

000

DLSG

MICROFILMED

836001

71-792

GEOPHOTO MINERALS REPORT. 1971/21

GEOLOGIC REPORT

ON

LUTWYCHE PROSPECT

IN

E.L. 6/68 - N.E. TASMANIA

PREPARED BY

GEOPHOTO RESOURCES CONSULTANTS

FOR

TEXINS DEVELOPMENT PTY LTD

A. JOHNSTON

JUNIOR GEOLOGIST

AUGUST, 1971

CONTENTS

	<u>PAGE</u>
SUMMARY	1
METHOD	2
GEOLOGY, OUTCROP AND ACCESS	2
MODE OF OCCURRENCE AND CONTROL OF WOLFRAMITE MINERALIZATION	2
DISCUSSION OF BISMUTH ANOMALIES	5
DISCUSSION OF ECONOMIC GEOLOGY	6
RECOMMENDATIONS	7

MAPS - Two sheets in Pocket

1. LUTWYCHE PROSPECT
GEOLOGICAL MAP Sheet 1.
2. LUTWYCHE PROSPECT
GEOLOGICAL MAP Sheet 2.

SUMMARY.

The area was found to hold potential for a possible wolframite deposit. Follow-up work is recommended under the form of a scout diamond drilling programme consisting of five holes.

METHOD

The Lutwyche area which is approximately 2000ft by 2400ft was mapped at scale, 100ft to 1 inch by pace, tape and compass over a rectilinear grid pattern.

GEOLOGY, OUTCROP AND ACCESS

The main lithologic units are medium grey to dark grey slates belonging to the deep-water Mathinna Group of Silurian age. The rocks are host to Devonian mineralization specifically wolframite mineralization. The slate cleavage trends consistently N.N.E. and dips steeply to the east.

Rock exposure within the grid is limited to prominent ridges and creeks with much of the gridded area covered by slate scree and less commonly, by quartzite scree.

Access is direct via a track which is in fairly poor condition.

MODE OF OCCURRENCE AND CONTROL ON WOLFRAMITE MINERALIZATION

(1) The old Lutwyche workings are located in the south-west corner of the grid. Here, wolframite is closely associated with quartzite lodes which on surface are expressed as actual outcrops or as quartzite 'floaters' carrying coarsely crystalline wolframite

004

in a quartz gangue. The quartzite has acted as host to wolframite mineralization which was a fracture filling joint controlled process to a large extent. Quartz veins cut across and appear to be confined to the lode. These veins carrying the coarsely crystalline wolframite, range up to 6" in width and commonly branch and pinch out after short distances.

Several prospect trenches and pits cut across and into the lodes following the above-mentioned quartz veins carrying the wolframite. The veins were contained only within the quartzite and pinched-out laterally onto the gradational slate contact. Furthermore the veins narrowed considerably only after 10ft or less and the wolframite appears to cut-out, after which work was abandoned on the prospect. Specimens of coarsely crystalline wolframite and minor molybdenite were readily obtained from most of the trench and pit dumps. At the north-west extent of the old workings an adit was commenced near creek level and was originally designed to cut the quartzite lode as indicated on the map. The adit stops short of the goal however.

(2) Between grid co-ordinates 8N/14E and 4N/14E: Five prospect trenches were dug on quartz veins to 8" wide and trending west to north-west. Slate is the host rock and once again the veining appears to be joint controlled. Except for minor silification

there is very little noticeable wall rock alteration. On most of the trench dumps, coarsely crystalline wolframite was readily located and one trench dump carried abundant pyrite.

(3) A pit near 10E/13N cuts into two quartz veins which in places have a width up to 18" but are only of limited lateral extent as they readily branch and pinch-out. Minor coarsely crystalline wolframite in a quartz gangue was found on both dumps.

(4) The area between 8E/14N and 12E/8N is sub-parallel to the main north-westerly flowing creek and contains an abnormal abundance of injected quartz veinlets both in outcrop and associated with the slate scree. These quartz veinlets are randomly oriented and possibly respond to a fracture pattern caused by a bulge in the underlying granite. These are not to be confused with more conformable veinlets which are assumed to have resulted from the "sweating-out" of SiO_2 from the original slate. Some of these areas give rise to mild Bismuth anomalies.

(5) In the north-east corner of the grid area, there is a line of ferruginous gossan which often grades laterally into highly siliceous material and can be traced discontinuously for 1400ft in a N.W. direction. This gossan line marks a fault which trends in the same direction. Parallel to and associated with it on the N.E. side, there is a zone of mixed quartzite,

slate and quartz floaters which occasionally carry minor wolframite. A similar situation occurs in the vicinity of 20E/10N.

DISCUSSION OF BISMUTH ANOMALIES.

Assuming the threshold value for bismuth in the area to be 5 ppm and further assuming that anomalous bismuth values can be used as a reliable indication of anomalous wolfram values, then the following anomalies exist:-

(A) In the vicinity 2E/3N an anomaly is situated adjacent to a quartzite out-crop. Quartz veins (to 3" in width) cut the quartzite and occasionally contain vugs containing quartz crystals penetrating a limonitic material. These vugs also occur in the quartzite itself and some of the loose quartzitic material has a limonitic and brecciated appearance. Talc and chlorite are also minor constituents of the quartz veins.

(B) In the vicinity of 6E/7N there is an anomaly centred around dump material from a prospect trench. The dump material carried wolframite, minor pyrite and minor molybdenite.

(C) An anomaly in the vicinity of 10E/9N is adjacent to the main creek and exhibits an abnormal abundance of randomly oriented quartz veinlets, some of which are iron stained and may

be mineralized.

(D) Near 10E/12N, there is an anomaly situated in an area similar to the anomaly described above and adjacent to a prospect pit carrying minor wolframite.

(E) Finally an anomaly near 14E/4N is in a situation similar to (C) above.

DISCUSSION OF ECONOMIC GEOLOGY

Before going into a discussion on the economic aspects of Lutwyche it is necessary to understand the mode of occurrence of wolframite. Furthermore reference will be made to the profitable mining of wolframite by Aberfoyle Tin N.L. at Rossarden near the southern flank of Ben Lomond, N.E. Tasmania. Following are some characteristics of wolframite mineralization in the North-East Tasmania.

(1) The mineralization is related to fracture fillings and quartz is the dominant gangue mineral.

(2) A fracture system is the main control of mineralization with payable veins making-off these fractures and being localized in a favourable host rock.

(3) There is a close association with cassiterite, ~~exists~~.

Cassiterite mineralization may be met at depth.

(5) Wolframite has a clustering nature and coarsely crystalline aggregates are spread irregularly throughout the quartz gangue.

(6) The profitably worked ore shoots are relatively narrow, commonly 3ft wide and ranging up to 11ft at the Aberfoyle Tin N.L. Mine. The wider veins occur at depth.

(7) Metal value of the veins improve with depth and, worthy of note is that the Aberfoyle veins were not payable on the surface.

All of the above factors are of importance in future exploration work. With respect to the actual spatial orientation of D.D.H.'s, points (4), (5), and (6) above are very important and should definitely be taken into consideration. The similarity of the Lutwyche prospect, with respect to (1), (2), (3), (7), with the Aberfoyle deposit should not be overlooked.

RECOMMENDATIONS:

Following are suggestions concerning positioning and orientation of a future drill hole in a drilling programme.

- (A) Grid reference 3.1E/1.35N
 Bearing 301 (true) N 29°W
 Inclination 60°
 Depth 700'

- (B) Grid reference 15.3/9.41N
 Bearing 172 (true) 58°E
 Inclination 60°
 Depth 600'

- (C) Grid reference 18E/14.5N
 Bearing 91 (true) S89°E
 Inclination 60°
 Depth 600'

- (D) Grid reference 2.2E/4.8N
 Bearing 11° (ture) N11°E
 Inclination 60°
 Depth 700'

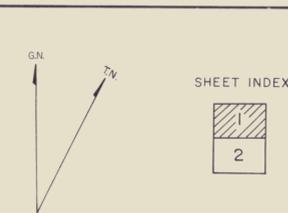
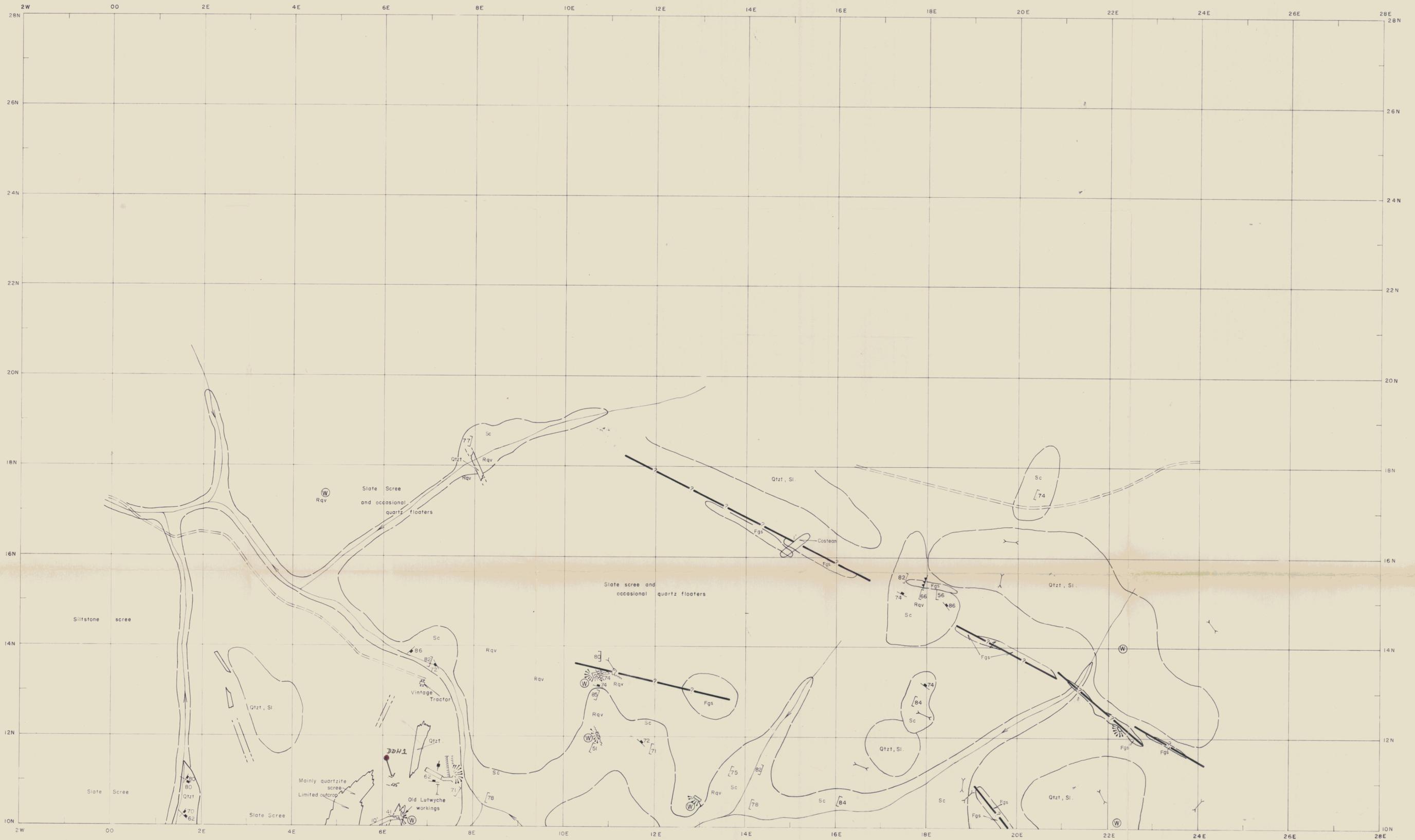
- (E) Grid reference 11.7E/15.85N
 (1) Bearing N59°E (true) (2) Bearing 177° (true) 53°E
 Inclination 60° Inclination 60°
 Depth 500' Depth 500'

Consideration should also be given to the existing adit mentioned on page 2 which could be extended to intersect the quartzite lode. It is considered that it would be a simple procedure to follow the lode along strike underground for some distance thus gaining a better evaluation of the lode than from diamond drilling data. The relative cost of adit extension versus diamond drilling will have to be computed.

The above report was written assuming the fact that a market could be found when and if a profitable mining operation takes place.

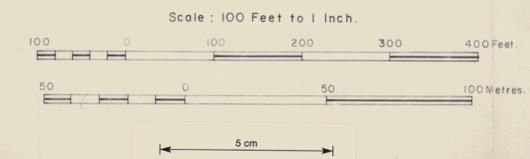
GEOPHOTO RESOURCES CONSULTANTS

A. JOHNSTON
Junior Geologist



LEGEND.

<p>Fgs Ferruginous gossan often grading laterally into highly silicious material.</p> <p>Fg Ferruginous gossan, limited outcrop, ferruginized slates occasional limonitic silica-breccia</p> <p>Sc Slate outcrop, cleavage trend where indicated.</p> <p>Qtzt, Sl Mixture quartzite, slate and quartz floaters, carrying wolframite where indicated.</p> <p>Qtzt Quartzite outcrop.</p> <p>--- Contact inferred.</p> <p>56 Strike and dip - inclined cleavage.</p>	<p>Scarp.</p> <p>70 Joint - strike and dip</p> <p>38 Quartz vein showing strike and dip.</p> <p>Prospect pit.</p> <p>Prospect trench and dump</p> <p>Costean - depth as indicated.</p> <p>7 Fault inferred.</p>	<p>Stream.</p> <p>Road.</p> <p>W Wolframite.</p> <p>P Pyrite.</p> <p>M Molybdenite.</p> <p>Shear.</p> <p>Adit with portal showing.</p> <p>Open cut.</p> <p>Rqv Numerous randomly orientated quartz veins.</p>
--	---	---



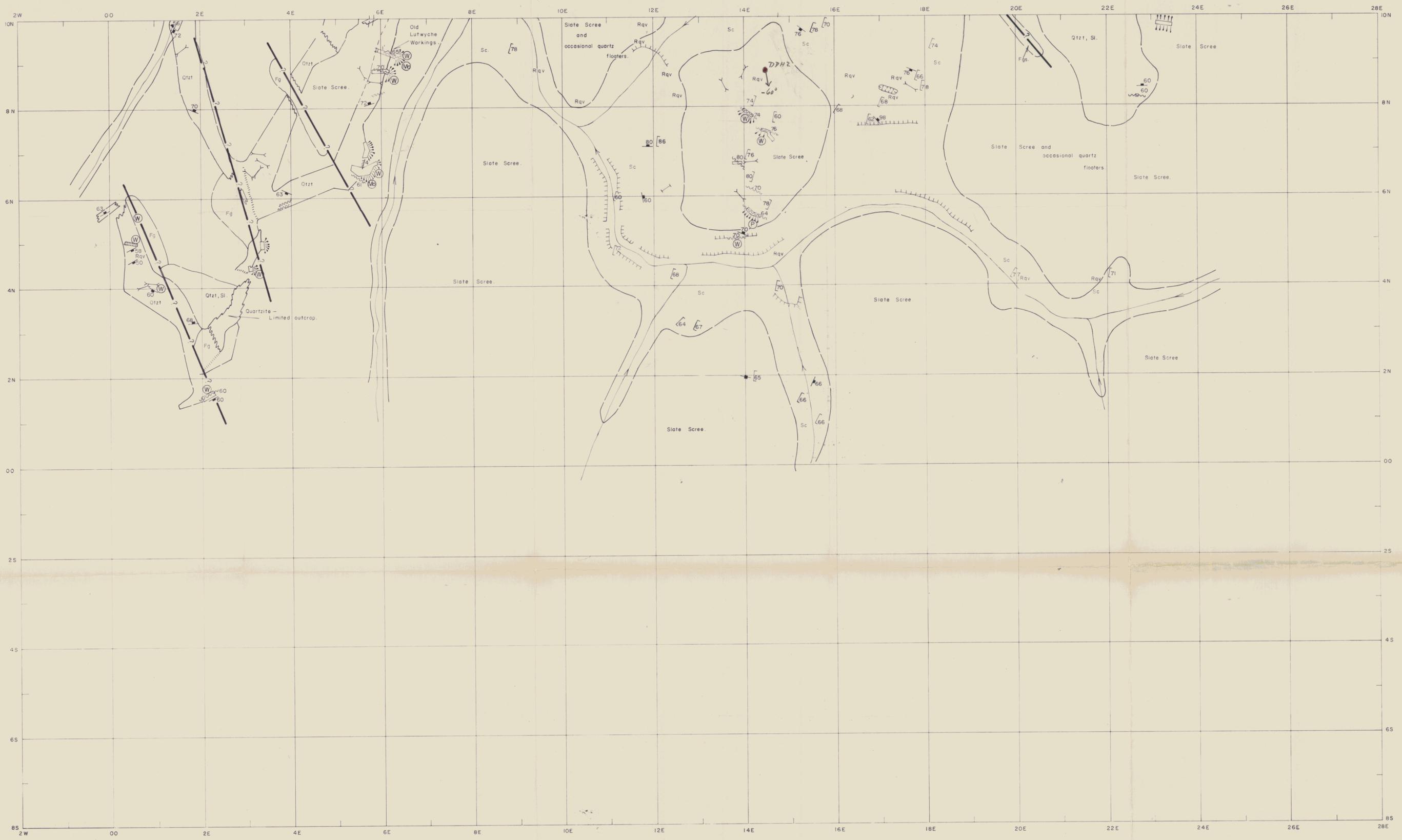
836012 71-792

TEXAS INSTRUMENTS INCORPORATED
SERVICES GROUP

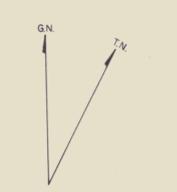
GEOPHOTO RESOURCES CONSULTANTS
BRISBANE AUSTRALIA

TEXINS DEVELOPMENT PTY. LTD.
E.L. 6/68 NORTH EAST TASMANIA
LUTWYCHE PROSPECT
GEOLOGICAL MAP 011

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

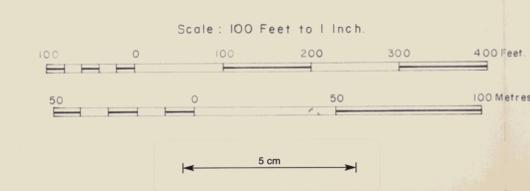


836013 71-792



LEGEND

Ferruginous gossan often grading laterally into highly silicious material	Scarp	Stream
Ferruginous gossan, limited outcrop, ferruginized slates, occasional limonitic silica-breccia	Joint - strike and dip	Road
Slate outcrop, cleavage trend where indicated	Quartz vein showing strike and dip	Wolframite
Mixture quartzite, slate and quartz 'floaters' carrying wolframite where indicated	Prospect pit	Pyrite
Quartzite outcrop	Prospect trench and dump	Molybdenite
Contact indefinite	Crestline - depth as indicated	Shear
Strike and dip - inclined cleavage	Fault inferred	Adit with portal showing
		Open cut
		Numerous randomly orientated quartz veins



TEXAS INSTRUMENTS INCORPORATED SERVICES GROUP

GEOPHOTO RESOURCES CONSULTANTS
BRISBANE AUSTRALIA

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

LUTWYCHE PROSPECT
GEOLOGICAL MAP 012

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