation defined by fine grained biotite segregations changes from 5° near 195' to 18° near 197'.	-23. -24. -25. -26.
			-27. -28.

DIAMOND DRILL HOLE RECORD



721019

ASPECT..... LUTWICHE LOCATION..... E.L.6/68 HOLE NO..... D.D.H.1
 6.1E+7.5N
 COORDINATES OF COLLAR..... BEARING..... 156° True INCLINATION 45°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
EC. FROM'	TO'			
100	200-205	Hornfelsed siltstone/shale; medium grey, fine grained, weakly spotted with fine grained chlorite blebs and biotite blebs. No mineralization apparent.		-1. -2. -3.
100	205-210	As above.		-4. -5. -6.
100	210-215	Hornfelsed siltstone; medium grey and finely spotted (biotite segregations); bedding inclined 6°/14° to core axis; minor joint controlled quartz veining specifically between 213' and 213'6" - no associated mineralization.		-7. -8. -9.
100	215-220	From 215'-216' - as above. From 216'-216'6" - talc-quartzite breccia. From 216'6"-220' - quartzite; fine grained, medium to dark grey; carries loose meshwork of joint controlled quartz veinlets to ¼" max. width, commonly with a selvage of chlorite and carrying minor pyrite between 219'9"-220'; joint surfaces carry pyrite, carbonate.		-10. -11. -12. -13.
100	220-225	Hornfelsed siltstone; medium grey, finely spotted with biotite segregations; bedding varies from 16° to 19° to core axis; only minor random quartz veinlets (to 1/16" true width).		-14. -15. -16.
100	225-230	As above with the exception of 227'4"-230' - silicified and carrying a fine network of quartz veinlets (country quartz) to ½" max. diameter and joint controlled injected quartz to ½" max. diameter - latter carrying chlorite and biotite pods; bedding 17° to core axis.		-17. -18. -19.
100	230-235	Hornfelsed siltstone; medium grey, hard, silicified; and finely spotted (biotite segregations); no visible evidence of mineralization associated with ½" injected quartz veinlets at 232', 232'4", 234'4" - well defined, joint controlled, chlorite selvage and bleaching of country rock at margins; also fine random network of country quartz stringers, no visible bedding.		-20. -21. -22. -23.
100	235-240	Partially hornfelsed siltstones; medium grey, finely spotted with biotite segregations, well jointed and carrying minor randomly orientated country quartz veinlets exhibiting microstructures i.e. folding, faulting, bedding. Well defined at 25° to core axis, - defined by lighter coloured, silicious and occasional mudstone bands.		-24. -25. -26.
				-27. -28.

019

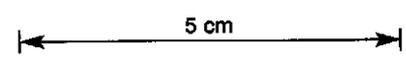


DIAMOND DRILL HOLE RECORD

721020

PROSPECT... LUTWYCHE . . . LOCATION E.L. 6/68 . . . HOLE NO. D.D.H. 1
 CO-ORDINATES OF COLLAR... 6.1E+7.5N . . . BEARING 156° True . . . INCLINATION 45°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY	
REC. FROM'	TO'				
100	240-245	Similar to above; medium grey interbanded spotted siltstones and mudstones; bedding 25° to core axis.			-1. -2. -3.
100	245-250	Siltstone; medium/dark grey and finely spotted; hard silicified sections occur between 244'9"-245'10" and 247'9"-250' - within silicified sections joint controlled and biotite veinlets (1/8") common; biotite-tourmaline?-quartz band (1 1/2" true width) at 249'5" carries loosely disseminated molybdenite.		Mo	-4. -5. -6.
100	250-255	Siltstone; highly silicified, medium grey; biotite, quartz-carbonate, and chlorite veinlets to 1/4" true width common throughout section (Range from 52° to 57° to core axis) - minor associated pyrite; quartz, feldspar, chlorite rich section between 250'-250'6" minor disseminated molybdenite.		Mo	-7. -8. -9.
100	255-260	Similar to above; hard, highly silicified; mottled brown/green-grey in colour; quartz veinlets at - 258'(2"), 257'6"(1/2"), 255'9" (1/2") carry minor disseminated molybdenite, chlorite, biotite.		Mo Mo Mo	-10. -11. -12. -13.
100	260-265	Quartzite; dark grey/black very hard, glassy, conchoidal fracture; exhibiting fine speckled appearance (biotite segregations); well jointed - joint surfaces coated with pyrite; joint controlled quartz biotite-chlorite veinlets (avg 1/2" true width) occur at 262', 263', 264', 264'6", 264'9" (1" wide, minor molybdenite) and 262'2".		Mo	-14. -15. -16.
100	265-270	From 265'-267'7", similar to above and well jointed in two main directions (50° to core axis dominates). Patch of quartz-feldspar-biotite-chlorite 265'6"-265'10" - formed at intersection of joint planes carries minor pyrite only. From 267'7"-270' siltstone, siliceous, well jointed specifically 50° to core axis; finely spotted (biotite segregations).			-17. -18. -19.
100	270-275	Similar to section 267'7"-270' above.			-20. -21. -22.
100	275-280	From 275'-276'3" - Similar to above From 276'3"-280' - Siltstone, highly silicified, minor joint controlled quartz veinlets (1/4"-1/8") - 276'5"-276'9", no obvious associated mineralization.			-23. -24. -25. -26.
					-27. -28.



020

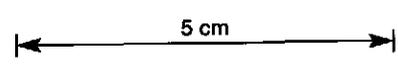


DIAMOND DRILL HOLE RECORD

721021

PROSPECT... LUTWICHE... LOCATION... E.L. 6/68... HOLE NO. ... D.D.H. 1...
 CO-ORDINATES OF COLLAR... 6.1E+7.5N... BEARING... 156° True... INCLINATION... 45°

% SECTION REC. FROM' TO'		DESCRIPTION	STRUCTURE	LITHOLOGY
100	280-285	<u>Siltstone</u> ; partly silicified, merging into highly siliceous siltstone from 284'9" to 285'; well jointed; minor fine joint-controlled quartz veinlets ($\leq 1/16$ " max. width).		-1. -2. -3.
100	285-290	<u>Quartzite</u> ; dark grey, conchoidal fracture, well jointed and finely spotted with biotite segregations; 2" quartz veinlet at 288' carries minor molybdenite - otherwise barren joint controlled quartz veinlets to $1/4$ " true width common throughout section - often with fine chlorite selvedge.	Quartzite	-4. -5. -6.
100	290-295	<u>Quartzite</u> ; similar to above, abundant quartz veinlets (av. $1/8$ " in width) in network, often with chlorite association. Minor molybdenite mineralization - 292'4"-292'10" - associated with chlorite/biotite pods incorporated within quartz veining from 1" to 7" wide.	Mo	-7. -8. -9.
100	295-300	<u>Quartzite</u> ; similar to above, abundant apparently randomly orientated quartz/quartz-chlorite (av. $1/4$ " true width) often with biotite/chlorite selvedge.		-10. -11. -12. -13.
100	300-305	<u>Quartzite</u> ; similar to above, injected quartz veinlets at 301'9" (1") - minor pyrite, 303'3" (3" quartz-chlorite), 305' (3" quartz-chlorite-biotite, minor molybdenite)	Py Mo	-14. -15. -16.
100	305-310	<u>Quartzite</u> ; similar to above		-17. -18. -19.
100	310-315	As above; quartzite, dark grey to black in colour, fine to medium grained, very hard, 311', 3" wide white quartz vein containing minor crystalline tourmaline with associated pyrite and chlorite - vein makes angle of 80° with the core axis. Pyrrhotite, pyrite and chalcopyrite line a joint near 310'6". No foliation can be distinguished but thin veinlets of tourmaline? cut the quartzite in places.		-20. -21. -22. -23.
100	315-320	As above; 315'6", $1/2$ " wide quartz vein at 80° to core axis with minor associated chlorite, biotite and molybdenite; minor thin veinlets of biotite and chlorite locally; occasional pyrite on joints or associated with one or two quartz feldspar veins.		-24. -25. -26.
				-27. -28.



021

DIAMOND DRILL HOLE RECORD



721022

PROSPECT..... LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 1
 CO-ORDINATES OF COLLAR.... BEARING 156° True INCLINATION 45°

% SECTION REC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	320-325	Micaceous quartzite; dark grey to black in colour, fine grained, intense tourmalization over 4" section near 32'9" and minor local chlorite veinlets locally. No mineralization apparent.		-1. -2. -3.
100	325-330	As above; unfractured, minor pyrite along joint surfaces; a few thin quartz-feldspar veins.		-4. -5. -6.
100	330-335	As above; 331', coarse molybdenite segregations associated with irregular quartz vein; minor molybdenite associated. 1/4" thick quartz vein at 60° to core axis; pyrite common on joint surfaces.	Mo *	-7. -8. -9.
100	335-340	As above; a few irregular veinlets of chlorite and biotite to 1/16" thickness; local quartz veins to 1/4" thickness frequently contain tourmaline; pyrite prominent on joints.		-10. -11. -12. -13.
100	340-345	As above; core size change to BQ at 343'; veining of quartz, biotite, feldspar, chlorite and tourmaline common in places; pyrite prominent on joints.		-14. -15. -16.
100	345-350	As above; slightly sheared locally with a few thin tourmaline and chlorite veinlets; 348', 3" wide quartz vein at 70° to core axis - apparently unmineralized. A few pyrite veinlets.		-17. -18. -19.
100	350-355	As above; 352'9", 1" wide quartz vein at 70° to core axis with associated chlorite, tourmaline and minor chalcopyrite; 353'6", minor molybdenite associated with thin quartz veinlet.	Mo Cu	-20. -21. -22.
100	355-360	As above; jointing at 40°, 50° and 77° to core axis; general absence of veining. Pyrite common on joints.		-23. -24. -25.
				-26. -27. -28.

022

DIAMOND DRILL HOLE RECORD



721023

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. D.D.H.1...
 CO-ORDINATES OF COLLAR... 6.1E+7.5N... BEARING... 156° True... INCLINATION... 45°

% SECTION REC. FROM ' TO'		DESCRIPTION	STRUCTURE	LITHOLOGY
100	360-365	Micaceous quartzite; dark grey to black in colour with fine grained biotite the colouring element; fine grained, tough, massive, no bedding foliation discernable; essentially unsheared and unveined except near 364'10" where 3½" wide white quartz vein at 62° to core axis contains molybdenite segregation flakes in fine grained brown tourmaline. Minor chlorite is associated.		-1. -2. -3. Mo*
100	365-370	As above; a few thin veinlets of quartz-muscovite, chlorite and quartz with trace of chalcopyrite are present; fine grained tourmaline.		-4. -5. -6.
100	370-375	As above; core becomes noticeably sheared and veined by thin irregular meshwork of quartz, tourmaline, muscovite and chlorite veins or an association of these. Shear zone then appears to start near 370' with intense silicification from here onwards.		-7. -8. -9.
100	375-380	As above; shearing and veining continue past 380'; 375'5", 4" wide barren quartz vein at 60° to core axis; pyrite commonly developed on joints.		-10. -11. -12. -13.
100	380-385	As above; extensively sheared and silicified with veinlets and segregations of tourmaline in the main and a few chlorite and muscovite veinlets with minor associated chalcopyrite. A few white feldspar veins and segregations are present. No mineralization apart from chalcopyrite traces and pyrite on joints.		-14. -15. -16.
100	385-390	As above; extensively veined by tourmaline, quartz, chlorite with lesser muscovite and feldspar. Irregular tourmaline segregations with minor associated chlorite and chalcopyrite occur from 386'6"-387'6"; 389'3", trace of molybdenite associated with tourmaline and chlorite irregular segregations. Pyrite prominent on joints.		-17. -18. -19.
100	390-395	As above; 392'2", 6" section, quite silicified and veined by irregular tourmaline, chlorite and feldspar masses with dispersed molybdenite flakes and some pyrite and chalcopyrite associated with a chlorite vein.		-20. -21. -22. * Mo Py
100	395-400	As above; intense impregnation of section from 395'-396' with fine grained, crystalline tourmaline and massive chlorite. Minor chalcopyrite and a trace of molybdenite are associated; 399' solid white quartz vein at 52° to core axis with some associated tourmaline and minor pyrite - vein continues to 399'9".		-23. -24. -25. -26.
-27. -28.				

023



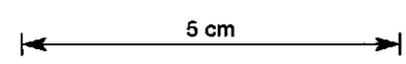
DIAMOND DRILL HOLE RECORD

721024

PROSPECT... LUTWICHE LOCATION . E.L.6/68 . . . HOLE NO. P.D.H.1 . . .
 6.1E+7.5N
 O-ORDINATES OF COLLAR.... BEARING 156° True . . . INCLINATION . . . 45°

% SECTION
 REC. FROM' TO' DESCRIPTION STRUCTURE LITHOLOGY

100	400-405	Sheared, heavily silicified biotite quartzite engulfed by white quartz and irregular meshwork of tourmaline chlorite and minor muscovite and feldspar. Pyrite and occasional chalcopyrite are associated with some sheared sections - trace of molybdenite near 401'6".	STRUCTURE LITHOLOGY	-1.
				-2.
				-3.
100	405'-410'	Shear zone dies out near 406' where a tough, fine grained biotite-bearing quartzite with general absence of veining and shearing is found; minor pyrite on joints.		-4.
				-5.
				-6.
100	410-415	As above to 413'10" where rock type changes from quartzite to shale. The shale is medium grey in colour, fine grained, strongly foliated with foliation defined by alternating light and dark bands and by mottled bands containing dots of recrystallized biotite - makes angle of 36° with the core axis.		-7.
				-8.
				-9.
				-10.
100	415-420	As above; coarsely mottled at irregular intervals; foliation at 10° to core axis at 418'; a few white quartz veins to 1/4" width near 416'3" and from 419'-420'. A selvedge of chlorite is common. The veins are often shear folded with axial planes paralleling the foliation.	-11.	
			-12.	
			-13.	
100	420-425	As above; intensely sheared sub-parallel to core axis from 421'-424'6" with intermittent small scale shearing also apparent; lensoid quartz sweat out masses parallel to the foliation and locally shear folded are common; foliation at 19° to the core axis	-14.	
			-15.	
			-16.	
100	425-430	As above; intensely veined by white quartz sweatout masses paralleling the foliation. A selvedge of biotite is common. Crosscutting quartz-tourmaline-chlorite veins frequently displace the first developed quartz veins. Minor pyrite and chalcopyrite is associated with the crosscutting veins. The core is calcite bearing on joint faces.	-17.	
			-18.	
			-19.	
100	430-435	As above; 433', foliation at 31° to core axis and changing to 26° by 434'; sheared from 434' onwards, appears to be start of prominent shear zone; a quartz-tourmaline vein 1/8" thick at 60° to core-axis is displaced by small scale faulting subparallel to the core axis - biotite is often developed along these.	-20.	
			-21.	
			-22.	
			-23.	
100	435-440	As above; intensely sheared and veined by quartz, tourmaline, biotite, muscovite and chlorite; veins tend to form irregular meshworks due to influence of secondary faulting and shearing.	-24.	
			-25.	
			-26.	



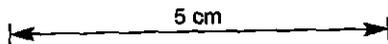
-27.
-28.

DIAMOND DRILL HOLE RECORD



24
 RESPECT..... LUTWYCHE LOCATION . E.L.6/68 . . . HOLE NO. D.D.H.1 . . . 721025
 6,1E+7.5N
 O-ORDINATES OF COLLAR.... BEARING .. 156° True . . . INCLINATION .45° . . .

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	440-445	Shear zone continues past 445', intensely silicified with white quartz, yet not an entity. Segregations of tourmaline are common with veinlets of muscovite, chlorite, biotite and feldspar also noticeable.		-1.
				-2.
				-3.
100	445-450	As above; shear terminates past 450'; core contains some solid pieces of white quartz yet no distinct veins can be distinguished; tourmaline veining and irregular segregations are very prominent with lesser veining by chlorite, white feldspar, biotite and muscovite.		-4.
				-5.
				-6.
100	450-455	As above; shear ends abruptly at 451'6" and parallels the foliation which is inclined at 51° to the core axis. The foliation changes to 10° by 452'6". Core is finely mottled with recrystallized biotite; veining minor to absent.		-7.
				-8.
			-9.	
100	455-460	As above; a few quartz lens-like masses parallel to the foliation from 455'-456' with a few cross cutting chlorite filled shears. Foliation changes to approx. 3° near 456'; small shear extends from 450' - 460'.	-10.	
			-11.	
			-12.	
			-13.	
100	460-465	As above; intermittently sheared on moderate scale throughout with irregular veinlets of quartz, chlorite and biotite often in meshwork pattern governed by micro-shears; foliation at approx. 4° to the core axis.	-14.	
			-15.	
			-16.	
100	465-470	Moderately sheared as above to 469', then intensely sheared and veined by quartz and tourmaline.	-17.	
			-18.	
			-19.	
100	470-475	Shear continues at some intensity to 475'; then moderate intensity; quartz veins have been fragmented and cut by chlorite and tourmaline; rock type changes to a green quartzite (fine grained, hard and tough, not fissile) at 474'3".	-20.	
			-21.	
			-22.	
			-23.	
100	475-480	Moderately sheared to unsheared quartzite. 1" thick quartz vein at 90° to core axis at 476', a few tourmaline veins 1/8" thick at 60°-70° to core axis throughout; minor pyrite on joints; foliation weak to absent.	-24.	
			-25.	
			-26.	
			-27.	
			-28.	



025



721026

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE . . . LOCATION . E.L. 6/68 . . . HOLE NO. D.D.H. 1 . . .
 6.1E+7.5N
 CO-ORDINATES OF COLLAR... BEARING .. 156° True . . . INCLINATION 45° . . .

% SECTION REC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	480-485	Micaceous quartzite; light grey to greengrey, hard, moderately to intensely sheared with sheared sections cut by a meshwork of feldspar veins and irregular to regular veins and masses of tourmaline and chlorite with minor associated muscovite. Crystalline pyrite is common on joints at 80° to core axis.	ST-RIPES	-1.
100	485-490	As above to 486'4" where medium grey, hornfelsed shale shows a sharp contact with the quartzite. The shale is moderately sheared with slight disruption locally of the well marked foliation. Foliation is defined by alternating light and dark bands and makes an angle of 20° with core axis near 486'6", then flattens to parallel the axis near 487'6" and changes to 25° by 488'8"; minor molybdenite near 486'6".		-2. -3. -4. -5. -6.
100	490-495	As above; foliation well marked at 25° to core axis in some places, absent in others; veining very weak except for 1/2" wide quartz-chlorite-muscovite vein at 491'; core mottled with blebs of biotite-chlorite from 494'-495'.		-7. -8. -9.
100	495-500	As above, finely mottled with blebs and streaks of chlorite-biotite; a 1/4" wide quartz vein at 64° to core axis near 497'; jointing at 73° and 21° to core axis; no mineralization apparent.		-10. -11. -12. -13.
100	500-505	<u>Siltstone</u> ; silicified medium/dark grey finely mottled with biotite segregations; well jointed;		-14. -15. -16.
100	505-510	<u>Siltstone</u> ; silicified; medium to dark grey carrying finely disseminated biotite flecks; joint controlled quartz-tourmaline veining in the interval from 505'6"-505'10" (1/4" max. width).		-17. -18. -19.
100	510-515	<u>Similar to above</u> ; abundant fine joint controlled quartz and/or chlorite veinlets throughout; generally has a mottled appearance due to biotite? segregations.		-20. -21. -22.
100	515-520	<u>Similar to above</u> , quartz-chlorite veinlet at 519'3" hosts no obvious mineralization - often with biotite, feldspar selvage. From 515'-516' - heavily spotted appearance due to biotite segregations.		-23. -24. -25. -26.
				-27.

026



721027

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE ... LOCATION... E.L.6/68 ... HOLE NO. D.D.H.1 ...
 CO-ORDINATES OF COLLAR... 6.1E+7, 5N ... BEARING 156° True ... INCLINATION 45°

% SECTION REC. FROM TO		DESCRIPTION	STRUCTURE	LITHOLOGY
100	520-525	Siltstone - silicified, medium/dark grey with overall mottled appearance, biotite? flecks loosely disseminated throughout; minor quartz veining from 521'10"-522'3" (1/8" max. true width).		-1 -2 -3
100	525-530	From 525'-526'5", similar to above. From 526'5"-527'; sheared section, comprising abundant foliated quartz, chlorite & biotite; foliation makes angle of 45° to core axis. From 527'-530'; quartzite, medium/dark grey, occasional biotite-chlorite veinlets (to 1/16" max. true width); biotite flecks disseminated throughout; original quartz veining obliterated by the silicification process.		-4 -5 -6
100	530-535	Quartzite; medium/dark grey fine biotite flecks disseminated throughout; marked absence of quartz veining; minor minute jointed controlled biotite veinlets < 1mm wide.		-7 -8 -9
100	535-540	Quartzite; similar to above; minor joint controlled quartz/chlorite veining but carrying no obvious mineralization.		-10 -11 -12 -13
100	540-545	Quartzite; similar to above; minor joint controlled quartz/biotite veinlets - bleaching adjacent margins - to 1/8" max. true width.		-14 -15 -16
100	545-550	Quartzite; similar to above; abundant minute chlorite/biotite veinlets as joint and fracture infillings throughout; minor quartz veining and associated biotite/chlorite.		-17 -18 -19
100	550-555	Quartzite; pale/medium grey, otherwise similar to above; minor biotite/quartz veining (to 1/8" max. true width).		-20 -21 -22
100	555-560	Quartzite; fine grained pale/medium grey, irregular veinlets of quartz (1/4"), feldspar, chlorite and biotite (1/8") occur throughout giving section an overall mottled green/pink appearance as well.		-23 -24 -25 -26
				-27

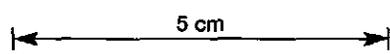
027



DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. ... D.D.H. 1721028
 CO-ORDINATES OF COLLAR... 6.1E+7.5N... BEARING ... 156° True ... INCLINATION .45°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY	
REC. FROM	TO				
100	560-565	<u>Siltstone</u> ; silicified, dark grey, bedding makes angle 24° to core axis.			-1. -2. -3.
100	565-570	<u>Siltstone</u> ; silicified, dark grey, finely micaceous, minor joint controlled quartz/chlorite veinlets; well jointed - joint surfaces pyritic.			-4. -5. -6.
100	570-575	<u>Siltstone</u> ; silicified, medium/dark grey, finely micaceous; minor pyrrhotite, chalcopryite, pyrite associated with minor joint controlled quartz veinlets to 1/2" maximum diameter - commonly country rock bleached adjacent to margin.	Py Cu Py		-7. -8. -9.
100	575-580	Similar to above with the exception of final 9" pink quartzite (or highly silicified mudstone); finely banded with extensive network fine chlorite veinlets; bedding 17° to core axis.			-10. -11. -12. -13.
100	580-585	Top 9" similar to above; <u>Remainder</u> ; <u>siltstone</u> siliceous, medium grey; minor quartz/chlorite (minor pyrrhotite association), biotite, carbonate and quartz veinlets.	Pyrr		-14. -15. -16.
100	585-590	Similar to above.			-17. -18. -19.
100	590-595	Similar to above, minor quartz/feldspar/chlorite veinlets to 1/8" max. true width - associated minor pyrrhotite and chalcopryite.			-20. -21. -22.
100	595-600	<u>Mudstone</u> ; silicified medium/dark grey; bedding emphasized by paler "spotty biotite" bands varies from 30° to core axis at 596' to 10° to core axis at 597'.			-23. -24. -25.
					-26. -27. -28.



028



721029

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE ... LOCATION . E.L.6/68 . . . HOLE NO. D.D.H.1 . . .
 CO-ORDINATES OF COLLAR... 6.1E+7.5N . . . BEARING . 156° True . . . INCLINATION . 45° . . .



% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	600-605	Mudstone; highly silicified, dark grey and carrying abundant randomly orientated quartz veinlets to 1/4" maximum width; bedding 11° to core axis.		-1 -2 -3
	600-605	Hornfelsed shale; dark grey to black in colour, fine grained, tough and splintery; minor local shearing 603'-605' with thin meshwork quartz veining; no banding apparent except for one 1/8" thick band containing biotite-chlorite blebs in a sericite base and at 0° to the core axis; no mineralization is evident.		-4 -5 -6
	605-610	As above; generally fine grained and nondescript except for two thin mottled biotite bands at 606'6" and 607'2"; minor pyrite and calcite in joints; joint directions at 30°, 55°, 80° and 2° to the core axis.		-7 -8 -9
100	610-615	Hornfelsed shale as above; fine grained, dark grey, finely mottled with recrystallized biotite and chlorite; original bedding foliation weakly developed at 29° to core axis; very minor thin quartz veins; no mineralization apparent.		-10 -11 -12 -13
100	615-620	As above; dark grey to black in colour, fine grained and nondescript; very minor veining; no mineralization apparent.		-14 -15 -16
100	620-625	As above; foliation very weak to absent.		-17 -18 -19
100	625-630	As above; foliation developed in particular bands only makes angle of 16° with core axis at 626'6"; 23° at 627'6". Small quartz bands to 1/4" thickness are common.		-20 -21 -22
100	630-635	As above; very finely mottled throughout, except near 633'10" where a coarsely mottled band contains biotite-chlorite set in a fine grained sericitic matrix. This band defines a strong foliation at 14° to the core axis; 3/4" wide quartz-tourmaline vein at 55° to core axis near 63'6". No mineralization apparent.		-23 -24 -25 -26 -27
				-28

U29



DIAMOND DRILL HOLE RECORD

721030

PROSPECT..... LUTWYCHE . . . LOCATION . E-L-6/68 . . . HOLE NO. D.D.H.1 . . .
 CO-ORDINATES OF COLLAR.... 6.1E+7.5N BEARING 156° True INCLINATION 45°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
REC. FROM	TO			
100	635-640	As above; a few quartzite bands to ½" thickness distributed throughout; minor pyrite cubes on some joints.		-1. -2. -3.
100	640-645	Hornfelsed shale; dark grey to black in colour, but with a few quartzitic bands in the interval to 2" thickness; fine grained and very finely mottled; a weak foliation defined by quartzite bands makes an angle of 20° with the core axis; very minor quartz veining.		-4. -5. -6.
100	645-646	As above; ¼" wide quartz-chlorite-muscovite vein near 645'6" at 15° to the core axis. No mineralization apparent.		-7. -8. -9.
		END OF HOLE		-10. -11. -12. -13.
				-14. -15. -16.
				-17. -18. -19. -20. -21. -22. -23. -24. -25. -26. -27. -28.

030

721031

APPENDIX

DIAMOND DRILL HOLE RECORDS

LUTWYCHE D.D.H. 2

031

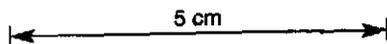
DIAMOND DRILL HOLE RECORD



721032

PROSPECT... LUTWICHE ... LOCATION... E.L. 6/68 ... HOLE NO. D.D.H. 2 ...
 CO-ORDINATES OF COLLAR... ~~14.75N + 9.30E~~ 8.8N + 14.5E ... BEARING ... 167° True ... INCLINATION . 60° ...

% SECTION REC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
20	0- 5	Mathinna Group Sediments Core largely broken, weathered and ironstained; where unaltered, a spotted hornfelsed shale, mottled in green black, light grey and brown; mafic clots and stringer-like masses of recrystallized chlorite throughout. The original bedding is disrupted and		-1
		almost obliterated due to recrystallization and shearing; minor white quartz veining; haematite and limonite staining common on joints; weak banding makes angle of 3° with core axis.		-2
		As above; lens-like nature of light (quartzose) and dark (mafic) recrystallization components define a weak banding (probably original bedding); sheared to varying degrees throughout; 4" quartz vein with minor pyrite at 15'; a few 1/16"-1/4" stringer quartz veins often tightly folded, subparallel or cross-cutting banding traces.		-3
40	5-10	As above; contorted throughout with quartzose segregations enclosing green black clots of chlorite? The banding makes an angle of 15° with the core axis; a few 1/8" thick white quartz veins oblique to the weak banding; core broken at intervals with iron and manganese staining on joints.		-4
		As above;		-5
80	10-15			-6
				-7
				-8
				-9
				-10
80	15-20		-11	
			-12	
			-13	
90	20-25		-14	
			-15	
			-16	
			-17	
60	25-30	As above; core very broken and iron stained; banding makes an angle of 18° with the core axis.	-18	
			-19	
			-20	
70	30-35	As above; core broken and iron stained.	-21	
			-22	
			-23	
40	35-40	As above; core broken, quite weathered and iron stained.	-24	
			-25	
			-26	
			-27	



032



DIAMOND DRILL HOLE RECORD

PROSPECT..... LUTWYCHE LOCATION..... E.L. 6/68 HOLE NO. D.D.H. 2
 14.75N + 9.30E 167° True 60°
 CO-ORDINATES OF COLLAR..... BEARING INCLINATION

% SECTION REC. FROM ' TO '	DESCRIPTION	N.X. CORE	STRUCTURE	LITHOLOGY
95 40-45	Spotted dark grey hornfelsed shale/subgreywacke; fine grained, mottled in green black, light grey and light-brown, weakly banded as indicated by chlorite blebs and quartz-rich segregations, very fine grained micaceous; sheared on fine scale throughout; 1/4" wide white quartz vein parallel to core axis at 43'9" some associated pyrite and chlorite.			-1. -2. -3.
100 45-50	As above; thick 1/2"-1" white quartz vein parallel to core axis at 45'2" continues to 46' where it bifurcates. Pyrite and chlorite are associated; banding makes an angle of 33° with the core axis; prominent iron staining after pyrite on joints; a few 1/8" thick, closely shear-folded quartz veins with minor pyrite oblique to the banding.			-4. -5. -6.
100 50-55	As above; minor quartz stringer veins in a few places; pyrite and iron staining on joints; mesh-work of chlorite-pyrite filled thin shears near 50' crosscutting the banding.			-7. -8. -9.
100 55-60	As above; finely micaceous throughout; thin quartz veins fill small fractures sub-parallel to oblique to the core axis. Some of the veins are folded with axial planes paralleling the banding (bedding plane shearing involved). Pyrite segregations are prominent along joint surfaces.			-10. -11. -12. -13.
100 60-65	As above; banding very weak to absent; 1/4" wide white quartz vein crosscuts banding near 61' and continues to 61'6". Other quartz stringers < 1/16" in thickness occur near 62' and 65'.			-14. -15. -16.
100 65-70	As above; very blotchy in appearance due to fine scale shearing, streaked out chlorite and quartzose material; iron staining after pyrite on joints; two prominent 1/2" thick quartz fracture fill veins, bifurcate and irregular in places at 69'6".			-17. -18. -19.
100 70-75	As above; banding makes angle of 20° with core axis; a few 1/8"-1/4" wide quartz veins with some chlorite fill fractures at 22° to core axis. Some pyrite may be associated or fill very small fractures.			-20. -21. -22.
100 75-80	As above; 76'6"-78'6" prominent blotchy zone with bands rich in chlorite? clots and segregations alternating with light grey quartz rich bands - reflects differing original band composition; small scale shearing throughout but best defined from 78' -80' where shears parallel to subparallel to the banding contain chlorite, pyrite, chalcopyrite and quartz.			-23. -24. -25. -26. -27. -28.



33



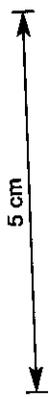
DIAMOND DRILL HOLE RECORD

72103A

PROSPECT... LUTWYCHE... LOCATION E.L. 6/68... HOLE NO. D.D.H. 2...
 14.75N. + 9.30E
 CO-ORDINATES OF COLLAR... BEARING... 167°... INCLINATION 60°

% SECTION
 REC. FROM' TO' DESCRIPTION N.X. CORE TO 118' THEN N.O.

STRUCTURE 3A
 LITHOLOGY



REC. FROM'	TO'	DESCRIPTION	N.X. CORE TO 118' THEN N.O.	STRUCTURE 3A LITHOLOGY
100	80-85	Tough, splintery hornfelsed shale; dark grey in colour, blotchy with blobs of chlorite set in fine grained matrix, sheared in fine scale with some crenulation of banding; banding makes angle of 24° with core axis; rusty pyrite alteration along joints; quartz veining very minor locally.		-1 -2 -3
100	85-90	As above; quartz filled tension gashes prominent in interval 88'-90'; some chlorite and iron staining after pyrite on joints.		-4 -5 -6
100	90-95	As above; banding very weak, quartz veins very minor; pyrite on joints.		-7 -8 -9
72	95-100	Partially hornfelsed shales - spotted (chlorite?). Grey-green in colour. Bedding indistinguishable. Jointing in two main directions (60° and 22° to core axis) spaced approx. 7". Evidence of shearing with associated lenses of chlorite - minor brecciation. Quartz veins, often with inclusions of country rock, varying in width to 1/4". Shearing appears to have occurred later than injection of quartz-veins cut		-10 -11 -12 -13
90	100-105..	obliquely across shears and often displaced by shearing. Pyrite with minor chalcopyrite associated with quartz, along joint planes and loosely disseminated through shales themselves. Similar to above; Vuggy over sections - vugs carrying coarse crystalline quartz with pyrite. Definite banding apparent possibly representing bedding - 80° to core of axis. Between 102' 2" and 102' 4" - brown cherty mudstone with quartz veining. Quartz veining throughout - more conspicuous over lower 12" - thin (< 1/8") fracture fillings. Considerable chlorite with quartz. Pyrite associated with veins and less so, disseminated through shale.		-14 -15 -16
84	105-110..	Hornfelsed mudstone - dark green/black. Mottled appearance only along fracture planes - often micaceous, iron stained. Upper 3" brecciated. General lack of sedimentary characteristics. Lower 22" numerous thin (< 1/8") quartz veins, chloritic and carrying pyrite. Pyrite also along joint planes.		-17 -18 -19
80	110-115..	Similar to above. Irregular mesh of quartz veins (< 1/8") - chlorite with minor pyrite. Below 112' 10" - spotted partially hornfelsed shales similar to above 105'. Quartz veining and quartz filled vugs common - carry minor pyrite. Banding - 22° to core of axis. Shales often micaceous with foliation of micas.		-20 -21 -22 -23
100	115-120..	Partially hornfelsed shale/mudstone. Spotted over intervals (chlorite?). Often micaceous. Banding (possible bedding) at 22° to core axis - occasionally showing crenulations. Quartz veining, randomly oriented throughout. Quartz associated with chlorite and minor pyrite. Pyrite also along joint planes. Joint planes often striated suggesting movement.		-24 -25 -26 -27
				-28

334

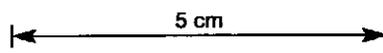


DIAMOND DRILL HOLE RECORD

PROSPECT, LUTWYCHE LOCATION . . . E.L.6/68 . . . HOLE NO. D.D.H.2
 14.75N. + 9.30E
 CO-ORDINATES OF COLLAR . . . BEARING . . . 167° True . . . INCLINATION . . . 60°

% SECTION REC. FROM' TO' DESCRIPTION N.Q. CORE STRUCTURE LITHOLOGY

100	120-125	Similar to above. Evidence of shearing with slight brecciation of rock and elongated lenses of chlorite and quartz common and thin (<1/16") veins pyrite with minor chalcopyrite along fractures. Lenses with long axis to 2". Chlorite also carries pyrite and minor chalcopyrite. Lenses often vuggy - quartz crystalline.		-1. -2. -3.
100	125-130	Similar to above. Evidence of shearing less pronounced - appears to have occurred along plane of bedding (banding). Latter 20° to core axis. Veining limited to isolated thin (<1/8") quartz veins. Minor pyrite associated with veins, joint planes and loosely disseminated through shales. Banding of spotted and non-spotted types - variation in composition of original sedimentaries.		-4. -5. -6.
100	130-135	Similar to above. Veining limited - (thin (<1/16")) chlorite and quartz with minor pyrite associated.		-7. -8. -9.
100	135-140	Partially hornfelsed shales - spotted (mafic minerals - chlorite), deep green/black in colour; banding of spotted and non-spotted rock types - possible bedding - at 16° to core axis; evidence of shearing sub-parallel to banding; slight distortion of banding; quartz chlorite veins and lenses elongate along shear axis carry pyrite and minor chalcopyrite; veins to 1/2"		-10. -11. -12. -13.
100	140-145	in width; similar mineralisation along joints (60° to core axis) at intervals 7"-12". Similar rock type to above. Generally less distortion through shearing with only isolated quartz and chlorite veins apparent - vary in width to 1/8" carrying pyrite.		-14. -15. -16.
100	145-150	Slate; dark grey, spotted and tending to be phyllitic; minor quartz/chlorite veinlets (to 1/8" in width) randomly orientated throughout section; section from 147'3" to 148'6" carries quartz veinlet (1/4" wide) which is sub-parallel to core axis and in turn carries minor disseminated chalcopyrite/chlorite; bedding not distinguishable; jointing is clear-cut and orientated in at least two main directions.		-17. -18. -19.
100	150-155	Slate; similar to above; minor random quartz veining throughout (to 1/2" max. diameter), generally folded and carrying minor pyrite.		-20. -21. -22.
100	155-160	Dominantly medium/dark-grey spotted phyllite; bedding distinguishable in the interval 156'6"-159', and is parallel to core axis; minor randomly orientated quartz veinlets to 1/16" throughout section.		-23. -24. -25.
				-26. -27. -28.



035

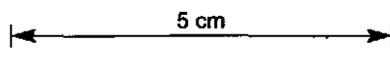


DIAMOND DRILL HOLE RECORD

721036

PROSPECT..... LUTWYCHE LOCATION..... E.L. 6/68 HOLE NO. D.D.H. 2
 CO-ORDINATES OF COLLAR..... 14.75N + 9.30E BEARING..... 167° True INCLINATION..... 60°

% SECTION
 REC. FROM' TO' DESCRIPTION STRUCTURE LITHOLOGY

% SECTION	REC. FROM'	TO'	DESCRIPTION	STRUCTURE	LITHOLOGY
100	160-165		Similar to above. 		
100	165-170		Slate; dark grey, spotted, and overall micaceous appearance suggests nearness to slate/phyllite metamorphic boundary. Within this section quartz veining was intersected in the following intervals - (a) 167'-168'3" - minor associated chlorite, pyrite, chalcopryrite, calcite, feldspar; makes angle 50° to core axis. (b) 166'6"-166'8" - quartz/chlorite veinlet carrying minor pyrite, chalcopryrite; makes angle 48° to core axis. Pyrite/calcite commonly found on joint planes.		
100	170-175		Similar to above; minor randomly quartz/chlorite veinlets throughout (to 1/16" diameter).		
100	175-180		Similar to above.		
100	180-185		Slate, dark grey, spotted, phyllitic; cleaves with difficulty; minor chlorite veinlets randomly oriented throughout section, specifically within the interval 181' to 183' - quartz/chlorite veinlet (to 1/2" max. diameter) carry minor pyrite, and are highly folded.		
100	185-190		Similar to above; with moderately contorted quartz veinlets (to 1/2" in width) common throughout this section and are devoid of any mineralization.		
100	190-195		Slate; similar to above; angle of bedding to core axis varies from (a) 5°-10° (190'-193') (b) about 23° (103' - 195').		
100	195-200		Partially hornfelsed shale/mudstone. Green/grey spotted appearance due to partial recrystallization - chlorite. Banding (at 35° to core axis) probably representing remnants of bedding. Often micaceous with a preferred orientation - poorly defined cleavage parallel to bedding. Jointed in two main directions (33° and 42° to core axis) spaced at 6" to 8" intervals. Quartz veining - joint controlled (to 1/8" width). Pyrite associated with quartz and along joint planes.		

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036

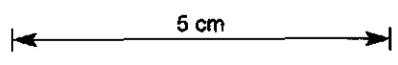


DIAMOND DRILL HOLE RECORD

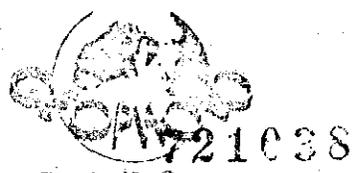
721037

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. D.D.H. 2...
 CO-ORDINATES OF COLLAR... 14.75N ± 9.30E... BEARING... 167° True... INCLINATION... 60°

% SECTION REC. FROM' TO'		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
100	200-205	Similar to above. Banding (bedding) at 12° to core axis. Very limited veining, largely joint controlled. Pyrite with minor chalcopyrite associated with quartz and loosely disseminated through matrix.			-1. -2. -3.
100	205-210	As above, finely grained, finely laminated, spotted in sections. Prominent quartz filled shear at 5° to core axis has associated chlorite and pyrite and minor chalcopyrite in interval 205'-207'. This shear has been displaced by later fracturing (thin chlorite-quartz veins at 40° to the core axis. The banding makes an angle of 15° with the core axis.			-4. -5. -6.
100	210-215	As above, spotted throughout, noticeably micaceous due to recrystallization, slight crenulation of cleavage, weak quartz veining but generally absent. No mineralization apparent.			-7. -8. -9.
100	215-220	As above; quartz veining, bifurcate and meshwork type up to 1/4" in thickness prominent in interval 215'-216'; directions preferred are 5° to core axis. Folding crenulation is apparent in the quartz due to bedding plane movement. Traces of chalcopyrite at 217' and infrequent pyrite on joint surfaces.			-10. -11. -12. -13.
100	220-225	As above; 221'-222' 3", solid white quartz vein containing small fractures infilled with chalcopyrite, chlorite, traces of fine grained molybdenite and wolframite? and pyrite. The vein makes an angle of 50° with the core axis. The banding makes an angle of 10° with the core axis.		Mo W*	-14. -15. -16.
100	225-230	As above; minor thin quartz veining to 229' where solid white quartz vein crosscuts banding and continues to 230' (angle of 45° with the core axis). Small shears within the quartz are filled with chlorite, minor chalcopyrite and pyrite and wolframite? (quite minor).			-17. -18. -19.
100	230-235	As above, minor quartz stringers filling fractures and tension gashes throughout. Minor chalcopyrite associated with chlorite veining at 233' 6", some veining of biotite.			-20. -21. -22. -23.
100	235-240	Hornfelsed shale/mudstone; medium grey, fine grained, micaceous, spotted with clots of recrystallized chlorite which generally define a weak banding - banding makes an angle of 10° with the core axis; a few small quartz stringers parallel or crosscutting the banding, infrequent traces of associated chalcopyrite.			-24. -25. -26.
					-27. -28.



U37



DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE ... LOCATION ... E.L. 6/68 ... HOLE NO. ... D.D.H. 2
 CO-ORDINATES OF COLLAR... 14.75W. + 9.30E ... BEARING ... 167° True ... INCLINATION ... 60°

% SECTION REC. FROM ' TO '		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
100	240-245	As above; intensely sheared on small scale with banding contorted and displaced in interval 240'-241'; micaceous and slickensided fracture surfaces; very thin quartz stringers subparallel to the banding; sheared intermittently from 241'-245' with chlorite development; some pyrite on joints.			-1. -2. -3.
100	245-250	As above; the banding makes an angle of 10° with the core axis; markedly micaceous in places; slight mesoscopic cleavage crenulation; some prominent shearing in zone 246'-248' and associated 1/8"qtz. veins; also slightly folded.			-4. -5. -6.
100	250-255	As above; medium to dark grey in colour; prominent undisrupted cleavage at 10° to core axis; minor massive pyrite on joints; marked paucity of veining.			-7. -8. -9.
100	255-260	As above; sheared from 256'-260' with irregular quartz veining crosscutting the banding; at 258' 6" 3" interval containing large (1/8" diameter) chlorite blobs. Core varies from medium grey to black in colour.			-10. -11. -12. -13.
100	260-265	As above; prominently veined at intervals throughout by thin quartz stringers, themselves folded with axial planes paralleling the cleavage of the shale (shear folding); some pyrite and chalcopyrite on joints or associated with chlorite in small shears.			-14. -15. -16.
100	265-270	As above; intensely sheared and veined by folded quartz stringers, subparallel to and crosscutting the cleavage; the banding foliation makes an angle of 24° with the core axis at 269'; some thin calcite veins with traces of chalcopyrite; minor pyrite and chalcopyrite associated with chlorite filling shears.			-17. -18. -19. -20.
100	270-275	As above; spotted throughout with small chlorite blebs; veined at intervals throughout by thin white quartz veins, frequently folded; cleavage changes to 20° to core axis at 271' 6", then 10° at 272'.			-21. -22. -23.
100	275-280	Spotted hornfelsed shale; medium to dark grey, fine grained, foliation defined by minute chlorite recrystallization blebs - makes angle of 1° with core axis at 278'; prominent 1/4"-1/2" quartz vein subparallel to core axis from 274'-279' 6", traces of chalcopyrite and pyrite, some associated chlorite.			-24. -25. -26. -27. -28.



038



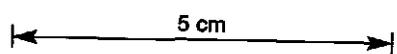
DIAMOND DRILL HOLE RECORD

721039

PROSPECT... LUTWYCHE . . . LOCATION . E.L.6/6B . . . HOLE NO. D.D.H.2 . . .
 14.75N + 9.30E
 CO-ORDINATES OF COLL AR. . . . BEARING . . . 167° True . . . INCLINATION . 60° . . .

STRUCTURE
LITHOLOGY

% SECTION REC. FROM TO		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
100	280-285	As above; prominently spotted on a fine scale; 4" quartz vein at 282'11", apparently barren, makes angle of 60° with core axis; banding change to 15° to core axis at 281'6", then 2° near 283'.			-1. -2. -3.
95	285-290	As above; core broken from 287'-290'; no mineralization apparent.			-4. -5. -6.
100	290-295	As above; banding makes an angle of 19° with the core axis at 294'; 291'6", 9" white quartz vein at 30° to the core axis, minor pyrite and chlorite associated.			-7. -8. -9.
100	295-300	As above; banding makes an angle of 20° with core axis; a few 1/8" quartz veins crosscutting the banding; minor siderite lining joints.			-10. -11. -12. -13.
100	300-305	As above; finely spotted throughout; general absence of quartz veins.			-14. -15. -16.
100	305-310	As above; joints frequently silicified, often with associated carbonate and scattered pyrite cubes; quartz veining quite minor.			-17. -18. -19.
100	310-315	As above; banding makes an angle of 5° with core axis at 315'; minor shearing and quartz veining in places; coarse chlorite recrystallization clots locally, slickensided fracture surfaces.			-20. -21. -22. -23.
100	315-320	Spotted hornfelsed shale; medium grey, finely banded throughout with banding defined by alignment of chlorite recrystallization blebs; fine grained; banding makes an angle of 5° with the core axis; 1/4" thick quartz vein at 317'6" at 20° to core axis, vein quite contorted by shear folding, minor chalcopyrite at 216'.			-24. -25. -26. -27.
					-28.



439



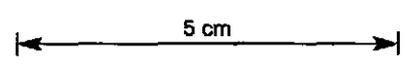
DIAMOND DRILL HOLE RECORD

721010

PROSPECT... LUTWYCHE ... LOCATION . E.L. 6/68 ... HOLE NO. ... D.D.H. 2
 CO-ORDINATES OF COLLAR... 14.75N + 9.30E ... BEARING ... 167° True ... INCLINATION . 60°

% SECTION REC. FROM' TO' DESCRIPTION N.Q. CORE

% SECTION REC. FROM'	TO'	DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
100	320-325	As above; generally unsheared; absence of veining and of mineralization.			-1. -2. -3.
100	325-330	As above; prominent 3/4" white quartz vein, folded, subparallel to core axis from 326'-327'4", fractured locally and infilled with chlorite; some pyrite cubes on fractures.		Qz	-4. -5. -6.
100	330-335	As above; intensely sheared from 331'-335' and veined by irregular and stringer-like masses of white quartz with associated chlorite; quartz veins frequently show an echelon displacement at 1/2" intervals due to later shearing at 45° to the veins.		Qz	-7. -8. -9.
100	335-340	As above; intensely sheared with prominent en echelon displacement of quartz veins, chlorite associated, some pyrite and chalcopyrite.		Qz	-10. -11. -12. -13.
100	340-345	As above; a few thin quartz veins throughout are offset by small shears; minor pyrite, chalcopyrite and talc are developed on some fracture surfaces.			-14. -15. -16.
100	345-350	As above; very weak banding approximately parallel to core axis; some crystalline feldspar lining joints and probable trace cassiterite?			-17. -18. -19.
100	350-355	As above; chlorite blebs becoming coarser, banding poor to absent, veined throughout by white quartz and feldspar, veins most prominent near 355'; shearing moderate; no mineralization apparent.			-20. -21. -22. -23.
100	355-360	Spotted hornfelsed shale; medium grey, fine grained, very weakly banded with banding making an angle of 5° with the core axis; 1/4" thick quartz veins prominent, folded and slightly sheared crosscutting the core axis; some feldspar veins.			-24. -25. -26.
					-27. -28.



J40



DIAMOND DRILL HOLE RECORD

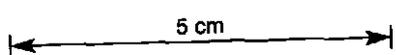
721041

ROSPECT... LUTWICHE LOCATION . E.L. 6/68. . . HOLE NO. D.D.H. 2 . . .
 14.75N + 9.30E
 O-ORDINATES OF COLLAR... BEARING . . . 167° True . . . INCLINATION . 60° . . .

% SECTION
 SEC. FROM' TO' DESCRIPTION N.O. CORE

STRUCTURE
 LITHOLOGY

100	360-365	As above; becoming coarsely speckled near 364' - coarseness of the chlorite appears to be related to the degree of shearing; quartz-veining prominent.		-1. -2. -3.
100	365-370	As above; chlorite spots to 3/10" in diameter, minor pyrite in places; prominently sheared throughout; chlorite fracture surfaces slickensided.		-4. -5. -6.
100	370-375	As above; prominently sheared and veined by irregular contorted quartz masses and veins; traces of chalcopryrite and pyrite.		-7. -8. -9.
100	375-380	As above; 379', 3" quartz vein at 85° to core axis; 378' 10" quartz vein continuing past 380' and approx. paralleling the core axis - constitutes total core in places, limited to a width of 1/2" in other cases.		-10. -11. -12. -13.
100	380-385	As above; quartz vein continues to 385', some pyrite and chalcopryrite? fill small shears within the quartz mass.		-14. -15. -16.
100	385-390	As above; sheared on a fine scale, no distinct banding present; a few quartz veins; pyrite prominent on fractures.		-17. -18. -19.
100	390-395	As above; very prominently sheared; 381' 2", prominent white massive quartz vein extending past 395', quartz generally barren but with some pyrite along fractures in the quartz, torn relics of hornfelsed shale also incorporated; prominently veined by biotite (finegrained) locally.		-20. -21. -22. -23.
100	395-400	Quartz vein from previous section extends to 398' with intermittent pieces of sheared hornfelsed shale incorporated; hornfels relics in less sheared section show a weak foliation at 30° to core axis. 398' 8", quartz vein with some hornfels incorporated and minor pyrite in shears extends past 400'.		-24. -25. -26.
				-27. -28.



041

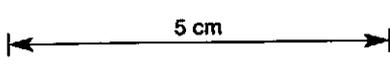


DIAMOND DRILL HOLE RECORD

721042

PROSPECT... LUTWYCHE . . . LOCATION . E.L.6/68 . . . HOLE NO. D.D.H.2 . . .
 14.75N + 9.30E
 CO-ORDINATES OF COLLAR... BEARING .167° True . . . INCLINATION .60° . . .

% SECTION		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
REC. FROM	TO				
100	400-405	The quartz vein extends to 401'6"; a few lens-like masses of pyrite are associated. 401'6"-405', extremely contorted, medium grey, hornfelsed shale; evidence of intense shearing, plasticity of original sediment; irregular tension gash & bifurcate vein biotite infilling; pyrite prominent on fractures.			-1. -2. -3.
100	405-410	As above; intensely sheared and contorted; quartz veins pinch and swell and are broken up.			-4. -5. -6.
100	410-415	As above; 413', 4" quartz vein; relict banding in evidence; pyrite prominent on fractures.			-7. -8. -9.
100	415-420	As above; white quartz vein parallel to core axis at 416' extends to 419'6", pyrite is frequently associated with shears and fractures;			-10. -11. -12. -13.
100	420-425	As above; intensely sheared; 1/2" quartz vein approximately parallel to core axis extends from 421'-421'6", also very irregular sheared quartz veining from 422'-424'; pyrite prominent on fractures;			-14. -15. -16.
100	425-430	Major shear zone appears to die out near 426' where foliation observed at 35° to coreaxis; a few thin stringer-like quartz veins near 429'; pyrite in sheared zone but absent in latter section.			-17. -18. -19.
100	430-435	Hornfelsed shale; fine grained, medium grey, mottled with streaks and blebs of green black recrystallized chlorite defining a prominent foliation; essentially unshered and general absence of veining or mineralization.			-20. -21. -22.
100	435-440	Hornfelsed shale/siltstone; finegrained, mottled with recrystallized chlorite blebs, medium grey in colour; weak foliation makes an angle of 12° with the coreaxis; no mineralization apparent; very minor quartz veining.			-23. -24. -25. -26.
					-27. -28.



JA2



DIAMOND DRILL HOLE RECORD

721043

PROSPECT... LUTWYCHE... LOCATION E.L. 6/68... HOLE NO. ...
 O-ORDINATES OF COLLAR... 14.7N + 9.30E... BEARING 167° True... INCLINATION 60°

% SECTION		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
SEC. FROM	TO				
100	440-445	As above; foliation makes an angle of 18° with the core axis at 443'; 443'6"-444'6", sheared section veined by white quartz with associated pyrite.			-1. -2. -3.
100	445-450	Similar to above. Orientation of chlorite and mica content - foliation at 12° to core axis. Between 446'6" and 447'6" sheared section with contorted quartz and chlorite veins. Inclusions of silicified (cherty) shales. Shear axis approx. 40°-45° to core axis. Elongating of chlorite lenses. Pyrite associated with shear and minor wolframite apparent. Quartz veining less prominent with depth - joint controlled.			-4. -5. -6.
100	450-455	Hornfelsed shales/mudstone similar to above. Limited veining (to 1/8") - quartz and chlorite with associated pyrite - joint controlled.			-7. -8. -9.
100	455-460	Similar to above. Single quartz vein (to 1/2") following length of core between 455'3" and 457'10" at shallow angle (3°-5°) to core axis. Splintery fracture to hornfelsed rock.			-10. -11. -12. -13.
100	460-465	Hornfelsed shale/mudstone similar to above. Banding (bedding) at 20° to core axis. Foliation of chlorite parallel to banding. Distortion of banding and foliation by shearing apparent throughout particularly between 461'8" and 462'8" - streaks and elongated pods of chlorite intermingled with quartz and silicified country rock. Pyrite only mineralization.			-14. -15. -16. -17.
100	465-470	Similar to above. Limited evidence of shearing. Between 468'3" and 468'11" more pronounced - elongated pods of chlorite with limited quartz veining in preferred orientation. Quartz veining over rest of section joint controlled (max. width 1/8").			-18. -19. -20.
100	470-475	Similar rock type to above. Generally little evidence of shearing - slight distortion of isolated quartz veins. Weak foliation at 12° to core axis.			-21. -22. -23.
100	475-480	Hornfelsed shale/mudstone similar to above. Hard, grey/black with green tinge due to presence of chlorite - mottled appearance due to partial recrystallization. Weak foliation at 15° to core axis. Evidence of shearing (often intense) below 476'.			-24. -25. -26.
		Streaks and lenses of chlorite randomly oriented. Limited quartz veining. Below 479'7" shearing associated with dense lattice of thin sinuous calcite veinlets. Minor pyrite associated with shear zones.			-27. -28.

5 cm

043



721044

DIAMOND DRILL HOLE RECORD

LUTWYCHE

E.L. 6/68

D.D.H. 2

PROSPECT LOCATION HOLE NO.
 14.75N + 9.30E

CO-ORDINATES OF COLLAR... BEARING ..167° True . . . INCLINATION .60° . . .

% SECTION N.Q. CORE
 REC. FROM ' TO ' DESCRIPTION

STRUCTURE

LITHOLOGY

100	480-485	Hornfelsed shale/mudstone similar to above. Hard, splintery fracture. Weak foliation of chlorite and mica content. Over upper 10" continuation of lattice of calcite veinlets in sheared sections. Shearing less pronounced over remainder of interval but streaking and elongating of chlorite pads common. Calcite veins less common with depth.	-1. -2. -3.
100	485-490	As above; sheared on a fine scale; 487'-488'4" sheared section mottled with randomly oriented elongate chlorite blebs to 1/2" in diameter; some stringer-like quartz veins filling tensional openings and more irregular meshwork veining; calcite veining is minor; weak foliation makes angle of 10° with core axis in less sheared sections.	-4. -5. -6.
100	490-495	As above but finely mottled with chlorite throughout the chlorite defining a weak foliation, small scale shearing at intervals; thin quartz veins crosscut banding.	-7. -8. -9.
100	495-500	As above; sheared on fine scale most prominently to 498' with medium to coarse grained chlorite clots prominent; crosscutting quartz veins tend to form an irregular network; banding makes an angle of 15° with core axis at 498'; 1/4" thick white feldspar vein at 497'1" shows an echelon displacement.	-10. -11. -12. -13.
100	500-505	As above; general absence of any veining; coarsely mottled with chlorite in particular bands from 504'-505'; no mineralization apparent.	-14. -15. -16.
100	505-510	As above; finely foliated with foliation at 15° to core axis; a few 1/8" quartz veins crosscut foliation in the zone 508'-510'.	-17. -18. -19.
100	510-515	As above; 1/5" thick calcite vein at 511' and a few very thin stringer veinlets in the interval to 5'2"; prominent mottled chlorite bands to 1/2" in thickness from 511'-512'; weak foliation shows an increase to 25° as the angle it makes with the core axis; quartz veining quite minor.	-20. -21. -22.
100	515-520	As above; banding makes an angle of 17° with the core axis at 518'; absence of any veining over most of core apart from a few very minor quartz veinlets; 519'5"-520', foliation well defined by elongate, aligned chlorite recrystallization blebs.	-23. -24. -25. -26.
			-27.



DIAMOND DRILL HOLE RECORD

PROSPECT..... LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 2
 CO-ORDINATES OF COLLAR..... 14.75N + 9.30E BEARING 167° True INCLINATION 60°

% SECTION REC. FROM ' TO '		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
100	520-525	Hornfelsed shale/mudstone; dark grey in colour, fine grained, well foliated with the foliation defined by alternating fine and coarse bands, the latter containing streaks and blebs of chlorite; a few coarser bands to 1/2" thickness with chlorite to 1/8" in length; slight local shearing with veining weak to absent; foliation makes angle of 17° with the core axis..			-1 -2 -3
100	525-530	As above; small 1/4" shears at 525' and 527' with some associated quartz and chlorite; foliation makes an angle of 10° with core axis at 528'; veining generally weak except at 528'2" where shear folding of 1/4" quartz vein has occurred.			-4 -5 -6
100	530-535	As above; finely mottled to 531'; a coarse mottled band extends from near 531' and continues past 535'; shearing apparent in zone 531'-532' and 534'-535' with associated quartz, biotite and chlorite; a few quartz veinlets as tension crack fillings throughout.			-7 -8 -9
100	535-540	As above; sheared from 538'-538'6"; minor very thin quartz stringers cross cutting the weak foliation.			-10 -11 -12 -13
100	540-545	As above; minor shearing near 541'6"; major shear zone starts near 542' and continues past 545'; quartz, calcite and biotite veining are very prominent; pyrite is developed as veinlike segregations or as associated with calcite and quartz.			-14 -15 -16
100	545-550	As above; continuation of major shear zone. Quartz, biotite and chlorite in streaked and/or contorted forms. Sections of milky quartz to width of 4". Inclusions of highly silicious (cherty) country rock common. Pyrite found along fractures and in vein or vuggy segregations.		Qz	-17 -18 -19
100	550-555	As above. Intensely sheared. Feldspathic streaks common. Abundant pyrite in veinlets and vugs. Trace wolframite associated with pyrite.		Qz	-20 -21 -22
100	555-560	As above - continuation of major shear zone. Streaked appearance with quartz dominant over much of section. Biotite and calcite common with minor chlorite and feldspar. Two generations of quartz apparent. Abundant pyrite throughout. Lower 2'		Qz	-23 -24 -25 -26
		return to hornfelsed shales/mudstone, highly silicious but with shearing less pronounced. Veins of chlorite quartz (1 1/2") carry pyrite.			-27 -28

5 cm

045



DIAMOND DRILL HOLE RECORD

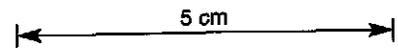
721046

PROSPECT... LUTWYCHE LOCATION... E.L. 6/68 HOLE NO. D.D.H. 2
 CO-ORDINATES OF COLLAR... 14.75N+9.30E BEARING... 167° INCLINATION... 60°

% SECTION N.Q. CORE
 REC. FROM ' TO ' DESCRIPTION

STRUCTURE
 LITHOLOGY

100	560-565	Hornfelsed shale/mudstone. Grey/black with slight mottled appearance. Weak foliation at 5° to core axis increasing with depth to 12°. Limited evidence of shearing over upper 12" - randomly oriented chloritic quartz veins and elongation of chlorite pods in a preferred orientation. Isolated veins (1") largely joint controlled below 561' becoming less frequent with depth. Calcite common along joint faces.	-1 -2 -3
100	565-570	Similar rock type to above. Stronger foliation of chlorite content - 22° to core axis. Lower 2' sheared silicified section with abundant mica often coarsely crystalline - muscovite.	-4 -5 -6
100	570-575	Similar to above. Minor shearing at intervals between 570'9" and 571'4", and 573'3" and 574'8". Sections silicified with abundant chlorite and muscovite. Pyrite with minor chalcopyrite apparent.	-7 -8 -9
100	575-580	Similar to above. Weak foliation at 18° to core axis. Minor shearing in evidence over lower 3'6" - veinlets of chlorite, quartz and calcite. Generally micaceous (muscovite). Pyrite associated with veins and loosely disseminated through country rock.	-10 -11 -12 -13
100	580-585	Hornfelsed shale/mudstone similar to above. Weak foliation (chlorite and mica content) at 14° to core axis. Veining (to 1/4") limited - quartz - mainly joint controlled. Weak shear around 583'3" (6"), - chloritic quartz carrying pyrite.	-14 -15 -16
100	585-590	Hornfelsed shale/mudstone. Grey/black. Slight mottled appearance. Splintery fracture. Weak foliation at 18° to core axis. Isolated quartz and calcite veinlets (<1/8").	-17 -18 -19
100	590-595	Similar to above. Generally less veining.	-20 -21 -22
100	595-600	Similar to above. Foliation increasing to 30° to core axis. Sheared section between 596' and 597'6"- streaked with quartz, chlorite and feldspathic veinlets within a siliceous (cherty) country rock. Section micaceous.	-23 -24 -25 -26



J46

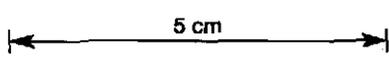


DIAMOND DRILL HOLE RECORD

721047

PROSPECT... LYTWYCHE ... LOCATION... E.L. 6/68 ... HOLE NO. D.D.H.2
 14.75N+9.30E ... 167° ... 60°
 CO-ORDINATES OF COLLAR... BEARING ... INCLINATION ...

% SECTION REC. FROM ' TO '		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
100	600-605	Hornfelsed shale/mudstone. Grey/black, mottled appearance. Foliation at 24° to core axis. Section between 601'4" and 602'3" - elongated pods (1/8") of chlorite with preferred orientation - little evidence of shearing, probably lithology change in original sedimentaries. Orientation at 24° to core axis. Veining limited (quartz and calcite). Single bleb of molybdenite found on joint face with calcite.			-1. -2. -3.
100	605-610	Similar rock type to above. Between 606'8" and 608'9" section similar to 601'4" to 602'3" - elongated pods of chlorite. Below 608'9" intense shearing with contorted veins of quartz, chlorite, calcite and micas within a cherty country rock.			-4. -5. -6.
100	610-615	Similar rock type to above. Minor shearing throughout with veining (3/8") in preferred direction - quartz, calcite and chlorite. Thin veinlets and vugs of pyrite common.			-7. -8. -9.
100	615-620	Similar rock type to above. Foliation at 26° to core axis. No evidence of shearing. Veining largely joint controlled - quartz and calcite.			-10. -11. -12. -13.
100	620-625	Hornfelsed shale/siltstone; medium grey to dark grey in colour, splintery fracture with slickensided joints and fracture surfaces, finegrained, mottled on a fine scale with streaks and blebs of chlorite but with a few coarser mottled bands;			-14. -15. -16.
100	625-630	foliation very fine and defined by quartzose and chloritic bands - makes angle of 19° with core axis; pyrite prominent on joints; a few quartz veins to 1/4" thickness parallel to foliation in intervals 622'-623'. As above; fracture surfaces slickensided are talcose; quartz veining weak to absent.			-17. -18. -19. -20.
100	630-635	As above; sheared from 632-633'6" with quartz veins filling fractures parallel to and crosscutting the foliation; a few 1/4" thick mottled bands from 634'-635'; foliation makes an angle of 20° with the core axis.			-21. -22. -23.
100	635-640	As above; 636'-639', intensely sheared and veined by white quartz, itself shear folded with axial planes paralleling the foliation. Some of the quartz shows later fracturing with ingress of chlorite and biotite into the voids created; no visible mineralization.		qz	-24. -25. -26. -27. -28.



047



DIAMOND DRILL HOLE RECORD

721048

LUTWYCHE

E.L.6/68

D.D.H. 2

PROSPECT..... LOCATION..... HOLE NO.....

CO-ORDINATES OF COLLAR..... BEARING..... INCLINATION.....

% SECTION		DESCRIPTION	N.Q. CORE	STRUCTURE	LITHOLOGY
REC. FROM	TO				
100	640-645	As above; 640'2", 1/4" thick biotite vein at 75° to the core axis; intermittent shearing throughout with small shears filled with chlorite and quartz; folded quartz veins from 644'- 644'6" are in part broken up by the shearing; no visible mineralization.			-1. -2. -3.
100	645-650	As above; intermittent shearing through the section with introduction of quartz calcite biotite and chlorite; quartz stringers and veins tend to follow the foliation planes in general; mottled on a fine scale throughout with chlorite blebs.			-4. -5. -6.
100	650-655	As above; generally unsheared; a few thin quartz stringers crosscutting the foliation and parallel to the foliation; pyrite is developed on joints in the latter few feet.			-7. -8. -9.
100	655-660	As above; intermittent shearing with associated quartz, chlorite and calcite; minor chalcopyrite associated quartz and chlorite in shear at 656'6", 656'8"; quartz veining has been cut and displaced by later, small chlorite-filled shears.			-10. -11. -12. -13.
100	660-665	Hornfelsed shale/siltstone; dark grey in colour, fine grained, noticeably sheared from 660'-663' with quartz vein (itself sheared and broken up) paralleling the core axis over this interval; a few small quartz veins and stringers paralleling the foliation are probably metamorphic segregation derivatives. The latter are displaced to 1/2" by later cross-cutting quartz veins; minor calcite veins and pyrite; foliation at 29° to core axis.			-14. -15. -16. -17.
100	665-670	As above; coarse mottled chlorite bands near 665', 666'-667'; intermittent shearing throughout with irregular quartz vein meshwork at intervals; no mineralization apparent.			-18. -19.
100	670-675	As above; prominent quartz vein parallels the core axis from 673'-675', some pyrite associated; some thin folded quartz veins.			-20. -21. -22.
100	675-680	As above; intermittent, smallscale shearing with associated quartz veining; 678'-678'6", prominent mottled zone, weak foliation makes an angle of 25° with the core axis; minor pyrite on joints.			-23. -24. -25.
					-26. -27. -28.

U48



DIAMOND DRILL HOLE RECORD

721049

RESPECT..... LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 2
 14.75N+9.30E
 O-ORDINATES OF COLLAR.... BEARING 167° INCLINATION 60°

% SECTION DESCRIPTION N.Q. CORE
 'EC. FROM ' TO ' STRUCTURE LITHOLOGY

100	680-685	As above; prominently sheared from 683' onwards, quartz veining parallel to core axis from 682'6"-684' - the quartz itself is sheared and broken up with chlorite ingression.		-1. -2. -3.
100	685-690	As above; 1/2" wide mottled band near 685'3"; marked shearing continues to 687" and then becomes less intense; both thin quartz stringers paralleling the foliation and irregular, broken and sheared quartz veins crosscutting the foliation are represented; foliation at 25° to the core axis.		-4. -5. -6.
100	690-695	As above; finely mottled throughout with a few coarser mottled bands from 693'-695'; foliation at 21° to core axis; minor local shearing and quartz veining - one irregular, folded biotite vein near 694'.		-7. -8. -9.
100	695-700	As above; mottled at intervals, small scale shearing with associated quartz and biotite; cross-cutting quartz veins are folded with axial planes paralleling the foliation - later shearing has disrupted some of these; pyrite and chlorite are often associated with quartz on sheared sections; 696'10"-697'2", biotite rich zone.		-10. -11. -12. -13.
		END OF HOLE		-14. -15. -16.
				-17. -18. -19.
				-20. -21. -22. -23. -24. -25. -26. -27. -28.

APPENDIX

DIAMOND DRILL HOLE RECORDS

LUTWYCHE D.D.H. 5

050



DIAMOND DRILL HOLE RECORD

721051

ROSPECT..... LUTWYCHE LOCATION..... E.L.6/68 HOLE NO. D.D.H.5
 14N+11E
 O-ORDINATES OF COLLAR.... BEARING 167° True INCLINATION 70°

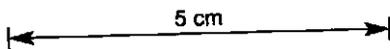
% SECTION

SEC. FROM ' TO '

DESCRIPTION

STRUCTURE
LITHOLOGY

65	0- 5	Hornfelsed shale; weathered with iron oxides prominent throughout and with clays along joints; core broken at intervals; mottling with medium grained chlorite blebs noticeable set in a fine grained discoloured, medium grey, coloured matrix; a weak foliation (probably bedding) makes an angle of 10° with the core axis.	-1. -2. -3.
65	5-10	As above.	-4. -5. -6.
65	10-15	As above; some shearing apparent with shears lined by iron oxides; a few quartz veins.	-7. -8. -9.
90	15-20	As above; pink in colour, sheared in zone 19'-20' with prominent chlorite veining; iron and manganese staining common on joints; core broken at intervals.	-10. -11. -12. -13.
95	20-25	As above; prominently weathered to a pink and purple colour; intensely sheared and broken 24'-25'; a thin quartz vein parallels the core axis from 22'6" - 23'6".	-14. -15. -16.
90	25-30	As above; extremely weathered and broken up over the last few feet; highly ferruginous throughout with manganese staining on joints.	-17. -18. -19.
20	30-35	As above; extremely weathered and broken up.	-20. -21. -22.
80	35-40	As above; pink coloured, quartz vein 35'-36' sheared with haematite coating fractures, clay minerals prominent after feldspars; weak foliation makes an angle of 15° with the core axis; intermittently sheared with some quartz veining; noticeably micaceous; mottled and iron stained throughout.	-23. -24. -25. -26.
			-27. -28.



551

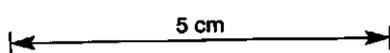


721052

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE. . . . LOCATION . . . E.L.6/68 . . . HOLE NO. . . D.D.H.5. . .
 . . . 14N+11E
 CO-ORDINATES OF COLLAR . . . BEARING . . . 167° (True) . . . INCLINATION . . . 70°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
REC. FROM	TO			
95	40-45	Hornfelsed shale; medium grey in colour, fine grained, veined by 1" wide quartz vein from 42'6"-43'6"; a few other smaller quartz veins, all quite sheared with chlorite filling shears; pyrite veins prominent with most pyrite altered to haematite; manganese encrustations on all joint surfaces; weak foliation at 20° to core axis.		-1.
				-2.
				-3.
100	45-50	As above; mottled, muscovite-rich; quartz veins parallel to subparallel to the core axis throughout are folded and sheared. Muscovite is frequently associated as is chlorite.		-4.
				-5.
				-6.
100	50-55	As above; core still slightly weathered with haematite and limonite lining every fracture and joint; sheared weakly throughout; quartz stringers and random veins common with shear displacement; weak foliation defined by chlorite ? streaks and blebs makes an angle of 15° with the core axis; coarsely mottled 52'-54'.		-7.
				-8.
				-9.
				-10.
100	55-60	As above; a few quartz veins; generally unsheared.		-11.
				-12.
				-13.
100	60-65	As above; finely mottled.		-14.
				-15.
				-16.
100	65-70	As above; veined by quartz (with associated muscovite, pyrite/partially oxidized to haematite) and chlorite; weak shearing; weak foliation at 19° to core axis.		-17.
				-18.
				-19.
				-20.
100	70-75	As above; mottled, weakly veined and sheared.		-21.
				-22.
				-23.
100	75-80	As above to 76'6" where major shear zone starts; section to 80' is prominently veined by white quartz which is sheared and broken up and cut by secondary chlorite; pyrite is quite prominent filling shears; manganese staining and encrustations on some joints.		-24.
				-25.
				-26.
				-27.
				-28.



552

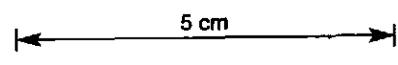


DIAMOND DRILL HOLE RECORD

721053

PROSPECT... LUTWYCHE LOCATION... E.L.6/68 HOLE NO. D.D.H.5
 CO-ORDINATES OF COLLAR... 14N+11E BEARING... 167° (True) INCLINATION... 70°

% SECTION REC. FROM TO		DESCRIPTION	CORE NX to 115' then NQ	STRUCTURE	LITHOLOGY
100	80-85	Sheared zone continues through past 85'; fractures 13° to core axis show small displacement by micro-shears at 50° to core axis; quartz veins broken up by an echelon type shear movement, or in most cases sheared beyond recognition; 82'6"-83', a few altered pieces of wolframite?; chlorite and pyrite are associated filling irregular shears throughout; muscovite sheaves also common.			
100	85-90	As above; chlorite and pyrite most prominent filling very irregular fractures; muscovite sheaves and rosettes associated with shears in places, a few relict quartz veins slightly displaced by shears; iron staining after pyrite on joints.			
95	90-95	As above; prominent veining of quartz and chlorite with some feldspar, pyrite and muscovite.			
100	95-100	As above; 99', trace of wolframite; solid quartz vein 97'-97'6".			
100	100-105	As above; solid quartz veins 1" wide at 102'6" and 104'; relict foliation visible but variable in orientation to core axis due to the shearing.			
70	105-110	As above; sheared sections veined by chlorite, quartz and muscovite with minor pyrite; 2" thick quartz vein at 110'.			
40	110-115	As above; 110'4", 6" thick barren quartz vein at right angles to core axis. Shear zone appears to die out near 115', then in relatively unshattered, poorly veined, dark grey, hornfelsed shale, fine grained, foliation very weak to absent (approx. 15° to core axis).			
100	115-120	As above; sheared from 118'-120', with quartz veining and later stage white feldspar veining (some muscovite associated); a prominent white quartz vein at 55° to the core axis stretches 118'8"-119'8".			



053



DIAMOND DRILL HOLE RECORD

721054

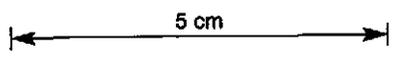
PROSPECT... LUTWYCHE
 LOCATION... E.L. 6/68
 HOLE NO. ... D.D.H. 5
 CO-ORDINATES OF COLLAR... 14N+11E
 BEARING... 167° (True)
 INCLINATION... 70°

% SECTION
 REC. FROM ' TO '

DESCRIPTION

STRUCTURE
 LITHOLOGY

100	120-125	Hornfelsed shale; medium to dark grey in colour, fine grained, splintery fracture; 1½" wide quartz vein at 80° to core axis at 121'2"; weak foliation at 10° to the core axis; chlorite and muscovite veining prominent in sheared areas.	-1. -2. -3.
100	125-130	As above; absence of veining, poorly sheared; very weak foliation expressed approximately parallel to the core axis.	-4. -5. -6.
100	130-135	As above; weakly sheared throughout with a few thin quartz veins only.	-7. -8. -9.
100	135-140	As above; foliation 8° at 136° increasing to 15° near 137°; finely mottled throughout with chlorite blebs.	-10. -11. -12. -13.
100	140-145	As above; intermittently sheared and veined by quartz throughout. The quartz veins exhibit shear folding with axial planes of folds parallel to the weak foliation; the foliation makes an angle of 15° with the core axis.	-14. -15. -16.
100	145-150	As above; 146'9"-148'2" sheared quartz vein itself veined by biotite with some pyrite veinlets and muscovite veinlets; a 1" wide quartz-biotite vein at 148'9" at 40° to core axis; chlorite and biotite veining over the last foot; pyrite on joints.	-17. -18. -19.
100	150-155	As above; well defined foliation at 10° to core axis; a few thin quartz veins paralleling the foliation show slight displacement by minor shears at 80° to core axis. The final one foot is prominently sheared and veined by biotite, muscovite and chlorite or an association of these.	-20. -21. -22.
100	155-160	As above; quite prominently sheared at intervals throughout with sheared sections veined by biotite, chlorite, quartz and muscovite; pyrite tends to line joint surfaces.	-23. -24. -25.



-26.
-27.
-28.

054



DIAMOND DRILL HOLE RECORD

721055

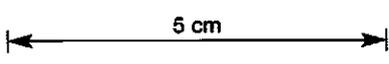
PROSPECT. LUTWYCHE LOCATION. E.L. 6/68 HOLE NO. D.D.H. 5
 14N+11E
 CO-ORDINATES OF COLLAR. BEARING ..167° (True) INCLINATION .70°

% SECTION

REC. FROM ' TO ' DESCRIPTION

STRUCTURE
LITHOLOGY

100	160-165	Hornfelsed shale; medium grey, fine grained, splintery fracture; 162', intensely sheared section over 1 foot with shear filled by quartz, wolfram (grains to 4/10" in length), chlorite, muscovite and biotite; a weak foliation defined by chlorite blebs makes an angle of 8° with the core axis; pyrite prominent on joints.		-1.
				-2.
				-3.
100	165-170	As above; sheared throughout to varying degrees, appears to be the initial expression of a major shear zone; irregular quartz veining, blotches and streaks of chlorite and irregular masses of biotite and muscovite are common.		-4.
				-5.
				-6.
100	170-175	As above; intensely sheared and noticeably micaceous throughout; quartz vein meshwork quite irregular and broken up, cut by chlorite, feldspar, muscovite and biotite veins; prominent, thick quartz vein subparallel to core axis from 173'-175'6".		-7.
				-8.
				-9.
				-10.
100	175-180	As above; major shearing dies out near 178', but shearing still apparent past 180' though less intense; weak foliation at 15° to core axis; talcose along some joints.	-11.	
			-12.	
			-13.	
			-14.	
100	180-185	As above; sheared throughout on a fine scale with minor veining by quartz, feldspar and chlorite.	-15.	
			-16.	
			-17.	
100	185-190	As above; sheared to 188' where foliation well marked and uninterrupted at 30° to core axis.	-18.	
			-19.	
			-20.	
100	190-195	As above; finely foliated with a few 1/8" thick shear folded quartz veins containing some biotite, pyrite and muscovite; mottled throughout with chlorite blebs.	-21.	
			-22.	
			-23.	
100	195-200	As above; mottled and micaceous throughout; finely foliated with foliation at 20° to core axis; weak veining only.	-24.	
			-25.	
			-26.	
			-27.	
			-28.	



555



721056

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE... LOCATION... E.L.6/68... HOLE NO. D.D.H. 5
 CO-ORDINATES OF COLLAR... 14N+11E... BEARING... 167° True... INCLINATION... 70°

% SECTION REC. FROM TO		DESCRIPTION	STRUCTURE	LITHOLOGY
100	200-205	Hornfelsed shale/siltstone; medium grey in colour, fine grained, mottled with banks of medium grained, recrystallized chlorite defining a marked foliation at 10° to the core axis; a few 1/8"-1/4" thick quartz and feldspar veins in the interval 203'-204' are arranged in a crosscutting manner.		-1. -2. -3.
100	205-210	As above; some local shearing near 206'6" with broken quartz veins and associated biotite.		-4. -5. -6.
100	210-215	As above; prominently sheared in the interval 212'-214', with 6" wide quartz vein at 25° to core axis containing scattered flakes of molybdenite; muscovite, chlorite and minor pyrite are associated. A few irregular calcite veins also occur within the sheared interval.	Mo *	-7. -8. -9.
100	215-220	As above; mottled on a fine scale throughout, very weakly foliated; minor veining of quartz with associated muscovite; pyrite present locally on some joint surfaces.		-10. -11. -12. -13.
100	220-225	As above; absence of shearing and only weak expression of veining; weak foliation at 15° to core axis; no visible mineralization.		-14. -15. -16.
100	225-230	As above; sheared throughout but most intensely in the interval 226'-228'; prominent white quartz vein with abundant biotite and scattered molybdenite, minor chalcopyrite and some thin chlorite veins.	Mo * Q Z	-17. -18. -19.
100	230-235	As above; sheared in interval 230'6"-232', where a quartz-biotite vein parallels the core axis (biotite of later introduction into sheared quartz mass); a few small quartz veins show en echelon displacement by crosscutting fractures - slight shear folding of the veins is apparent with axial planes paralleling the foliations.		-20. -21. -22. -23.
100	235-240	As above; 236'-238', prominent mottled band 1/2" wide parallel to the foliation - makes angle of 10° with the core axis; some shearing at intervals throughout with a few quartz veins.		-24. -25. -26.
				-27. -28.

556

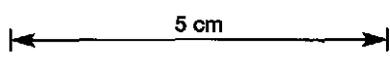


DIAMOND DRILL HOLE RECORD

721057

PROSPECT..... LUTWYCHE LOCATION . E.L.6/68 . . . HOLE NO. . D.D.H.5 . . .
 14N+11E.
 CO-ORDINATES OF COLLAR.... BEARING ..167° True . . . INCLINATION . 70° . . .

% SECTION REC. FROM ' TO'		DESCRIPTION	STRUCTURE	LITHOLOGY
100	240-245	Hornfelsed shale; medium grey in colour, fine grained sheared locally particularly over the interval 233'-234' where biotite and chlorite veining (some muscovite) are prominent with minor quartz veining; pyrite tends to line joints; a weak foliation defined by chlorite blebs makes an angle of 10° with the core axis.		-1.
100	245-250	As above; weak shearing only in a few places with veining weak to absent; 1/4" thick biotite vein near 245' with some associated chalcopryrite; also a few minor pyrite veins with associated chlorite; foliation changed from 10° to core axis at 245' to 30° near 248'.		-2.
100	250-255	As above; foliation makes an angle of 22° with the core axis near 254'; shearing and veining weak to absent; some minor pyrite on joints.		-3.
100	255-260	As above; sheared from 259' onwards with quartz veins severely distorted, core impregnated by biotite tourmaline and with chlorite veining. Some chalcopryrite is associated; foliation change near 259'.		-4.
100	260-265	As above; sheared intensely to 261'9", then moderately sheared; biotite veining and quartz stringer veins prominent in the interval to 261'9"; also some calcite and chlorite veins with associated chalcopryrite and minor pyrite; foliation defined by quartz-rich bands changes from 15° to core axis at 263' to near horizontal at 264'.		-5.
100	265-270	Hornfelsed shale. Grey/black with green tinge (chlorite). Splintery fracture. Weak foliation at 16° to core axis. Below 265'5" sheared zone with quartz predominant with mesh of chlorite veins often extremely micaceous (biotite and muscovite). Calcite veining also apparent. Inclusions of silicified country rock (cherty) and highly micaceous types common. Pyrite common in thin veinlets and associated with chlorite. Minor chalcopryrite, arsenopyrite.		-6.
100	270-275	Sheared zone similar to above to 271'4". Below hornfelsed shale similar to above. Very limited veining (quartz and calcite) mainly joint controlled.		-7.
100	275-280	Hornfelsed shale similar to above. Generally more micaceous. Foliation at 22° to core axis. Joint faces micaceous with calcite and pyrite common. Minor shearing between 278' and 278'5" - chlorite veining (to 1/2") with large segregations of pyrite		-8.
				-9.
				-10.
				-11.
				-12.
				-13.
			-14.	
			-15.	
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			-28.	



557

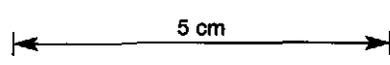


DIAMOND DRILL HOLE RECORD

721058

PROSPECT..... LUTWYCHE..... LOCATION..... E.L.-6/68..... HOLE NO. D.D.H.5.....
 CO-ORDINATES OF COLLAR..... 14N+11E..... BEARING..... 167° True..... INCLINATION..... 70°.....

% SECTION REC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	280-285	Hornfelsed shale as above.		-1. -2. -3.
100	285-290	Hornfelsed shale as above. Limited veining (quartz, calcite, chlorite) to 1/8" - mainly joint controlled. Foliation at 18° to core axis.		-4. -5. -6.
100	290-295	Hornfelsed shale similar to above. Below 290'10" section sheared to varying degrees of intensity. Shear axis approx. 10° to core axis - veins (to 1/2") running along length of core - quartz generally chloritic and/or micaceous.		-7. -8. -9.
100	295-300	Hornfelsed shale. Sheared section continues to 297'9" becoming less intense with depth. Calcite veining common. Below this depth minor veining (quartz and calcite). En echelon displacement of veins along cleavage planes. Foliation at 20° to core axis.		-10. -11. -12. -13.
100	300-305	Hornfelsed shale similar to above. Minor veining (quartz and calcite).		-14. -15. -16.
100	305-310	Hornfelsed shale. Grey/black occasionally with mottled appearance - partial recrystallization of chlorite. Often micaceous, approaching a phyllite in character. Foliation generally weak - 17° to core axis. Weak shearing below 305'9" - contorted veining (quartz, calcite and chlorite).		-17. -18. -19.
100	310-315	Hornfelsed shale/mudstone similar to above. Weak shear continues through to 311'3". Little or no veining apparent below this depth.		-20. -21. -22.
100	315-320	Hornfelsed shale/mudstone similar to above. Single vein (1/4") of quartz (micaceous) at 317'2" carrying pyrite with trace wolframite. Slaty cleavage developed over small intervals.		-23. -24. -25. -26.
				-27. -28.



558



DIAMOND DRILL HOLE RECORD

LUTWYCHE

E.L.6/68

D.D.H. 5

721039

PROSPECT..... LOCATION..... HOLE NO.....

14N#11E

167° True

70°

CO-ORDINATES OF COLL AR... BEARING..... INCLINATION.....

% SECTION REC. FROM	TO	DESCRIPTION	STRUCTURE	LITHOLOGY
---------------------	----	-------------	-----------	-----------

100	320-325	Hornfelsed shale/mudstone similar to above. Mottled appearance. Minor shear between 321'2" and 322'0"- quartz veining with chlorite and abundant mica. Limited amounts of calcite apparent.			-1 -2 -3
100	325-330	Hornfelsed shale/mudstone similar to above. Weak shearing throughout with sinuous veins of quartz and calcite. Veins rich in mica (biotite). Veinlets and vug like segregations of pyrite common.			-4 -5 -6
100	330-335	Hornfelsed shale/mudstone similar to above. Foliation (weak) at 24° to core axis. Very limited veining (1/8") joint controlled.			-7 -8 -9
100	335-340	Similar to above. Section between 335'2" and 338' - evidence of shearing, often intense. Sinuous veins (to 3/4") of quartz and chlorite associated with mica - included within country displaying banding with elongated lenses of chlorite (to 1/8") showing preferred orientation - result of shearing or due to			-10 -11 -12 -13
100	340-345	lithology change in original sedimentaries. Thin veinlets of pyrite with trace wolframite common through sheared section. Hornfelsed shale similar to above. Foliation (weak) at 11° to core axis. At 342'2" (over 5") mesh of thin quartz veinlets with abundant pyrite.			-14 -15 -16
100	345-350	Thin veinlets (quartz with pyrite) at various intervals, largely joint controlled. Hornfelsed shale. Grey/black in colour with mottled appearance (chlorite). Splintery fracture. Foliated (micas and chlorite) at 18° to core axis. Weak shearing in evidence throughout with contortion of veining. Quartz, mica (biotite) and chlorite main vein minerals. Abundant pyrite often associated with veins.			-17 -18 -19 -20
100	350-355	Similar to above. Veining limited - mainly joint controlled. Veins (to 3/8") - quartz, mica with appreciable pyrite. Mica (biotite) often forming core of veins.			-21 -22
100	355-360	Similar rock type to above. Weak foliation at 23° to core axis. Evidence of shearing virtually thro' out section - not intense. Slight distortion of veining. Veins mainly of mica (biotite and muscovite) and chlorite. Limited quartz. Pyrite common.			-23 -24 -25 -26
		Veins tend to pinch and swell over short distances.			-27

5 cm

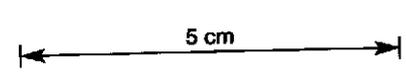
359



DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE ... LOCATION ... E.L. 6/68 ... HOLE NO. ... D.D.H. 5 721060
 COORDINATES OF COLLAR... 14N+11E ... BEARING ... 167° True ... INCLINATION ... 70°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	360-365	As above; shearing minor; quartz-carbonate vein near 362' with minor associated chalcoppyrite; a similar 1/8" thick vein occurs near 363'6"; a few other white quartz veins are present in the interval; foliation makes an angle of 20° with the core axis.		-1. -2. -3.
100	365-370	As above; 365'6", 1/8" thick quartz vein containing finegrained <u>wolframite?</u> ; 1/4" thick vein near 366' also contains finegrained disseminated wolframite; core finely mottled with chlorite blebs throughout except near 369'6" where the core is coarsely mottled adjacent to a 1/2" thick quartz vein which parallels the foliation; pyrite prominent on joints.		-4. -5. -6.
100	370-375	As above; a few quartz-muscovite & quartz-biotite veins over the first 2'6" are apparently unmineralized; minor pyrite on joints; foliation defined by thin quartz rich bands makes an angle of 15° with the core axis.		-7. -8. -9.
100	375-380	As above; generally unsheared and only weakly veined.		-10. -11. -12. -13.
100	380-385	As above; moderately sheared throughout with shears infilled with quartz, calcite and biotite; quartz veins with sharp margins are frequently rimmed by diffuse areas of biotite which fade out into the country rock; minor chalcoppyrite associated with some veins.		-14. -15. -16.
100	385-390	<u>Hornfelsed shale</u> ; medium grey to dark grey in colour, fine grained; foliation defined by quartzose bands makes an angle of 20° with the core axis; weakly veined throughout with thin 1/16" thick quartz and calcite-biotite veins containing minor fine grained <u>wolframite?</u> ; Pyrite is distributed along joint surfaces.		-17. -18. -19.
100	390-395	As above; finely mottled throughout with a few coarse bands up to 1/4" wide showing shear displacement by quartz-chlorite veins - some muscovite is associated. A few 1/40" thick calcite veins are present. Pyrite occupies joint surfaces.		-20. -21. -22.
100	395-400	As above; 1/4" wide mottled chlorite band at 397'6"; sheared moderately from 398'6" onwards with quartz veining associated. The quartz veins themselves show contortion.		-23. -24. -25. -26.
				-27. -28.



U60



DIAMOND DRILL HOLE RECORD

721061

PROSPECT..... LUTWYCHE LOCATION..... E.L.6/68 HOLE NO..... D.D.H.5
 CO-ORDINATES OF COLLAR..... 14N+11E BEARING..... 167° True INCLINATION..... 70°

5 cm

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM'	TO'			
100	400-405	As above; shearing most prominent to 407' with a few thin mottled chlorite rich bands; irregular and stringer like veining of quartz and some calcite occurs in the sheared section - biotite, chlorite, pyrite and minor chalcopyrite are associated.		-1 -2 -3
100	405-410	As above; shearing generally absent except for a few local instances. Thin quartz veins have minor amounts of fine grained biotite and wolframite? associated. Pyrite is prominent on joints.		-4 -5 -6
100	410-415	As above; a few quartz calcite veins have been shear folded and pinch out along the foliation planes. No mineralization is apparent.		-7 -8 -9
100	415-420	As above; weak foliation at 20° to core axis; 3/4" thick mottled chlorite band at 417'6"; core generally unsheared throughout.		-10 -11 -12 -13
100	420-425	As above; quite intensely sheared in interval 422'-425' and prominently veined by tourmaline and quartz with some muscovite and chlorite associated. Some quartz veins are displaced by crosscutting shears; foliation somewhat varied but makes angle		-14 -15 -16
100	425-430	of 12° with the core axis at 424'6". <u>Hornfelsed shale</u> ; medium grey in colour, fine grained, splintery fracture, weakly foliated with foliation at 13° to core axis; veined by quartz, calcite and tourmaline or a combination of these. Tourmaline tends to mantle quartz veins or fill		-17 -18 -19
100	430-435	cracks in the veins and is obviously of later introduction. Shear folding of the quartz veins is common with axial planes of folds paralleling the foliation. As above; intensely sheared over part of core from 431'-435' with quartz, chlorite and calcite in-		-20 -21 -22 -23
100	435-440	fillings. As above; weak foliation at 10° to the core axis; finely mottled throughout, sheared approximately parallel to the foliation from 437'-438'; vuggy near 440' with small quartz crystals.		-24 -25
100	440-445	to moderately sheared throughout; prominently mottled with medium grained to coarse grained chlorite; quartz veins are both parallel to and oblique to the foliation; one prominent chlorite vein is present.		-26 -27 -28

061



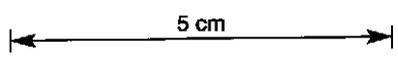
DIAMOND DRILL HOLE RECORD

721062

ROPECT... LUTWICHE... LOCATION E.L. 6/68... HOLE NO. D.D.H. 5...
 14N + 11E
 CO-ORDINATES OF COLLAR... BEARING ... 167° True ... INCLINATION 70° ...

STRUCTURE
LITHOLOGY

% SECTION SEC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	445-450	As above; intermittently sheared throughout; near 445'6" and 446'6" the core is intensely sheared; tourmaline quartz-muscovite and chlorite are the common vein constituents; pyrite on joints.		-1. -2. -3.
100	450-455	As above; sheared intermittently but foliation still in evidence and makes angle of 10° with the core axis; some quartz veining with later stage tourmaline in intensely sheared sections; minor pyrite on joints.		-4. -5. -6.
100	455-460	As above; generally unshered; veining, weak to absent; no mineralization apparent.		-7. -8. -9.
100	460-465	As above; very slight shearing; veining quite minor, pyrite present on joints.		-10. -11. -12. -13.
100	465-470	<u>Hornfelsed shale</u> ; fine grained, medium grey in colour, weakly foliated with foliation at 8° to core axis; generally unshered and weakly veined.		-14. -15. -16.
100	470-475	As above; intensely ^{sheared} from 471'6"-485' with this interval veined by quartz and biotite. Some quartz veins possess a biotite or tourmaline core. A few muscovite and chlorite stringer veins also occur.		-17. -18. -19.
100	475-480	As above; fine scale shearing only with a general absence of any marked veining; a few 1/8" thick quartz veins near 478'.		-20. -21. -22.
100	480-485	As above; generally unshered, veining weak to absent, foliation at 17° to core axis; no mineralization apparent.		-23. -24. -25.



-26.
-27.
28

062



DIAMOND DRILL HOLE RECORD

721063

LUTWYCHE

E.L. 6/68

D.D.H. 5

PROSPECT..... LOCATION..... HOLE NO.....

14N.4.11E

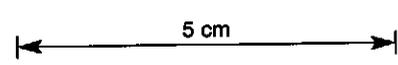
CO-ORDINATES OF COLLAR.... BEARING..... INCLINATION.....

% SECTION
REC. FROM' TO'

DESCRIPTION

STRUCTURE
LITHOLOGY

100	485-490	Hornfelsed shale. Hard, grey/black with splintery fracture. Slightly mottled - partial recrystallization. Weak foliation at 15° to core axis. Weak shearing in evidence resulting in streaked appearance - veins of chlorite/micas. Chloritic quartz vein (1/4") at 485'2" carrying appreciable pyrite with minor chalcopyrite and wolframite. Isolated thin (<1/16") quartz veins throughout - joint controlled.	-1. -2. -3. -4.
100	490-495	Similar rock type to above. Foliation at 18° to core axis. Minor veining similar to above.	-5. -6.
100	495-500	Similar rock type to above.	-7. -8. -9.
100	500-505	Similar rock type to above. Shearing more intense over lower 2'6" with a number of sinuous quartz veins (often micaceous) to a width of 1/2". Minor pyrite associated with veins.	-10. -11. -12. -13.
100	505-510	Similar to above - hornfelsed shale. Foliation at 15° to core axis. Definite sheen to core - foliation of an increased mica content. Below 507' mottled appearance with large elongate pods of chlorite (to 1/8") - result of shearing or lithology	-14. -15. -16.
100	510-515	change in original sediments. Section 507' to 508'4" sheared, with numerous chloritic quartz veins (to 1/8") carrying abundant pyrite. Shearing less pronounced below 508'4". Hornfelsed shale. Foliation at 7° to core axis. Little structural alteration except below 514'4" where intensely sheared with appreciable quartz, chlorite and mica (biotite and muscovite). Minor pyrite apparent also. Between 510' and 512' thin bands (<1/4") of more quartzite material.	-17. -18. -19. -20.
100	515-520	Hornfelsed shale - sheared to varying intensities over whole section. Quartz veining (contorted) prominent with mica and chlorite. Talcose material common on cleavage and joint planes. Pyrite found throughout as veinlets and in small vugs within quartz. Minor chalcopyrite also apparent.	-21. -22. -23.
100	520-525	Hornfelsed shale similar to above. Minor shearing apparent over the upper 6" and lower 8" - mottled appearance elongated pods of chlorite along preferred orientation (15° to core axis). Weak foliation within hornfels at 10° to core axis.	-24. -25. -26.



-27.
-28.

63



DIAMOND DRILL HOLE RECORD

721064

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. D.D.H. 5
 14N+11E
 CO-ORDINATES OF COLLAR... BEARING... 167° True... INCLINATION... 70°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	525-530	Hornfelsed shale - intensely sheared over upper 3'6" less so below 528'6". Injection of considerable quartz in contorted forms - chloritic and micaceous. Country rock siliceous often with a mottled appearance due to elongated chlorite pods. Minor pyrite only obvious form of mineralisation.		-1. -2. -3.
100	530-535	Hornfelsed shale - grey/black often with mottled appearance (chlorite). Weak foliation at 16° to core axis. Weakly sheared throughout giving streaked appearance with micaceous and chloritic veining. More intensely sheared between 531'4" and 532'1" - quartz veining to 1" width.		-4. -5. -6.
100	535-540	Similar to above - hornfelsed shale. Below 538' sheared to varying degrees of intensity with the injection of considerable quartz and micaceous material. Minor pyrite apparent over the lower interval.		-7. -8. -9.
100	540-545	Similar to above - hornfelsed shale. Throughout section - mesh of thin veinlets (<1/8") becoming particularly dense between 542'3" and 544'8". Vein material - quartz with minor calcite, mica (biotite) and chlorite. Veins contorted - shearing.		-10. -11. -12. -13.
100	545-550	Similar to above - hornfelsed shale. Evidence of weak shearing at various depths with contorted veins of quartz.		-14. -15. -16.
100	550-555	Hornfelsed shale; medium grey to dark grey in colour, fine grained, very finely mottled with recrystallized chlorite, 1/8" wide quartz veins containing chalcopryrite blebs and some chlorite at 253'6"; finely foliated with foliation at 10° to the core axis.		-17. -18. -19.
100	555-560	As above; the section is generally unsheread but contains a few quartz veins to 1/2" thickness - minor chalcopryrite and biotite are associated.		-20. -21. -22.
100	560-565	As above; quartz veining generally minor with a few 1/8" thick veins containing some biotite and chlorite - thinner stringer veins show an echelon displacement by microshears which crosscut the foliation.		-23. -24. -25. -26.
				-27. -28.

064

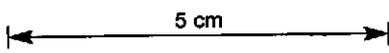


DIAMOND DRILL HOLE RECORD

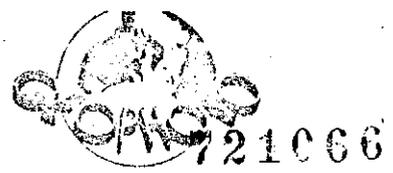
721065

PROSPECT... LUTWYCHE ... LOCATION... E.L.6/68 ... HOLE NO. ...
 CO-ORDINATES OF COLLAR... 14N+11E ... BEARING... 167° True ... INCLINATION... 70°

% SECTION REC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	565-570	Hornfelsed shale; medium to dark grey in colour; finely mottled with chlorite; minor quartz/chlorite veinlets controlled by well defined jointing; quartz vein at 568' (1/2" in width) carries minor muscovite and chlorite, chlorite as alteration product around margin, makes angle of 25° to core axis.		Qtz
100	570-575	As above; minor quartz/chlorite, chlorite veinlets to 1/8" in width carrying minor chalcoppyrite, pyrite, dominantly joint controlled and exhibit various micro-structures such as microfaulting, microfolding etc.; bedding? discerned by colour contrast, makes angle 15° to core axis.		
100	575-580	As above; minor quartz/chlorite veinlets; chlorite and pyrite commonly occur as coatings on the well defined joint surfaces.		
100	580-585	Similar to above; some minor random quartz veinlets (to 1/8" diameter) exhibiting the effects of micro-faulting, microfolding etc.		
100	585-590	585'-588' Siliceous breccia; angular/framboidal fragments of hornfelsed shale (chloritised) set in quartz-chlorite matrix; minor loosely disseminated chalcoppyrite, pyrrhotite, pyrite. 588'-590' - similar to above.		Py Cw Pyrr Qtz
100	590-595	Hornfelsed shale; medium to dark grey in colour; section from 591'6" to 593' carries moderately abundant chlorite-quartz veinlets (1/8") in random (microfaulting), associated with the quartz veining chloritization has taken place giving core a spotted appearance;		
100	595-600	From 595'-598'6" hornfelsed shale which has undergone intensive quartz veining to 2 1/2" in width and 30°-40° to core axis; chlorite occurs as (a) associated with the quartz veins (b) as an alteration product giving core an overall spotted appearance; bedding? emphasised by selective chloritization has angle 25° to core axis; 598'6"-600' similar to 590'-595' above.		Qtz
100	600-605	Hornfelsed shale; medium to dark grey, spotted appearance due to chloritization; chlorite 'spots' larger in certain bands probably reflecting bedding, bedding? 30° to core axis; minor quartz veining (to 1/8" width).		



065



DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. ... D.D.H. 5
 CO-ORDINATES OF COLLAR... 14N+11E... BEARING... 167° True... INCLINATION... 70°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	605-610	As above; spotted in part with chlorite blebs, sheared and intensely veined by regular to irregular white quartz veins with associated chlorite, biotite and occasional muscovite; pyrite associated with quartz at 609'9" - no other mineralization apparent.		-1. -2. -3.
100	610-615	As above; prominent quartz veining continues to 612' - biotite, chlorite and muscovite are associated. Beyond 612' only thin veinlets occur but some calcite is noticeable; pyrite is prominent on joints; foliation makes an angle of 28° with the core axis.		-4. -5. -6.
100	615-620	As above; intermittently sheared on small scale throughout; quartz veining poorly represented except in interval 616'6"-618' where a few irregular veins to 1/2" thickness occur with associated chlorite, biotite and some pyrite.		-7. -8. -9.
100	620-625	As above; weakly veined by quartz stringers which display an echelon displacement due to bedding plane shears; some pyrite on joints.		-10. -11. -12. -13.
100	625-630	As above; weakly veined except over latter 2' where moderate shearing is apparent accompanied by quartz and some calcite veins - biotite and chlorite are associated, minor pyrite is present on joints locally; foliation defined by thin quartzitic bands makes an angle of 25° with the core axis.		-14. -15. -16.
100	630-635	Hornfelsed shale; medium to dark grey in colour, foliated with foliation at 23° to core axis, generally unsheared but with a few crosscutting quartz stringers showing an echelon displacement - minor chalcopyrite biotite and chlorite are associated. Some pyrite/massive coats joints.		-17. -18. -19.
100	635-640	As above; veining quite minor to 638'6" where small shears parallel to and crosscutting the core axis are infilled with chlorite and some quartz.		-20. -21. -22.
100	640-645	As above; mottled bands containing coarse grained recrystallized chlorite occur near 642' and 644'; 1/2" thick quartz vein parallel to core axis from 643'-643'8", moderate intensity shearing continues to 645' with some 1/8" thick quartz veins - frequently shear folded with axial planes paralleling the foliation - biotite and chlorite associated.		-23. -24. -25. -26.
				-27. -28.



066

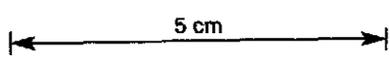


721067

DIAMOND DRILL HOLE RECORD

PROSPECT..... LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 5
 CO-ORDINATES OF COLLAR..... 14N+11E BEARING 167° True INCLINATION 70°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
REC. FROM	TO			
100	645-650	As above; intensely sheared from 645'8" to 647'9" with white quartz veining throughout with associated chlorite, biotite and muscovite - minor pyrite on joints.		-1. -2. -3.
100	650-655	As above; finely foliated with foliation at 22° to core axis; unsheared to 252', then intensely sheared to 255' with irregular meshwork veining of quartz with associated biotite and chlorite - core noticeably mottled with a few coarse chlorite-rich bands in this interval.		-4. -5. -6.
100	655-660	As above; shear from above continues approximately parallel to the core axis but is confined to one half of the core only to 658' then appears to broaden somewhat. The shear is infilled with irregular masses of white quartz with associated chlorite. More regular 1/8"-1/4" thick quartz-chlorite veins crosscut the		-7. -8. -9.
100	660-665	main shear and frequently show fracture displacement. Minor pyrite present on joints. As above; shear continues past 665' with varying intensity; 661'9", chlorite-mica mottled band defines a relict foliation. Another such band continues on to 663' but has been intensely sheared - quartz veining generally minor with sheared zone infilled with chlorite.		-10. -11. -12. -13.
100	665-670	As above; shear infilled with chlorite, quartz and muscovite; foliation obscured by shearing effects but fine chlorite mottling apparent; pyrite prominent as joint lining.		-14. -15. -16.
100	670-675	Hornfelsed shale; intensely sheared (continuation of above shear) throughout with veining (irregular) of quartz and chlorite with some mica associated. No mineralization other than that of pyrite as a joint lining.		-17. -18. -19.
100	675-680	Sheared as above with early quartz veins apparently fragmented and broken up by later movement which introduced chlorite. Minor pyrite on joints.		-20. -21. -22. -23.
100	680-685	Sheared as above with relict foliation making angle of 25° with the core axis at one interval.		-24. -25. -26.
				-27. -28.



167



721068

DIAMOND DRILL HOLE RECORD

PROSPECT..... LUTWYCHE . . . LOCATION . E.L.6/68 . . . HOLE NO. D.D.H.5
 CO-ORDINATES OF COLLAR..... 14N+11E BEARING 167° True . . INCLINATION . . 70°

STRUCTURE
LITHOLOGY

% SECTION REC. FROM TO		DESCRIPTION	STRUCTURE	LITHOLOGY
100	685-690	Shear continues to 688', but is only subparallel to the coreaxis over the last 1'6" and this is not intersected beyond 688' although it does continue as an entity. There is little introduction of material into sheared areas although small amounts of quartz, chlorite and biotite do occur. Mottled chlorite-mica bands (original bedding) have been disrupted by the shearing.		-1. -2. -3.
100	690-695	As above; generally unsheared and with a marked foliation defined by quartzite laminae making an angle of 16° with the core axis; a few thin quartz veins crosscut the foliation; minor pyrite on joints.		-4. -5. -6.
100	695-700	As above; nicely foliated, generally unsheared except for a few narrow local zones with thin quartz-chlorite veins; a few mottled chlorite-muscovite bands; minor pyrite.		-7. -8. -9.
100	700-705	As above; weakly veined with shearing generally absent - a few thin veins of quartz-chlorite + biotite to 1/8" thickness; foliation makes an angle of 26° with the core axis.		-10. -11. -12. -13.
100	705-710	As above; sheared locally with thin quartz-biotite-chlorite veinlets often displaced by microsphaers parallel to the foliation; minor pyrite on joints.		-14. -15. -16.
100	710-715	Hornfelsed shale; medium grey in colour, finegrained, foliated with foliation at 30° to core axis; a few local thin quartz stringers cut by thin veinlets of later chlorite and biotite; minor pyrite on joints.		-17. -18. -19.
100	715-720	As above; quartz filled shear approx. parallel to core axis from 716'-717' - biotite and chlorite of later introduction cut the quartz and fill spaces between fragmented quartz pieces; some other thin quartz veins approx. parallel to the foliation.		-20. -21. -22. -23.
100	720-725	As above; sheared on fine scale throughout with thin veinlets of chlorite and quartz; intensely sheared from 724'-725' with irregular quartz masses fragmented and cut by chlorite and biotite; no mineralization apparent.		-24. -25. -26.
				-27. -28.

368



DIAMOND DRILL HOLE RECORD

721069

PROSPECT... LUTWYCHE ... LOCATION . E.L.6/68 ... HOLE NO. D.D.H.5
 CO-ORDINATES OF COLLAR... 14N+11E ... BEARING 167° True ... INCLINATION 70°

% SECTION SEC. FROM TO		DESCRIPTION	STRUCTURE	LITHOLOGY
100	725-728	As above; weakly sheared throughout; foliation where apparent makes an angle of 18° with the core axis; quartz veining quite minor with some biotite associated; no mineralization apparent.		-1.
		END OF HOLE		-2.
				-3.
				-4.
				-5.
				-6.
				-7.
				-8.
				-9.
				-10.
				-11.
				-12.
				-13.
				-14.
				-15.
				-16.
				-17.
				-18.
				-19.
				-20.
				-21.
				-22.
				-23.
				-24.
				-25.
				-26.
				-27.
				-28.

069

721070

APPENDIX

DIAMOND DRILL HOLE RECORDS

LUTWYCHE D.D.H. 6

DIAMOND DRILL HOLE RECORD



721071

LUTWYCHE

E.L.6/68

D.D.H.6

PROSPECT..... LOCATION..... HOLE NO.....

14.9N. 2.25E

030° True

55°

O-ORDINATES OF COLLAR.... BEARING..... INCLINATION.....

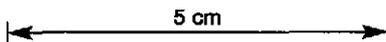
% SECTION

SEC. FROM' TO'

DESCRIPTION

STRUCTURE
LITHOLOGY

SEC. FROM'	TO'	DESCRIPTION	STRUCTURE	LITHOLOGY
5	0-5	Weathered, very broken and crumbly shale; stained by limonite and rich in kaolinite.	WEATHERED AND BROKEN	-1.
				-2.
				-3.
5	5-10	As above; light to medium grey colour visible in places; too weathered to distinguish many features.		-4.
				-5.
				-6.
10	10-15	As above; limonite and kaolinite well developed.		-7.
				-8.
				-9.
				-10.
70	15-20	As above.	-11.	
			-12.	
			-13.	
			-14.	
35	20-25	As above; few solid pieces, mostly small weathered pieces.	-15.	
			-16.	
			-17.	
40	25-30	As above; core apparently sheared to moderate extent; some white quartz veining near 28'.	-18.	
			-19.	
			-20.	
85	30-35	As above; core becomes more solid near 30'6", as is less altered; some limonite staining on joints and kaolinite development.	LESS BROKEN	-21.
				-22.
				-23.
				-24.
30	35-40	As above; quartz veins 1/16" thick subparallel and crosscutting the core axis; limonite prominently developed along joints and fractures.		-25.
				-26.
				-27.
				-28.



071



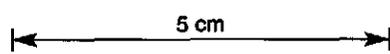
721072

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE LOCATION . E.L. 6/68 . . . HOLE NO. . D.D.H. 6 . . .
 CO-ORDINATES OF COLLAR . . . 4.9N+2.25E BEARING . . . 030° True INCLINATION . . . 55°

STRUCTURE
LITHOLOGY

% SECTION REC. FROM ' TO'		DESCRIPTION	STRUCTURE	LITHOLOGY
40	40-45	Weathered and leached shale; fine grained, light grey to brown in colour, broken and stained by secondary limonite. Some thin quartz veining is evident.		-1. -2. -3.
75	45-50	As above; light grey to pink and purple coloured due to iron oxides; prominently veined by quartz from 46'6"-49'. Joints are lined with limonite and some kaolinite.		-4. -5. -6.
80	50-55	As above; core broken and quite crumbly to 53', then appears more solid; a few thin, quartz stringers; lining of limonite and kaolinite on joints.		-7. -8. -9.
80	55-60	As above; quartz veining to 1/4" width prominent near 58', slightly sheared; limonite and goethite common on joints.		-10. -11. -12. -13.
85	60-65	As above; mafic constituents in core are altered in situ to limonite; limonite and goethite prominent on joints; no foliation can be distinguished.		-14. -15. -16.
90	65-70	As above; green grey in colour with a few thin quartz veins; limonite, haematite and goethite on joints at 3°, 15°, 80° and 85° to the core axis.		-17. -18. -19.
90	70-75	As above; meshwork quartz stringer veins from 72'-75'; red brown haematite, limonite and botryoidal goethite prominent along joints and fractures with some kaolinite.		-20. -21. -22.
90	75-80	As above; core intensely fractured, the fractures being lined with limonite, haematite, goethite, manganese and kaolinite.		-23. -24. -25.



-26.
-27.
-28.

12



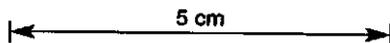
721073

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE LOCATION . E.T. 6/65 . . . HOLE NO. . D.D.H. 6. . .
 4.9N + 2.25E
 CO-ORDINATES OF COLLAR... BEARING . . . 030° True . . . INCLINATION 55° . . .

% SECTION DESCRIPTION STRUCTURE LITHOLOGY
 SEC. FROM ' TO'

80-85	Shale; green grey and micaceous, weathered and heavily fractured with fractures lined with limonite, goethite and kaolinite; locally sheared with some minor quartz veins.		-1 -2 -3
85-90	As above; some chlorite veining, core still very fractured and lined with iron and manganese oxides.		-4 -5 -6
90-95	As above; first foliation (original bedding) defined by light and dark bands visible near 94' at 53° with the core axis; some chlorite veining.		-7 -8 -9
95-100	As above; quite sheared throughout with ingress of quartz and feldspar into open spaces. The infill material is frequently displaced by fractures at approximately 49° to core axis; a few thin quartz-chlorite veinlets; no foliation observable; iron and manganese staining on joints.		-10 -11 -12 -13
100-105	As above to 104', then well foliated shale with foliation at 57° to core axis; moderately sheared locally.		-14 -15 -16
105-110	As above; major shear zone at 60° to core axis (parallels bedding foliation) at 106'8" and continues past 110'; some brecciation apparent with intense silicification of the section.		-17 -18 -19
110-115	As above, sheared to 111', then unsheared and well foliated to 113' with shearing becoming pronounced past 113' - section heavily silicified in sheared areas; some chlorite veining associated; minor iron and manganese staining.		-20 -21 -22
115-120	As above; intensely sheared and intricately veined by white quartz with some chlorite veins 1/8" wide.		-23 -24 -25
			-26
			-27
			-28



173

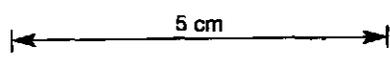


DIAMOND DRILL HOLE RECORD

721074

RESPECT... LUTWYCHE ... LOCATION E.L. 6/68 ... HOLE NO. D.D.H. 6
 4.9N +2.25E
 O-ORDINATES OF COLLAR... BEARING ... 030° True ... INCLINATION ... 55°

% SECTION REC. FROM TO		DESCRIPTION	STRUCTURE	LITHOLOGY
100	120-125	Micaceous shale; green grey in colour, fine grained, cut by offwhite quartz in the intervals 120'-120'6", and 121'6"-125' - amounts to a silicification of the section with relics of untouched shale; iron staining on joints.	S	-1. -2. -3.
100	125-130	Heavily silicified micaceous shale, evidently quite sheared with secondary thin crosscutting quartz veinlets; 1/4" wide chlorite vein with pyrite partly altered to iron oxides at 129'6" subparallel to the core axis; iron and manganese oxide staining common on joints with some relict pyrite crystals.	S	-4. -5. -6.
100	130-135	As above; chlorite - pyrite vein from above continues to 131'. Other thinner veinlets of similar composition are common; joints at 50° to core axis are well shown; no foliation is exhibited.	S	-7. -8. -9.
100	135-140	As above; fine grained, light grey to offwhite quartzite; shear zone starts near 137' becoming more intense with depth; shears filled with quartz, chlorite, limonite & haematite as a meshwork array.	S	-10. -11. -12. -13.
100	140-145	Intensely sheared as above, with predominance of chlorite and clays as shear infill material; haematite and specular haematite are well developed also.	S	-14. -15. -16.
95	145-150	As above; chlorite veining tends to follow shears at 30° and 42° to core axis.	S	-17. -18. -19.
95	150-155	As above; shear continues intermittently to 155' with chlorite forming an irregular infill; botryoidal haematite and psilomelane are well distributed along fractures; minor pyrite and chalcopryrite near 152'6" associated with chlorite, haematite and manganese in shears.	S	-20. -21. -22. -23.
	155-160	As above; relatively unshered; minor tarnished chalcopryrite and pyrite joints at 80° to core axis.	S	-24. -25. -26.
				-27. -28.



574



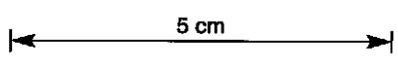
721075

DIAMOND DRILL HOLE RECORD

RESPECT..... LUTWICHE LOCATION E.L.6/68 HOLE NO.
 4.9N+2.25E
 CO-ORDINATES OF COLL AR.... BEARING 030° True INCLINATION 55°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
REC. FROM	TO			

98	160-165	Quartzite; fine grained, green grey in colour, moderately sheared from 161' onwards with irregular veining and impregnation of section with chlorite and white quartz iron oxides after pyrite on joints; no foliation exhibited.		-1. -2. -3.
95	165-170	As above;		-4. -5. -6.
95	170-175	As above; intensely sheared from 172' with fragmentation of quartzite and infill with chlorite and haematite; core well broken and altered locally.		-7. -8. -9.
90	175-180	As above; core well broken and partly decomposed.		-10. -11. -12. -13.
85	180-185	As above but becoming less sheared.		-14. -15. -16.
95	185-190	As above; 188', 3" section containing tourmaline at 80° to core axis; some calcite veining.		-17. -18. -19.
95	190-195	Intensely sheared impure quartzite, quite altered locally.		-20. -21. -22.
95	195-200	As above; intermediate in type between quartzite and shale.		-23. -24. -25. -26.
				-27. -28.



075

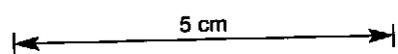


721076

DIAMOND DRILL HOLE RECORD

PROSPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. . D.D.H. 6
 CO-ORDINATES OF COLLAR... 4.9N+2.25E... BEARING... 030° True... INCLINATION... 55°

% SECTION SEC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	200-205	Micaceous shale; brown grey in colour, fine grained, moderately sheared and veined by quartz stringers; a weak foliation is defined by thin (1/40" thick) quartz sweat out veins at 35° to the core axis. Core is relatively unweathered from 200' onwards except in very sheared sections.		-1.
100	205-210	As above; green grey in colour and apparently quite chloritic; metamorphic segregations of quartz prominent paralleling the foliation; sheared locally with less regular quartz veining; iron oxides after pyrite on joints at 45° to core axis.		-2.
100	210-215	As above to 212' where rock type appears to grade into an impure micaceous quartzite; quartz veining strong locally with foliation defined by thin sweat out veinlets at 49° to core axis.		-3.
100	215-220	As above but with more shale tendencies - best defined as quartzitic shale; intensely veined by white quartz with veins to 1/4" thickness but tending to a meshwork pattern.		-4.
100	220-225	As above; some quartz veins show small en echelon displacement by later developed fractures; moderately sheared. No mineralization apparent.		-5.
100	225-230	As above; moderately to intensely sheared intermittently throughout; rock type grades to true quartzite in places but is best defined as micaceous, quartzitic shale; some chlorite veining and local hematite are associated with irregular quartz veining.		-6.
100	230-235	Generally unsheared except near 234'6"; some quartz veining to 1/4" thickness with minor mica associated.		-7.
100	235-240	As above; tends to be intensely sheared over most of the interval with quartz veining quite prominent - veins are often closely shear folded with axial planes paralleling a weak foliation at 40° to core axis.		-8.
				-9.
				-10.
			-11.	
			-12.	
			-13.	
			-14.	
			-15.	
			-16.	
			-17.	
			-18.	
			-19.	
			-20.	
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			-22.	
			-23.	
			-24.	
			-25.	
			-26.	
			-27.	
			-28.	



076

DIAMOND DRILL HOLE RECORD



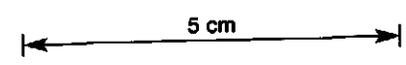
721077

LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 6
 RESPECT... 4. SN+2. 25E
 O-ORDINATES OF COLLAR... BEARING 030° True INCLINATION 55°

% SECTION
 'EC. FROM ' TO ' DESCRIPTION

STRUCTURE
 LITHOLOGY

100	240-245	Quartzitic shale; green grey and micaceous, fine grained, intensely sheared and broken up in interval 241'6"-245'; quartz veining is completely disrupted. No mineralization is present.	-1 -2 -3
100	245-250	As above; veined by meshwork of quartz, cut and displaced by later fractures and quartz veinlets; section quite sheared.	-4 -5 -6
100	250-255	As above; secondary veinlets are subparallel to the core axis.	-7 -8 -9
100	255-260	As above; generally unsheared and unveined; minor pyrite on joints; no foliation observed.	-10 -11 -12 -13
100	260-265	As above; quartz veining at 50° to the core axis cut and displaced by very thin quartz stringers paralleling the core axis and by chlorite vein with displacement to 1/4".	-14 -15 -16
100	265-270	As above; intensely sheared and brecciated locally with development of quartz vein meshwork and comb type structures; microfracture displacement of quartz veins common.	-17 -18 -19
100	270-275	As above; moderately to intensely sheared; no foliation apparent.	-20 -21 -22
100	275-280	As above; moderately sheared locally with quartz and chlorite infills but generally unveined.	-23 -24 -25 -26
			-27 -28



077

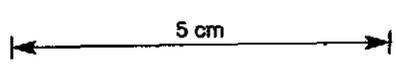


DIAMOND DRILL HOLE RECORD

721078

PROSPECT..... LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 6
 4.9N+2.25E
 CO-ORDINATES OF COLLAR..... BEARING 030° True INCLINATION 55°

% SECTION REC. FROM ' TO '		DESCRIPTION	STRUCTURE	LITHOLOGY
100	280-285	Hornfelsed shale; fine grained, medium grey in colour, generally unveined and only weakly sheared locally; no foliation displayed.		-1. -2. -3.
100	285-290	As above; moderate shearing locally with weak veining of chlorite and quartz.		-4. -5. -6.
100	290-295	As above;		-7. -8. -9.
100	295-300	As above; first foliation observed at 60° to core axis;		-10. -11. -12.
100	300-305	As above; moderately sheared and silicified to 303'6", then intensely sheared and silicified past 305' with some chlorite, tourmaline and biotite associated as irregular masses; trace of molybdenite near 304'.		-13. -14. -15. -16.
100	305-310	Shear continues to 305'10" and terminates at 50° to core axis; weak foliation at 55° to core axis at 309'; some quartz veining to 1/8" thickness sub parallel to and crosscutting the core axis.		-17. -18. -19.
100	310-315	As above; intensely sheared and silicified from 311' onwards with irregular quartz veining and some associated chlorite and tourmaline.		-20. -21. -22.
100	315-320	As above to 316' where shearing more intermittent in character; foliation weakly shown at 55° to core axis.		-23. -24. -25.
				-26. -27. -28.



578

DIAMOND DRILL HOLE RECORD



721079

ROSPECT... LUTWYCHE ... LOCATION ... E.L. 6/68 ... HOLE NO. ... D.D.H. 6
 4.9N+2.25E
 CO-ORDINATES OF COLLAR... BEARING ... 030° True ... INCLINATION 55°

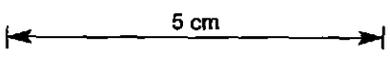
% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	320-325	Hornfelsed shale; medium grey in colour, fine grained, silicified over part of section, moderately sheared, veined by meshwork of quartz veins to 1/4" thickness from 321'-322', some quartz-chlorite fills sheared sections over interval 322'-325' - random distribution; minor pyrite crystals associated with quartz in small vugs; minor tourmaline veining.		-1. -2. -3.
100	325-330	As above; intermittent moderate shearing; core silicified and veined by tourmaline at 46° to core axis and also in a braid-like manner; less prominent thin quartz and chlorite veinlets developed locally; no foliation observable.		-4. -5. -6.
80	330-335	As above; core generally unsheared and weakly veined by quartz locally with veins to 1/4" thickness at 34° to the core axis - some chlorite associated; weak foliation at 25° to core axis.		-7. -8. -9.
95	335-340	As above; quite heavily silicified throughout; good foliation developed locally at 32° with core axis; minor chlorite veining.		-10. -11. -12. -13.
95	340-345	Silicified as above; weak foliation at 27° to core axis; a few tourmaline veins throughout; where developed quartz veins appear to grade into the silicified shale host; relatively unsheared.		-14. -15. -16.
95	345-350	As above; general absence of any veining.		-17. -18. -19.
95	350-355	As above; minor local shearing.		-20. -21. -22.
	355-360	As above; a few 3/8" thick quartz veins with minor chlorite and tourmaline; weak foliation at 40° to core axis.		-23. -24. -25. -26.
				-27. -28.

DIAMOND DRILL HOLE RECORD



721080

SPECT... LUTWYCHE... LOCATION... E.L. 6/68... HOLE NO. D.D.H. 6
 4.9N+2.25E
 CO-ORDINATES OF COLLAR... BEARING... 030° True... INCLINATION 55°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM'	TO'			
100	360-365	Hornfelsed shale; medium grey in colour, fine grained, finely banded with prominent foliation at 24° to core axis; minor quartz veining associated with quite minor shearing locally; no mineralization apparent; jointing at 20° to core axis.		-1. -2. -3.
100	365-370	As above. 		-4. -5. -6.
100	370-375	As above; a few 1/40" thick quartz "sweat out" veins paralleling the well marked foliation with one 1/8" vein containing some chlorite.		-7. -8. -9.
100	375-380	As above, but moderately sheared locally with veins and lenses of quartz filling shears - minor chlorite and tourmaline associated; foliation 39° to core axis at 378'.		-10. -11. -12. -13.
100	380-385	As above; minor quartz veining, generally un-sheared.		-14. -15. -16.
100	385-390	As above but core silicified on a fine scale; some fine mottling with chlorite; vuggy, 1/4" wide shear at 4° to core axis at 385' is infilled with quartz chlorite, pyrite and tourmaline; well marked foliation at 34° to core axis at 385' 6"; quartz-tourmaline filled shear 1/2" wide and at 5° to core axis near 387'.		-17. -18. -19. -20.
100	390-395	As above with degree of silicification increasing; small shears infilled with quartz veins (with some tourmaline) to 1/4" in width; no mineralization apparent.		-21. -22. -23.
100	395-400	As above to 397', local blebs of chlorite; sheared from 397'-397' 4" with quartz vein at 20° to core axis and irregular masses of tourmaline and some chlorite; 398'-399' 2" white quartz vein at 33° to core axis containing blades of wolfram up to 2" in length concentrated near the margins of the vein - coarse flakes of molybdenite associated with the wolfram, some pyrite on the joints in the quartz and associated with the wolfram; moderately sheared on both extremities of the vein; 399' 6"-400', 1/2" wide quartz vein at 16° to core axis with associated segregations of tourmaline,	WM **	-24. -25. -26.

080

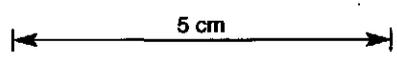


DIAMOND DRILL HOLE RECORD

721081

PROSPECT... LUTWYCHE ... LOCATION . E.L. 6/68 ... HOLE NO. D.D.H. 6
 CO-ORDINATES OF COLLAR... 4.9N+2.25E ... BEARING ... 030° True ... INCLINATION ... 55°

% SECTION REC. FROM' TO'		DESCRIPTION	STRUCTURE	LITHOLOGY
100	400-405	Hornfelsed shale; fine grained, medium grey in colour, silicified in places, mottled with chlorite blebs over the last 2', 402'7"-403'6", ill defined quartz vein filling a partly sheared section; blades of wolfram with minor, associated molybdenite occur near the margins of the vein from 403'-405'; tourmaline, chlorite, muscovite biotite, chalcopyrite and pyrite are accessories and form segregations.	W** Mo	-1.
100	405-410	As above with core becoming distinctly mottled with chlorite in a matrix which is rich in fine grained sericite; a good foliation is defined locally by quartzitic bands at 28° to the core axis; minor shearing near 405' with veining by quartz, chlorite, biotite, pyrite and chalcopyrite.		-2.
100	410-415	As above; generally unsheared, quite silicic in character, a good foliation is defined in a few instances by chloritic bands to 1/4" thickness at 24° to the core axis.		-3.
100	415-420	As above; minor quartz veining.		-4.
100	420-425	As above; generally unsheared and weakly veined; foliation developed at 30° to core axis.		-5.
100	425-430	As above; core quite micaceous, finely mottled with chlorite recrystallization blebs and very finely foliated at 32° to core axis.		-6.
100	430-435	As above; 1/2" wide white quartz vein parallels the foliation at 434'10"; minor pyrite on joints at 33° and 78° to core axis.		-7.
100	435-440	As above; fine mottling with biotite particularly in some bands to 1" thickness; minor local shearing with introduction of quartz; foliation prominently defined by fine alternation of light and dark bands; no mineralization apparent.		-8.
				-9.
				-10.
				-11.
				-12.
			-13.	
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			-28.	



082

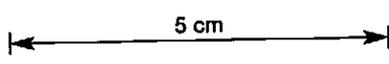


DIAMOND DRILL HOLE RECORD

721083

PROSPECT LUTWYCHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 6
 4.9N + 2.25E
 CO-ORDINATES OF COLLAR BEARING 030° True INCLINATION 55°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM'	TO'			
100	480 - 485	Micaceous quartzite; fine grained, dark grey to black in colour, finely speckled with recrystallized biotite; hard, breaks with difficulty; no foliation is defined; minor pyrite on joints.	S H A L E	- 1. - 2. - 3.
100	485 - 490	As above; minor pyrite in joints; quartz veining quite minor.		- 4. - 5. - 6.
100	490 - 495	As above; joints lined with pyrite.		- 7. - 8. - 9.
100	495 - 500	As above; 498', 1/2" wide shear filled with fine grained tourmaline at 25° to core axis; shearing minor to moderate throughout, some quartz veining.	S H A L E	- 10. - 11. - 12. - 13.
100	500 - 505	As above; quartz filled shear at approximately 501' 2" parallels the core axis - local segregations of pyrrhotite are associated; some pyrite on joints weak foliation at 25° to core axis near 505' where local gradation to a shale in character; joints at		- 14. - 15. - 16.
100	505 - 510	80°, 45°, 25° to the core axis. As above; pyrite on joints.		- 17. - 18. - 19.
100	510 - 515	Quartzite as above; minor quartz veining to 1/16" thickness.		- 20. - 21. - 22. - 23.
100	515 - 520	As above.		- 24. - 25. - 26.
				- 27. - 28.



83

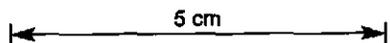
DIAMOND DRILL HOLE RECORD



721084

RESPECT... LUTWICHE LOCATION E.L. 6/68 HOLE NO. D.D.H. 6
 4.9N + 2.25E
 CO-ORDINATES OF COLLAR... BEARING 030° True INCLINATION 55°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	520-525	Micaceous <u>quartzite</u> ; fine grained, medium grey in colour, hard, fractures with difficulty; jointing at 45° and 78° to core axis; no foliation developed; no mineralization apparent.		-1. -2. -3.
100	525-530	As above; general absence of veining and of shearing; pyrite prominent on joints.		-4. -5. -6.
100	530-535	As above; a few 1/20" thick vuggy quartz veins near 530' subparallel to the core axis; pyrite developed on joints.		-7. -8. -9.
100	535-540	As above; 538'8" - 538'10½", vuggy white quartz vein at 45° to core axis.	Qz	-10. -11. -12.
100	540-545	As above; 1" wide quartz vein with some pyrite cubes at 544' makes angle of 65° with the core axis. Quartz veining at 544'6" also at 65° to core axis - some tourmaline and pyrite associated.		-13. -14. -15. -16.
100	545-550	As above; minor local shearing associated with quartz veining - some pyrite cubes associated with chlorite in vugs within the quartz; muscovite, tourmaline and chlorite associated with quartz in sheared section at 549'; jointing at 45°, 55° to the core axis.		-17. -18. -19.
100	550-555	As above; 551'10", ½" wide vein containing boxwork after calcite and associated pyrite and chalcoppyrite; 552', three 1/20" thick vuggy quartz veins at 40° to core axis are lined with crystalline wolframite.	W*	-20. -21. -22.
100	555-560	As above; intensely sheared from 555'6"-556' with introduction of quartz, chlorite, pyrite and chalcoppyrite; joints lined with pyrite; jointing at 20°, 5° and 65° to the core axis; no foliation developed.		-23. -24. -25. -26.
				-27. -28.



U8A

DIAMOND DRILL HOLE RECORD



721085

ROSPECT... LUTWYCHE LOCATION . E.L. 6/68 . . . HOLE NO. D.D.H. 6 . . .
 4.9N + 2.25E
 CO-ORDINATES OF COLLAR... BEARING . . . 030° True . . . INCLINATION 55°

% SECTION REC. FROM ' TO		DESCRIPTION	STRUCTURE	LITHOLOGY
100	560-565	Micaceous <u>quartzite</u> ; dark grey to black in colour, fine grained, tough, breaks with difficulty; 554' 6" apparent foliation defined by biotite-tourmaline veinlets at 35° to the core axis; rock type grades to quartzitic shale over final 6" with a good foliation defined; <u>no mineralization apparent.</u>		-1. -2. -3.
100	565-570	Quartzitic shale but grading with depth to a true shale, beautifully foliated at 30° to the core axis with foliation defined by alternating light and dark bands, particularly by spotted chlorite bands; some tourmaline veining along the foliation planes.		-4. -5. -6.
100	570-575	Shale, medium to dark grey in colour, fine grained, foliated on a fine scale; veining very minor to absent.		-7. -8. -9.
100	575-580	As above; core contains bands to 2" thickness spotted with white sericite quartz and feldspar on a fine scale in the interval 577'-580'. The associated matrix is finer grained biotite and sericite, quartz and feldspar. The foliation so defined is at 30° to the core axis.		-10. -11. -12. -13.
100	580-585	As above but probably best defined as a greywacke; mottling of sericite on a coarser scale with interstices between grains filled with biotite; minor chlorite in tension gashes.		-14. -15. -16.
100	585-590	As above; mottling prominent to 587' with biotite and sericite rich bands to 1/4" thickness; foliation defined at 43° to the core axis; local shearing with meshwork type quartz veining - minor associated tourmaline, chlorite and muscovite.		-17. -18. -19.
100	590-595	As above; moderately sheared locally throughout with veining by quartz (occasionally shear folded); one coarse band 1" thick containing biotite spots set in sericitic matrix near 591'; finer grained bands with biotite and/or sericite as major constituents occur throughout; <u>minor pyrite on joints;</u> foliation at approximately 40° to the core axis.		-20. -21. -22. -23.
100	595-600	As above;		-24. -25. -26.
				-27. -28.

85

DIAMOND DRILL HOLE RECORD



721086

PROSPECT... LUTWYCHE LOCATION... E.L. 6/68... HOLE NO. D.D.H. 6

4.9N+2.25E

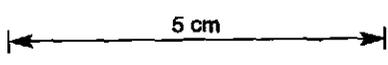
CO-ORDINATES OF COLLAR... BEARING ... 030° True INCLINATION . 55°

% SECTION
SEC. FROM ' TO '

DESCRIPTION

STRUCTURE
LITHOLOGY

100	600-605	Siltstone, broadly banded, medium/dark grey; bedding well defined and consistently at 35° to all axes; mild form of metamorphism has given section an overall spotted appearance due to biotite segregations; very fine muscovite or sericite forms large proportion of the constituents, i.e. micaceous sheen; section 603'4"-603'9" silicified parallel to bedding.		-1.
100	605-610	Similar to above; section from 607'3"-608'3" silicified, chloritized, sheared and brecciated - breccia has chlorite/carbonate matrix; bedding 50° to core axis (607'-608') randomly orientated chlorite veinlets (to 1/16" true width) loosely distributed throughout section.		-2. -3. -4.
100	610-615	Similar to above; bedding 45° to core axis; from 612'-613'3" preferential silicification (along certain bedding planes/bands) and chloritization - final 3" quartz/chlorite breccia. From 613'3"-614'7" - quartz/chlorite vein carrying minor molybdenite near margins - appears to have angle 10° to core axis at 613'3".		-5. -6. -7. -8.
100	615-620	From 615'-616' Siltstone: dark grey, sheared, chloritized (fine network chlorite veinlets) and silicified - minor quartz veining but no obvious mineralization. From 616'-620 Siltstone: medium grey, mildly metamorphosed to spotty biotite stage and secondary		-9. -10. -11.
100	620-625	muscovite or sericite forms large migration of constituents; broadly banded with silicified mudstone (brown/green grey); joint controlled chlorite/carbonate veinlets (1/16") throughout section; minor chalcopryrite in irregular 1/8" veinlets at 616'6"; bedding 41° to core axis.		-12. -13.
100	625-630	Similar to above; 620'9"-621' irregular quartz/chlorite/biotite veinlets carrying minor chalcopryrite, pyrrhotite; generally minor quartz veining throughout (to 1/2" true width).		-14. -15. -16. -17.
100	630-635	Siltstone, dark grey mildly metamorphosed to "spotty biotite" stage with secondary muscovite or sericite (very fine grained) forming large proportion of constituents; broadly banded with medium/pale grey silicified mudstone (to 1" true width); section from 625'11"-626'5" extensively silicified and carrying random chlorite/chalcopryrite veinlets (to 1/8" true width) and quartz veinlets (1/2" true width) carrying minor molybdenite throughout but more noticeably at selvedge in association with chlorite.		-18. -19. -20. -21.
100	635-640	Similar to above; bedding angle of 42° to core axis.		-22. -23.
100	635-640	Similar to above; interval from 636'-637' quartz/biotite? veining (to 1/8" true width) - angle of 40° to one axis; bedding angle 40° to core axis.		-24. -25. -26. -27. -28.



386

DIAMOND DRILL HOLE RECORD



721087

LUTWYCHE LOCATION HOLE NO.
 4.9N.t.2.25E 030° True 55°
 O-ORDINATES OF COLLAR BEARING INCLINATION

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
REC. FROM	TO			
100	640-645	Similar to above; bedding well defined by green-gray/dark grey mudstone bands (to 1/4" true width) make angle of 37° to core axis.		-1. -2. -3.
100	645-650	Siltstone, medium grey - similar to above; quartz, quartz-chlorite-carbonate, chlorite-carbonate veining prominent feature (to 1/2") sporadically silicified throughout - with segregated biotite and quartz veining association; minor disseminated chalcopryrite commonly associated with chlorite veining (to 1/8" maximum true width).		-4. -5. -6.
100	650-655	Top 1'7", similar to above. Bottom 3'5", Siltstone, medium/dark grey metamorphosed to "spotty biotite" stage and possesses a distinct "phyllite texture", well jointed with chlorite/carbonate/pyrite coating joint surfaces; occasionally vughy.		-7. -8. -9.
100	655-660	Siltstone; medium/dark grey mildly metamorphosed to "spotty biotite" stage; occasionally vughy (carbonate infilling); well jointed; interlaced with fine carbonate veinlets (<1/16" in true width); section from 656'10" to 660' silicified and chloritized, tourmalinized and sheared - minor chalcopryrite associated with the irregular chlorite veinlets (to 1/8") and blebs particularly in chlorite/tourmaline/quartz rich section from 658'6"-660'.		-10. -11. -12. -13.
100	660-665	From 660'-662'; similar to 658'6"-660' above. From 662'-665'; siltstone, metamorphosed to "spotty biotite" stage, and groundmass has micaceous sheen - fine muscovite or sericite.		-14. -15. -16.
100	665-670	Siltstone; similar to above; minor chlorite/biotite veining (to 1/8" max. true width) with associated minor pyrite; well jointed, and pyrite coating on fracture and joint surfaces a distinct feature; bedding makes angle 40° to core axis; minor quartz veining (to 1/8" and joint controlled) throughout.		-17. -18. -19.
100	670-675	Siltstone, similar to above; spasmodic quartz, chlorite veinlets (to 1/8" true width) and as joint controlled features and as fracture infills; minor carbonate as minute veinlets associated with chlorite irregular and randomly distributed throughout section; bedding as defined by occasional mudstone bands (commonly to 1/8" true width) makes angle of 33° to core axis at 675'.		-20. -21. -22.
100	675-680	Siltstone, similar to above; minor quartz veining (to 1/8") only.		-23. -24. -25.
				-26. -27. -28.

087

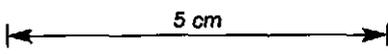


DIAMOND DRILL HOLE RECORD

721088

RESPECT LUTWYCHE LOCATION E.L.6/68 HOLE NO. D.D.H.6
4.9N. + 2.25E
 O-ORDINATES OF COLLAR 030° True INCLINATION 55°

% SECTION		DESCRIPTION	STRUCTURE	LITHOLOGY
SEC. FROM	TO			
100	680-685	Siltstone; similar to above; marked absence of quartz veining; minor chlorite, carbonate veinlets - <1/16" as joint and fracture in fillings; bedding at 683'6" is 37° to core axis.		-1. -2. -3.
100	685-690	Similar to above; well jointed - carbonate, chlorite common coating on joint surfaces; bedding 42° to core axis.		-4. -5. -6.
100	690-695	Siltstone; medium grey; mildly metamorphosed to "spotty biotite" stage and ground mass exhibits a micaceous sheen due to formation of fine secondary micas (muscovite or sericite); bedding as defined by occasional relatively unmetamorphosed mudstone bands (to 1/8" max. true width) makes angle of 43° to core axis; well jointed, chlorite/carbonate commonly coat joint surfaces.		-7. -8. -9. -10.
100	695-700	Similar to above;		-11. -12. -13.
100	700-705	Similar to above; highly micaceous with generally a "phyllitic texture", section from 702'-703'6" abundant joint controlled quartz veining (to 1/2" max. width) - no obvious mineralization, bedding has angle 42° to core axis; minor irregular carbonate veinlets		-14. -15. -16.
100	705-706	(<1/16"-1/8") mainly as fracture infillings; quartz veinlets have biotite and to lesser extent tourmaline association. Similar to above.		-17. -18. -19.
		D.D.H.6 TERMINATED AT 706'.		-20. -21. -22. -23. -24. -25. -26.
				-27. -28.



APPENDIX

GEOCHEMICAL LABORATORY REPORTS

Lab. Sheet No. 1168/1

Lab. Sheet No. 979/1

Lab. Sheet No. 1150/1

Lab. Sheet No. 1181/1

089

GEOCHEMICAL LABORATORY REPORT 721090

FIELD SHEET No. 002519 PROJECT No. EL.6/68 - LUTWYCHE DDH1

LAB. SHEET No. 1168/1 SAMPLE TYPE DDH.CORE DATE 14th November, 1972

SAMPLE No.	LAB. No.	Cu ppm	Mo ppm	Bi ppm	W ppm	Sn %			
45' - 50'	72-K-1478	50	5	BLD	10	BLD			
50' - 54'	82-K-1479	190	5	BLD	5	0.01			
93' - 95'6	72-K-1480	65	170	425	3.0	% BLD			
135' - 140'	72-K-1481	190	230	165	0.35%	50ppm			
140' - 145'	72-K-1482	80	5	15	105	BLD			
190' - 192'	72-K-1483	75	1210	30	95	BLD			
245' - 250'	72-K-1484	60	170	25	25	BLD			
250' - 255'	72-K-1485	160	10	350	10	BLD			
255' - 260'	72-K-1486	40	55	45	55	BLD			
290' - 295'	72-K-1487	50	60	15	5	BLD			
323' - 325'	72-K-1488	40	15	25	<5	BLD			
325' - 330'	72-K-1489	30	BLD	BLD	<5	BLD			
330' - 332'	72-K-1490	30	600	45	25	BLD			
370' - 375'	72-K-1491	30	30	90	5	BLD			
375' - 380'	72-K-1492	30	10	20	15	BLD			
380' - 385'	72-K-1493	30	5	BLD	<5	BLD			
385' - 390'	72-K-1494	160	10	10	5	BLD			
390' - 392'	72-K-1495	35	25	50	5	BLD			
392' - 396'	72-K-1496	320	170	445	15	50ppm			
396' - 401'	72-K-1497	35	15	105	<5	BLD			
401' - 404'	72-K-1498	60	160	185	5	BLD			
440' - 445'	72-K-1499	20	5	15	5	BLD			
445' - 450'6	72-K-1500	20	5	10	5	BLD			
469' - 474'	72-K-1501	50	10	10	15	BLD			
482' - 486'6	72-K-1502	30	10	35	5	BLD			

METHODS: Cu by G.R.C. NO. 101
 Mo & Bi by G.R.C. NO. 102
 W by G.R.C. NO. 104
 Sn by G.R.C. NO. 105

Limit of Detection for Sn = 50ppm



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Ray W. M. [Signature]

GEOCHEMICAL LABORATORY REPORT 721091

FIELD SHEET No. 006810 PROJECT No. EL. 6/68 - LUTWYCHE PROSPECT - D.D.H. 2

LAB. SHEET No. 979/1 SAMPLE TYPE: CORE DATE: 16th May, 1972.

SAMPLE No.	LAB. No.	Cu ppm	Mo ppm	Bi ppm	W ppm	Sn ppm			
365' - 370'	72-E-280	370	<5	<5	<200	<50			
370' - 375'	72-E-281	100	<5	<5	<200	<50			
375' - 380'	72-E-282	20	5	5	<200	<50			
380' - 385'	72-E-283	<5	<5	<5	<200	<50			
385' - 390'	72-E-284	40	<5	<5	<200	<50			
390' - 395'	72-E-285	<5	<5	<5	<200	<50			
395' - 400'	72-E-286	10	5	<5	<200	<50			
400' - 405'	72-E-287	10	<5	<5	<200	<50			
405' - 410'	72-E-288	10	<5	<5	<200	<50			
410' - 415'	72-E-289	<5	<5	<5	<200	<50			
415' - 420'	72-E-290	10	<5	<5	<200	<50			
420' - 425'	72-E-291	<5	<5	<5	<200	<50			
540' - 545'	72-E-292	20	<5	<5	<200	<50			
545' - 550'	72-E-293	10	<5	5	<200	<50			
550' - 555'	72-E-294	10	<5	5	<200	<50			
555' - 560'	72-E-295	20	<5	<5	<200	<50			

METHODS:

This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Cu by G.R.C. No. 101
 Mo, Bi by G.R.C. No. 102
 W by G.R.C. No. 104
 Sn by G.R.C. No. 105



Chief Chemist

Ray W. Jenkins

090

GEOCHEMICAL LABORATORY REPORT 721092

FIELD SHEET No. 002511 PROJECT No. EL.6/68 - LUTWYCHE PROSPECT - DDH.5

LAB. SHEET No. 1150/1 SAMPLE TYPE: DDH.CORE DATE: 25th October, 1972

SAMPLE No.	LAB. No.	Mo ppm	Bi ppm	W ppm	Sn %					
75' - 80'	72-K-234	5	245	35	BLD					
80' - 85'	72-K-235	5	25	800	BLD					
85' - 90'	72-K-236	5	65	50	BLD					
90' - 95'	72-K-237	5	40	280	BLD					
95' - 100'	72-K-238	5	310	30	BLD					
100' - 105'	72-K-239	5	75	25	BLD					
105' - 110'	72-K-240	5	70	70	BLD					
110' - 115'	72-K-241	5	BLD	40	BLD					
115' - 120'	72-K-242	5	55	20	BLD					
120' - 125'	72-K-243	15	5	5	BLD					
145' - 150'	72-K-244	10	30	200	BLD					
160' - 165'	72-K-245	15	20	0.61%	BLD					
165' - 170'	72-K-246	10	35	30	BLD					
170' - 175'	72-K-247	15	15	15	BLD					
175' - 180'	72-K-248	SAMPLE MISSING								
180' - 185'	72-K-249	10	5	10	BLD					
185' - 190'	72-K-250	10	5	5	BLD					
210' - 215'	72-K-251	80	55	10	BLD					
225' - 230'	72-K-252	20	115	200	BLD					
265' - 270'	72-K-253	10	10	5	BLD					
270' - 275'	72-K-254	5	5	BLD	BLD					
515' - 520'	72-K-255	10	5	15	BLD					
520' - 525'	72-K-256	10	5	5	BLD					
525' - 530'	72-K-257	10	5	BLD	BLD					
675' - 680'	72-K-258	10	BLD	5	BLD					
680' - 685'	72-K-259	5	5	BLD	BLD					
685' - 690'	72-K-260	5	5	5	BLD					
650' - 655'	72-K-261	5	5	5	0.005%					
655' - 660'	72-K-262	5	5	5	BLD					
660' - 665'	72-K-263	10	BLD	5	BLD					
665' - 670'	72-K-264	10	5	5	BLD					
670' - 675'	72-K-265	10	BLD	BLD	BLD					

METHODS: Mo, Bi by G.R.C. NO. 102
W by G.R.C. NO. 104 & 104A
Sn by G.R.C. NO. 105

BLD = Below limit of detection



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Ray W M

GEOCHEMICAL LABORATORY REPORT 721093

092

FIELD SHEET No.: 002525 PROJECT No.: EL.6/68 - LUTWYCHE PROSPECT - DDH 6

LAB. SHEET No.: 1181/1 SAMPLE TYPE: DDH.CORE DATE: 28th November, 1972

SAMPLE No.	LAB. No.	Cu ppm	Mo ppm	Bi ppm	W ppm	Sn %			
70'0"-75'0"	72-L-646	215	BLD	BLD	5	BLD			
75'0"-80'0"	72-L-647	180	BLD	BLD	5	BLD			
106'6"-111'0"	72-L-648	130	BLD	BLD	20	BLD			
113'0"-118'0"	72-L-649	90	BLD	BLD	10	BLD			
118'0"-123'0"	72-L-650	65	BLD	BLD	15	BLD			
140'0"-145'0"	72-L-651	390	60	365	500	0.01			
145'0"-150'0"	72-L-652	295	5	50	50	0.03			
150'0"-155'0"	72-L-653	450	5	280	200	0.02			
170'0"-175'0"	72-L-654	195	5	15	45	0.02			
175'0"-180'0"	72-L-655	120	BLD	30	30	0.20			
190'0"-195'0"	72-L-656	125	BLD	BLD	35	BLD			
225'0"-230'0"	72-L-657	50	5	BLD	10	BLD			
241'0"-246'0"	72-L-658	10	BLD	BLD	15	BLD			
303'0"-306'0"	72-L-659	30	55	25	15	BLD			
311'0"-316'0"	72-L-660	10	5	10	15	BLD			
385'0"-386'0"	72-L-661	585	BLD	25	15	BLD			
386'6"-390'6"	72-L-662	40	10	60	135	BLD			
395'0"-398'0"	72-L-663	20	5	70	315	BLD			
398'0"-399'3"	72-L-664	10	250	830	4.10%	BLD			
399'3"-401'3"	72-L-665	45	5	160	380	BLD			
401'3"-404'3"	72-L-666	110	10	55	0.20%	BLD			
500'0"-505'0"	72-L-667	10	BLD	BLD	20	BLD			
538'0"-543'0"	72-L-668	75	40	125	35	BLD			
543'0"-548'0"	72-L-669	80	5	BLD	15	BLD			
548'0"-553'0"	72-L-670	30	5	BLD	25	BLD			
585'0"-588'0"	72-L-671	50	BLD	BLD	5	BLD			
588'0"-592'0"	72-L-672	50	BLD	BLD	5	BLD			
607'0"-611'0"	72-L-673	70	BLD	10	5	BLD			
611'0"-616'0"	72-L-674	10	20	1070	500	BLD			
620'9"-625'9"	72-L-675	335	35	20	25	BLD			
656'0"-661'0"	72-L-676	440	10	250	15	BLD			
90'0"-93'0"	72-L-644	5	BLD	20					
95'6"-98'6"	72-L-645	BLD	BLD	15					

METHODS: Cu by G.R.C. NO. 101

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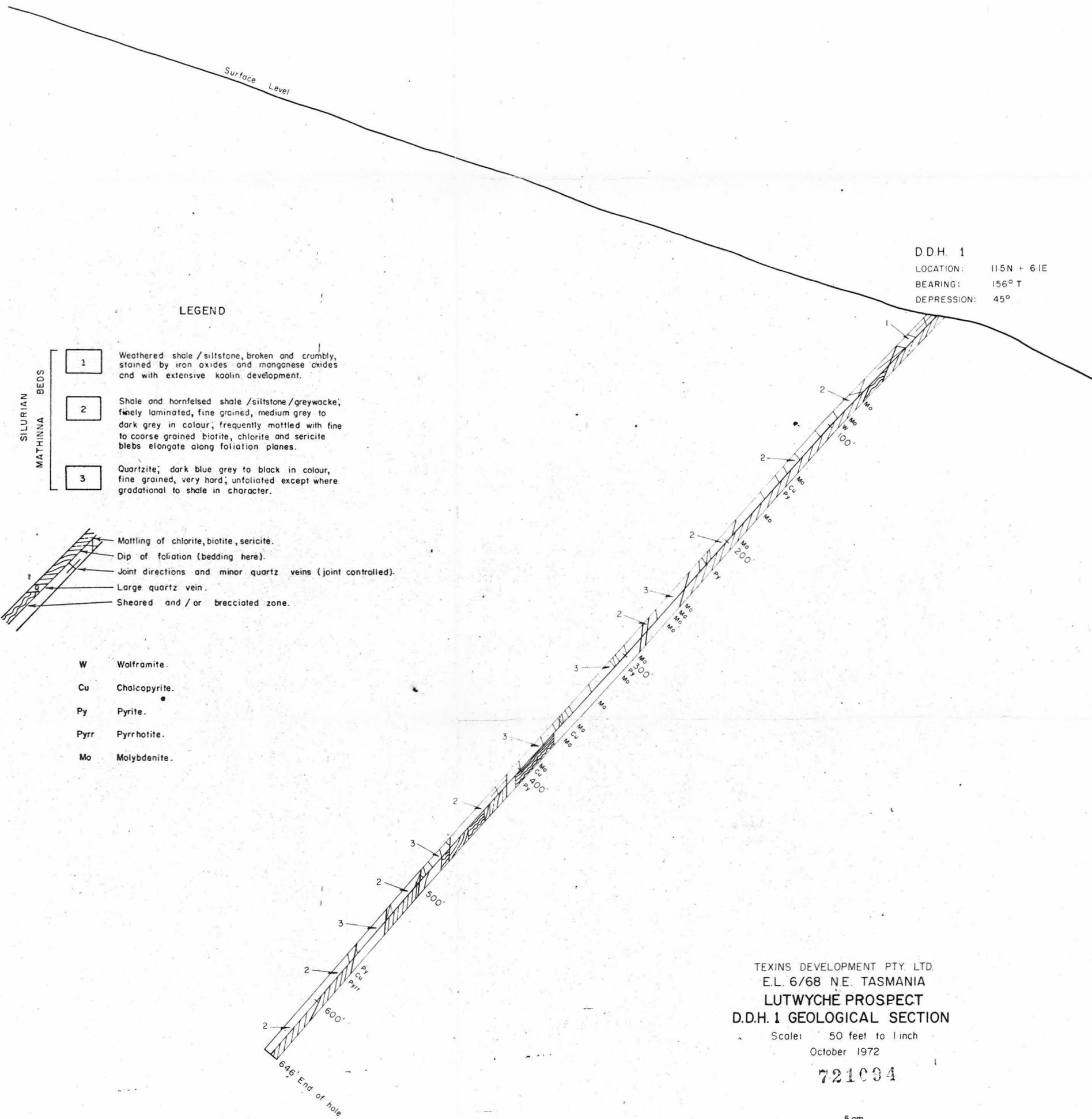
Mo, Bi by G.R.C. NO. 102 Sn by G.R.C. NO. 105
W by G.R.C. NO. 104 & 104A

BLD = Below limit of detection



Chief Chemist

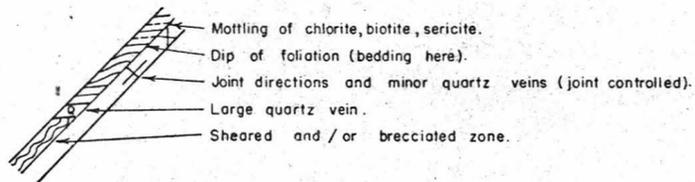
Ray W. [Signature]



D.D.H. 1
 LOCATION: 115N + 61E
 BEARING: 156° T
 DEPRESSION: 45°

LEGEND

- SILURIAN
MATHINNA
BEDS
- | | |
|---|---|
| 1 | Weathered shale /siltstone, broken and crumbly, stained by iron oxides and manganese oxides and with extensive kaolin development. |
| 2 | Shale and hornfelsed shale /siltstone/greywacke; finely laminated, fine grained, medium grey to dark grey in colour; frequently mottled with fine to coarse grained biotite, chlorite and sericite blebs elongate along foliation planes. |
| 3 | Quartzite; dark blue grey to black in colour, fine grained, very hard; unfoliated except where gradational to shale in character. |



- | | |
|------|---------------|
| W | Wolframite. |
| Cu | Chalcopyrite. |
| Py | Pyrite. |
| Pyrr | Pyrrhotite. |
| Mo | Molybdenite. |

TEXINS DEVELOPMENT PTY. LTD.
 E.L. 6/68 N.E. TASMANIA
 LUTWYCHE PROSPECT
 D.D.H. 1 GEOLOGICAL SECTION

Scale: 50 feet to 1 inch
 October 1972

721034

5 cm

72-908

1972 DWG. N° 1/160

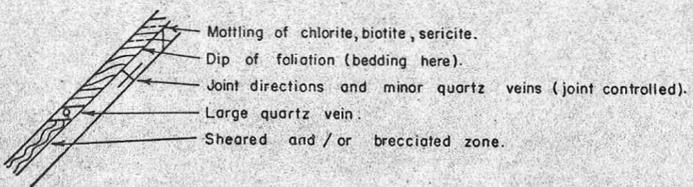
DD.H. 2

LOCATION : 8.8N + 14.5E

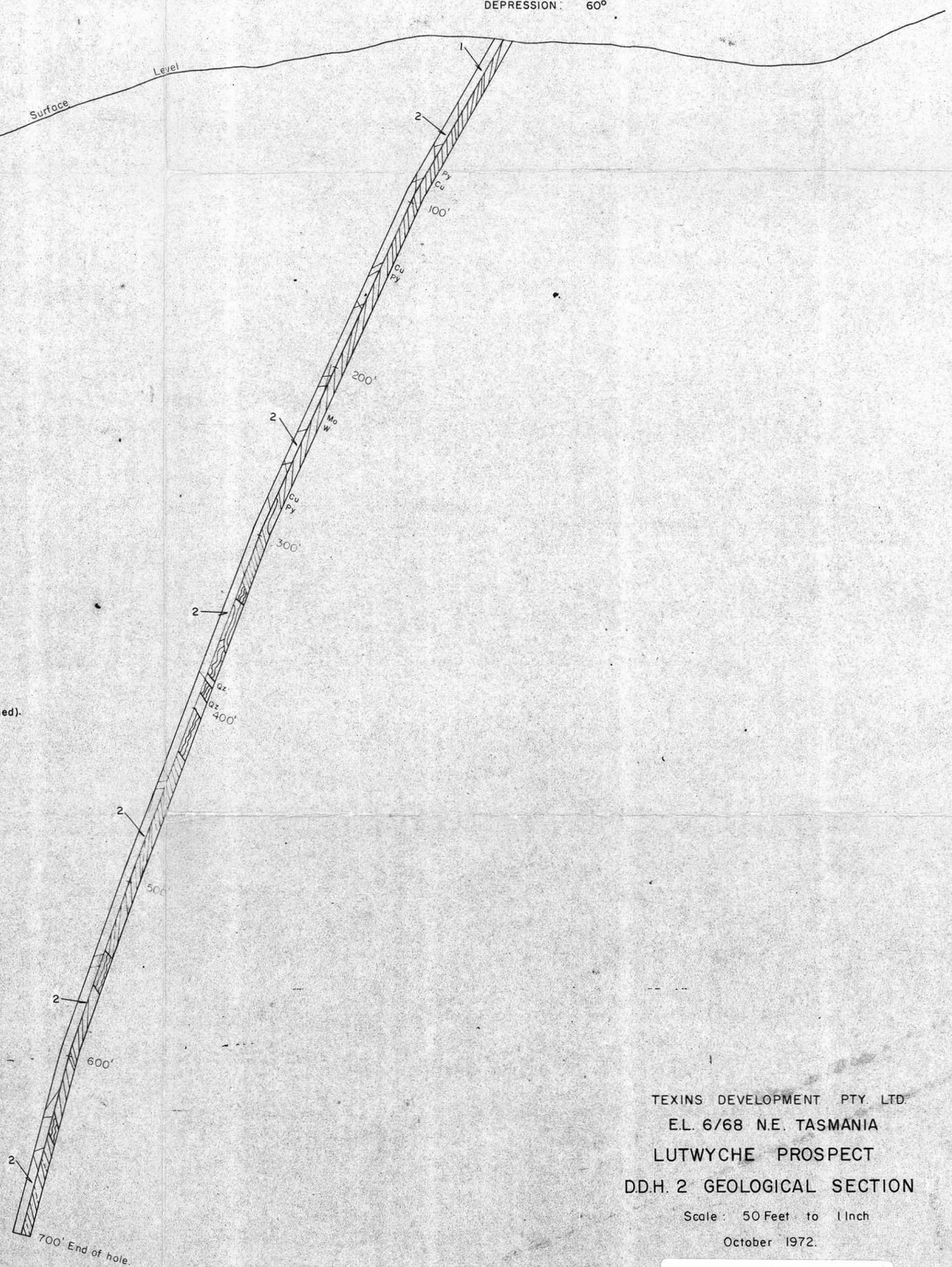
BEARING : 167° T

DÉPRESSION : 60°

- LEGEND**
- SILURIAN BEDS
MATHINNA
- 1 Weathered shale /siltstone, broken and crumbly, stained by iron oxides and manganese oxides and with extensive kaolin development.
 - 2 Shale and hornfelsed shale /siltstone/greywacke; finely laminated, fine grained, medium grey to dark grey in colour; frequently mottled with fine to coarse grained biotite, chlorite and sericite blebs elongate along foliation planes.
 - 3 Quartzite; dark blue grey to black in colour, fine grained, very hard; unfoliated except where gradational to shale in character.

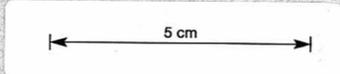


- W Wolframite.
- Cu Chalcopyrite.
- Py Pyrite.
- Pyrr Pyrrhotite.
- Mo Molybdenite.



TEXINS DEVELOPMENT PTY. LTD.
 EL. 6/68 NE. TASMANIA
 LUTWYCHE PROSPECT
 DD.H. 2 GEOLOGICAL SECTION

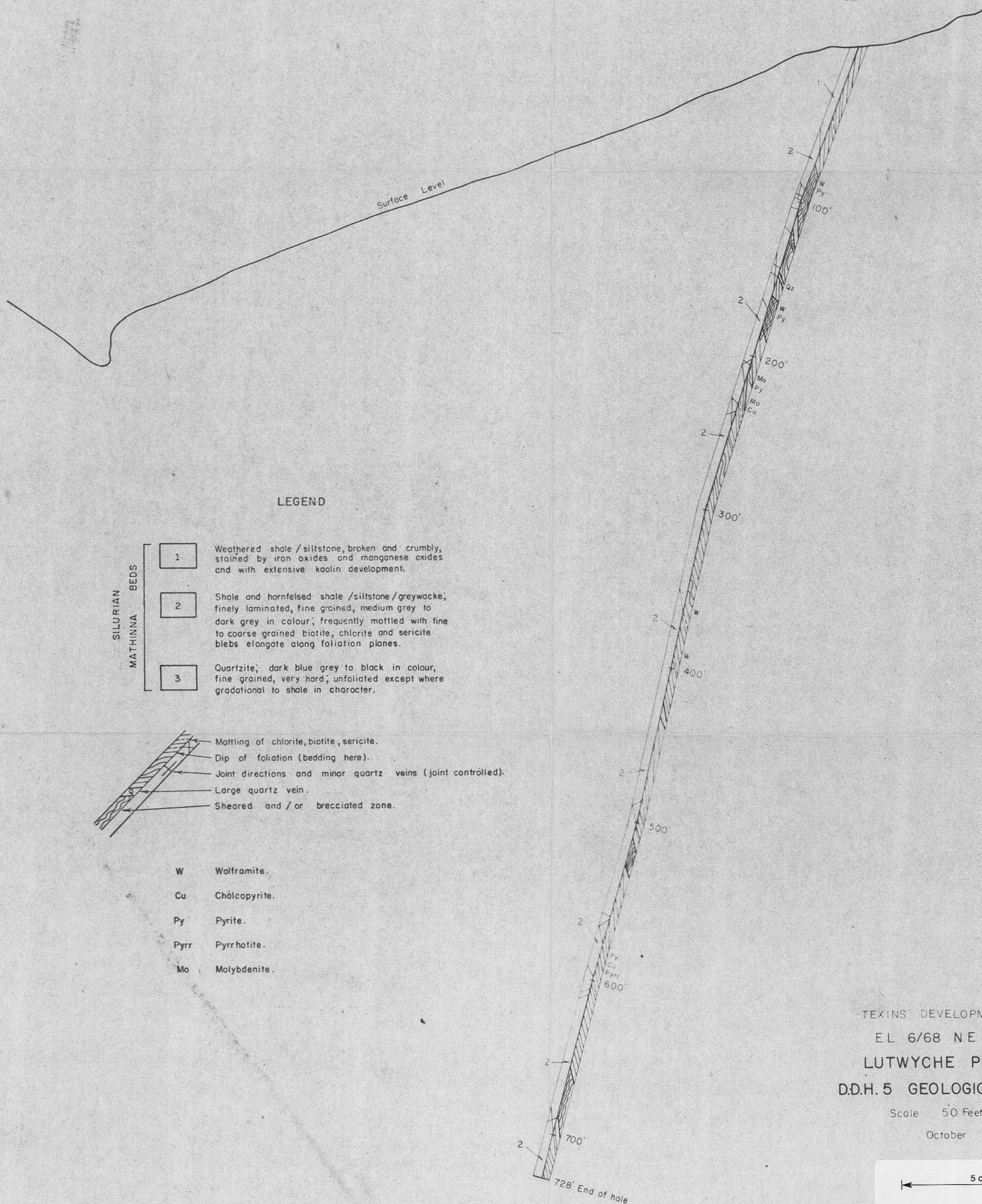
Scale: 50 Feet to 1 Inch
 October 1972.



721095
 72-908
 1973

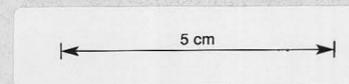
DWG No 1/164

DDH 5
 LOCATION 14N + 11E
 BEARING 167°T
 DEPRESSION 70°



TEXINS DEVELOPMENT PTY LTD
 EL 6/68 NE TASMANIA
 LUTWYCHE PROSPECT
 D.D.H.5 GEOLOGICAL SECTION

Scale 50 Feet to 1 Inch
 October 1972



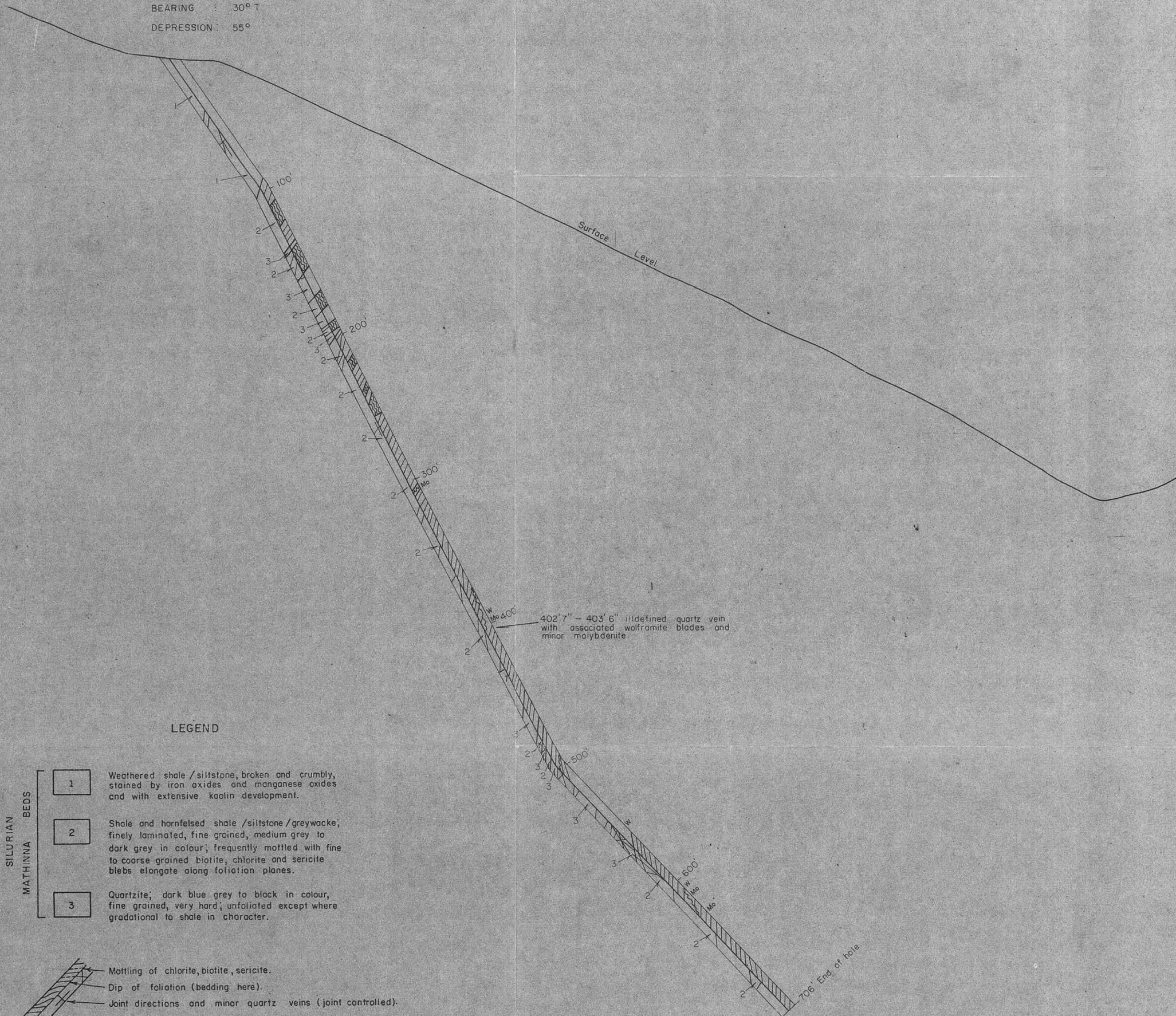
72-908

721036

1975

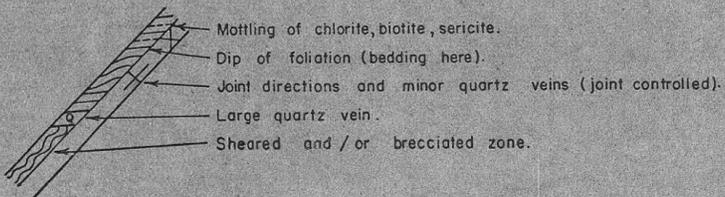
DWG. No. 1/166

D.D.H. 6
 LOCATION : 4-90N + 2-25E
 BEARING : 30° T
 DEPRESSION : 55°



LEGEND

- SILURIAN BEDS
 MATHINA
- | | |
|---|--|
| 1 | Weathered shale/siltstone, broken and crumbly, stained by iron oxides and manganese oxides and with extensive kaolin development. |
| 2 | Shale and hornfelsed shale/siltstone/greywacke; finely laminated, fine grained, medium grey to dark grey in colour; frequently mottled with fine to coarse grained biotite, chlorite and sericite blebs elongate along foliation planes. |
| 3 | Quartzite; dark blue grey to black in colour, fine grained, very hard; unfoliated except where gradational to shale in character. |



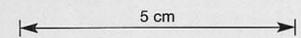
- | | |
|------|---------------|
| W | Wolframite. |
| Cu | Chalcopyrite. |
| Py | Pyrite. |
| Pyrr | Pyrrhotite. |
| Mo | Molybdenite. |

TEXINS DEVELOPMENT PTY. LTD.
 E.L. 6/68 N.E. TASMANIA
 LUTWYCHE PROSPECT
 D.D.H. 6 GEOLOGICAL SECTION

Scale : 50 Feet to 1 Inch
 October 1972

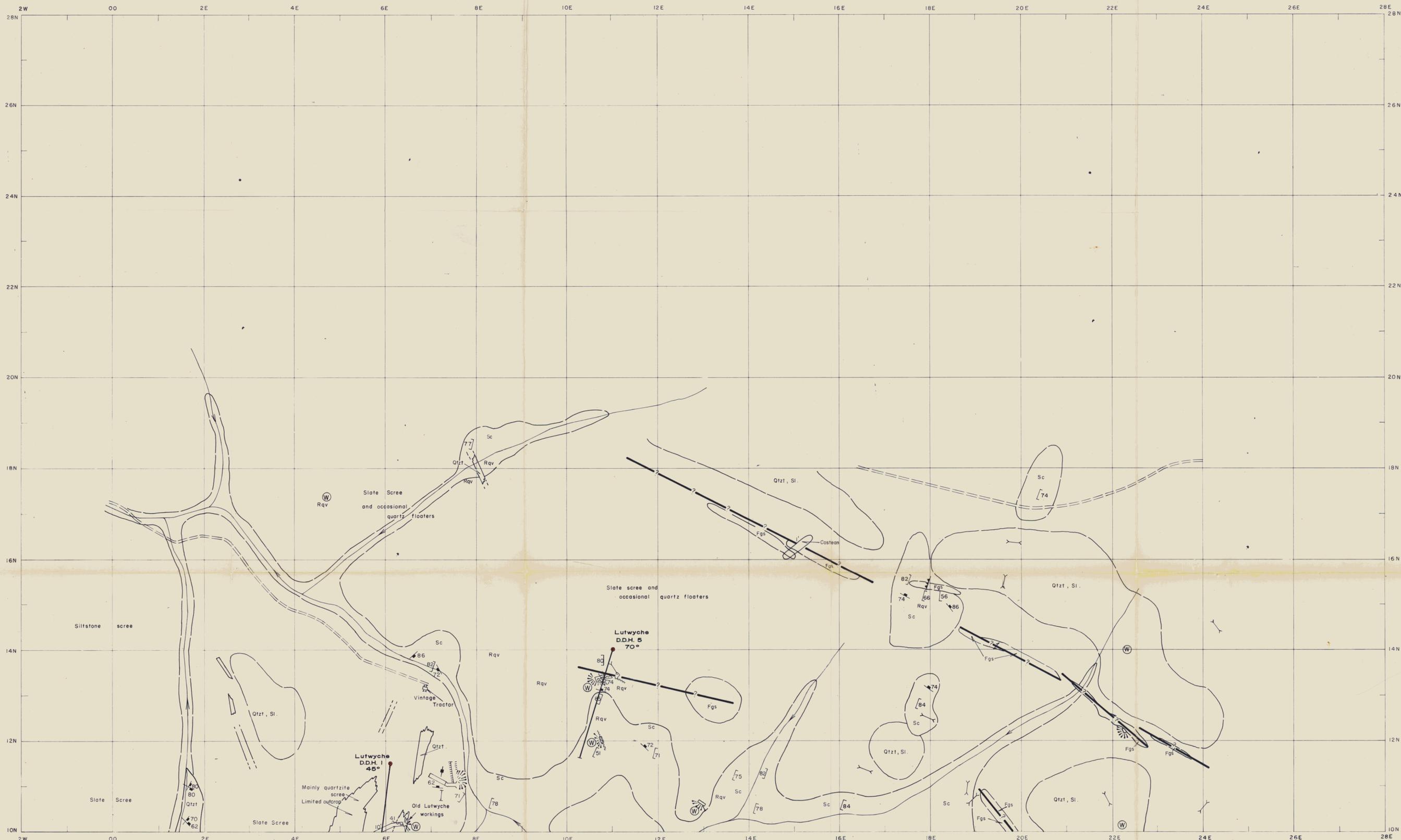
721037

72-908

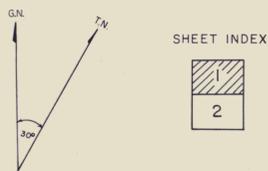


1974

DWG. NO. 1/165



721098
72-908

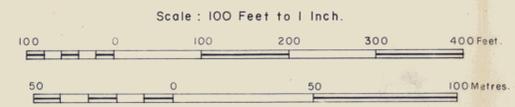


- Fgs** Ferruginous gossan often grading laterally into highly siliceous material.
- Fg** Ferruginous gossan, limited outcrop, ferruginized slates occasional limonitic silica-braccia.
- Sc** Slate outcrop, cleavage trend where indicated.
- Qtzt, Sl.** Mixture quartzite, slate and quartz floaters, carrying wolframite where indicated.
- Qtzt** Quartzite outcrop.
- Contact inferred.
- 55** Strike and dip - inclined cleavage.

- LEGEND.**
- ||||| Scarp.
 - 20 Joint-strike and dip
 - 38 Quartz vein showing strike and dip.
 - Prospect pit.
 - Prospect trench and dump.
 - Costean - depth as indicated.
 - Fault inferred.

- Stream.
- Road.
- W Wolframite.
- P Pyrite.
- M Molybdenite.
- ▲ Shear.
- Adit with partial showing.
- Open cut.
- Rqv Numerous randomly orientated quartz veinlets.

Completed drill hole, indicating direction of drilling and angle of depression projected to horizontal plane.



Scale: 100 Feet to 1 Inch.

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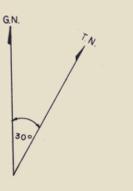
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E.L. 6/68 NORTH EAST TASMANIA
LUTWYCHE PROSPECT
GEOLOGICAL MAP 1970

PROJECT 6/68 AUTHOR A.C. Johnston DATE 10/8/71 DWG. NO 1/148



721099
72-908



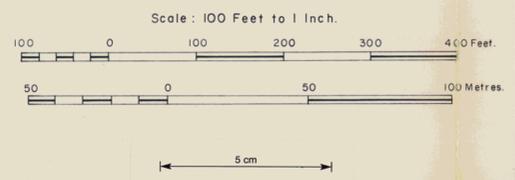
- Fgs Ferruginous gossan often grading laterally into highly silicious material.
- Fg Ferruginous gossan, limited outcrop, ferruginized slates, occasional limonitic silica-breccia.
- Sc Slate outcrop, cleavage trend where indicated.
- Qtzt, Si Mixture quartzite, slate and quartz 'floaters' carrying wolframite where indicated.
- Qtzt Quartzite outcrop.
- Contact indefinite.
- 66 Strike and dip - inclined cleavage.

LEGEND.

- Scarp.
- Joint-strike and dip.
- Quartz vein showing strike and dip.
- Prospect pit.
- Prospect trench and dump.
- Costean - depth as indicated.
- Fault inferred.

- Stream.
- Road.
- Wolframite.
- Pyrite.
- Molybdenite.
- Shear.
- Adit with portal showing.
- Open cut.
- Numerous randomly orientated quartz veinlets.

Completed drill hole, indicating direction of drilling and angle of depression projected to horizontal plane.



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TEXINS DEVELOPMENT PTY LTD.
E.L. 6/68 NORTH EAST TASMANIA

LUTWYCHE PROSPECT
GEOLOGICAL MAP 1971

PROJECT 6/68 AUTHOR A.C. Johnston. DATE 10/8/71 DWG. NO. 1/148