CR 72/895

APPENDIX X

Descriptive Logs of the Diamond Drill Holes

in the Tadpole Area

DRILLING LOG

DRILL HOLE NO. T.P. 1

LOCATION Tadpole Prospect - Northern Territory
PROJECT AP 2543
COORDINATES 18E - 0 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 22nd November 1970
DATE COMPLETED 29th November 1970
DRILLED BY Farmor Drillers - M. Laska
TOTAL DEPTH 209'7"
CASING 20 feet - wx casing

LOGGED BY T. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 1

FOOTAGE	DESCRIPTION	GRAPHIC LOG (FEET)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0'-76'	No core. - sludge samples	0-76	0.0%	-	-	None
76'-82'	Powdered rock, mainly biotite.	76-82	22.0%			
82'-100'	Very weathered broken core. Biotite gneiss	82-100	14.0%			
100'-105'	Weathered core. Biotite gneiss. Contains about 50% fine grained (LT 0.2mm) micas in well developed preferred orientation. Feldspars are up to 1mm across and are weathered to clay minerals. At 104', foliation = 45°.	100-103	30.0%			
		103-105'3"	96.0%			
		105'3"-109'3"	96.0%			
105'-107'	Fresh core. Dark grey biotite-gneiss. Feldspars occupy 10% of the bulk of the rock. They tend to be rounded, elongate (to 6mm long). Mainly composed of micas. Not distinctly foliated.	109'3"-118'3"	96.0%			
		118'3"-128'6"	100.0%			
107'-128'	Fresh core. Fairly leucocratic gneiss. Feldspar quartz aggregates here are up to 30mm long, with only thin layers of mica between them. A few irregular, angular, light red-brown garnets (5mm across) are occasionally seen. At 107', foliation = 55°.	128'6"-134'4"	96.0%			
		134'4"-144'7"	99.0%			
128'-156'6"	Dark grey gneiss. Contains a moderate amount of biotite. Feldspars tends to form coarse grained aggregates with quartz as in the leuco-gneiss. The foliation is not well developed. Fractures with quartz fillings are found at 139' (2 at 45°) at 146'6" (one at 15°) at 153'9" (one at 30°).	144'7"-153'8"	99.0%			
		153'8"-156'8"	73.0%			
156'6"-160'	Leucocratic gneiss. Shows very little mica. Quartz and feldspar form fine-grained intergrowths. Several joints found at 159' (30°).	156'8"-167'3"	97.0%			
160'-209'7"	Highly fractured leuco-gneiss, or more correctly a recrystallised breccia. The feldspar-quartz intergrowths show irregular outlines (blocks 10 to 50mm across) with a fine mica-chlorite matrix between them. Outlines of these feldspar-quartz blocks are now somewhat indistinct, suggesting slight recrystallisation. Joints are quite frequent (appearing every 10 to 50mm). Common jointing angles are	167'3"-171'5"	97.0%			
		171'5"-181'8"	99.0%			
		181'8"-185'	98.0%			
		185-193	100.0%			

DRILL HOLE NO. T.P. 1

SHEET NO. 2 OF T.P.1

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
	50°, 65° (three places) and 15° (relatively rare), found around 190'. Also found around 190' is some montmorillonite and chlorite	193-199'7" 199'7"-209'7"	62.0% 98.0%			
	It is doubtful as to whether this is a tectonic breccia or an igneous breccia (possibly the original lithology, later metamorphosed). The recrystallisation and general texture suggests it is an igneous breccia, but it could still be younger or older than the general metamorphism of the area.					
	Examination under short-wave ultraviolet light - calcite only.					
	PETROLOGICAL REPORTS OF THIN SECTIONS - T.P.1					
	T.P.1 - 1 The rock is a quartz-plagioclase-biotite-gneiss (or leucogneiss, in view of the small proportion of mafic mineral present). It consists of predominantly polygonal grains of quartz and plagioclase (with smoothly curved to lobate and irregular grain boundaries) interspersed with larger, more irregularly shaped grains and aggregates of quartz and with irregular grains and small aggregates of biotite that have been completely or partly altered to pale green chlorite and fine-grained (?) sphene (locally with some carbonate). The biotite (or chlorite pseudomorphs) tends to be locally concentrated and shows a moderate preferred orientation. Some coarse-grained quartz pods are elongate parallel to the foliation of the rock. Some plagioclase grains also are elongate parallel to the foliation, but most are equant. No K-felspar was proved. Many plagioclase grains contain inclusions of quartz that tend to be rounded. The plagioclase shows multiple twinning, has n lower than that of quartz, positive optic sign, and large 2V, suggesting that its composition is sodic (either albite or sodic oligoclase). Most plagioclase grains are flecked with secondary white mica and clay minerals, and some show partial replacement by local secondary epidote and carbonate. Some carbonate grains occur independantly in the areas of polygonal mosaic. Estimated mineral					

DRILL HOLE NO. T.P.1

SHEET NO. 3 OF T.P.1

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	

grain-sizes and percentages are as follows:

	Mode %	Grain-sizes (mm)
Quartz	35	0.1 - 1.8 (average 0.3)
Plagioclase	55	0.2 - 2.0 (average 0.4)
Biotite/chlorite	10	0.2 - 1.8 (average 0.4)

(The grain-sizes of quartz and felspar refer to average "diameters" and that of the biotite/chlorite to the lengths of cross sections).

TP1 - 2 (148'6")

This is a quartz-microcline-plagioclase-biotite gneiss in which most of the biotite has been altered to chlorite and fine-grained (?) sphene and most plagioclase grains have been heavily altered to fine-grained kaolinitic and sericitic aggregates with minor carbonate. The quartz and felspar occur in xenoblastic aggregates, many grains being polygonal, others more irregular in shape. Grain boundaries of the quartz and felspar vary from smoothly curved to irregular. Some coarst-grained pods of quartz (more rarely microcline) occur parallel to the foliation of the rock. The plagioclase shows multiple twinning, is optically negative, and appears to be of oligoclase composition. The microcline is clear (apart from light kaolinization of some grains) and shows grid twinning. The biotite/chlorite occurs in individual flakes, small aggregates and lenticular folis, the grains showing a moderate to strong preferred orientation. A few small patches and veinlets of carbonate are present. Estimated mineral percentages and grain-sizes are:

	Mode %	Grain-sizes (mm)
Quartz	35	0.1 - 3.0 (average 0.4)
Microcline	30	0.2 - 2.2 (average 0.4)
Plagioclase	25	0.2 - 1.5 (average 0.4)
Biotite/chlorite	10	0.1 - 1.2 (average 0.3)

DRILL HOLE NO. T.P. 2

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A P 2543
COORDINATES 28.E - 1.S
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED ? December 1970
DATE COMPLETED 20 January 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 369'6"
CASING -

LOGGED BY T. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 2

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS ppm
0' - 30'	Laterite and clay. Roller bit.		0.0%	0'	20	
				5'	20	20 Cu, 19 U_3O_8
				10'	25	20 " 12 "
				15'	20	15 " 9 "
				20'	30	10 " 9 "
				25'	30	15 " 7 "
30' - 40'	Mica and Quartzite. Roller bit.		0.0%	30'	30-40	100 " 10 "
				35'	40	125 " 8 "
40' - 55'	Mica schist and quartzite. Roller bit.		0.0%	40'	50	90 " 9 "
				45'	30	10 " 12 "
				50'	30-40	50 " 10 "
55' - 58'	Decomposed quartzite.		33.0%	55'		35 " 8 "
58' - 65'	Partly decomposed feldspathic quartzite. Sample 65 ft.		98.0%	60'	40	210 " 13 "
				65'	30	
65' - 148'	Quartzite. Sample 114 ft.		100.0%	70'	20	
				75'	20	
				80'	20	
				85'	20	
				90'	30	
				95'	30	
				100'	20	
				105'	30	
				110'	20	
				115'	40	
				120'	20	
				125'	20	

DRILL HOLE NO. T.P. 2

SHEET NO. 2 OF T.P. 2

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
				130'	20	
				135'	30	
				140'	10	
148' - 150'	Quartz mica with traces pyrite		100.0%	145'	10-20	
150' - 176'	Quartzite - Quartz mica. Foliation approx. 45° to axis. Broken with numerous joints between 153 and 159 feet.			150'	20	
				155'	20	
				160'	30-40	
				165'	30	
				170'	45	
176' - 214'	Strongly silicified quartzite		100.0%	175'	20	
				180'	20	
				185'	30	
				190'	15	
				195'	20	
				200'	15	
				205'	15	
				210'	15	
214' - 238'	Feldspathic Quartzite		100.0%	215'	10	
				220'	10	
				225'	20	
				230'	20	
238' - 249'	Mica schist core badly ground from 242-249. 4 ft. core lost. Sample 240 and 245		62.0%	235'	15	
				240'	10	
				245'	10	
249' - 276'6"	Quartzite-Quartz mica		100.0%	250'	30	
				255'	25	
				260'	20	
				265'	20	
				270'	20	
276'6"-277'	Mica schist. Foliation 80° to axis.		100.0%	275'	20	
277'-282'	Quartzite - Quartz mica		100.0%	280'	15	
282'-296'	Strongly silicified Quartzite		100.0%	285'	20	
				290'	20	
296'-318'	Quartzite - Quartz mica		100.0%	295'	15	
				300'	20	
				305'	10	
				310'	20	

DRILL HOLE NO. T.P. 2

SHEET NO. 3 OF T.P. 2

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
318' - 330'	Quartzite strongly silicified		100.0%	315'	15	
				320'	10	
				325'	20	
330' - 336'6"	Quartzite - Quartz mica		100.0%	330'	20	
336'6" - 343'	Quartz mica schist sample 338 ft.		100.0%	335'	30	
				340'	20	
343' - 351'	Mica schist		100.0%			
351' - 369'6"	Feldspathic Quartzite - Quartz mica sample 368 ft.		100.0%			

Examination for fluorescente under short wave ultraviolet light shows some calcite red. Definitely no uranium or tungsten colours.

PETROGRAPHIC DESCRIPTIONS OF THIN SECTIONS

TP2 - 1 (110')

This rock is a quartz-microcline-plagioclase-biotite gneiss showing the effects of retrograde alteration in the form of patchy kaolinization of microcline, variable replacement of biotite by chlorite and sphene (some areas of the rock showing only partial chloritization), and moderate alteration of plagioclase to kaolinitic and sericitic aggregates. The microcline shows grid twinning and the plagioclase (albite or sodic oligoclase) shows lamellar twinning. The biotite/chlorite generally occurs in individual flakes, though some are concentrated into a discontinuous vague foliation. Accessory apatite is present, along with some secondary carbonate (occurring especially replacing felspar in large to small irregularly shaped patches) and some secondary opaque aggregates (some of which are of sulphide) associated with the altered biotite. Approximately spherical inclusions of quartz and biotite occur in the felspar. Many polygonal quartz-felspar aggregates occur through the rock, but there is a strong tendency for the segregation of polygonal felspar areas and coarser-grained polygonal quartz areas (some being elongate parallel to the foliation), suggesting the former presence of

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS

coarse quartz and felspar grains now represented by recrystallized areas. Also present in places are very large grains of microcline that are slightly perthitic, in contrast to the normal polygonal microcline which doesnot appear to be perthitic. A possible interpretation of this is that the large microcline grains are relics of formerly coarse grains, and that complete exsolution of albite was achieved in the recrystallisation of the smaller polygonal microcline grains. Estimated mineral percentages and grain-sizes are

	Mode (%)	Grain-sizes (mm)
Quartz	30	0.05 - 2.5 (average 0.3)
Microcline	30	0.15 - 2.0 (average 0.4)
Plagioclase	25	0.2 - 0.8 (average 0.4)
Biotite/chlorite	15	0.04 - 1.2 (average 0.3)

Some white mica flakes are scattered through the rock, these generally being finer-grained than the biotite; their volume has been included with the biotite/chlorite percentage above. The smallest size for quartz grains above refers to inclusions in felspar.

TP2 - 2 (223')

This specimen is a quartz-microcline-plagioclase-biotite gneiss consisting mostly of polygonal aggregates of quartz and felspar (both microcline and plagioclase) interspersed with coarser-grained quartz patches, some of which are elongate parallel to the foliation of the rock, and with flakes and small thin folia of biotite (largely altered to chlorite, sphene and opague material). The overall grain-size of this rock is more uniform than in TP2 - 1 (110'), and there is less of a tendency for quartz and felspar to be segregated into separate areas. Minor which mica is present (apart from "sericitic" alteration in plagioclase). The plagioclase is albite or sodic oligoclase, and has been heavily altered to kaolinitic, sericitic and carbonate aggregates, in contrast to the microcline, which has either been left unaltered or lightly kaolinized. Estimated mineral percentages and grain-sizes are:

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS

Mode (%)		Grain-sizes (mm)
Quartz	35	0.04 - 2.5 (average 0.3)
Microcline	20	0.2 - 0.7 (average 0.4)
Plagioclase	35	0.2 - 0.5 (average 0.4)
Biotite/chl/wh.mica	10	0.05 - 1.3 (average 0.3)

TP2 - 3 (240')

This is a biotite-quartz-microcline gneiss, composed of abundant brown biotite with a strong preferred orientation and a tendency to segregate into relatively thick continuous layers, interspersed with predominantly polygonal quartz and clear microcline (with grid twinning), and with areas of fine grained white mica that probably have completely replaced former plagioclase (the composition of which now is indeterminate). Some of the biotite has been partly altered to chlorite and fine-grained (?) sphene. White mica (presumably muscovite) is locally abundant. Some elongate coarse quartz patches and continuous folia are present. Accessory minerals are apatite and opaque sulphide. The parent-rock appears to have been more aluminous than the rocks described previously, and could be either a metasediment or metamorphosed xenolithic material. Estimated mineral percentages and grain-sizes are:

Mode (%)		Grain-sizes (mm)
Quartz	20	0.02 - 2.0 (average 0.3)
Microcline	35	0.04 - 0.6 (average 0.4)
Plagioclase	10	0.05 - 1.0 (average 0.5)
Biotite	30	0.05 - 1.0 (average 0.3)
Muscovite	5	0.2 - 1.8 (average 1.0)

TP2 - 4 (245')

This rock is a quartz-chlorite-microcline gneiss that is very rich in chlorite (which probably has replaced biotite). The original rock (i.e., before the formation of the chlorite) presumably was similar to TP2 (240'). Fine-grained white mica aggregates are again present, these probably

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS

representing replaced plagioclase. The microcline is unaltered and shows grid twinning. The rock has a tendency for segregation into mafic and leucocratic layers in some places, though elsewhere this tendency is absent. Individual chlorite flakes tend to be thinner and longer than in TP2 (240'), but it appears to be more abundant. The chlorite has a strong preferred orientation and is interspersed with polygonal to irregular grains of microcline and quartz and with aggregates of sericitized (?) plagioclase. A few scattered muscovite flakes are present, as well as minor apatite, sphene and rare opaque sulphide. Some irregularly shaped patches of carbonate occur in the plagioclase and altered biotite. Very little or no residual biotite occurs in the chlorite (plus sphene plus carbonate) pseudomorphs, but a few relic grains of zircon with pleochroic haloes are present, Owing to the continuous nature of many of the chlorite folia, some quartz and microcline grains show marked elongation parallel to the foliation. Estimated mineral percentages and grain-sizes are:

	Mode (%)	Grain-sizes (mm)
Quartz	20	0.03 - 2.0 (average 0.3)
Microcline	30	0.03 - 1.0 (average 0.4)
Plagioclase (former)	10	0.05 - 1.0 (average 0.5)
Chlorite	40	0.05 - 1.2 (average 0.6)

TP2 - 5 (338')

The rock is a leucocratic quartz-microcline-plagioclase-chlorite-gneiss consisting or irregular to polygonal grains of clear to patchily kaolinized microcline, heavily kaolinized, sericitized and carbonated plagioclase, and quartz, together with scattered flakes and small elongate patches of chlorite (presumably biotite formerly), with accessory apatite and white mica. The larger felspar grains poikiloblastically enclose small inclusions of quartz. Some very large coarse-grained quartz aggregates occur elongate parallel to the foliation of the rock and interspersed with the usual quartz-felspar polygonal

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS

aggregates. The larger quartz grains contain trails of minute fluid inclusions. Estimated mineral percentages and grain-sizes are:

	Mode (%)	Grain-sizes (mm)
Quartz	35	0.03 - 5.3 (average 0.5)
Microcline	30	0.04 - 1.0 (average 0.4)
Plagioclase	25	0.04 - 0.8 (average 0.5)
Chlorite	5	0.03 - 1.2 (average 0.3)
Carbonate	5	(occurring in altered plagioclase as well as large veins crossing the rock)

TP 2 - 6 (368')

This also is a leucogneiss, similar to TP2 (338'), with carbonate veins, but containing many larger xenoblastic grains of microcline and a few relatively large patches (averaging around 1 mm across) of garnet partly replaced by carbonate and associated with opaque sulphide. Once again large quartz patches are present, but the quartz appears to have been more recrystallized than in TP2 (338'). The microcline varies from clear to partly kaolinized and shows grid twinning. The plagioclase grains range from heavily altered (to kaolinitic, sericitic and carbonate aggregates) to moderately altered, and in the latter grains optical properties suggest a composition of albite or sodic oligoclase. Some relatively large (0.7 mm) patches of secondary carbonate are present. Estimated mineral percentages and grain-sizes are:

	Mode (%)	Grain-sizes (mm)
Quartz	35	0.03 - 2.5 (average 0.4)
Microcline	30	0.04 - 1.2 (average 0.5)
Plagioclase	25	0.05 - 0.8 (average 0.5)
Chlorite + garnet + carbonate	10	0.03 - 0.7 (average 0.3)

DISCUSSION

Metamorphic conditions: The mineral assemblages in these rocks are not

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
	sufficiently diagnostic to indicate with certainty the conditions of initial (i.e. - highest-grade) metamorphism, because the bulk chemical composition of the rocks is not suitable for the development of characteristic phases. I would doubt the tentative suggestion of (?) biotite granulite facies, in view of the ubiquitous occurrence of microcline, which is more indicative of the lower or middle amphibolite facies. However, it can be deceptive, and it is possible that the microcline may have been formed from orthoclase during some later deformation or during the retrograde metamorphism, to which the rocks have been subjected. Another important point is that the evidence of optically visible grid twinning, though characteristic of microcline, may prove to be unreliable as an indicator of the degree of departure from monoclinic symmetry; (i.e., it need not be "maximum microcline" and could be anywhere along the range between orthoclase and "maximum microcline"). X-ray diffraction would be needed to establish this point. In short, it is possible that the rocks were initially high-grade (e.g. upper amphibolite facies or even higher) and that the production of grid twinning in the K-felspar is a later superficial effect. Superimposed on the initial moderate or high-grade metamorphism are the effects of retrograde metamorphism, the secondary minerals (such as chlorite, sphene, carbonate, white mica) being suggestive of the greenschist facies, although the alteration may have been "hydrothermal" (which amounts to the same sort of general metamorphic environment as the greenschist facies). The retrograde alteration is of the pseudomorphous type, without significant associated deformation.					

DRILL HOLE NO. T.P. 3

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 32 E - 4 N
INCLINATION Vertical BEARING / -
COLLAR ELEVATION -

DATE STARTED 25th January 1971
DATE COMPLETED 2nd March 1971
DRILLED BY Farmor Drillers - J. Laska
TOTAL DEPTH 693'6"
CASING 35' - HW, 50' - NX, 80' - BX.

LOGGED BY I. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 3

FOOTAGE	DESCRIPTION	GRAPHIC LOG (Feet)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS ppm
0' - 50'	No core	0-10	0.0%	0'	10	TP 3 A - Unidentified sludge from surficial weathered zone: U-6, Th-32, Cu-22, Pb-40, Ni-20, V-130.
				5'	10	
50' - 55'	Weathered core - gneiss with well-developed foliation. It contains 10% quartz as elongate pods 1.5mm x 10mm. The remainder is feldspar and about 5% mica.	10-25	0.0%	10'	10	
				15'	10	
		25-50	0.0%	20'	15	
				25'	15	5-10' - U-8, Th-18, Cu-32, Pb-44, Ni-22, V-70.
55'-100'9"	Fresh core. Leucocratic gneiss, showing fairly well developed foliation. The rock is homogenous over a scale of a few inches - the mica (biotite) tends to segregate in 3mm layers between large pods of feldspar (white) which are up to 20mm across. These biotite layers are occasionally discordant to the general foliation. Rarely some thicker ferromagnesian layers (to 10mm thick) show about 5% light red-brown garnet in grains 0.5mm across. Associated with this is a considerable amount of fine amphibole (20%) and 30% calcite in crystal aggregates to 10mm long. Generally the quartz in the gneiss is enclosed by the feldspars (as rounded grains), but it occasionally forms thin "stringers" 2mm wide which follows the general foliation. Small fracture zone from 80' - 81'. Small specks pyrite around 85'9". Foliation angles:- at 65' = 70-80°, at 85' = 70-75°. "Type A".	50-55	20.0%	30'	10	
				35'	15	
		55-59	0.0%	40'	20	
				45'	15	
		59'-60'	98.0%	50'	20	
				55'	15	
		60-199	100.0%	60'	15	
				65'	25	
		+199	?	70'	25	
				75'	30	
				80'	20	
				85'	20	
				90'	25	
				95'	20	
100'9"-122'3"	"Type B". From 100'9" to 122'3" the gneiss shows development of large feldspar-quartz aggregates 20mm across with chlorite-biotite-amphibole assemblages between. Coarse garnet (5mm crystals) and 10mm wide calcite veins may also be seen. Chlorite filled cross-fractures cut the core at 5° and 70°.			100'	20	
				105'	20	
				110'	25	
				115'	20	
				120'	20	
				125'	25	

DRILL HOLE NO. T.P. 3

SHEET NO. 2 OF T.P. 3

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
122'3"-143'	Leucocratic gneiss, type "A". Shows some chloritisation.			130'	30	
				135'	25	
143'-148'	Fine-grained melanocratic biotite-gneiss. ("Type C"). It shows up to 50% biotite and chlorite. No sulphides are visible. At 146' foliation = 65°.			140'	20	
				145'	20	
				150'	10	
				155'	15	
148'-159'3"	Melanocratic gneiss ("type C") showing 10mm long garnet-amphibole-chlorite aggregates every 6".			160'	15	
				165'	15	
				170'	10	
159'3"-177'3"	Leucocratic gneiss ("type A") showing some chlorite and rare garnet. Only rare specks of pyrite are visible.			175'	15	
				180'	10	
				185'	5	
177'3"-198'3"	Melanocratic gneiss ("type C"). It shows quite equigranular garnets (1.5mm grainage). Fine grained garnet is also present (possible total of 5%). No sulphides were seen. Individual feldspar layers or aggregates are from 5 to 20mm thick. At 197' foliation = 85°.			190'	10	
				195'	15	
				200'	20	
				205'	20	
				210'	15	
198'3"-224'	Leucocratic gneiss ("type A"). It shows some chlorite and occasional garnets.			215'	15	
				220'	15	
				225'	20	
224' - 228'	Melanocratic biotite-gneiss ("Type C"). Contains occasional pyrite blebs (3mm) along the foliation planes from 226'6" to 227'. At 227'6" foliation = 65°.			230'	15	
				235'	20	
				240'	15	
				245'	20	
228'-235'6"	Chloritised gneiss, ("type B"). Shows 5 mm wide chloritic layers between unaltered feldspar-quartz material. Only occasional garnets may be seen. At 234'6" foliation = 70°.			250'	20	
				255'	15	
				260'	15	
				265'	25	
235'6"-306'	Leucocratic gneiss ("Type A") At 282' foliation = 65°.			270'	15	
				275'	15	
306'-312'6"	Melanocratic biotite-gneiss ("Type C") Shows only rare specks of pyrite. At 309' foliation = 75°.			280'	20	
				285'	10	
				290'	10	
312'6"-324'	Leucogneiss ("Type A") with chlorite veins, fractures common. These are up to 5mm wide. Fracturing shows foliation angles of common 50° (two places) and rarely 20°.			295'	10	
				300'	10	
				305'	30	

DRILL HOLE NO. T.P. 3

SHEET NO. 3 OF T.P. 3

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
324'-455'	Leuco gneiss showing a few 1mm calcite veins and rare pyrite crystals. Some biotite concentration occurs around 333 ft. Potash feldspar becomes noticeable and the rock is, on the whole, more equigranular over this interval than at the top of the hole. Grainsize averages around 1-2mm. At 376' foliation = 80°. At 406' foliation = 60°. At 419' foliation = 70°. At 454' foliation = 70°.			310' 315' 320' 325' 330' 335' 340' 345' 350' 355' 360' 365' 370'	20 20 20 15 20 15 25 15 20 20 25 15 20	
455'-466'6"	Biotite gneiss - "type C" - which is well foliated, has a grainsize of feldspars around 1.5mm and shows occasional garnet. At 462' foliation =65°.					
466'6"-475'	Leuco gneiss ("Type A") showing slight chloritisation. Fracturing (foliation = 0° - 15°) is found from 470'5" to 471' and from 473'3" to 473'9".					
475' - 515'	Leuco gneiss showing no sulphides. Foliation at 504' = 70°.					
515' - 531'6"	Melanocratic biotite-gneiss ("type C") contains about 50% chloritised material and shows only occasional coarse garnet crystals. At 519' foliation (fracturing) = 45°.					
531'6"-587'	Chloritised gneiss ("type B") showing a 6" wide pink feldspar vein at 556'. At 547', foliation = 60°, at 557'6" minor fracturing foliation = 40-60°, at 560' foliation minor fracturing = 05-35°.					
587'-590'	Melanocratic biotite-gneiss.					
590'-693'6"	Leuco gneiss, "Type A", shows 2-3" potash feldspar concentrations around 599'6" and 607'. Foliations as below - 625' foliation = 70° 640' foliation = 65° 665' foliation = 65° 682' foliation = 60° Occasional calcite veins and coarse garnets may be seen from 680'-682'. Calcite veins cut at 70°, 55° (near perpendicular to the foliations). Examination for fluorescence under short-wave ultraviolet light shows rare weak green and calcite red.					

DRILL HOLE NO. T.P. 4

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 32 E - 15 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 28th January 1971
DATE COMPLETED 6th March 1971
DRILLED BY Farnor Drillers - M. Laska
TOTAL DEPTH 419'6"
CASING -

LOGGED BY T. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 4

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0'-48'	No core - sludge samples	0'-48'	0.0%	0'	15	p.p.m. U. / Th.
				5'	15	
48'-60'	Very broken and weathered core - gneiss.	48'-70'	25.0%	10'	20	0'-5' = 8 / LT.30
				15'	35	10'-15' =10 / 42
60'-65'	Weathered core - leuco gneiss ("Type A")			20'	10	15'-20' =12 / 74
				25'	10	25'-30' = 4 / 42
65'-80'6"	Fresh core - leuco gneiss (Type "A"). Contains about 5% fine mica (biotite). At 70' foliation = 65°.	70'-149'	80.0%	30'	10	30'-35' =10 / 127
				35'	10	40'-45' =10 / 62
				40'	10	45'-50' = 8 / 58
80'6"-86'6"	Melanocratic biotite-gneiss (type "C"). At 81' the gneiss shows tight folding (over scale of 3"). Foliation = 0° at 81'. The gneiss contains about 50% mica with alternating 3mm wide chlorite layers. At 83'6" foliation = 65°.	149'-158'	100.0%	45'	10	50'-55' =10 / 58
				50'	10	
		158'-161'	33.0%	55'	10	
				60'	10	
				65'	10	
86'6"-132'6"	Leuco gneiss with 10% or less quartz. Shows fine biotite in thin (1mm) layers between large, irregular, elongate feldspar aggregates. At 116' foliation = 70°. From 120' to 132'6" slight chloritisation is evident and small grains (1mm) of potash feldspar may be seen enclosed in the larger white feldspars.	161'-250'	100.0%	70'	10	
				75'	10	
		250' +	?	80'	10	
				85'	15	
				90'	15	
				95'	15	
132'6"-133'3"	Biotite-chlorite rich band. Gneiss type "C".			100'-120'	10	
				120'-125'	15	
133'3"-312'	Leucocratic gneiss. Some chloritisation is evident to 156'. At 160' foliation = 70°, at 187' foliation = 65°. A few chlorite-calcite veins, cutting at angles of 45° to 50° are seen around 197 feet. From 213' to 219', 5mm wide chlorite veins are common. At 246' a long quartz vein is			130'-150'	10	
				150'-160'	5	
				160'-170'	10	
				175'	20	
				180'	10	

DRILL HOLE NO. T.P. 4

SHEET NO. 2 OF T.P. 4

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
	subparallel to the core (2mm wide by 200mm long). At 255' foliation = 50°. From 287' to 287'6" much light green chlorite may be seen. Slightly more chlorite and biotite is found in the gneiss from this footage to 301 ft. At 296' foliation = 60°. The gneiss becomes more leucocratic again from 301' to 312'.			185'-190' 195'-235'	15 10	
312'-315'	Biotite-chlorite rich gneiss (type "C"). Fine grained garnet, less than 2mm grainage, is common. A little pyrite may be seen following the foliation planes.					
315'-330'6"	Leuco gneiss. Shows occasional 10mm wide chlorite veins.					
330'6"-333'3"	Biotite-gneiss (type "C"). Chlorite-garnet aggregates up to 20mm wide are quite common. At 330'6" foliation = 70°.					
333'3" - 419'4"	Leuco gneiss showing occasional chlorite bands. At 360' foliation = 65°, at 400' foliation = 70°, at 419' foliation = 65°. No sulphides were observed in this interval. Examination for fluorescence by short-wave ultraviolet light shows rare weak green and calcite red.					

DRILL HOLE NO. T.P. 5

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 26 E - 8 S
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED March 1971
DATE COMPLETED March 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 250 feet
CASING -

LOGGED BY W. Omer-Cooper
DATE March 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 5

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 70'	Decomposed ? gneiss		0	0	15	p.p.m. U. Th.
				5	15	
				10	20	5'-10' = 11 LT.30
				15	35	
				20	10	10'-15' = 7 LT.30
				25	10	
				30	10	15'-20' = 7 LT.30
				35	10	
				40	10	20'-25' = 4 LT.30
				45	10	
				50	10	25'-30' = 4 LT.30
				55	10	
				60	10	30'-35' = 3 LT.30
				65	10	
70' - 149'	Gneiss		80	70	10	35'-40' = 4 LT.30
				75	10	
				80	10	40'-45' = 4 LT.30
				85	15	
				90	15	45'-50' = 5 LT.30
				95	15	
				100	10	50'-55' = 5 LT.30
				105	10	
				110	10	55'-60' = 46 LT.30
				115	10	
				120	10	60'-65' = 18 LT.30
				125	15	
				130	10	65'-70' = 58 LT.30
				135	10	
				140	10	

DRILL HOLE NO. T.P. 5

SHEET NO. 2 OF T.P. 5

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
149'-150'6"	Biotite schist with some pyrite		100	145	10	
				150	10	
150'6"-158'	Gneiss		100	155	5	
				160	5	
158'-161'	Biotite feldspar chlorite schist		33	165	10	
				170	10	
161'-167'	Schisty gneiss with biotite		100	175	20	
				180	10	
167'-169'	Biotite schist		100	185	15	
				190	15	
169'-176'	Chlorite biotite and amphibolite rock with garnets and some sulphides		100	195	10	
				200	10	
176'-191'6"	Schistose gneiss with some muscovite		100	205	10	
				210	10	
191'6"-228'6"	Schistose gneiss		100	215	10	
				220	10	
228'6"-229'6"	Quartz vein		100	225	10	
				230	10	
229'6"-250'	Gneissic schist		100	235	10	
	There was no significant fluorescence on examination under short-wave ultraviolet light.					

DRILL HOLE NO. T.P. 6

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 26 E - 8 S
INCLINATION 60° BEARING 180°
COLLAR ELEVATION -

DATE STARTED March 1971
DATE COMPLETED March 1971
DRILLED BY Farnor Drillers - M. Laska
TOTAL DEPTH 297 feet
CASING -

LOGGED BY W. Omer-Cooper
DATE March 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 6

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 29'	No core		0.0%	0'	10	p.p.m.
				5'	20	
29'-77'	Very decomposed schistose gneiss		20.0%	10'	10	U. Th.
				15'	15	
				20'	15	15'-20' = 5 LT.30
				25'	15	
				30'	15	10'-15' = 6 31
				35'	15	60'-65' = 4 11
				40'	20	
				45'	15	10'-15' = Cu-24, Pb-38, Ni-22, V-140.
				50'	15	
				55'	25	60'-65' = Cu-78, Pb-30, Ni-48, V-140.
				60'	15	
				65'	15	
				70'	15	TP 6 A - Unidentified sludge from surficial weathered zone:
				75'	15	
77' - 97'	Schistose gneiss with muscovite mica		80.0%	80'	15	U-8, Th-17, Cu-40, Pb-42, Ni-26, V-60.
				85'	15	
				90'	15	
97' - 103'	Biotite schist with chlorite and garnets with minor sulphides		100.0%	95'	15	TP 6 B - Unidentified sludge from surficial weathered zone: U-8, Th-37, Cu-26, Pb-52, Ni-22, V-150.
				100'	15	
				105'	15	
103' - 116'	Schistose gneiss with muscovite		100.0%	110'	20	
				115'	20	
				120'	20	TP 6 C - Unidentified sludge from surficial weathered zone: U-5, Th-10, Cu-28,
116' - 191'	Gneiss		100.0%	125'	20	
				130'	10	

DRILL HOLE NO. T.P. 6

SHEET NO. 2 OF T.P. 6

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
191' - 196'	Biotite gneiss - schist		100.0%	135'	10	Pb-46, Ni-18, V-70.
				140'	15	
196' - 201'	Chlorite biotite schist with numerous garnets, traces of sulphides in pure.		100.0%	145'	15	
				150'	15	
				155'	15	
				160'	15	
				165'	10	
				170'	10	
				175'	15	
				180'	10	
				185'	15	
				190'	10	
201' - 211'	Gneiss		100.0%	195'	15	
				200'	10	
211'-214'	Biotite schist		100.0%	205'	15	
				210'	15	
214' - 297'	Gneiss		100.0%	215'	10	
				220'	15	
				225'	15	
	There was no significant fluorescence on examination under short-wave ultraviolet light.			230'	15	
				235'	15	
				240'	15	
				245'	15	
				250'	15	
				255'	15	
				260'	15	
				265'	15	
				270'	15	
				275'	15	
				280'	15	
				285'	15	

DRILLING LOG

DRILL HOLE NO. T.P. 7

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 14 E - 6 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 17th April 1971
DATE COMPLETED 25th April 1971
DRILLED BY Farnor Drillers
TOTAL DEPTH 262 feet
CASING 16' NX

LOGGED BY W. Omer-Cooper
DATE April 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 7

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 16'	No core		0.0%	0'	10	TP 7 A - Unidentified sludge from surficial weathered zone: U-7, Th-24, Cu-28, Pb-46, Ni-20, V-30.
				5'	15	
				10'	10	
				15'	10	
				20'	10	
				25'	10	
				30'	15	TP 7 B - Unidentified sludge from surficial weathered zone: U-7, Th-25, Cu-42, Pb-52, Ni-22, V-90.
36' - 65'	Decomposed mica schist with quartz fragments		10.0%	35'	15	
				40'	20	
				45'	20	
				50'	20	
				55'	10	70' - U-5, Th-16, Cu-38, Pb-54, Ni-32, V-120.
				60'	10	
				65'	15	
65' - 72'	Decomposed micaceous gneiss		20.0%	70'	10	
				75'	10	
72' - 91'6"	Partly decomposed gneiss apparently brecciated			80'	10	
				85'	10	
91'6"-112'6"	Brecciated gneiss		80.0%	90'	10	
				95'	10	
				100'	20	
				105'	20	
112'6"-154'	Gneiss		100.0%	110'	20	
				115'	20	
				120'	15	
				125'	20	
				130'	15	

DRILL HOLE NO. T.P. 7

SHEET NO. 2 OF T.P. 7

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
				135'	10	
				140'	15	
				145'	20	
154' - 160'	Biotite schist with traces of pyrite			150'	10	
				155'	20	
160' - 165'	Gneiss			160'	15	
				165'	10	
165' - 175'	Muscovite quartz schist at 171' a $\frac{1}{4}$" bleb of pitchblende; from 170-175 minor count in core			170'	10	
				175'	10	
				180'	15	
175' - 179'	Gneiss			185'	20	
				190'	10	
179' - 185'	Quartz muscovite schist			195'	15	
				200'	20	
185' - 200'	Gneiss			205'	15	
				210'	20	
200' - 201'6"	Biotite schist the first 2 inches with heavy sulphides			215'	25	
				220'	20	
201'6" - 203'	Gneiss			225'	15	
				230'	20	
203' - 209'	Biotite gneiss			235'	15	
				240'	20	
209' - 232'	Gneiss			245'	15	
				250'	15	
232' - 235'	Biotite gneiss - schist					
235' - 253'	Gneiss					
253' - 262'	Silicified gneiss					
	On examination for fluorescence by ultraviolet light - weak white colours were obtained at 123'.					

DRILLING LOG

DRILL HOLE NO. T.P. 8

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 46 E - 9 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 26th April 1971
DATE COMPLETED 9th May 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 250'
CASING 32' - NX, 44' - BX.

LOGGED BY T. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 8

FOOTAGE	DESCRIPTION	GRAPHIC LOG (Feet)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 32'	No core	32-37	20.0%			30'-32' - U-4, Th-x, Cu-12, Pb-80, Ni-18, V-20.
32' - 61'	Weathered and highly broken core. Leucocratic gneiss	37-42	20.0%			
61' - 64'	Slightly weathered leuco gneiss	42-44	40.0%			
64' - 105'	Fresh core. Leuco gneiss. Chiefly consists of feldspar-quartz aggregates (individual grains 0.5mm average) separated by layers of biotite-sericite every 3 to 5mm. At 71' foliation = 70°. Occasional sections (10 ft. or so) show coarser grained feldspar aggregates up to 20mm long (individual grains 1.5mm) At 103' foliation = 70°.	44-54 54-65 65-76 76-86½ 86½-90 90-98 98-105 105-113½ 113½-122 122-128½ 128½-134½ 134½-144'8" 144'8"-158'3"	11.0% 50.0% 77.0% 72.0% 100.0% 91.0% 100.0% 86.0% 100.0% 61.0% 93.0% 69.0% 100.0%			
105' - 108'6"	Pink and brown mica-rich band with texture reminiscent of a tuff. Shows rounded 0.5 to 1.5mm sized feldspars, both white and pink with smaller (to 0.5mm) deep green minerals, probably an amphibole enclosed in a fine-grained biotite-rich ground mass. The feldspar phenocrysts or porphyroblasts constitute 20% of the bulk of the rock. A few feldspar-rich layers (20mm wide) cut the rock parallel to foliation. At 107' foliation = 70°.					
108'6" - 114'	Grey leuco gneiss. At 111' foliation = 70°. A few specks of pyrite were noticed in mica layers (content much less than 0.5% sulphides).	158'3"-168'3" 168'3"-178'	100.0% 72.0%			
114' - 115'	Mica-rich shear zone. The rock consists mainly of biotite-muscovite with occasional 2mm feldspar phenocrysts (or porphyroblasts). It shows tight folding with axial planes at about 45° to the core (foliation).	178-188 188-198'3" 198'3"-200	98.0% 72.0% 80.0%			

DRILL HOLE NO. T.P. 8

SHEET NO. 2 OF T.P. 8

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
115' - 124'	Leuco gneiss, fine grained variety. At 116' foliation = 70°.	200-203	100.0%			
124' - 137'	Mica-rich band similar to that of 105' to 108'6". Shows a tendency for the coarser potash feldspars (3mm phenocrysts) to be enclosed by white feldspar in elongate augers. (This could represent ex-solution). Biotite is very fine grained. The rock contains 2% visible sulphide which is probably pyrite. At 126' foliation = 65°.	203-213 213-225 225-230 230-240 240-250	100.0% 81.0% 100.0% 100.0% 64.0%			
137' - 245'	Fine grained leuco gneiss (15% micas) with a distinct foliation. At 137'6" foliation = 65°. At 161' a 2" wide zone of recrystallised quartz and feldspar occurs. The zone cuts at about 45°. At 154' foliation = 80°. Chloritised amphibole is found around 205' to 206' in irregular arcuate-shaped aggregates (8mm long crystals). It is also found in a 10mm wide structure (vein) cutting core at 70° in the opposite sense to the foliation. Fractures, 1-2mm wide with a quartz-chlorite-mica filling are found from 217' to 225'. Foliation = 50°, 65°, 70°. (1"-3" apart). At 244' foliation = 75°. The leuco gneiss continues to 245' with no structures of interest except a 20mm quartz vein at 244'6" (cuts at foliation = 55°.) No fluorescence was seen on examination of core by short-wave ultraviolet light.					

DRILL HOLE NO. T.P. 9

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 14 E - 6 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 17th May 1971
DATE COMPLETED 23rd May 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 260.0 feet
CASING 20' - NX, 75' - BX.

LOGGED BY T. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 9

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 20'	No core		No record.			0- 5 6 ppm U308 5-10 4 " " 10-15 2 " " 15-20 5 " " 20-25 4 " " 25-30 3 " "
20' - 95'	Very weathered and broken core. Leuco gneiss.					
95' - 126'	Leuco gneiss, rather variable in composition. Varies from almost a feldspar-quartz aggregate (Micas 5%) to a gneiss with 15% micas. As in the adjoining drillholes the feldspar grains form long "pods", enclosing smaller rounded quartz grains and have fine grained micas and chlorite interstitial to the feldspars. Recognisable pink potash feldspar is rare. A number of small joints or fractures may be seen. Fracturing: at 101' = 25°, 104' = 20° (two calcite-chlorite filled fractures 4mm wide), 106' = 20°, 107' = 10°,20° (opposite directions), 109'6" = 15°, 112'6" = 02°. From 120'7" to 121'6" a zone of deformation may be observed. Folds (20mm scale) may be seen with axial planes at about 65° to the core. At 124' fractures cut at - 2 at 40°, 1 at 30°.					
126' - 141'6"	Finely banded gneiss. Shows alternating 0.5mm bands of feldspar-quartz and biotite-muscovite. At 128' foliation = 55°, at 134' foliation = 60°, at 141' foliation = 60°.					
141'6" - 167'	Leucocratic gneiss with coarse feldspar grains (6mm wide by 15mm long). Contains 10% (or less) biotite as fine layers between the feldspars. A few 4mm wide, or less, fractures with calcite-montmorillonite fillings may be seen in this interval. At 149' fracturing = 65°, 152' fracturing = 50°, 154' foliation = 65°.					
167' - 187'6"	Melanocratic biotite-gneiss (type "C") Shows layers of biotite 0.5mm to 5mm wide alternating with chloritised feldspar. Distinct foliation					

DRILL HOLE NO. T.P. 9

SHEET NO. 2 OF T.P. 9

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
	is produced by orientation of the micas. Small round red garnet grains 0.5 to 2mm in diameter are common forming auger structures with the enclosing micas. Garnet constitutes about 5% of the bulk of the rock. Chlorite and amphibole are visible as grains within the biotite layers and as separate occasional layers. At 174' foliation = 80°, 187' foliation = 80°.					
187'6" - 198'	Mainly leuco gneiss. Shows a few 6" bands of fairly biotite-rich material.					
198' - 212'6"	Finely banded gneiss. Shows alternating 1-2mm wide bands of feldspar and biotite. At 199' foliation = 75°, 212' foliation = 75°.					
212'6" - 232'6"	Finely banded gneiss. As before, consists of alternating biotite and feldspar layers. Biotite content varies from 50% to about 25%. Foliation angles - at 219' = 80°, 226' = 80°.					
232'6" - 260'	Leuco gneiss, type "A". The feldspars form layers 5mm wide, with fine mica bands between them. About 15% micas are present, predominantly biotite. At 237' foliation = 75°, 254' foliation = 75°. At 253' a 1" wide quartz vein cuts the core parallel to foliation. Examination of fluorescence by short-wave ultraviolet light revealed only rare calcite.					

DRILLING LOG

DRILL HOLE NO. T.P. 10

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 14 E - 7 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 17th May 1971
DATE COMPLETED 23rd May 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 251.0 feet
CASING 30' - NX, 71' - BX.

LOGGED BY T. Liverton
DATE May 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 10

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 50'	No core					ppm U. / Th.
50' - 76'	Weathered and very broken core - leuco gneiss					0'-5' = 8 / LT.30 5'-10' = 8 / LT.30 10'-15' = 11 / LT.30 15'-20' = 14 / 84 20'-25' = 14 / 70 25'-30' = 8 / 121 30'-35' = 13 / 67 35'-40' = 13 / 77 40'-45' = 12 / 70 45'-50' = 7 / 78 50'-55' = 17 / 63 55'-60' = 13 / 64 60'-65' = 13 / 31 65'-70' = 11 / LT.30
76' - 147'6"	Leuco gneiss. Feldspars form long pods with quartz up to 6mm wide and 20mm long. Biotite is subordinate and generally around 10% of the bulk of the rock. A few minor fractures may be seen:- at 113'3" fracturing = 15°,20°(opposite directions), 115'6" to 117'6" = 20°, 25°(five fractures) from 122' to 124' foliation = 20°, 0°. Foliation angles are as follows - at 115' = 70°, 128' = 70°, 141' = 75°.					
147'6" - 155'6"	Melanocratic biotite-garnet gneiss. Contains about 60% biotite (as fine-grained flakes in preferred orientation), between which are small elongate feldspar and quartz porphyroblasts up to 5mm long. Garnets, as red, round grains are numerous, constituting up to 15% of the rock. Grainsize is up to 1mm. At 154' foliation = 75°.					
155'6" - 170'6"	Leuco gneiss. Shows mainly very coarse feldspar aggregates up to 30mm across. Biotite and chlorite form only thin layers up to 5mm wide. Foliation is fairly distinct. At 160' foliation = 70°. No significant fractures were noticed.					
170'6" - 199'	Finely banded gneiss. Shows layers of mica and quartz-feldspar from 1 to 5mm wide. The banding produces a distinct foliation. At 178' foliation = 70°. As occasional garnet crystal may be seen in this lithology. At 190' foliation = 75°.					

DRILL HOLE NO. T.P. 10

SHEET NO. 2 OF T.P. 10

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
199' - 201'6"	Melanocratic biotite gneiss. Contains 5-10% garnet. A 1" quartz vein found at 199'10" cuts the core at foliation = 55°.					
201'6" - 215'	Finely banded gneiss. Shows up to 25% biotite, in distinct bands alternating with quartz and feldspar. Distinctly foliated. A 4" wide quartz view is found at 206'6". It is concordant with the general foliation. At 210' foliation = 70°.					
215' - 251'	Leuco gneiss. This gneiss shows bands of amphibole-chlorite associated with irregular fractures from 220' to 220'2" and from 221'6" to 222'. At 224' foliation = 67°. Coarse irregular garnet grains (to 8mm across) may occasionally be seen, associated with a little amphibole (1mm grainage). At 241'6" foliation = 75°, 250' foliation = 75°. No significant fracturing is found in this section. Examination of fluorescence by short-wave ultraviolet light revealed only very rare calcite.					

DRILL HOLE NO. T.P. 12

DRILLING LOG

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 13 E - 5 N
INCLINATION Vertical BEARING -
COLLAR ELEVATION -

DATE STARTED 26th May 1971
DATE COMPLETED 2nd June 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 200.0 ft.
CASING 65 feet - BX

LOGGED BY T. Liverton
DATE June 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 12

FOOTAGE	DESCRIPTION	GRAPHIC LOG (Feet)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 18'	No core.	13-15	100.0%	5'	10	p.p.m. U. Th.
		15-19	19.0%	10'	10	
18' - 77'	Very weathered core. Leucocratic gneiss.	19-35	3.0%	15'	15	25'-30' = 4 55
		35-40	80.0%	20'	20	30'-35' = 4 40
77' - 138'6"	Light grey leuco gneiss (fresh core). The feldspars form elongate pods 3mm x 15mm with narrow (up to 1mm) chlorite-biotite layers between. Foliation is fairly distinct. A zone of close fracturing is encountered from 92'-93' with foliation = 15°. At 101'6" fracture = 15°, 110' fracture = 10°, 113'6" fracture = 10°. Foliation angles are as follows - 84' = 50°, 96'6" = 65°, 104' = 80°, 115' = 70°, 128' = 85°.	40-55	0.0%	25'	10	40'-45' = 3 43
		55-60	36.0%	30'	20	45'-50' = 3 55
		60-73	0.0%	35'	20	50'-55' = 3 46
		73-78	62.0%	40'	20	60'-65' = 10 LT.30
		78-81	50.0%	45'	15	
		81-85	100.0%	50'	20	
		85-90½	91.0%	55'	10	
138'6" - 160'	Biotite-garnet gneiss (type "C"). Contains mainly very fine grained micas (predominantly biotite) with about 30% phenocrysts (or porphyroblasts) of thin, elongate quartz and feldspar aggregates (1-2mm wide by 20mm long). The rock is well foliated and shows concentration of small, round garnets 1 to 5mm across over a few inches of core found every 2 ft. or so. Foliation angles - 140' = 65°, 154' = 70°. Calcite-quartz filled fractures are found from 146'3" to 146'9" at angles of 15° and 10° (opposite directions).	90½-100	100.0%	60'	15	
		100-109	100.0%	65'	15	
		109-112	100.0%	70'	20	
		112-120½	98.0%	75'	20	
		120½-128	96.0%	80'	10	
		128-131	100.0%	85'	10	
		131-134	100.0%	90'	25	
		134-142	84.0%	95'	15	
		142-152½	94.0%	100'	15	
160' - 181'6"	Gneiss. The biotite layers are somewhat thicker in this rock (3mm) and it contains about 25% micas. That is, it is intermediate between the biotite gneiss and the leuco gneiss. No sulphides were seen. At 162' foliation = 75°, 177' foliation = 75°.	152½-161½	100.0%	105'	15	
		161½-173	90.0%	110'	25	
		173-179	82.0%	115'	15	
		179-190½	88.0%	120'	10	
		190½-200	99.0%	125'	20	
181'6" - 192'6"	Biotite gneiss. Well foliated. The mica content varies from over 50% to about 25% (gradationally). No coarse garnet was identified in this interval. A few flat blebs of pyrite (5mm round by 0.5mm thick) were			130'	15	
				135'	10	
				140'	10	

DRILL HOLE NO. TP 12

SHEET NO. 2 OF TP 12

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
	noted along foliation planes and one 5mm vein of pyrrhotite was seen running parallel to foliation at 182'9". At 183' foliation = 80°, 190' = 80°.			145'	10	
				150'	15	
				155'	15	
				160'	20	
				165'	15	
				170'	15	
				175'	20	
				180'	10	
				185'	15	
				190'	20	
				195'	20	
				200'		
192'6" - 200'	Leucocratic gneiss. In this rock the feldspars form slightly elongate porphyroblasts 8mm by 5mm, showing tiny quartz inclusions. Micas are very fine grained and appear quite chloritised. Feldspars are not as well oriented in this section as before in the biotite gneiss. Foliation = 70° at 193' and 75° at 198'. Some small fractures found at 197' at 20°.					
	No significant fluorescence seen on examination of cores by short-wave ultraviolet light.					

DRILLING LOG

DRILL HOLE NO. T.P. 13

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 14 E - 6 N
INCLINATION 45° BEARING 270°
COLLAR ELEVATION -

DATE STARTED 11th June 1971
DATE COMPLETED 21st June 1971
DRILLED BY Farmor Drillers - M. Laska
TOTAL DEPTH 300.0 feet
CASING 75 feet - BX

LOGGED BY T. Liverton
DATE July 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 13

FOOTAGE	DESCRIPTION	GRAPHIC LOG (Feet)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 105'	No core	105-110	26.0%			
105' - 110'	Very weathered and broken core. Mica-rich gneiss.	110-116	100.0%			
110' - 120'	Biotite-rich gneiss (Type "C"). Shows feldspar-quartz layers up to 30mm thick separated by biotite-rich, fine grained (1mm or less) material 50% micas. At 116' foliation = 45°.	116-120	22.0%			
120' - 157'	Gneiss, containing about 15% biotite and showing a distinct foliation due to mica orientation and elongate feldspar -quartz pods (3mm x 10mm) Fairly homogenous with only a few coarse feldspar blebs. At 127'6", a 3" wide fracture zone is found at sub-parallel attitude to foliation which shows euhedral quartz crystals with chlorite. The crystals are 8mm in section. Foliation at 136' = 45°, 154' = 45°.	120-129	97.0%			
157' - 176'6"	Leuco gneiss with similar grainsize and texture to the preceeding section, but less mica content.	129-133	100.0%			
176'6" - 181'	Biotite-gneiss. Contains about 50% biotite and shows frequent (5%) small (1mm) brown-red garnets. Feldspars and quartz form only thin (0.5-1mm) layers between the micas. At 179'6" foliation = 50°.	133-143½	98.0%			
181' - 222'	Gneiss, containing 10-15% biotite, showing finely alternating feldspar and mica layers as in 120' - 157'. At 210' foliation = 70°. A biotite rich band from 215'-216' shows thin (0.5mm x 2mm) elongate feldspars in a biotite-chlorite matrix. At 219' foliation = 60°. No significant fractures were observed.	143½-153	90.0%			
		153-160	83.0%			
		160-169	91.0%			
		169-179	100.0%			
		179-189	100.0%			
		189-197½	100.0%			
		197½-208	99.0%			
		208-218	94.0%			
		218-222	100.0%			
		222-227	100.0%			
		227-233	100.0%			
		233-240½	70.0%			
		240½-248	100.0%			
		248-251½	100.0%			
		251½-260½	92.0%			
		260½-270½	100.0%			
		270½-280½	96.0%			
		280½-284½	98.0%			
		284½-295	97.0%			
		295-300	98.0%			

DRILL HOLE NO. T.P. 13

SHEET NO. 2 OF ~~T.P. 13~~

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
222' - 300'	Leuco gneiss, showing feldspar-quartz layers of variable thickness from 2 to 20mm wide, with fine interstitial mica layers. At 270' foliation = 55°, 290' = 65°, 300' = 75°. At 290' (minor fracture) foliation = 10°. Note:- Fracturing is very rare in this hole. No significant fluorescence was seen on examination by short-wave ultraviolet light.					

DRILLING LOG

DRILL HOLE NO. T.P. 11

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES 1200ft, S60°E from Tadpole, 0 E, 0 N.
INCLINATION 63° BEARING 200°
COLLAR ELEVATION -

DATE STARTED 24th May 1971
DATE COMPLETED 12th June 1971
DRILLED BY Farmor Drillers - J. Laska
TOTAL DEPTH 400.0 feet
CASING 24 feet - NX

LOGGED BY T. Liverton
DATE June 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 11

FOOTAGE	DESCRIPTION	GRAPHIC LOG (Feet)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 20'8"	No core	0-24	0.0%			p.p.m. U. Th.
		24-34	100.0%			0'-5' = 14 90
20'8" - 25'5"	Leuco gneiss. Relatively coarse grained feldspars (predominantly white), form elongate aggregates 6mm wide and 20mm long, between which are found thin layers of biotite to 1mm thick. A little quartz is visible within the feldspar aggregates. The preferred orientation of micas produces a fairly distinct foliation. A few specks of pyrite are noticeable within the biotite layers.	34-44½	99.0%			5'-10' = 19 119
		44½-54'9"	100.0%			10'-15' = 18 125
		54'9"-65	95.0%			15'-20' = 15 164
		65-75	100.0%			125'-135' = 3 12
		75-82	96.0%			135'-145' = 6 18
		82-85	95.0%			145-155 = 17 14
		85-95	97.0%			155'-165' = 10 10
25'5" - 80'	Slightly fractured and highly altered or retrogressed gneiss. The rock shows a striking foliation (compositional layering) due to alternating layers of feldspar (both pink and white, in 0.5mm grains) and green chlorite and quartz. At 29' foliation = 75°, fracture at 29'3" = 20°, 33'6" - quartz (10mm) fracture = 40°, 38' quartz (6 per 1") fracture = 60°, 41'9" quartz (5mm) fracture = 20°. At 47' a 2" wide breccia zone is found which contains a few masses of pyrite 3-4mm across. The angle at which this zone intersects the core is uncertain. At 54' foliation = 75°. A few crystals of pyrite are noticeable in a mica-chlorite rich section from 63' - 68' with the sulphides between 67' and 67'6". The section from 42' to 70' shows slightly more mica-chlorite content than the preceding or deeper sections (approximately 15% ferromagnesium as against 5-10% in the other sections). At 74' foliation = 70°.	95-105	100.0%			275'-278' = 3 12
		105-115	100.0%			354'-355' = 2 240
		115-125	98.0%			
		125-135	99.0%			175'-185' = 3 LT.30
		135-145	100.0%			
		145-155	100.0%			
		155-165	100.0%			
		165-175	58.0%			
		175-185	9.0%			209'0" - 209'6" -
		185-195	100.0%			% U = 0.16
		195-205	100.0%			% Th = 0.014
		205-215	98.0%			% C = 0.66.
		215-225	71.0%			
		225-230	34.0%			
80' - 100'	This section is essentially the same lithology as before but shows alternating 2 ft. wide sections of potash-feldspar rich and chlorite-	230-239½	75.0%			158' - Breccia Zone:- Breccia Matrix = 0.002% U
		239½-250	98.0%			

DRILL HOLE NO. T.P. 11

SHEET NO. 2 OF T.P. 11

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
	muscovite-biotite-rich material. At 85'6" a 2" wide fracture zone filled with quartz and white feldspar is encountered. (No sulphides were noticed) Note: Some of the "potash feldspar" in this core is so distinctly red that it may be altered to some other mineral (? zeolite ?). At 87'6" foliation = 77°, 97'6" foliation = 65° (changing gradually from 94').	250-260½ 260½-269 269-275 275-279 279-300	99.0% 82.0% 77.0% 63.0% 85.0%			Pyrite Matrix = 0.006 % U.
100' - 125'	Distinctly green, altered and close-fractured gneiss (or micro-breccia possible). This rock shows quartz-filled fractures every few inches (predominantly at 20°, but up to 70°). The rock is fine grained (grainsize fairly even, around 0.5mm). It shows 50% of its bulk as light green (?) chlorite-montmorillonite after feldspar. Micas appear as 0.2mm layers.	300-308 308-315 315-325 325-335 335-355 355-365 365-385	100.0% 100.0% 100.0% 100.0% 100.0% 88.0% 86.0%			
125' - 130'	Red breccia. This rock is a fine-grained (less than 0.3mm) aggregate of red and brown minerals, possibly chlorites or zeolites, with the occasional thin (5mm) layer of altered feldspar. It shows a considerable content of sulphides (4mm wide bands every 30mm) which are apparently pyrite aggregates. At 128' foliation = 70°.	385-390 390-400	62.0% 77.0%			
130' - 185'	Yellow and pink breccia. Consists of remnants of sheared feldspar phenocrysts (1x5mm) with fine-grained pink interstitial material (? chlorites). It shows frequent, rounded blebs of pyrite up to 10mm long. These form about 1% of the bulk of the rock. Joint planes cut the core at angles of 15°-55°. Sections of this interval show completely fine-grained pink material, devoid of recognisable feldspars whilst others show feldspars up to 5mm across with interstitial quartz and a recognisable original texture. From 166' to 185' little sulphide is visible.					
185' - 217'	Altered or retrogressed gneiss. Grainsize is variable throughout this section. Much of the section shows fine (0.5mm or less) chloritised feldspar with quartz and thin (0.2mm) layers of biotite-muscovite between the feldspars. Other sections (over 3 ft.) show red, coarse-grained aggregates of quartz and feldspar up to 20mm long, with thin mica bands enclosing porphyroblasts. At 18'6" foliation = 80°, at 189' foliation = 65° A quartz vein is intersected at 187' which runs sub-parallel to the core for 6". Some fracturing is evident from 209' to 209'3" with calcite					

DRILL HOLE NO. I.P. 11

SHEET NO. 3 OF I.P. 11

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
	veining, at foliation 40°, 50° (opposite directions). This short section shows 2½ times background radioactivity. The following 2" gives 6 times background readings and the core has been taken for petrological examination. At 207'6" foliation = 85°.					
217' - 259'	Red, fractured and altered gneiss. Original feldspar (or aggregates) can be recognised and vary from 20mm to 1mm grainsize. The larger grain aggregates show micro-fractures and interstitial chlorite layers seem to follow fracture-planes. At 222' foliation or shearing = 70°. Fracturing becomes less apparent after 230', the gneiss showing alternating bands of red feldspar with a little chlorite and green chlorite-biotite rich gneiss. Foliation measurements are as follows - 241' = 80°, 258' = 75° (finely banded). Fractures 243'-244' = 60°, 248'3" (quartz-calcite) = 75°, 85° to 248'9".					
259' - 283'	Slightly altered mica-rich gneiss. A deep green fine-grained rock showing up to 50% mica and chlorite. Feldspars are fine-grained and equigranular (0.5mm grainsize). The section from 267'9" to 268'10" shows much very fine grained mica and chlorite (less than 0.2mm grainsize) with 1.5mm size garnets in auger-structure. The remainder of the interval still shows much fine micaceous material and also fine grained (1mm) chloritised feldspar-quartz porphyroblasts. Foliation angles - 261' = 85° (finely banded), 270' = 87°, 277' = 83°, 279' = 80°. No sulphides were noted.					
283' - 326'6"	Finely banded, fairly leucocratic gneiss showing some chlorite and sections with 2 ft. of distinctly pink feldspar. The quartz-feldspar grains in this gneiss do not exceed 3mm in length. Mica layers are very think(less than 0.5mm). At 302' foliation = 85°.					
326'6" - 328'6"	Deep green, very fine grained chloritised gneiss. Shows a few 1-10mm wide quartz-calcite veins at angles from foliation 55° to 70°.					
328'6" - 330'6"	Finely banded gneiss showing many tiny fractures and much pink feldspar with calcite and a few pyrite crystals.					

DRILL HOLE NO. T.P. 11

SHEET NO. 4 OF T.P. 11

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
330'6" - 400'	Finely banded fairly leucocratic gneiss. Even grainsize 0.5 - 1 mm. From 354' to 355' a zone of pink quartz, chlorite and coarse muscovite (5mm long flakes) is encountered. No sulphides were noticed. From 384' to 400' pink feldspar layers are particularly noticeable (apart from the white plagioclase). At 340' foliation = 85°, 360' = 80°, 380' = 85°, 395' = 85°. No fluorescence was seen on examination of core by short-wave ultraviolet light. PETROGRAPHIC REPORT - T.P. 11 The hand specimen gives a brecciated appearance with veins or healed fractures of reddish coloured hematite-rich material and patches of milky quartz. Areas of a soft pale green mineral are also visible. In thin section, the rock is seen to consist of patches rich in very fine-grained white mica ("sericite"), which is the pale greenish material visible in the habd specimen, interspersed with areas rich in quartz. The quartz grains vary from granular to elongate and some hexagonal cross-sections were observed. This commonly elongate, subhedral to euhedral habit, together with the fact that many of the quartz grains contain patchily distributed minute fluid inclusions (which account for the milkiness observed in the hand specimen), suggest that the quartz is of vein origin. No evidence of a high-temperature origin was observed. Some areas of the quartz have sharp extinction and planar grain-boundaries, but in other areas the grains have undulose extinction and sutured grains boundaries suggesting some post-crystalline deformation. Fine-grained quartz patches occur in the latter areas and may represent partly recryst-allized larger grains. Small patches of fine-grained white mica and independent white mica flakes are scattered through the quartz-rich areas of the rock. The fine micaceous areas of the rock consist mainly of random to locally foliated flakes of white mica, with scattered irregular patches of "leucoxene", scattered grains of apatite, and local grains of quartz	p				

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS

(generally rimmed by very fine-grained (?) hematite). Interfingering of the micaceous and quartz-rich areas is common. Dispersed through both areas are relatively large irregularly shaped patches and anhedral to euhedral grains of opaque sulphide. Very fine-grained concentrations of (?) hematite (approaching "stains") occur locally in fractures, quartz grain-boundaries, and especially along junctions between quartz-rich and micaceous areas.

The origin of the rock is difficult to determine from the available evidence. At least some, if not all, of the quartz is of vein-origin, and some of it appears to have undergone at least a small amount of deformation. The mica could be of hydrothermal origina and the hematite appears to have formed by alteration rather than a cement. Definite evidence of fragmentation was not observed in thin section.

Estimated grain-sizes and mineral percentages:

	Grain-sizes (mm)	Percentages (by vol)
Opaque sulphide	0.05 - 1.2 (average 0.2)	3
"Leucoxene"	0.01 - 0.1 (average 0.2)	2
White mica	0.01 - 0.5 (average 0.05)	50
Quartz	0.02 - 1.8 (average 0.15)	45

DRILLING LOG

DRILL HOLE NO. T.P. 14

LOCATION Tadpole Prospect - Northern Territory
PROJECT A.P. 2543
COORDINATES Approximately - 4 miles SE of Tadpole, Base Line No. 2
INCLINATION -60° BEARING 215°
COLLAR ELEVATION -

DATE STARTED 20th June 1971
DATE COMPLETED 8th July 1971
DRILLED BY Farnor Drillers - J. Laska
TOTAL DEPTH 250.0 feet
CASING 10 feet - NX, 40 feet - BX.

LOGGED BY T. Liverton
DATE July 1971
SURVEYED BY -
DATE -
SHEET NO. 1 OF T.P. 14

FOOTAGE	DESCRIPTION	GRAPHIC LOG (Feet)	CORE RECOVERY	PROBE READING DEPTH	PROBE READING UNITS	ASSAYS
0' - 17'	No core	17-20	33.0%	0	.005	
		20-30	10.0%	5	.010	
17' - 60'	Very weathered and broken core. Muscovite schist.	30-50	19.0%	10	.005	
		50-71	10.0%	15-195	.005	
60' - 138'6"	Dark green, fine grained (to 1mm) very micaceous sediment (schist) or intermediate volcanic. Contains about 30% muscovite in 0.5mm layers with interstitial fine grained feldspar-mica material. Quartz was not recognised due to the fine grainsize. Occasional 1mm thick feldspar layers give a distinct foliation to the rock, further delineated by preferred orientation of the micas. Occasional very light green epidote or chlorite bands may be seen parallel to foliation. At 81' foliation = 55°, 100' = 65°, 105' = 55°. Fracturing is virtually absent in this interval. At 115'6" (minor fracture) = 20°, 122' = 75°.	71-75	50.0%			
		75-76	70.0%			
		76-77	50.0%			
		77-80	80.0%			
		80-84	63.0%			
		84-87	80.0%			
		87-90	83.0%			
		90-95	75.0%			
		95-100	98.0%			
		100-101	100.0%			
138'6" - 158'	Fractured and altered schist. Shows 1-2 ft. bands of very fine grained (less than 0.2mm) haematite-rich schist and deep green chlorite-rich material alternating with slightly chloritised schist. Shows small cross-fractures at about 80° to the foliation viz:- at 142' foliation = 70°, fracturing = 30°-40°.	101-103	65.0%			
		103-105½	100.0%			
		105½-107	100.0%			
		107-128	100.0%			
		128-143	93.0%			
		143-152	97.0%			
158' - 172'	Slightly altered schist. Shows some short zones (2"-6") of chlorite or quartz and the occasional low-angle (20°) fracture with haematite filling. Talc often accompanies the chlorite. At 166' foliation = 45°.	152-155	87.0%			
		155-158	100.0%			
		158-161	98.0%			
		161-164	100.0%			
172' - 250'	Deep green muscovite schist showing some slight folding. At 175' foliation = 35°. Foliation (strain-slip cleavage) = 80° (opposite sense) At 182' a fold hinge was observed, with foliation at 20° on either side.	164-168	75.0%			
		168-172	100.0%			
		172-175	93.0%			

DRILL HOLE NO. I.P.14

SHEET NO. 2 OF I.P. 14

FOOTAGE	DESCRIPTION	GRAPHIC LOG	CORE RECOVERY	PROBE READING		ASSAYS
				DEPTH	UNITS	
	Occasional chlorite-filled fracture zones (6" maximum width) may still be seen. At 200' foliation = 40°, 203' = 0°, 207' = 15°, 209' = 10°, 231' = 25°, 235'6" = 10°. No significant fluorescence was observed on examination of core by short-wave ultraviolet light.					

AUGER DRILLING LOG

DRILL HOLE NO - G 152

PROJECT A.P. 2543 — DATE STARTED 29.10.71

LOCATION Tadpole 14, Site 1 — DATE COMPLETED 29.10.71

COORDINATES 100 feet W — DRILLED BY B. Taylor & D. Sutton

COLLAR ELEVATION — LOGGED BY

TOTAL DEPTH 22 feet — SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0'	80	0'-6' Haematite stained schist
		1'	100	
		2'	80	6'-22' Weathered schist
		3'	80	
		4'	80	Ratemeter 2 Probe 1 1/11/71 Calibration
		5'	60	
		6'	80	Sleeve 1 5400 (10K) 0.22% eU_3O_8 Sleeve 2 2500 (3K) 0.10% Sleeve 5 1600 (3K) 0.084% Sleeve 8 5500 (10K) 0.229%
		7'	80	
		8'	60	
		9'	80	
		10'	60	
		11'	60	
		12'	60	
		12.6'	60	

AUGER DRILLING LOG

DRILL HOLE NO - G 153

PROJECT A.P. 2543 DATE STARTED 29.10.71

LOCATION Tadpole 14, Site 1 DATE COMPLETED 29.10.71

COORDINATES Centre DRILLED BY B. Taylor & D. Sutton

COLLAR ELEVATION _____ LOGGED BY _____

TOTAL DEPTH 58 feet SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		1'	100	Ludlum 12-G
		2	90	
		3	90	
		4	70	
		5	60	
		6	60	
		7	60	
		8	70	
		9	70	
		10	70	
		11	60	
		12	60	
		13	60	
		14	80	
		15	80	
		16	80	
		17	70	
		18	80	
		19	80	
		20	70	
		21	80	
		22	70	
		23	60	
		24	60	
		25	60	
		26	70	
		27	80	
		28	90	
		29	60	
		30	70	
		31	60	
		32	60	
		33	90	
		34	60	
		35	80	
		36	100	
		37	120	

AUGER DRILLING LOG

DRILL HOLE NO - G 156

PROJECT A.P. 2543 — DATE STARTED 30.10.71

LOCATION Tadpole 14, Site 1 — DATE COMPLETED 30.10.71

COORDINATES 100S — DRILLED BY B. Taylor & B. Mutch

COLLAR ELEVATION — LOGGED BY

TOTAL DEPTH 58 feet — SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0'	100	Ludlum 1
		1	60	
		2	40	0'-6' Haematite-stained schist
		3	40	
		4	20	6'-42' Weathered schist
		5	30	
		6	40	42'-58' Schist ?
		7	20	
		8	30	
		9	60	
		10	60	
		11	60	
		12	60	
		13	60	
		14	40	
		15	20	
		16	40	
		17	40	
		18	60	
		19	40	
		20	50	
		21	60	
		22	60	
		23	60	
		24	60	
		25	80	
		26	40	
		27	50	
		28	70	
		29	70	
		30	80	
		31	80	
		32	80	
		33	100	
		34	80	
		34.4	80	

AUGER DRILLING LOG

DRILL HOLE NO - G 161

PROJECT A.P. 2543 — DATE STARTED 1.11.71

LOCATION Tadpole 14, Site 2 — DATE COMPLETED 2.11.71

COORDINATES Centre — DRILLED BY B. Taylor & B. Mutch

COLLAR ELEVATION — LOGGED BY

TOTAL DEPTH 58 feet — SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS ppm U	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0' - 6'	160			
6' - 12'	117			
12' - 18'	80			
18' - 24'	45			
24' - 30'	42			
30' - 36'	36			
36' - 42'	44			
42' - 48'	38			
48' - 53'	22			

AUGER DRILLING LOG

LUDLUM 2
DRILL HOLE NO - G 168

PROJECT A.P. 2543
LOCATION Tadpole 14 Site 3
COORDINATES Centre
COLLAR ELEVATION
TOTAL DEPTH 23 feet

DATE STARTED 3.11.71.
DATE COMPLETED 3.11.71.
DRILLED BY B. Taylor & B. Mutch
LOGGED BY
SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0' - 6'		14'	160	
6' - 12'		13'	170	
12' - 18'		12'	180	
18' - 23'		11'	180	
		10'	180	
		9'	170	
		8'	170	
		7'	170	
		6'	170	
		5'	190	
		4'	180	
		3'	180	
		2'	190	
		1'	180	
		0'	170	

AUGER DRILLING LOG

LUDLUM 2
DRILL HOLE NO - G 169

PROJECT A.P. 2543
LOCATION Tadpole 14 Site 3
COORDINATES 100 E
COLLAR ELEVATION
TOTAL DEPTH 43 Feet

DATE STARTED 3.11.71.
DATE COMPLETED 3.11.71.
DRILLED BY B. Taylor & B. Mutch
LOGGED BY
SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0' - 6'		26.7	80	
		26	120	
6' - 12'		25	160	
		24	170	
12' - 18'		23	140	
		22	150	
18' - 24'		21	140	
		20	140	
24' - 30'		19	140	
		18	140	
30' - 36'		17	130	
		16	130	
36' - 42'		15	150	
		14	140	
42' - 43'9		13	140	
		12	140	
		11	160	
		10	160	
		9	160	
		8	150	
		7	150	
		6	140	
		5	140	
		4	140	
		3	140	
		2	140	
		1	150	
		0	120	

AUGER DRILLING LOG

LUDLUM 2

DRILL HOLE NO - G 172

PROJECT A.P. 2543

LOCATION Tadpole 14 Site 2

COORDINATES Centre

COLLAR ELEVATION

TOTAL DEPTH 54 Feet

DATE STARTED 4.11.71.

DATE COMPLETED 4.11.71.

DRILLED BY B. Taylor & B. Mutch

LOGGED BY B. Taylor

SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0' - 6'		47'	40	Note: Repeat from G 161 at pit
		46'	40	
6' - 12'		45'	40	
		44'	40	
12' - 18'		43'	60	
		42'	120	
18' - 24'		41'	160	
		40'	160	
24' - 30'		39'	170	
		38'	230	
30' - 36'		37'	220	
		36'	220	
36' - 42'		35'	180	
		34'	180	
42' - 48'		33'	200	
		32'	220	
48' - 54'		31'	210	
		30'	200	
		29'	220	
		28'	230	
		27'	210	
		26'	210	
		25'	240	
		24'	180	
		23'	180	
		22'	190	
		21'	190	
		20'	210	
		19'	210	
		18'	240	
		17'	270	
		16'	270	
		15'	280	
		14'	420	
		13'	420	
		12'	440	
		11'	480	
		10'	450	
		9'	520	
		8'	580	
		7'	700	
		6'	600	
		5'	560	
		4'	540	
		3'	580	
		2'	600	
		1'	580	
		0'	500	

AUGER DRILLING LOG

DRILL HOLE NO - G 176

PROJECT AP 2543

LOCATION TP 14 Site 4

COORDINATES 100 W

COLLAR ELEVATION

TOTAL DEPTH 46 feet

DATE STARTED 5.11.71.

DATE COMPLETED 5.11.71.

DRILLED BY R.Taylor/B. Mutch

LOGGED BY A. Lidgard

SURVEYED BY K.Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	100	
0'-6'		1	110	
		2	100	
6'-12'		3	90	
		4	100	
12'-18'		5	120	
		6	120	
18'-24'		7	120	
		8	100	
24'-30'		9	100	
		10	100	
30'-36'		11	100	
		12	120	
36'-42'		13	120	
		14	110	
42'-46'		15	130	
		16	130	
		17	140	
		18	140	
		19	130	
		20	140	
		21	150	
		22	160	
		23	190	
		24	180	
		25	140	
		26	130	
		27	120	
		28	120	
		29	80	
		30	70	
		31	70	
		32	70	
		33	70	
		34	70	
		35	80	
		36	80	
		37	90	
		38	80	
		38.4	100	

AUGER DRILLING LOG

DRILL HOLE NO - G 177

PROJECT AP 2543

LOCATION TP 14 Site 4

COORDINATES 50 W

COLLAR ELEVATION

TOTAL DEPTH 55 feet

DATE STARTED 5.11.71.

DATE COMPLETED 5.11.71.

DRILLED BY R.Taylor/B.Mutch

LOGGED BY A. Lidgard

SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0'-6'		0	80	
		1	120	
6'-12'		2	110	
		3	90	
12'-18'		4	60	
		5	60	
18'-24'		6	60	
		7	60	
24'-30'		8	60	
		9	40	
30'-36'		10	30	
		11	40	
36'-42'		12	30	
		13	30	
42'-48'		14	30	
		15	40	
48'-54'		16	60	
		17	70	
54'-55'		18	70	
		19	80	
		20	80	
		21	100	
		22	80	
		23	70	
		24	60	
		25	40	
		26	110	
		27	130	
		28	130	
		29	110	
		30	80	
		31	80	
		32	60	
		33	40	
		34	50	
		35	60	
		36	100	
		37	100	
		38	160	
		39	140	
		40	120	
		41	120	
		42	120	
		43	100	
		44	60	
		45	40	
		46	40	
		47	40	
		47.4	40	

AUGER DRILLING LOG

DRILL HOLE NO - G 179

PROJECT AP 2543

LOCATION TP 14 Site 4

COORDINATES

COLLAR ELEVATION

TOTAL DEPTH 54 feet

DATE STARTED 6.11.71.

DATE COMPLETED 6.11.71.

DRILLED BY R.Taylor/B.Mutch

LOGGED BY A. Lidgard

SURVEYED BY K.Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0'-6'		0	50	
		1	50	
6'-12'		2	50	
		3	50	
12'-18'		4	60	
		5	60	
18'-24'		6	80	
		7	90	
24'-30'		8	90	
		9	100	
30'-36'		10	80	
		11	70	
36'-42'		12	80	
		13	90	
42'-48'		14	100	
		15	100	
48'-54'		16	110	
		17	140	
		18	90	
		19	90	
		20	120	
		21	120	
		22	40	
		23	40	
		24	50	
		25	60	
		26	100	
		27	200	
		28	240	
		29	220	
		30	170	
		31	50	
		32	40	
		33	40	
		34	40	
		35	40	
		36	50	
		37	60	
		38	50	
		39	50	
		40	70	
		41	70	
		42	70	
		43	60	
		44	60	
		45	90	

AUGER DRILLING LOG

DRILL HOLE NO - G 179

PROJECT _____ DATE STARTED _____

LOCATION _____ DATE COMPLETED _____

COORDINATES _____ DRILLED BY _____

COLLAR ELEVATION _____ LOGGED BY _____

TOTAL DEPTH _____ SURVEYED BY _____

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		46	70	
		47	60	
		47.1	50	

AUGER DRILLING LOG

DRILL HOLE NO - G 181

PROJECT	AP 2543	DATE STARTED	6.11.71.
LOCATION	TP 14 Site 4	DATE COMPLETED	6.11.71.
COORDINATES	100 S	DRILLED BY	R.Taylor/B.Mutch
COLLAR ELEVATION		LOGGED BY	A. Lidgard
TOTAL DEPTH	63 feet	SURVEYED BY	K. Agaiby

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	60	
0'-6'		1	60	
		2	60	
6'-12'		3	60	
		4	60	
12'-18'		5	60	
		6	60	
18'-24'		7	70	
		8	60	
24'-30'		9	60	
		10	60	
30'-36'		11	60	
		12	60	
36'-42'		13	60	
		14	60	
42'-48'		15	60	
		16	60	
48'-54'		17	70	
		18	80	
54'-60'		19	80	
		20	90	
60'-63'		21	90	
		22	90	
		23	90	
		24	100	
		25	110	
		26	110	
		27	110	
		28	100	
		29	100	
		30	100	
		31	100	
		32	90	
		33	80	
		34	80	
		35	80	
		36	70	
		37	80	
		38	80	
		39	80	
		40	70	
		41	70	
		42	70	
		43	60	
		44	70	
		45	60	
		46	60	

AUGER DRILLING LOG

DRILL HOLE NO - G 181

PROJECT _____ DATE STARTED _____

LOCATION _____ DATE COMPLETED _____

COORDINATES _____ DRILLED BY _____

COLLAR ELEVATION _____ LOGGED BY _____

TOTAL DEPTH _____ SURVEYED BY _____

FOOTAGE	ASSAYS U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		47	50	
		48	60	
		49	60	
		50	70	
		51	90	
		52	100	
		53	110	
		54	110	
		54.5	100	

AUGER DRILLING LOG

DRILL HOLE NO -G 185

PROJECT AP 2543

LOCATION TP 11, Site 2

COORDINATES Centre

COLLAR ELEVATION

TOTAL DEPTH 34 feet

DATE STARTED 9.11.71

DATE COMPLETED 9.11.71

DRILLED BY R.Taylor & C.Garske

LOGGED BY A. Lidgard

SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	140	Much muscovite but chips appear to be gneiss.
		1	160	
		2	140	
		3	140	0'-6' Red soil.
		4	100	
		5	80	6'-12' Red soil and greenish
		6	80	yellow saprolite
		7	70	
		8	50	12'-18' Same
		9	50	
		10	70	18'-24' Same, highly micaceous.
		11	60	
		12	60	24'-30' Red clay, highly
		13	70	micaceous.
		14	80	
		15	80	30'-34' Same.
		16	50	
		17	80	No chips
		18	50	
		19	50	
		20	50	
		21	60	Water after 34 feet.
		22	30	
		23	50	
		24	20	
		25	30	Laterite Pisolites at site:
		26	30	20 ppm U.
		27	20	
		28	40	
		29	60	
		30	40	
		31	40	
		32.0	70	

AUGER DRILLING LOG

DRILL HOLE NO - G 186

PROJECT AP 2543

LOCATION TP 11, Site 4.

COORDINATES Centre

COLLAR ELEVATION

TOTAL DEPTH 46 feet

DATE STARTED 9.11.71

DATE COMPLETED 9.11.71

DRILLED BY R. Taylor & C. Garske

LOGGED BY A. Lidgard

SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	100	0'-6' Red soil with abundant pisolites.
		1	140	
		2	120	
		3	130	6'-12' Pink clay with quartz fragments.
		4	90	
		5	120	
		6	90	12'-18' Same as above.
		7	60	
		8	70	18'-24' Reddish brown saprolite.
		9	100	
		10	100	24'-30' Brown saprolite with quartz chips.
		11	90	
		12	60	
		13	90	30'-36' Same, no chips.
		14	100	
		15	90	36'-42' Same.
		16	120	
		17	140	
		18	110	
		19	100	Water at 46 feet.
		20	140	
		21	140	No chips in cuttings pile.
		22	110	
		23	90	
		24	120	Laterite pisolites near site: 12 ppm U.
		25	140	
		26	140	
		27	180	
		28	140	
		29	120	
		30	150	
		31	150	
		32	130	
		33	140	
		34.0	120	

AUGER DRILLING LOG

DRILL HOLE NO - G 187

PROJECT AP 2543 — DATE STARTED 9.11.71

LOCATION TP 11, Site 3 — DATE COMPLETED 9.11.71

COORDINATES Centre — DRILLED BY R.Taylor & C.Garske

COLLAR ELEVATION — LOGGED BY A. Lidgard

TOTAL DEPTH 34 feet — SURVEYED BY K. Agaiby

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	120	0'-6' Red sandy soil with pisolites, quartz and soft saprolite fragments.
		1	90	
		2	100	
		3	140	
		4	120	6'-12' Red to brown micaceous saprolite.
		5	160	
		6	150	
		7	140	12'-18' Brown micaceous saprolite - chips: feldspar quartz muscovite schist and one fragment red chloritised(?) schist.
		8	150	
		9	150	
		10	130	
		11	140	
		12	110	
		13	30	
		14	60	
		15	50	Water at 34 feet
		16	60	
		17	40	
		18	70	
		19	60	18'-24' Yellow micaceous saprolite. no chips.
		20	100	
		21	60	
		22	70	24' - 30' Same
		23	100	
		24	60	30'-34' Same - chips: reddish quartz muscovite schist.
		25	50	
		26	60	
		27	60	
		28	70	
		29	70	Cuttings included muscovite quartz schist.
		30	60	
		31	60	
		32.0	80	
				Pisolites nearby ran 12 ppm U

APPENDIX XI

Selected Descriptive Logs of Auger Drill Holes

at the Dreadnought Creek Prospect

AUGER DRILLING LOG

DRILL HOLE NO - 105

PROJECT	AP 2543	DATE STARTED	11.10.71.
LOCATION	Dreadnought Creek	DATE COMPLETED	11.10.71.
COORDINATES	107 N 58 E	DRILLED BY	B.Atkins/B.Mutch
COLLAR ELEVATION		LOGGED BY	T. Liverton
TOTAL DEPTH	52 feet	SURVEYED BY	T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		20.4	80	
0'-6'		20	80	0'-36' iron stained and weathered schist
		19	100	
6'-12'		18	100	
		17	120	36'-52' fresh schist
12'-18'		16	100	
		15	100	
18'-24'		14	80	
		13	100	
24'-30'	U - LT.20 ppm	12	100	Probe 1 2800 cpm = 0.1% uranium equivalent
		11	80	
30'-36'	U - LT.20 ppm	10	60	
		9	100	
36'-42'		8	80	
		7	80	
42'-48'	U - LT.20 ppm	6	80	
		5	60	
48'-52'	U - LT.20 ppm	4	60	
		3	60	
24' - 30'	Th - LT.20	2	60	
	Cu - 920	1	60	
	Pb - 20	0	60	
	Ni - 50			
	Bi - 20			
30'-36'	Th - LT.20			
	Cu - 910			
	Pb - 50			
	Ni - 60			
	Bi - 20			
42'-48'	Th - LT.20			
	Cu - 180			
	Pb - 10			
	Ni - 20			
	Bi - LT.20			
48'-52'	Th - LT.20			
	Cu - 110			
	Pb - 40			
	Ni - 20			
	Bi - LT.20			

AUGER DRILLING LOG

DRILL HOLE NO - 108

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 107 N 56 E

COLLAR ELEVATION

TOTAL DEPTH 24 feet

DATE STARTED 12.10.71.

DATE COMPLETED 12.10.71.

DRILLED BY B.Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		15.4	160	
0'-6'		15	140	0'-24' slightly weathered schist
		14	240	
6'-12'		13	200	
		12	200	
12'-18'		11	240	
		10	160	
18'-24'	U - LT.20 ppm	9	160	Probe 1
	Th - LT.20	8	180	2800 cpm =
	Cu - 80	7	200	0.1% uranium equivalent
	Pb - 20	6	200	
	Ni - LT.10	5	180	
	Bi - LT.20	4	180	
		3	140	
		2	160	
		1	160	
		0	160	

AUGER DRILLING LOG

DRILL HOLE NO - 109

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 106 N 55 E

COLLAR ELEVATION

TOTAL DEPTH 36 feet

DATE STARTED 12.10.71.

DATE COMPLETED 12.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		21.8	100	
0'-6'		21	110	0'-24' weathered gneiss
		20	110	
6'-12'		19	90	24'-30' brown stained and
		18	120	weathered gneiss
12'-18'		17	120	
		16	120	30'-36' weathered gneiss
18'-24'		15	130	
		14	100	
24'-30'		13	130	
		12	120	
30'-36'	U - LT.20ppm	11	130	Probe A2
	Th - LT.20	10	140	Calibration : 2500 cpm = 0.1%
	Cu - 25	9	150	uranium equivalent
	Pb - 20	8	120	
	Ni - 10	7	110	
	Bi - LT.20	6	100	Concentration 2
		5	100	Radon % 00
		4	100	
		3	90	
		2	90	
		1	90	
		0	110	

AUGER DRILLING LOG

DRILL HOLE NO - 110

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 106 N 54 E

COLLAR ELEVATION

TOTAL DEPTH 46 feet

DATE STARTED 12.10.71.

DATE COMPLETED 12.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		30.9	100	
0'-6'		30	110	0'-18' weathered and iron-stained
		29	160	gneiss
6'-12'		28	180	
		27	180	18'-42' schist
12'-18'		26	190	
		25	190	
18'-24'		24	150	
		23	140	
24'-30'		22	120	Probe A2
		21	100	Calibration :
30'-36'	U - LT.20 ppm	20	110	2500 cpm = 0.1%
		19	100	uranium equivalent
36'-42'	U - 20 ppm	18	100	
		17	110	
42'-46'		16	100	
		15	100	
30' - 36'	Th - 25	14	80	
	Cu - 40	13	130	
	Pb - 10	12	130	
	Ni - 10	11	130	
	Bi - LT.20	10	100	
		9	120	
36'-42'	Th - 25	8	120	
	Cu - 80	7	130	
	Pb - 20	6	130	
	Ni - 10	5	100	
	Bi - LT.20	4	100	
		3	110	
		2	120	
		1	90	
		0	90	

AUGER DRILLING LOG

DRILL HOLE NO - 112

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 107 N 54 E

COLLAR ELEVATION

TOTAL DEPTH 34 feet

DATE STARTED 13.10.71.

DATE COMPLETED 13.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		20.2	160	
0'-6'		20	140	0'-6' weathered schist
		19	120	
6'-12'		18	160	6'-34' fresh muscovite schist
		17	140	with a few quartz chips
12'-18'		16	140	
		15	140	
18'-24'	U - LT.20 ppm	14	140	
		13	200	
24'-30'	U - LT.20 ppm	12	160	2800 cpm = 0.1%
		11	140	uranium equivalent
30'-34'	U - LT.20 ppm	10	180	
		9	160	
18'-24'	Th - 25	8	160	
	Cu - 50	7	160	
	Pb - 10	6	140	Concentration 24
	Ni - 10	5	140	Radon % 0
	Bi - LT.20	4	160	1st attempt
		3	140	Concentration reading 43
24'-30'	Th - LT.20	2	140	
	Cu - 50	1	140	
	Pb - 10	0	100	
	Ni - LT.10			
	Bi - LT.20			
30'-34'	Th - LT.20			
	Cu - 60			
	Pb - 10			
	Ni - 10			
	Bi - LT.20			

AUGER DRILLING LOG

DRILL HOLE NO - 114

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 106 N 52 E

COLLAR ELEVATION

TOTAL DEPTH 21 feet

DATE STARTED 13.10.71.

DATE COMPLETED 13.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		12.8	240	
0'-6'		12	200	0'-21' muscovite schist
		11	200	
6'-12'		10	120	
		9	140	
12'-18'		8	160	No. 1 Probe
		7	180	2800 cpm = 0.1% uranium
18'-21'	U - LT.20 ppm	6	160	equivalent
	Th - LT.20	5	160	
	Cu - 50	4	140	
	Pb - 10	3	160	
	Ni - LT.10	2	120	
	Bi - LT.20	1	120	
		0	60	

AUGER DRILLING LOG

DRILL HOLE NO - 118

PROJECT AP 2543 — DATE STARTED 14.10.71.

LOCATION Dreadnought Creek — DATE COMPLETED 14.10.71.

COORDINATES 104 N — DRILLED BY B. Atkins/B. Mutch

COLLAR ELEVATION — LOGGED BY T. Liverton

TOTAL DEPTH 19 feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS (CPM)	DESCRIPTION
		10.4	200	
0'-6'	U - 20 ppm	10	280	0'-19' muscovite schist (0.014%)
		9	340	
6'-12'	U - 25 ppm	8	340	
		7	320	
12'-18'	U - LT.20 ppm	6	240	
		5	180	
18'-19'		4	200	This hole is the spot
		3	180	where 8 count was recorded
0'-6'	Th - LT.20	2	160	in the creek.
	Cu - 110	1	160	
	Pb - 10	0	200	Test Pit, at Goanna Creek.
	Ni - 30			
	Bi - LT.20			Calibration : Probe A2
				Sleeve 1: 5700 cpm (0.22)
6'-12'	Th - LT.20			2: 2400 cpm (0.10)
	Cu - 140			
	Pb - 10			
	Ni - 70			
	Bi - 40			
12'-18'	Th - LT.20			
	Cu - 90			
	Pb - 10			
	Ni - 60			
	Bi - 20			

AUGER DRILLING LOG

DRILL HOLE NO - 120

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 104 N 53 E

COLLAR ELEVATION

TOTAL DEPTH 52 feet

DATE STARTED 15.10.71.

DATE COMPLETED 15.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		41.3	100	
0'-6'		41	110	0'-52' muscovite schist. A little haematite visible in fresh 'cores'.
		40	80	
6'-12'		39	80	
		38	80	
12'-18'		37	100	
		36	80	
18'-24'		35	80	
		34	60	
24'-30'		33	80	
		32	120	
30'-36'		31	110	
		30	140	
36'-42'	U - LT.20 ppm	29	140	
		28	120	
42'-48'		27	100	
		26	80	
48'-52'	U - LT.20 ppm	25	120	
		24	120	
36'-42'	Th - LT.20	23	100	
	Cu - 90	22	120	
	Pb - 10	21	130	
	Ni - 110	20	100	
	Bi - 20	19	80	
		18	70	
48'-52'	Th - LT.20	17	70	
	Cu - 40	16	100	
	Pb - 10	15	100	
	Ni - 50	14	80	
	Bi - 20	13	100	
		12	120	
		11	100	
		10	100	
		9	100	
		8	120	
		7	160	
		6	140	
		5	120	
		4	120	
		3	90	
		2	140	
		1	120	
		0	100	

AUGER DRILLING LOG

DRILL HOLE NO - 122

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 105 N 54 E

COLLAR ELEVATION

TOTAL DEPTH 52 feet

DATE STARTED 15.10.71.

DATE COMPLETED 15.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		36.5	120	
0'-6'		36	80	0'-30' Red iron stained schist.
		35	100	
6'-12'	U - LT.20 ppm	34	120	30'-52' muscovite schist
		33	120	
12'-18'		32	130	
		31	140	
18'-24'		30	130	
		29	120	
24'-30'		28	140	
		27	140	
30'-36'		26	130	
		25	120	
36'-42'	U - LT.20 ppm	24	100	
		23	90	
42'-48'		22	100	
		21	150	
48'-52'	U - LT.20 ppm	20	110	Probe A2
		19	150	Ratemeter 2
6'-12'	Th - LT.20	18	140	0.1% = 2400 cpm
	Cu - 25	17	140	
	Pb - 10	16	150	
	Ni - LT.10	15	120	
	Bi - LT.20	14	130	
		13	140	
36'-42'	U - LT.20	12	130	
	Cu - 30	11	110	
	Pb - 10	10	140	
	Ni - LT.10	9	140	
	Bi - LT.20	8	130	
		7	130	
48'-52'	Th - LT.20	6	110	
	Cu -20	5	110	
	Pb - LT.10	4	80	
	Ni - LT.10	3	100	
	Bi - LT.20	2	120	
		1	220	(laterite)
		0	150	

AUGER DRILLING LOG

DRILL HOLE NO - 125

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 105 N 55 E

COLLAR ELEVATION

TOTAL DEPTH 41 feet

DATE STARTED 16.10.71.

DATE COMPLETED 16.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8 ppm	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		24.7	100	
0'-6'		24	100	0'-36' schist and quartz
		23	110	
6'-12'		22	150	36'-42' muscovite schist
		21	150	
12'-18'		20	110	
		19	110	
18'-24'		18	90	
		17	80	
24'-30'		16	100	
		15	120	
30'-36'	U - LT.20	14	80	
		13	100	
36'-41'	U - LT.20	12	100	
		11	120	
30'-36'	Th - LT.20	10	150	Probe A2
	Cu - 130	9	110	Ratemeter 2
	Pb - 10	8	100	0.1% = 2400 cpm
	Ni - 10	7	120	
	Bi - LT.20	6	120	
		5	120	
36'-41'	Th - LT.20	4	120	
	Cu - 90	3	110	
	Pb - 20	2	100	
	Ni - 50	1	130	
	Bi - 20	0	120	

AUGER DRILLING LOG

DRILL HOLE NO - 126

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 108 N 52 E

COLLAR ELEVATION

TOTAL DEPTH 30 feet

DATE STARTED 17.10.71.

DATE COMPLETED 17.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8 ppm	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		20.6	200	
0'-6'		20	180	0'-6' weathered gneiss
		19	180	
6'-12'	U - LT.20	18	140	6'-24' gneiss
		17	140	
12'-18'		16	180	24'-30' muscovite schist
		15	180	
18'-24'		14	180	
		13	120	
24'-30'	U - LT.20	12	140	
		11	140	
6' - 12'	Th - LT.20	10	120	Calibration :
	Cu - 90	9	120	2500 cpm = 0.1%
	Pb - 10	8	120	uranium equivalent
	Ni - LT.10	7	160	
	Bi - LT.20	6	100	
		5	140	
24' - 30'	Th - LT.20	4	140	
	Cu - 50	3	80	
	Pb - 10	2	40	
	Ni - LT.10	1	40	
	Bi - LT.20	0	40	

AUGER DRILLING LOG

DRILL HOLE NO - 127

PROJECT AP 2543 — DATE STARTED 17.10.71.

LOCATION Dreadnought Creek — DATE COMPLETED 17.10.71.

COORDINATES 109 N 52 E — DRILLED BY B. Atkins/B. Mutch

COLLAR ELEVATION — LOGGED BY T. Liverton

TOTAL DEPTH 30 feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8 ppm	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0'-6'		18.5	220	0'-6' weathered schist
		18	220	
6'-12'	U - LT.20	17	180	6'-30' schist
		16	200	
12'-18'		15	260	
		14	180	
18'-24'		13	180	Calibration:
		12	180	2500 cpm = 0.1%
24'-30'	U - LT.20	11	200	uranium equivalent
		10	260	
6' - 12'	Th - 25	9	200	
	Cu - 60	8	140	
	Pb - 10	7	140	
	Ni - 10	6	140	
	Bi - LT.20	5	140	
		4	160	
24' - 30'	Th -LT.20	3	80	
	Cu - 90	2	100	
	Pb - 10	1	100	
	Ni - LT.10	0	60	
	Bi - LT.20			

AUGER DRILLING LOG

DRILL HOLE NO - 133

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 110 N 53 E

COLLAR ELEVATION

TOTAL DEPTH 34 feet

DATE STARTED 18.10.71.

DATE COMPLETED 18.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0'-6'		23.6	120	0'-6' weathered gneiss and laterite pebbles
		23	100	
6'-12'		22	100	
		21	140	6'-30'+ gneiss
12'-18'		20	140	
		19	120	
18'-24'		18	160	
		17	140	
24'-30'		16	140	Calibration :-
	ppm	15	140	2500 cpm = 0.1%
30'-34'	U - LT.20	14	160	uranium equivalent
	Th - LT.20	13	180	
	Cu - 100	12	120	
	Pb - 20	11	140	
	Ni - LT.10	10	200	
	Bi - LT.20	9	120	
		8	140	
		7	120	
		6	120	
		5	100	
		4	120	
		3	70	
		2	120	
		1	80	
		0	60	

AUGER DRILLING LOG

DRILL HOLE NO - 135

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 111 N 52 E

COLLAR ELEVATION

TOTAL DEPTH 24 feet

DATE STARTED 19.10.71.

DATE COMPLETED 19.10.71.

DRILLED BY B.Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0'-6'		17	240	0'-6' weathered gneiss and laterite fragments
		16	230	
6'-12'		15	250	
		14	250	6'-24' weathered gneiss
12'-18'		13	240	
	ppm	12	200	
18'-24'	U - LT.20	11	180	Probe A2
	Th - LT.20	10	220	Calibration:
	Cu - 110	9	240	0.1% = 2500 cpm
	Pb - 10	8	210	uranium equivalent
	Ni - 10	7	180	
	Bi - 20	6	140	
		5	180	
		4	170	
		3	160	
		2	160	
		1	120	
		0	120	

AUGER DRILLING LOG

DRILL HOLE NO - 138

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 108 N 56 E

COLLAR ELEVATION

TOTAL DEPTH 42 feet

DATE STARTED 19.10.71.

DATE COMPLETED 19.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0'-6'		28.6	180	0'-6' weathered schist
		28	200	
6'-12'		27	200	6'-36'+ schist
		26	240	
12'-18'		25	220	
		24	220	
18'-24'		23	200	
		22	200	
24'-30'		21	200	Probe 1
		20	200	2800 cpm = 0.1%
30'-36'		19	180	uranium equivalent
	ppm	18	200	
36'-42'	U - LT.20	17	240	
	Th - LT.20	16	160	
	Cu - 100	15	200	
	Pb - 10	14	200	
	Ni - LT.10	13	200	
	Bi - LT.20	12	140	
		11	140	
		10	140	
		9	160	
		8	160	
		7	200	
		6	180	
		5	160	
		4	160	
		3	140	
		2	160	
		1	160	
		0	160	

AUGER DRILLING LOG

DRILL HOLE NO - G-140

PROJECT AP 2543 — DATE STARTED 20.10.71

LOCATION Dreadnought Creek — DATE COMPLETED 20.10.71

COORDINATES 109N 57E — DRILLED BY B. Atkins/B. Mutch

COLLAR ELEVATION — LOGGED BY A.Lidgard/T.Liverton

TOTAL DEPTH 52 feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS ppm	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
30' - 36'	U - LT.20	31	200	0'-12' weathered schist
	Th - LT.20	30	180	
	Cu - 50	29	160	12'-52' fresh schist
	Pb - 10	28	160	
	Ni - 10	27	140	
	Bi - LT.20	26	130	
		25	160	Probe 1
42' - 48'	U - LT.20	24	170	2800 cpm = 0.1%
	Th - LT.20	23	180	uranium equivalent
	Cu - 30	22	160	
	Pb - 10	21	170	
	Ni - LT.10	19	150	
	Bi - LT.20	18	160	
		17	150	
48' - 52'	U - LT.20	16	140	
	Th -25	15	130	
	Cu - 10	14	120	
	Pb - 20	13	130	
	Ni - 10	12	130	
	Bi - LT.20	11	160	
		10	140	
		9	150	
		8	180	
		7	160	
		6	140	
		5	130	
		4	140	
		3	150	
		2	130	
		1	130	
		0	150	

AUGER DRILLING LOG

DRILL HOLE NO - 141

PROJECT AP 2543 — DATE STARTED 20.10.71

LOCATION Dreadnought Creek — DATE COMPLETED 20.10.71

COORDINATES 109N 56E — DRILLED BY B. Atkins/B. Mutch

COLLAR ELEVATION — LOGGED BY A. Lidgard

TOTAL DEPTH 36 feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS ppm	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
18' - 24'	U - LT.20	25.7	230	0'-6' weathered schist
	Th - LT.20	25	260	
	Cu - 30	24	260	6'-36' fresh schist
	Pb - 20	23	230	
	Ni - LT.10	22	240	
	Bi - LT.20	21	220	
		20	240	
30' - 36'	U - LT.20	19	200	Probe 1
	Th - 20	18	230	2800 cpm =
	Cu - 30	17	220	0.1% uranium equivalent
	Pb - 10	16	180	
	Ni - LT.10	15	150	
	Bi - LT.20	14	160	
		13	190	
		12	160	
		11	140	
		10	160	
		9	130	
		8	110	
		7	160	
		6	160	
		5	160	
		4	140	
		3	140	
		2	160	
		1	140	
		0	160	

AUGER DRILLING LOG

DRILL HOLE NO - G 145

PROJECT AP 2543 — DATE STARTED

LOCATION Dreadnought Creek — DATE COMPLETED

COORDINATES 116.5N 56E — DRILLED BY R. Taylor & B. Mutch

COLLAR ELEVATION — LOGGED BY T. Liverton

TOTAL DEPTH 40 feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS ppm	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
18' - 24'	U - LT.20	25.7'	220	0'-6' weathered gneiss
	Th - LT.20	25	260	
	Cu - 60	24	220	6'-18' fresh gneiss
	Pb -10	23	200	
	Ni - 20	22	200	18'-40' slightly weathered
	Bi - LT.20	21	200	(brown) gneiss
		20	140	
24' - 30'	U - 20	19	120	
	Th - LT.20	18	160	
	Cu - 220	17	140	
	Pb - 20	16	100	
	Ni - 50	15	140	
	Bi - 20	14	140	Probe 1
		13	120	2800 cpm =
30' - 36'	U - 30	12	100	0.1% uranium equivalent
	Th - LT.20	11	120	
	Cu - 80	10	100	
	Pb - 10	9	100	
	Ni - 40	8	100	
	Bi - LT.20	7	100	
		6	100	
36' - 40'	U - 20	5	100	
	Th - LT.20	4	160	
	Cu - 40	3	140	
	Pb - 20	2	140	
	Ni - 20	1	100	
	Bi - LT.20	0	100	

AUGER DRILLING LOG

DRILL HOLE NO - G 142

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 109N 55E

COLLAR ELEVATION

TOTAL DEPTH 30 feet

DATE STARTED 20.10.71

DATE COMPLETED 20.10.71

DRILLED BY B.Atkins/B.Mutch

LOGGED BY

SURVEYED BY

FOOTAGE	ASSAYS ppm	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0'-6'	U - LT.20 Th - LT.20 Cu - 140 Pb - 10 Ni - 10 Bi - LT.20			
6'-12'	U - LT.20 Th - LT.20 Cu - 90 Pb - 10 Ni - LT.10 Bi - LT.20			
12'-18'	U - LT.20 Th - LT.20 Cu - 50 Pb - 10 Ni - LT.10 Bi - LT.20			
18'-24'	U - LT.20 Th - 20 Cu - 120 Pb - 10 Ni - 20 Bi - 20			
24'-30'	U - LT.20 Th - LT.20 Cu - 130 Pb - 10 Ni - 20 Bi - LT.20			

AUGER DRILLING LOG

DRILL HOLE NO - 111

PROJECT AP 2543

LOCATION Dreadnought Creek

COORDINATES 107 N 54.7 E

COLLAR ELEVATION

TOTAL DEPTH 24 feet

DATE STARTED 13.10.71.

DATE COMPLETED 13.10.71.

DRILLED BY B. Atkins/B. Mutch

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS U_3O_8	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0'-6'		14.0	200	0'-24' slightly weathered gneiss
		13	180	
6'-12'		12	140	
		11	180	
12'-18'		10	140	
		9	140	
18'-24'		8	120	2800 cpm - 0.1% uranium equivalent
		7	160	
		6	140	
		5	160	
		4	140	Concentration 10 Emans
		3	160	Radon % 25
		2	180	
		1	140	
		0	120	

APPENDIX XII

Descriptive Logs of Diamond Drill Holes and Selected Auger Holes in the TP 11 - TP 14 Area

AUGER DRILLING LOG

DRILL HOLE NO - G 319

PROJECT AP 2543

LOCATION Black Rock Grid

COORDINATES Section 14 - 50'E

COLLAR ELEVATION

TOTAL DEPTH 46 Feet

DATE STARTED 3.5.72

DATE COMPLETED 3.5.72

DRILLED BY J. Lier

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	300	0'-6' Red soil and weathered gneiss.
		1	350	
		2	350	
		3	450	6'-24' Weathered gneiss.
		4	500	
		5	450	24'-30' Fine grained chloritic gneiss with a little disseminated haematite (as planes)
		6	550	
		7	450	
		8	400	
		9	250	
		10	300	30'-36' Fine grained gneiss with rare haematite only
		11	350	
		12	400	
		13	500	36'-46' Fine grained gneiss with a little disseminated haematite.
		14	550	
		15	600	
		16	450	
		18	300	
		20	350	
		22	300	
		24	350	
		26	350	
		28	300	
		30	250	
		32	250	
		34	250	
		36	300	
		38	250	
		39.6	250(1K)	

AUGER DRILLING LOG

DRILL HOLE NO - G 317

PROJECT AP 2543

LOCATION Black Rock Grid

COORDINATES Section 14 - 00E

COLLAR ELEVATION

TOTAL DEPTH 50 Feet

DATE STARTED 2.5.72

DATE COMPLETED 2.5.72

DRILLED BY J. Lier

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	300	Calibration Check:
		1	250	
		2	350	Sleeve 2 (0.1% e U_3O_8)
		3	250	3K : 2800 cpm
16'-1' - .03% e U_3O_8		4	250	10K: 3200 cpm
		5	350	
		6	300	0'-6' Red sand and weathered
		7	350	gneiss
		8	300	
		9	300	6'-12' Weathered gneiss
		10	300	
		11	400	12'-18' Slightly weathered
		12	500	fine grained gneiss -
		13	350	some haematite.
		14	350	
		15	600	18'-24' Fine grained gneiss
		16	600	(slightly weathered) no
		18	400	haematite
		20	250	
		22	200	24'-36' Slightly weathered
		24	250	gneiss - prominent
		26	250	haematite
		28	200	
		30	150	36'-50' Fresh gneiss with a
		32	150	little haematite. Some
		34	100	coarse quartz bands from
		36	150	48'-50'.
		38	200	
		40	200	(D=50° (foliation/core angle)
		41.2	200(1K)	

AUGER DRILLING LOG

DRILL HOLE NO - G 316

PROJECT AP 2543

LOCATION Black Rock Grid

COORDINATES Section 7 - 150W

COLLAR ELEVATION

TOTAL DEPTH 34 Feet

DATE STARTED 1.5.72

DATE COMPLETED 2.5.72

DRILLED BY C. Evans

LOGGED BY B. Atkins

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	300	0'-18' Weathered gneiss
		1	420	
		2	480(1K)	18'-24' Fine grained gneiss - prominent very finely disseminated haematite.
		3	900	
		4	800	
		5	900	
		6	1300(3K)	24'-34' Fine grained gneiss with a little very finely disseminated haematite.
3' - 24'	1170 cps = 0.05% eU_3O_8	7	680	
		8	640	
		9	580	
		10	520	
		12	650(1K)	
		14	600	
		15	700	
		16	900	
		17	1200	
		18	1500	
		19	1800	
		20	1700	
		20.5	2200	
		21	2400	
		22	1600	
		23	1250(3K)	
		23.9	1600(3K)	

AUGER DRILLING LOG

DRILL HOLE NO - G 314

PROJECT AP 2543

LOCATION Black Rock Grid

COORDINATES Section 7 - 50W

COLLAR ELEVATION

TOTAL DEPTH 30 Feet (?)

DATE STARTED 1.5.72.

DATE COMPLETED 1.5.72

DRILLED BY J. Lier

LOGGED BY B. Atkins

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	210	0'-18' Weathered gneiss
		1	150	
		2	200	18'-30' Fine grained gneiss with prominent fine, disseminated haematite blebs.
		3	260	
		4	250	
		5	210	
		6	280	
		7	250(300)	
		8	260	Calibration
		9	280	
		10	320	Sleeve 5 : (3K) - 1700 cpm
		12	420	
		14	520	Sleeve 8 : (30K) - 10,400 cpm
		16	320	(10K) - 5,500
		18	500	
		20	240	
		22	450	
		22.5	420(1K)	

AUGER DRILLING LOG

DRILL HOLE NO - G 312

PROJECT AP 2543 — DATE STARTED

LOCATION Black Rock Grid — DATE COMPLETED

COORDINATES Section 6 - 50'W — DRILLED BY J. Lier

COLLAR ELEVATION — LOGGED BY B. Atkins

TOTAL DEPTH 72 Feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	220	0'-18' Red weathered gneiss.
		1	240	
		2	300	18'-36' Foliated biotite gneiss
		3	320	with NO haematite.
		4	250	
		5	320	36'-42' Foliated gneiss with
		6	440	rare haematite.
		7	360	
		8	440	42'-72' Foliated gneiss with
		9	400	NO haematite.
		10	350	
		12	360	
		14	480	
		16	550	
		18	550	
		20	440	
		22	640	
		24	560	40'-10'-0.04%
		26	450	
		28	560	
		30	650	
		32	700	
		34	920	
		36	300	
		37	450(1K)	
		38	1450(3K)	
		39	1200 "	
		40	880	
		42	540	
		44	480	
		46	440	
		48	400	
		50	500	
		52	360(1K)	
		54	250	
		56	210	
		58	300	
		60	280	
		62	260	
		64	250	
		66	270	
		68	170	
		68.8	220(300)	

AUGER DRILLING LOG

DRILL HOLE NO - C 310

PROJECT AP 2543 — DATE STARTED 30.4.72

LOCATION Black Rock Grid — DATE COMPLETED 30.4.72

COORDINATES Section 5 - 150W — DRILLED BY J. Lier

COLLAR ELEVATION — LOGGED BY B. Atkins

TOTAL DEPTH 46 Feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	180	0'-12' Red weathered gneiss
		1	200	
		2	360	12'-18' Fine grained massive chloritic gneiss - fine disseminated haematite present.
		3	280	
		4	440	
		5	420	
		6	380	
		7	400	36'-46' Gneiss with NO haematite.
		8	460	
		9	400	
		10	580	
		12	840(1K)	
		13	1000	
		14	1100	
		15	1450	
		16	1200	
		17	1000	
		18	1300	
		19	1000	36'-24'-0.05%
		20	2300	
		21	1600	
		22	1100	
		23	1500	
		24	1600	
		25	1700	
		26	1350	
		27	1200	
		28	1000(3K)	
		29	820	
		30	800	
		32	640	
		33	750	
		34	560	
		35	680	
		36	800	
		37	440(1K)	
		38	280(300)	

AUGER DRILLING LOG

DRILL HOLE NO -G 308

PROJECT AP 2543 — DATE STARTED 30.4.72

LOCATION Black Rock Grid — DATE COMPLETED 30.4.72

COORDINATES Section 5 - 100'W — DRILLED BY J. Lier

COLLAR ELEVATION — LOGGED BY B. Atkins

TOTAL DEPTH 36 Feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	160	0'-12' Red weathered gneiss
		1	260	
		2	300	12'-30' Fine grained foliated and massive biotite gneiss with prominent fine disseminated haematite.
		3	480	
		4	640	
		5	440	
		6	350	
		7	350	30'-36' Fine grained gneiss with a little fine disseminated haematite.
		8	360	
		9	300	
		10	320	
		12	400	
		14	500	
		16	360	
		18	500	
		20	560	
		22	680	
		24	620	27'-5'-.04%
		26	800	
		27.1	840(1K)	

AUGER DRILLING LOG

DRILL HOLE NO - G. 154

PROJECT AP 2543

LOCATION Black Rock Grid

COORDINATES 66N 77E

COLLAR ELEVATION

TOTAL DEPTH 84 feet

DATE STARTED 9.12.71.

DATE COMPLETED 9.12.71.

DRILLED BY C. Garske, T. Liverton

LOGGED BY C. Garske

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
	None	70	40	0'-9' brown soil
		68	40	
		66	40	9'-48' clay and a little sand
		64	60	
		62	40	48'-66' wet clay
		60	40	
		58	40	66'-84' Very weathered gneiss
		56	40	(green clay showing gneissic
		54	40	texture)
		52	30	
		50	30	84'- amphibole-chlorite gneiss
		48	30	(rare chips in clay)
		46	20	
		44	50	
		42	30	
		40	50	
		38	40	
		36	30	
		34	30	
		32	30	
		30	30	
		28	40	Probe 1
		26	40	
		24	40	
		22	40	
		20	40	
		18	40	
		16	50	
		14	50	
		12	40	
		10	50	
		8	40	
		6	40	
		4	30	
		2	50	
		0	50	

AUGER DRILLING LOG

DRILL HOLE NO - G 147

PROJECT A to P 2543

LOCATION Black Rock Grid

COORDINATES 66 N 70 E

COLLAR ELEVATION

TOTAL DEPTH 54 feet

DATE STARTED

DATE COMPLETED

DRILLED BY T. Liverton, C. Garske

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		32	40	0'-6' Red sand
		30	40	
		28	40	6'-24' Buff coloured clay and
		26	40	sand
		24	40	
		22	40	24'-54' Wet clay
		20	40	
		18	40	No chips recovered from bottom.
		16	40	
		14	40	Probe 1 :
		12	60	Sleeve 5 calibration
		10	60	1600 cpm
		8	60	
		6	40	
		4	50	
		2	60	
		0	60	

AUGER DRILLING LOG

DRILL HOLE NO - G 146

PROJECT A to P 2543

LOCATION Black Rock Grid

COORDINATES 66N 69.1 E

COLLAR ELEVATION

TOTAL DEPTH 40 feet

DATE STARTED

DATE COMPLETED

DRILLED BY C.Gaske, T.Liverton

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		30	40	0'-9' Red sand with a few laterite fragments
		28	50	
		26	80	
		24	60	9'-30' Buff coloured sand and clay with weathered gneiss fragments.
		22	60	
		20	60	
		18	40	
		16	50	30'-36' Dry, hard clay.
		14	50	
		12	40	36'-40' Wet clay.
		10	30	
		8	30	No chips recovered from bottom.
		6	30	
		4	30	Probe 2 : calibration
		2	90	Sleeve 8 = 5200 cpm
		0	80	

AUGER DRILLING LOG

DRILL HOLE NO - G 142

PROJECT A to P 2543

LOCATION Black Rock Grid

COORDINATES 66 N 66 E

COLLAR ELEVATION

TOTAL DEPTH 48 feet

DATE STARTED 25.11.71.

DATE COMPLETED 25.11.71.

DRILLED BY B.Atkins, C.Garske

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS ppm	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
0' - 6'	U = <20 Cu = 20 Pb = 30 Ni = 10 Bi = <20	44.8	40	0'-6' Red sand
		44	40	
		42	50	6'-12' Sand and clay
		40	40	
		38	40	12'-30' Dry clay
		36	40	
6' - 12'	U = <20 Cu = 30 Pb = 30 Ni = 30 Bi = <20	34	50	30'-44' Wet clay
		32	30	
		30	50	No chips recovered from bottom
		28	40	
		26	60	Calibration Sleeve 5 = 1600 cpm
		24	60	
		22	50	
		20	20	
		18	20	
		16	30	
		14	40	
		12	60	
		10	40	
		8	30	
		6	30	
		4	30	
		2	80	
		0	40	

AUGER DRILLING LOG

DRILL HOLE NO - G.75

PROJECT AP 2543

LOCATION Schist Anomaly

COORDINATES 49.8N 80.6E

COLLAR ELEVATION

TOTAL DEPTH 78 (?)

DATE STARTED -

DATE COMPLETED -

DRILLED BY B. Wetmore

LOGGED BY T. Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		0	200	Probe A-1
		1	200	
		2	350	0'-12' Red soil with weathered
		3	400	gneiss fragments
		4	500	
		5	600	12'-36' Slightly weathered
		6	550	biotite feldspar gneiss.
		7	700	Shows occasional haematite.
		8	850	
		9	900	36'-60' Fresh biotite gneiss.
		10	850	Haematite visible in some
		11	750	fragments.
		12	600	
		13	500	60'-66' Powdered cuttings.
		14	600	Some fragments of quartz-
		15	550	chlorite haematite breccia.
		16	550	
		17	500	66'-78' Biotite gneiss showing
		18	500	occasional patches of
		19	500	haematite.
		20	550	
		21	500	
		22	550	
		23	600	
		24	750	
		25	750	
		26	700	
		27	650	
		28	700	
		29	600	
		30	500	
		31	600	
		32	600	
		33	400	
		34	300	
		35	350	
		36	350	
		37	300	
		38	300	
		39	450	
		40	400	
		40.3	350 (1K Scale)	

AUGER DRILLING LOG

DRILL HOLE NO - G.73

PROJECT A P 2543

LOCATION Schist Anomaly

COORDINATES 51.47N 77.10E

COLLAR ELEVATION -

TOTAL DEPTH 72Feet

DATE STARTED

DATE COMPLETED

DRILLED BY B. Wetmore

LOGGED BY C. Whitehead

SURVEYED BY C. Whitehead

FOOTAGE	ASSAYS % U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0' - 6'	= 0.010	0'	0.04	
		1'	0.03	
6' - 12'	= 0.010	2'	0.04	
		3'	0.06	
12' - 18'	= 0.005	4'	0.06	
		5'	0.06	
18' - 24'	= 0.025	6'	0.07	
		7'	0.06	
24' - 30'	= 0.030	8'	0.06	
		9'	0.07	
30' - 36'	= 0.045	10'	0.07	
		11'	0.06	
36' - 42'	= 0.025	12'	0.07	
		13'	0.06	
42' - 48'	= 0.020	14'	0.06	
		15'	0.06	
48' - 54'	= 0.025	16'	0.08	
		17'	0.08	
54' - 60'	= 0.025	18'	0.09	
		19'	0.10	
60' - 66'	= 0.015	20'	0.16	
		21'	0.16	
66' - 72'	= 0.050	22'	0.13	
		23'	0.10	
		24'	0.10	
		25'	0.13	
		26'	0.15	
		27'	0.14	
		28'	0.13	
		29'	0.17	
		30'	0.12	
		31'	0.09	
		32'	0.08	
		33'	0.07	
		34'	0.06	
		35'	0.06	
		36'	0.10	
		37'	0.10	
		38'	0.11	
		39'	0.13	
		40'	0.10	
		41'	0.06	
		42'	0.05	
		43'	0.05	
		44'	0.03	
		45'	0.05	
		46'	0.09	

AUGER DRILLING LOG

DRILL HOLE NO - G.73

PROJECT _____ DATE STARTED _____

LOCATION _____ DATE COMPLETED _____

COORDINATES _____ DRILLED BY _____

COLLAR ELEVATION _____ LOGGED BY _____

TOTAL DEPTH _____ SURVEYED BY _____

FOOTAGE	ASSAYS % U_3O_8	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		47'	0.05	
		48'	0.04	
		49'	0.05	
		50'	0.03	
		51'	0.05	
		52'	0.06	
		53'	0.03	
		54'	0.05	
		55'	0.07	
		56'	0.16	
		57'	0.18	
		58'	0.17	
		59'	0.15	
		60'	0.14	

AUGER DRILLING LOG

DRILL HOLE NO - G 61

PROJECT AP 2543

LOCATION Schist Anomaly

COORDINATES 53.40N 73.18E

COLLAR ELEVATION -

TOTAL DEPTH 30 Feet

DATE STARTED

DATE COMPLETED

DRILLED BY B. Wetmore

LOGGED BY T Liverton

SURVEYED BY T. Liverton

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
0'-6'	None	0'	0.00	
6'-12'		1'	0.00	0'-30' - Gneiss
		2'	0.00	
12'-18'		3'	0.020	
		4'	0.040	
18'-24'		5'	0.025	
		6'	0.030	
24'-30'		7'	0.015	
		8'	0.010	
		9'	0.010	
		10'	0.020	
		11'	0.020	
		12'	0.005	
		13'	0.020	
		14'	0.015	
		15'	0.020	
		16'	0.020	
		17'	0.010	
		18'	0.030	
		19'	0.025	
		20'	0.005	
		21'	0.025	

AUGER DRILLING LOG

DRILL HOLE NO - G 58

PROJECT AP 2543 — DATE STARTED

LOCATION Schist Anomaly — DATE COMPLETED

COORDINATES 52.18N 79.05E — DRILLED BY R. Wetmore

COLLAR ELEVATION - — LOGGED BY T. Liverton

TOTAL DEPTH 100 Feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS $\%U_3O_8$	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		0'	0.005	
0'-6'	0'-12'= 0.010	1'	0.010	0'-40' = Gneiss
		2'	0.010	
6'-12'		3'	0.005	40'-100' = Ultramafic
		4'	0.010	
12'-18'	12'- 15'= 0.005	5'	0.005	
		6'	0.005	
18'-24'	18'-24'= 0.010	7'	0.005	
		8'	0.005	
24'-30'	24'-30'= 0.015	9'	0.010	
		10'	0.010	
30'-36'		11'	0.010	
		12'	0.010	
36'-42'		13'	0.010	
42'-48'		14'	0.005	
48'-54'		15'	0.005	
		16'	0.010	
54'-60'		17'	0.010	
		18'	0.010	
60'-66'		19'	0.03	
66'-72'		20'	0.02	
		21'	0.03	
72'-78'		22'	0.04	
		23'	0.07	
78'-84'		24'	0.05	
84'-90'		25'	0.035	
90'-96'		26'	0.030	
		27'	0.02	
96'-100'		28'	0.02	
		29'	0.02	
		30'	0.005	
		31'	0.005	
		32'	0.005	
		33'	0.01	
		34'	0.01	
		35'	0.01	
		36'	0.01	
		37'	0.005	
		38'	0.02	
		39'	0.01	
		40'	0.02	
		41' to 53'	0.005	
		54'-55'	0.01	
		56'-58'	0.005	
		59'-60'	0.01	
		61'-62'	0.005	
		63'	0.010	

AUGER DRILLING LOG

DRILL HOLE NO - G.58
(continued)

PROJECT _____ DATE STARTED _____

LOCATION _____ DATE COMPLETED _____

COORDINATES _____ DRILLED BY _____

COLLAR ELEVATION _____ LOGGED BY _____

TOTAL DEPTH _____ SURVEYED BY _____

FOOTAGE	ASSAYS	PROBE READING		DESCRIPTION
		DEPTH	UNITS	
		64'-65'	0.005	
		66'-67'	0.01	
		68'-70'	0.005	
		71'	0.01	
		72'	0.015	
		73'	0.005	
		74'-76'	0.01	
		77'-78'	0.005	

AUGER DRILLING LOG

DRILL HOLE NO - G.55

PROJECT AP 2543 — DATE STARTED

LOCATION Schist Anomaly — DATE COMPLETED

COORDINATES 50.55N 80.20E — DRILLED BY B. Wetmore

COLLAR ELEVATION - — LOGGED BY T. Liverton

TOTAL DEPTH 32 Feet — SURVEYED BY T. Liverton

FOOTAGE	ASSAYS $\%U_3O_8$	PROBE READING DEPTH	PROBE READING UNITS	DESCRIPTION
		0'	0.07	
0'-6'	- 0.015	1'	0.08	0'-24' - Gneiss
		2'	0.09	
6'-12'	- 0.025	3'	0.10	
		4'	0.10	
12'-18'	- 0.010	5'	0.10	
		6'	0.10	
18'-24'	- 0.010	7'	0.11	
		8'	0.08	
24'-30'	-	9'	0.07	
		10'	0.07	
30'-32'	-	11'	0.09	
		12'	0.09	
		13'	0.08	
		14'	0.10	
		15'	0.07	
		16'	0.08	
		17'	0.07	
		18'	0.10	
		19'	0.09	
		20'	0.07	
		21'	0.07	
		22'	0.08	
		23'	0.09	
		24'	0.11	
		25'	0.18	

CR

M10

Geol. Library.

INTERNAL CORRESPONDENCE

AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY BOX 3972 G.P.O. SYDNEY., N.S.W. 20
AUSTRAL

To D.L. Mathias, Jnr. Date March 8, 1973.

Location Sydney Originating Dept. Darwin

Answering letter dated

Copy to A.W. Heuck/T.S. Ary
J.A. Straczek
Director of Mines, Darwin
Australian Atomic Energy Commission

Subject Monthly Progress Report
November, December 1972
January, 1973.

(A) INTRODUCTION

Authority to Prospect No. 2543
Now under application as E.L.'s 734, 735, 736, 737, 772, 773.

This report, covering three months work, has been delayed due to the time and effort required to produce the A to P 2543 Final Report (filed in December, 1972.) Additionally Mr. Hollingsworth and Mr. Kendall took annual leave in parts of December and January and Mr. Whitehead transferred to another project at the end of December.

Geological field work stopped at the end of November. During late November and the first week of December, camps at Cooper and Birraduk Creeks were broken down and the sites cleaned. The Black Rock camp and surrounding area was also cleaned and prepared for the wet season. Camp and field supplies are stored at Black Rock and on the laterite ridge near Dreadnought Creek. The major items of equipment stored on A to P 2543 for the wet season include one Toyota, two Gemco drills and five Billy Huts.

The results of the field and office work are discussed below. The list of accompanying figures, included at the end of this report, also shows the location of related maps which have been previously filed.

M426

(B) Anomaly Examination and Regional Geochemistry - Sheets 5 & 6.

Examination of airborne anomalies on Sheets 5 and 6 was stopped in mid-November. Nearly every anomaly site was visited. Two areas each require about one week's further field work; near the Kombolgie scarp in the north-western corner of Sheet 5 and the south-eastern corner of the area covered by the Hunting airborne survey on Sheet 6. No top priority anomalies were discovered on either sheet. However several areas of moderate interest were found and these are discussed below along with the uranium geochemical results. (Plates 1 and 2.)

In addition to U, the Cu, Ni and V geochemical assays of all samples taken on Sheets 5 and 6 have been compiled and are plotted separately on the attached Plates 3-8. An attempt to inter-relate the significance of assay values from different sample types has been made by contouring the data on the bases of percentile ranking within each sample type. (i.e., values in the top 2, 10 and 20 per cent of each group.) The contouring levels were determined

..../2....

CR72/89 d

on the basis of a total sample population of 1650 reconnaissance samples from throughout the south-western quarter of A to P 2543. Of these 1220 were pisolite samples so the accuracy of the subdivisions on non-pisolite samples is not too good.

SHEET 6 - URANIUM

Only one sample of significance was found on Sheet 6. Pisolite sample WK 103 (19 ppmU, 260 ppm Cu) was collected south of anomaly 37D, E (37/2) in an area of sand and pisolites with a 1X background surface count rate. This area lies just north of a magnetically inferred dolerite subcrop and south of a brown clay soil plain (1½-2X) at the south edge of Coopers Creek which apparently produced the airborne anomaly. Round white quartz cobbles in the sandy soil in parts of the area suggest a close proximity to the pre-Kombolgie uncomformity although the Kombolgie is not known to outcrop here. The area should be re-visited and well sampled with more attention paid to the area to the south nearer the dolerite subcrop and to the distribution of the Kombolgie pebbles.

SHEET 5 - URANIUM

Three areas of low priority have been found on Sheet 5. Anomaly 40 B at the south-central edge of the sheet was discussed in the October monthly report. The area to the south of 40B contains several pisolite samples with weak to moderate uranium (14-22 ppmU). However the lack of any high assays, in view of the number of samples, is discouraging.

A second area, near airborne anomaly 36C, lies close to a small sharp magnetic anomaly with a high Cu, Ni pisolite assay on it. Nearby sample TL43, containing 14 ppm U, is from a ferruginous breccia found on an east-westerly trending photolinear. This weak U anomalism along with interesting geology suggests at least a short second visit is needed.

The third area, covering 4 square miles, lies just to the north of Coopers Creek near the east edge of Sheet 5. The area contains at least three strong breccia reef trends but is mainly sand and pisolite covered. Silicified rock fragments (WK 158) assayed 12 ppm U and pisolites in the area range from 10-16 ppm U. A small dolerite is inferred to lie at the north edge of the area. More sampling is recommended to try and find zones of higher U values.

SHEET 5 & 6 - Ni, Cu and V

Separate plates are attached for each of the above elements. On the Sheet 5 and 6 nickel plans the zones interpreted from aeromagnetic data (by I. Robinson, consultant) to be underlain by sub-cropping basic igneous intrusives have been outlined. It has been hoped that Ni could be used to

..../3....

delineate soils and pisolites derived from basic rocks. As can be seen, this has met with only mixed success. Most samples with high Ni lie on or near inferred basic rock. There are several exceptions however and conversely some low Ni assays occur on and very near known and inferred dolerites.

As could be expected vanadium appears to correlate roughly with basic rocks but overall it shows poorer correlation than Ni. Additionally it does not seem to bear any relation to uranium distribution or to known uranium mineralization in our area. It is recommended that V be dropped from our geochem. assay suite.

Copper continues to be an interesting but confusing element. It shows some degree of correlation with basic rocks (particularly the major north-easterly trending tholeiitic dolerite sill on Sheet 5.) However it also increase in and near some breccia reefs and at Black Rock it appears to increase near mineralization.

(C) HILL 335 - AUGER CUTTINGS ASSAYS

One hundred auger cuttings samples from 27 holes drilled in 1971 near Hill 335 have been assayed for Cu, U and Ni since probe records are not available. The attached Plates 9-13 show the results. In hole G91 the 6-12 and 12-16 foot intervals assayed 74 and 72 ppm U. Drill cuttings from 0-12 feet include iron stained vein and breccia reef quartz chips. From 12-16 feet cuttings consist of biotite-muscovite-quartz gneiss with no visible signs of chloritic or hematitic alteration. Other holes in this cluster also include quartz and breccia reef chips as well as two mica and muscovite gneiss. This cluster of holes lies in a small area of 3X background which has not been traced out to the west. More surface work is required here and several auger holes are recommended. It is interesting to note that of the four "hole clusters" the one with the high U values is the only cluster with neither anomalous Cu or Ni.

(D) ANOMALY 50E

Although not yet complete, a geology map of the Anomaly 50E area is included here along with the U, Cu and Ni geochem. results (Plates 14-16.) As can be seen, Ni values (and to a much lesser extent, Cu) sharply delineates an area including the outcrop of a fibrous chloritic rock. This rock type is most likely an altered ultramafic. This unit is cut off to the south by a north-westerly trending fault zone containing some silicious breccia. To the south of this fault lies the large area of maximum surface radioactivity (3½X.)

....4....

At the north-western end of the ultramafic the rocks are intensely silicified to a jasperiod rock. It is here that the peak geochem. U and Cu values occur rather than beneath the peak lateritic surface anomaly. A lack of samples here due to sand cover makes interpretation difficult but the zone of high U and Cu values appears to trend east-north-east extending in both directions from the jasperiod unit and paralleling the present surface drainage system. Anomaly 50E remains an area of high priority and further surface work is required along with auger drilling.

J. E. Bartley
per E.W. Kendall.

LIST OF ACCOMPANYING PLATES

PLATE		Previously filed related material
1	Sheet 6 - Uranium ✓	)
2	Sheet 5 - Uranium ✓	)
3	Sheet 6 - Ni ✓	)
4	Sheet 6 - Cu ✓	) Sheet 5 and 6 Geologic work sheets at the same
5	Sheet 6 - V ✓	) scale are in Appendix IV, A-P 2543
6	Sheet 5 - Ni ✓	) Final Report
7	Sheet 5 - Cu ✓	)
8	Sheet 5 - V ✓	)
9	Hill 335 - U - 0 to 6' ✓	)
10	Hill 335 - U - below 6' ✓	) Overlays for Drill Hole location map.
11	Hill 335 - Cu - 0 to 6' ✓	) DWN XXIII - A-P 2543 Final Report.
12	Hill 335 - Cu below 6' ✓	) Surface radiometrics are shown on
13	Hill 335 - Ni maximum in hole ✓	) DWN XVIII - south sheet - A-P 2543
14	Anomaly 50E Geology ✓	) Final Report.
15	Anomaly 50E Sample locations and U values ✓	) Surface Radiometrics shown on
16	Anomaly 50E Geochem. results - Cu and Ni ✓	) DWN XXVII, A-P 2543 Final Report.

SHEET 5 MATCH LINE

SHEET 6 — Uranium

CONTOURS

	2%	10%	20%
Pisolites-(p)	>30	>18	>13
Rock - (R)	>22	>9	>5
Soil - (s)		>5 ?	
Termite mound-(T)	>45	>18	>10
Botanical - (B)		>3 ?	
Stream sed. - (ss)	>4	4	3

OVERLAY FOR SHEET 6 GEOLOGIC WORK SHEET

SCALE 1:25.000 APPROX.

DRAWN BY J.P. & E.K.

DATE JAN 73

PLATE No 1

BOUNDARY A-P 2543

BOUNDARY A-P 2543

SHEET 5 – Uranium

CONTOURS

	2 %	10%	20%
Pisolites-(p)	›30	›18	›13
Rock – (R)	›22	›9	›5
Soil - (s)		›5 ?	
Termite mound-(T)	› 45	›18	›10
Botanical – (B)		›3 ?	
Stream sed. - (ss)	›4	4	3

OVERLAY FOR SHEET 5 GEOLOGIC WORK SHEET

SCALE 1:25000 APPROX

DRAWN BY J.P. & E.K.
JAN 73

Anomaly 108

Breccia rock area

PLATE No 2

SHEET 5 MATCH LINE

SHEET 6 – Nickel

CONTOURS

	2%	10%	20%
Pisolite -(p)	>140	>85	>72
Rock – (R)	>500	>90	>68
Termite mound -(T)	>100	>52	>40
Botanical -(B)		>50 ?	

AREA'S INTERPRETED TO BE UNDERLAIN BY BASIC INTRUSIVE ROCKS FROM AIRBORNE MAGNETIC SURVEY. (I ROBINSON, CONSULTANT).

OVERLAY FOR SHEET 6 GEOLOGIC WORK SHEET

SCALE 1:25.000 APPROX

DRAWN BY J.P & E.K.

DATE JAN 73

PLATE No 3

MATCH LINE SHEET 6

SHEET 6 — Copper

CONTOURS

	2%	10%	20%
Pisolite - (p)	>100	> 65	>52
Rock - (R)	> 400	>140	>70
Soil - (s)		> 30 ?	
Termite mound - (T)	>200	>60	> 44
Botanical - (B)		> 200 ?	
Stream sediment - (ss)	> 32	> 24	>16

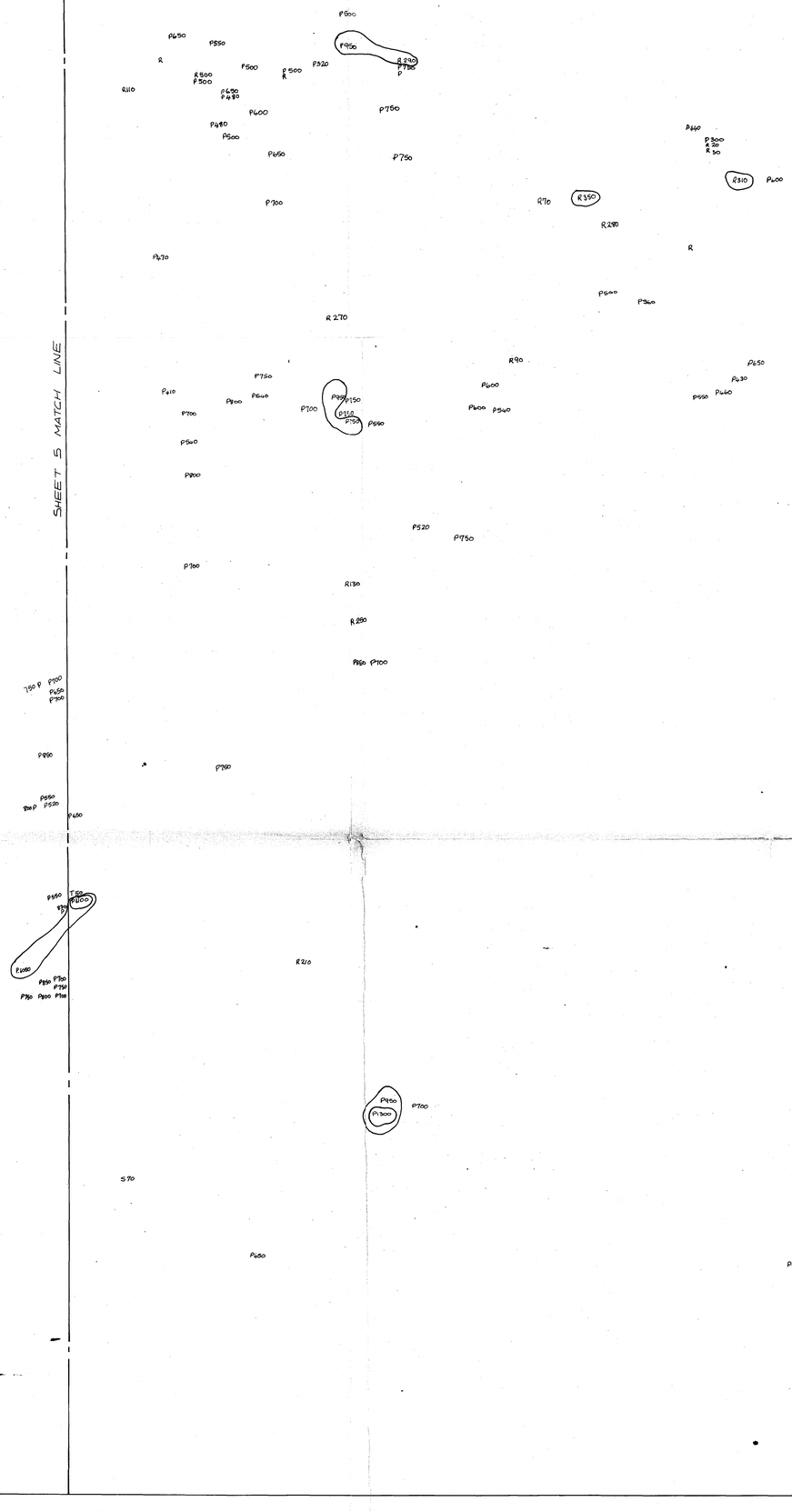
OVERLAY FOR SHEET 5 GEOLOGIC WORK SHEET

SCALE 1:25.000 APPROX

DRAWN BY J.P. & E.K. DATE JAN 73

PLATE No. 4

SHEET 5 MATCH LINE



SHEET 6 – Vanadium

	CONTOURS		
	2%	10%	20%
Pisolite – (p)	>1400	>1050	>850
Rock – (R)	>780	>360	>280
Soil – (s)		>120 ?	
Termite mound –(T)	>200	>140	>80

OVERLAY FOR SHEET 6 GEOLOGIC WORK SHEET

SCALE 1:25.000 APPROX.

DRAWN BY J.P. & E.K. DATE - JAN 73

PLATE No 5

BOUNDARY A-P 2543

BOUNDARY A-P 2543

AREAS INTERPRETED TO BE UNDERLAIN BY BASIC IGNEOUS INTRUSIVES FROM AIRBORNE MAGNETIC SURVEY (I. ROBINSON, CONSULTANT).

SHEET 5 - Nickel

CONTOURS

	2%	10%	20%
Pisolite – (P)	>140	>85	>72
Rock – (R)	>500	>90	>68
Termite mound – (T)	>100	>52	>40
Botanical – (B)		>50 ?	

OVERLAY FOR SHEET 5 GEOLOGIC WORK SHEET

SCALE 1:25,000 APPROX.

DRAWN BY J.P. E.K.

DATE - JAN 73

PLATE No 6

BOUNDARY A-P 2543

BOUNDARY A-P 2543

SHEET 5 – Copper CONTOURS

	2%	10%	20%
Pisolite-(P)	>100	> 65	>52
Rock-(R)	>400	>140	> 70
Soil – (s)		>30 ?	
Termite mound-(T)	>200	> 60	>44
Botanical-(B)		>200?	
Stream sediment-(ss)	> 32	> 24	>16

OVERLAY FOR SHEET 5 GEOLOGIC WORK SHEET

SCALE 1:25,000 APPROX

DRAWN BY J.P. & E.K.

DATE: JAN 73

PLATE No 7

BOUNDARY A-P 2543

BOUNDARY A-P 2543

SHEET 5 – Vanadium

CONTOURS

	2%	10%	20%
Pisolite – (p)	>1400	>1050	>850
Rock – (R)	>780	>360	>280
Soil – (s)		>120 ?	
Termite mound –(T)	>200	>140	>80

OVERLAY FOR SHEET 5 GEOLOGIC WORK SHEET

SCALE 1:25,000. APPROX.

DRAWN BY JP & E.K.

DATE – JAN 73

PLATE No 8

2750E 3000E 3250E 3500E 3750E 4000E

3500N

3250N

3 / 6 8 11 9 8 / 9

6 / 6 4 6 5 / 2

3 / 3 4 5 6 2 / 5

4 / 9 8 16 7 7 / 11

3000N

2750N

2500N

2250N

AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY

HILL 335 - AUGER ASSAYS

U - ASSAY 0' - 6'

(Overlay for DWN 56)

Prepared by, J PRESTON		**Drawn by,** J. PRESTON
Scale, 1:5000	**Date,** FEB 7 '73	**Proj. N°**
Drawing N°	**Report N°**	**Lib. N°** DWN 61

PLATE No 9.

2750E 3000E 3250E 3500E 3750E 4000E

3500N

3250N

3000N

2750N

2500N

2250N

5
6 9 - 10 6
7 4

4
3 - 5 4 6
4

6 6 - -

8
11 8 - 7 5
10

AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY		
HILL 335 – AUGER ASSAYS U – MAX. VALUE BELOW 6' (Overlay for DWN 56)		
Prepared by, J PRESTON	**Drawn by,** J. PRESTON	
Scale, 1 5000	**Date,** FEB 7 '73	**Proj. N°**
Drawing N°	**Report N°**	**Lib. N°** DWN 62

PLATE No 10

3500N

2750E 3000E 3250E 3500E 3750E 4000E

3250N

14

46 44 36 30 22

28

26

30 44 54 22

38

3000N

54

28 42 64 60 18

50

54

16

34 24 60 38 42

50

160

100

2750N

2500N

2250N

AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY		
HILL 335 - AUGER ASSAYS Cu - 0' - 6' (Overlay for DWN 56)		
Prepared by, E KENDALL		**Drawn by,** J. PRESTON
Scale, 1 5000	**Date,** JAN 31 1973	**Proj. N°**
Drawing N°	**Report N°**	**Lib. N°** DWN 58

PLATE No II

3500N

2750E 3000E 3250E 3500E 3750E 4000E

3250N

20
6 6 14 14
6

130
110 140
100
50
44 58 64 66
46
50

34
46 40 98 18
50
180
100

3000N

2750N

2500N

2250N

AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY

HILL 335 – AUGER ASSAYS

Cu – Maximum Value at depth greater than 6 feet

(Overlay for DWN 56)

Prepared by, E. KENDALL	**Drawn by,** J. PRESTON	
Scale, 1:5000	**Date,** Jan 31, 1973	**Proj. N°**
Drawing N°	**Report N°**	**Lib. N°** DWN 59

PLATE No 12

3500N 2750E 3000E 3250E 3500E 3750E 4000E

3250N

12
18 18 18 16 14
12

14
52 58 18 10
22
50

40
18 22 28 28 36
22

42
24 26 26 40
48
78
50

3000N

2750N

2500N

2250N

AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY

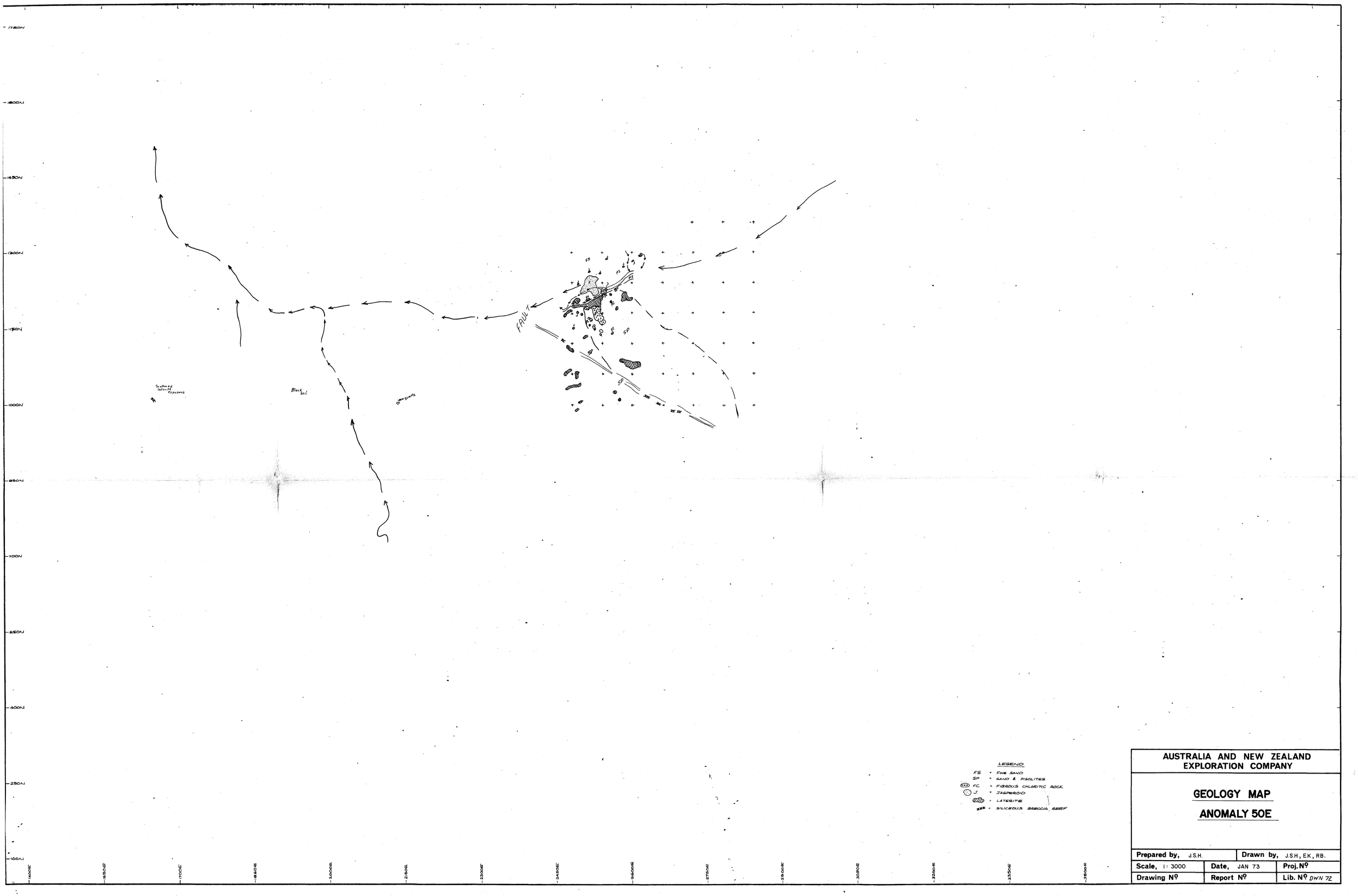
HILL 335 – AUGER ASSAYS

Ni – MAXIMUM VALUE IN HOLE

(Overlay for DWN 56)

Prepared by, J PRESTON	**Drawn by,** J. PRESTON	
Scale, 1 5000	**Date,** FEB 1 1973	**Proj. N°**
Drawing N°	**Report N°**	**Lib. N°** DWN 60

PLATE No 13



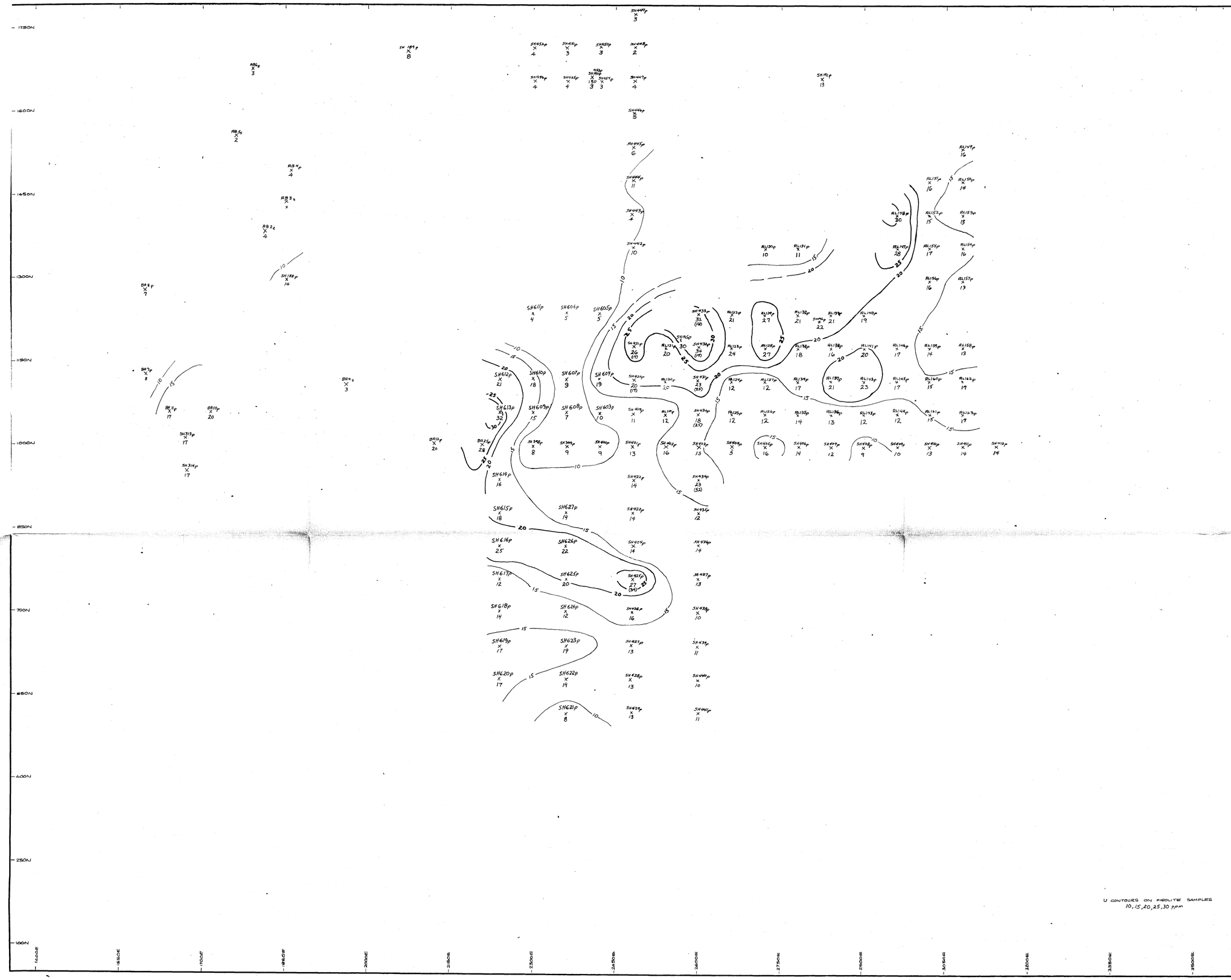
AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY

GEOLOGY MAP

ANOMALY 50E

Prepared by, J.S.H.		Drawn by, J.S.H., E.K., R.B.
Scale, 1:3000	Date, JAN 73	Proj. Nº
Drawing Nº	Report Nº	Lib. Nº DWN 72

PLATE No 14



U CONTOURS ON PEDOLITE SAMPLES
10, 15, 20, 25, 30 ppm

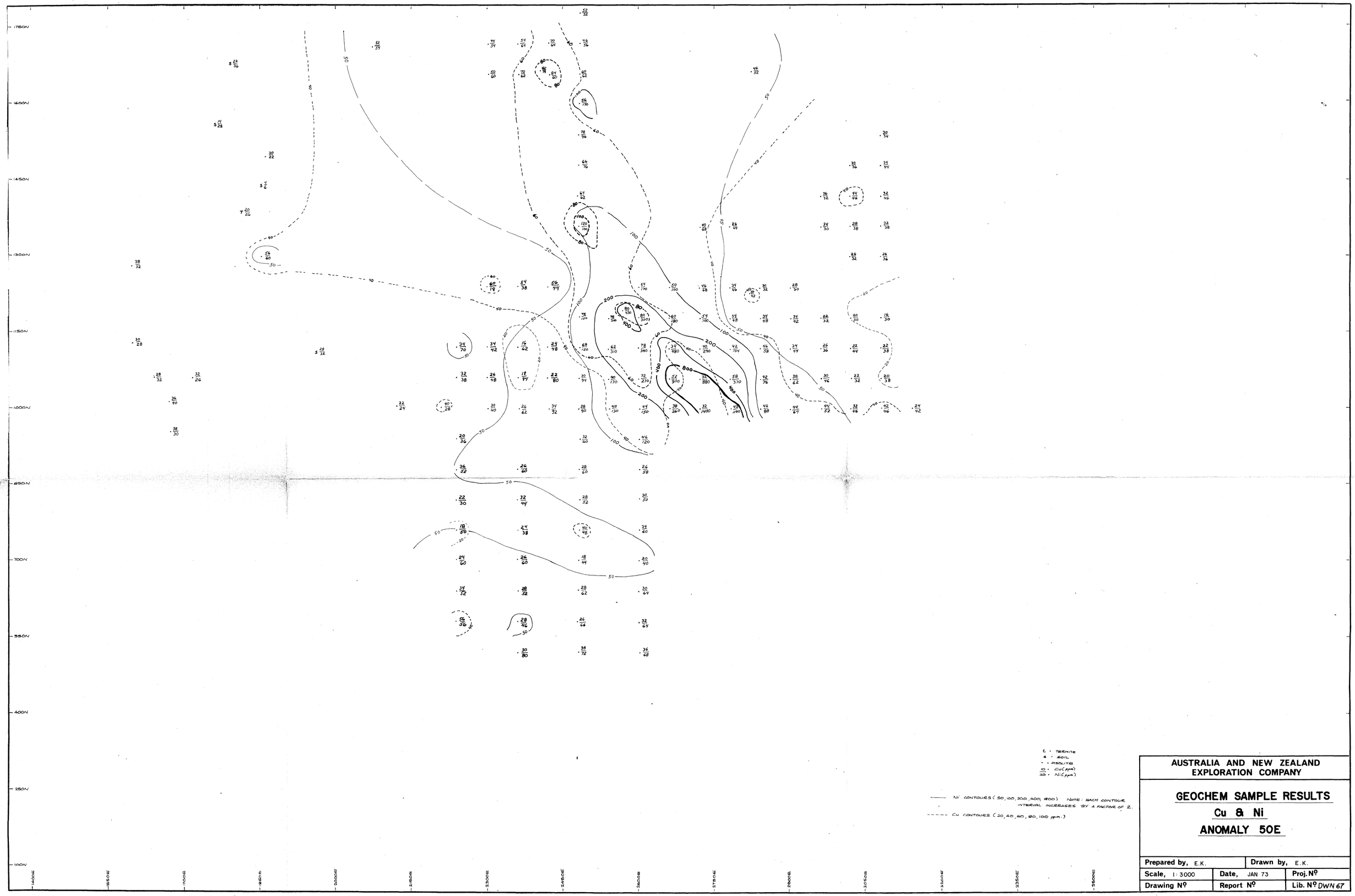
AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY

GEOCHEMICAL SAMPLE SITES AND URANIUM ASSAYS

ANOMALY 50E

Prepared by, J.S.H. E.K.	Drawn by, J.S.H. E.K.	
Scale, 1:3000	Date, JAN 73	Proj. Nº
Drawing Nº	Report Nº	Lib. Nº DWN 66

PLATE No 15



AUSTRALIA AND NEW ZEALAND EXPLORATION COMPANY

GEOCHEM SAMPLE RESULTS

Cu & Ni

ANOMALY 50E

Prepared by, E.K.		Drawn by, E.K.
Scale, 1:3000	Date, JAN 73	Proj. Nº
Drawing Nº	Report Nº	Lib. Nº DWN 67

PLATE No 16