40 300

DRILLING TARGET:— I.P. anomaly in E.L. 4/71 - Nickelton Mining Pty. Ltd.

REMARKS:— nothing of economic interest recovered

SURVEY DATA			ASSAY DATA											
DEPTH feet	Bearing mag.	Inclin. degs.	SAMPLE No.	FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	ASSAY RESULTS			
No surveys											No assays			

GEOLOGICAL LOG

Logged by:— N.J. Turner

FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	DESCRIPTION	SECTION Core	Sample
0		40'		6'			red ferruginous cleaved mudstone. Cleavage ~ 1 core length (0'-39').		
40'		115'		25'			Interbedded greenish-grey and subordinate red siltstone. A common texture in the siltstone incorporates dark, 1 mm, green 'spots' which may either be tiny fragments of other sediments or metamorphic. The 'spots' can be either disseminated or concentrated into diffuse thin (≤ ½ cm) bands. In places the siltstone has finely lenticular bedding. Just above 46'6" minor finely granular pyrite is contained within such bedding planes. In a few places (e.g. near 81' and 109') thinly bedded siltstones have been disrupted and the cavities filled by mudstone (post-sedimentary, soft sediment) (39' 120')		110

Continued over:—

DEPARTMENT OF MINES — TASMANIA

DIAMOND DRILL CORE RECORD

Core held Domain Room 2 DS1

HOLE No.:— D.D.M.1 MAP SHEET No. 20 DISTRICT Montagu

LOCATION OF SITE:— 3251E 5484ON.

On the Eastern bank of the Montagu R. at a point 1,500 ft. due N. of the Woolnorth road. - See plan of survey grid in Nickelton Mining P/L file. (OPEN FILE REPORT ~~220/2~~) TCR 71-774.

R.L. OF SITE:— unknown	SITE SURVEY ON MAP No.:—	CORE SIZE:— BX
BEARING OF HOLE:— 270°	AIR PHOTO No.:—	COMMENCED:— 12.1.1972
INCLINATION OF HOLE:— -45°	DRILL:—	COMPLETED:— 20.2.1972
CO-ORDS. OF SITE:— see above plan	DRILLER:— A.S.James P/L	FINAL DEPTH:— 700 ft.

66673 M6375

GEOLOGICAL LOG 40 301 Page:— 2.

FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
115'		191'		43'			Greenish grey sandstone with subordinate interbedded red sandstone. Thin bands siltstone common (≤ 1 cm). Quartz probably a very miner component - mainly ferromagnes and ?feldspar => ? derived from vocanics		
							177'-186' - massive - ?possibly volcanic volcanic ~~sediments~~ (120 - 188)		
191'		256'		65'			Thinly (2-10 cms) interbanded greenish grey siltstones and sandstones, Composition => volcanic derivations. Thin 5-10 cms ?graded units common-sandstone to siltstone- check with thin section. Proportion of silt grade increases downward. Slump structures near 254 - thin (6 cm) zones disconnected siltstone terminated both above and below (188 - 257).		201
256'		575'					Thinly banded (< ½ cm) siltstone grading down to medium sandstone (of volcanic derivation). 256 - 341 white and dark green bands grading down into less distinct lighter and darker green bands.		
							341 - 367 interbedded zones of white and green bands and red and green bands		
							367 - 403 fairly uniform red siltstone		
							403 - 454 white and green bands less distinct lighter and darker green banded siltstone. Near 420 latter contain thin (5-10 cms), zones of highly distorted bedding which may be due to soft-sediment boudinage.		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	ASSAY RESULTS

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins. %	DESCRIPTION	SECTION Core	SECTION Sample
			454 - 538 Thin (≤10 cm) interbands of m.g. sandstone become more common. Litte quartz in them - appear to consist mainly of ferromagnesium and ? feldspar-volcanic origin. Faults of small displacement occur in places. Irregular bedding structures similar to scours, slumps and ?soft-sediment boudinage occur. A truncated band (?|| bedding) of pyrite in a fragments in an e.g. of the latter near 516 => pyrite sedimentary or early diagenetic.		
			538-575 mainly medium grained sandstone of ?volcanic origin with minor interbedded silty material.	550	
575'	598'	23'	Interbedded green rudite and subordinate coarse sandstone. Rudite very poorly sorted, consists of angular fragments - red, pink and green fragments with maximum grainsize 1 cm.	592 rudite	
			598-599 post compaction breccia in which fractures occupied by milky quartz - reddish colour.		
599'	621'		Medium grained dark reddish green lava. Lower most 18" amygdaloidal in chlorite quartz ?epidote. Numerous, fairly regular and regular quartz filled fractures.		617
621'	642'		Red rudite and interbedded red sandstone and siltstone. Rudite very poorly sorted with maximum grainsize 0 - 5 cm. Sub-rounded to angular fragments white, red and black.	622 rudite	

Continued over

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins. %	ASSAY RESULTS

GEOLOGICAL LOG 40 303 Page:— 4.

FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
642'		700'					Green medium grained lavas		
							642-645 - uniform dark green lava	644	
							645 - 655 - large 2 cm irregularly shaped white (quartz) amygdules common in similar rock to above	647	
							655 - 700 - sparse amygdules of quartz. Occasional amygdules and veinlets of red chalcedony. 9" quartz epidote vein at 673		
							END HOLE		

Continued over

ASSAY DATA

SAMPLE No.	FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	ASSAY RESULTS

Index Page:—

40 304 Diamond Drill Core - Nickelton Mining Pty. Ltd. - E.L. 4/71 (Montagu)

N.J. Turner.

The upper 575 ft. of core consists of a sequence of interbedded green, reddish-brown, and light grey pelitic and psammitic sediments. The sediments show a single, strong cleavage (slaty). They contain little quartz and consist mainly of alteration products-sericite, chlorite, cryptocrystalline material, also pyrite and iron hydroxides. ~~Primary~~ Clastic opaque oxide grains occur. Underlying this sequence are lavas interbedded with rudaceous assemblages. The rudites consist of lava fragments with matrix material of secondary cryptocrystalline material, calcite, quartz, chlorite, and pyrite. A few fragments of muscovite schist occur also grains of rutile. The lavas are highly felsic and most contain a considerable proportion of chlorite with minor quartz and opaques. The feldspar forms felted masses and is either albite or oligoclase. Calcite and epidote occur in veinlets and pathces in the lavas. Nowhere in the drill core was mineralisation of economic interest encountered.

The lavas belong to the spilite suite. The associated rudaceous sediments were derived from them. Between 621' and 642' the rudaceous sediments are red. Red beds occur throughout the entire sequence. Whether or not they are indicative of the nature of the depositional environment has not been proven. The finer sediments above 575' are quartz poor and

are strongly altered and presumably originally consisted in large part of labile constituents of volcanic origin.

Thin Sections:

72-276 r.l. 110'

- cut to investigate nature of 'spots'

Very fine sericite flakes comprise the bulk of the rock with subordinate angular quartz grains also minor chlorite and opaque oxide grains. The spots have very ragged margins which interdigitate with the surrounding material. They consist of brown and green tinted translucent material some of which is isotropic. Present in this material are minor amounts of angular quartz grains also epidote, sericite and patches of chlorite.

It may be that either:

(1) the entire rock originally possessed uniformly the characteristics of the 'spots' and that alteration caused the bulk of the rock to take on its present appearance and left only small patches of the original material.

or

(2) the spots were originally clastic particles in a detrital feldspathic matrix. Alteration produced the serecitic matrix and partially altered the clastic particles.

Since the 'spots' can be concentrated in bands and in places give the impression of grading it is thought that sedimentary processes have effected their distribution and, therefore, that the second hypothesis is more likely.

72-281 r.l. 181'

- cut in order to determine whether the

massive rocks between 177 and 186 are lavas or sedimentary.

The rock consists of small (0.1 mm), very angular grains of opaque material with sub-ordinate quartz, comprising about 50% by volume of the rock, in a translucent green tinted matrix. The opaque grains consist of partially hydrated lustrous grey oxide. Quartz grain margins are very irregular, possibly corroded. The matrix consists of fine quartz, sericite and green tinted patches of almost isotropic chlorite.

The rock is probably an altered sediment.

72-275 r.l. 201'

- cut to check apparent graded bedding.

The rock consists of sparse, small, angular grains of quartz and opaques in a matrix of secondary quartz, sericite, and chlorite with abundant finely granular secondary pyrite. A grainsize variation is apparent with thin section, but alteration has obscured the original texture.

72-277 r.l. 550'

- cut to check that the sandstone between r.l. 538' and r.l. 575' is of volcanic origin.

The rock consists of sparse very angular quartz grains with patches of granular sericite and chlorite which appear to be pseudomorphing pre-existing grains. A few grains of unaltered and partially altered plagioclase are present also a few fragments of fine grained rocks.

The rock is probably an altered sediment.

72-280 r.l. 592'

- cut to check composition of rudite.

The rock consists of sub-rounded to angular fragments of lava with grains of feldspar, rutile and ?quartzite or ?chert. Lava fragments range up to 5 mm across and the framework is continuous. The matrix consists of secondary minerals chlorite, calcite, and minor quartz. Most lava fragments consist of felted fine laths of feldspar in a cryptocrystalline and chloritic matrix.

72-279 r.l. 617'

- cut to check composition of lava

The rock consists of a felted mass of feldspar laths with minor interstitial quartz and abundant interstitial opaque oxide. It is intensely veined and partly replaced by calcite.

72-278 r.l. 622'

- cut to check composition of rudite.

The rock consists of rounded fragments of ?lava up to 1.5 cms across with sparse finer grains of muscovite schist also grains of quartz in a matrix consisting of secondary cryptocrystalline material (quartzose or quartzo-feldspathic) and calcite. Calcite veinlets are present. No chlorite is present. However, iron hydroxide is common. The ?lava fragments consist of cryptocrystalline material with opaques and minor sericite and appear to have been highly altered.

72-284 r.l. 644'

- cut to check composition of lava.

The rock consists of translucent, nearly

isotropic cryptocrystalline material with numerous patches of green chlorite and very sparse tiny phenocrysts of quartz. It is well cleaved with tiny lenticules of opaque ?leucoxene in the cleavage. Equidimentional grains of the same material are also present. Secondary quartz occurs in veinlets.

72-283 r.l. 647'

- cut to check composition of lava.

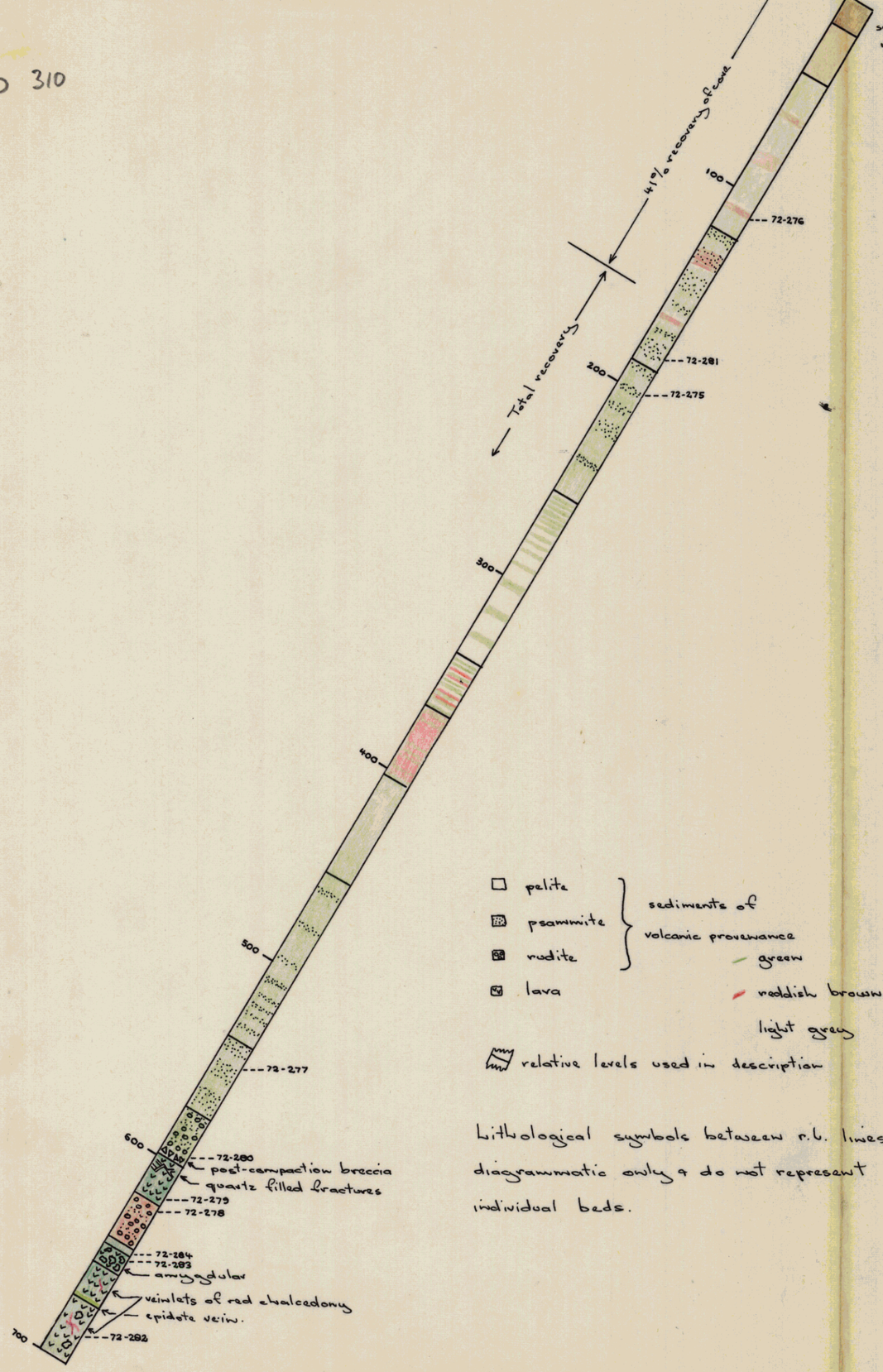
Glomerophenocrysts of plagioclase and ?K-feldspar occur in a felted mass of plagioclase laths. The plagioclase is fairly unaltered and by the method of Michel-Levy is either albite or oligoclase. Intergranular chlorite comprises about 25% by volume of the rock. Disseminated grains of opaques occur. Quartz, calcite, chlorite and pyrite are present in an amygdule and a veinlet.

72-282 r.l. 685'

- cut to check composition of lava.

Felted mass of plagioclase laths with numerous grains of opaques and common intergranular chlorite. Epidote common both as disseminated grains and in veinlets. Calcite occurs in veinlets.

40 310



Lithological symbols between r.b. lines diagrammatic only & do not represent individual beds.

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