

PROJECT UJV HOLE TH6 LOCATION - CORE SIZE BQ STARTED 5/07/79 FINISHED 9.08.79 PAGE 1 OF 10  
CLAIM GROUP TOMBSTONE LENGTH 325' DIP -90° AZIMUTH - COLLAR ELEVATION 5034' DRILLED BY CAPON LOGGED BY EATON

GEOLOGICAL DESCRIPTION	SAMPLE NUMBER	RADIO-ACTIVITY IN CPS BGS-ISL	GEOCHEMISTRY AND ASSAY			% RECOV	GEOLOGY	STRUCTURE to core	HOLE DEPTH (FEET)	MOUNT SOPRIS GAMMA PROBE LOG
			ppm U	ppm Cu						
0-6.0': <u>OVERBURDEN</u> : glacial till composed of syenite and tinguaita boulders plus soil.		BKGD				0				
6.0'-28.0': <u>MIXED TINGUAITE</u> : 5-20 cm bands of normal plt are surrounded by sheared plt. The normal plt consists of 3-15 mm, anhedral to euhedral light grey to white, often zoned and generally cracked pseudoleucite phenocrysts comprising 15-30% of the rock; white, 1-10 mm, stubby to prismatic, subhedral to euhedral, orthoclase phenocrysts comprising less than 5% of the rock, and 1-3 mm, dark green to black, anhedral, mafic phenocrysts comprising 2% of the rock in a medium grey, anhedral groundmass. The mafic phenocrysts are usually chlorite although it is uncertain where the chlorite is after biotite aggregates or pyroxene. The mafic phenocrysts are very distinctive and are rarely as abundant or large as in this plt. The sheared tinguaita is well brecciated; the effects are most prominent on the orthoclase phenocrysts. Foliation is usually most pronounced in the mafics but also flattens the pl phenocrysts. The foliation is moderate and usually runs subparallel to the core axis. The sheared tinguaita is often highly altered with biotite and possibly sericite replacing the pl phenocrysts. The content of the chloritized mafics appears to be much higher in the sheared rocks, 5-7% of the whole rock, however this is probably in part due to chloritization of biotite altered pl phenocrysts. The ratio of sheared to normal plt is 2:1. Very fine grained, disseminated pyrrhotite comprises 1/4-1/2% of the rock from 6.0'-17.0'. Below this point it becomes a relatively minor accessory mineral. Both normal and sheared plt are weakly calcareous. White orthoclase, clay minerals, weak limonite and traces of pyrrhotite coat or fill the fractures.	H46254	80/BKGD	379		90		30° to 40°	1/0.5'		
	H37463			11.0	100		30° 70°	1/1' 1-2/1'	15	
	H37464			14.0	90		30°	5/1'	20	
	H37465			8.5			30° to 70°	4/1'	25	
	H37466			6.5			60° to 70°	2/1'	30	
	H37467	BKGD		12.5			30° to 70°	4/1'	35	
	H37468			3.5		100		30° to 70°	1/1'	40
	H37469			5.5			60°	1/2'	45	
	H37470			8.0			20°	1/4'	50	
	H37471			11.5					55	
42.3'-49.0': a 2 cm wide, mafic rich band exhibits good trachytic texture. The dyke? arcs through the core, first having a 30° attitude to core axis then paralleling the axis and finally curving to 30° in the opposite direction. This wavy orientation is common to the surrounding tinguaites as well. In this interval are a few 3-5 cm wide xenoliths(?) of mafic rich rock, possibly representing fragments of undigested 1K diabase.	H37472			11.0				60		
	H37473			14.5				65		
	H37474	20/BKGD		55				70		
63.0'-79.0': <u>SHEARED TINGUAITE</u> : although there are a few 3-5 cm wide fragments of normal plt (sheared to normal ratio 10:1), the rock is predominantly a well foliated, medium grey tinguaita containing relatively few 1-3 mm orthoclase fragments and rarely indistinct pl ghosts. Any alteration which attacked the pl phenocrysts is unidentifiable as the phenocrysts are generally indistinguishable from the groundmass. The foliation is best illustrated by the mafics and runs between 0 and 20° to the core axis. 1/4 to 1/2% pyrite is scattered throughout the rock. The open fractures are usually coated with minor clay minerals and weak limonite. The closed fractures are filled with white orthoclase. The 20° fractures are generally closed and higher angle fractures are open.	H37475	BKGD Small pores 10/BKGD		20.5				75		

PROJECT UJV HOLE TH 6 LOCATION - CORE SIZE 80 STARTED 2/03/79 FINISHED 2/08/79 PAGE 2 OF 10  
CLAIM GROUP TOMBSTONE LENGTH 725' DIP -90° AZIMUTH - COLLAR ELEVATION 5034' DRILLED BY LATON LOGGED BY LATON

GEOLOGICAL DESCRIPTION	SAMPLE NUMBER	RADIO-ACTIVITY IN CPS BGS-1SL	GEOCHEMISTRY AND ASSAY			% RECOV	GEOLOGY	STRUCTURE L to core	HOLE DEPTH (FEET)	MOUNT SOPRIS GAMMA PROBE LOG	
			ppm U	ppm Cu							
79.0'-92.2': sheared tinguaites as before except that normal plt bands are slightly larger, up to 10 cm, and the plt to sheared tinguaites ratio is 1:6. The pl phenocrysts are often flattened enhancing the foliation which ranges from 0-30° to core axis, with the higher angles near the bottom of the interval. Pyrite content increases from 1% to 2-4% toward the bottom of the interval.	H37476		16.5					45° TO 60° 1/1-2'	80		
	H37477		20.5						85		
	H37478	BKGD	59						90		
92.2'-95.7': LEUCOCRATIC SYENITE DYKE(?): or strongly bleached tinguaites. It is light grey, slightly mottled, fine grained to aplitic, highly pyrrhotitic (2-4%) and has a slight green tint suggesting sericitization. The contacts are conformable with the foliation in the surrounding tinguaites: 30° at the upper contact and 0° on the lower contact. There are weak limonite stains on fractures.	H46255		53			100			95		
	H46256		32								100
	H46257	20/BKGD	53								105
100.0'-134.2': LEUCOCRATIC SYENITE: similar to earlier dyke. Weak foliation, as expressed by 1% mafics and bands of pyrrhotite, is generally sub-parallel to the core axis. Rock is still aplitic with faint greenish tint. Pyrrhotite comprises 2-5% of the rock with traces of purple fluorite. The mafics appear to be a mixture of biotite and pyroxene, often chloritized. The rock exhibits weak compositional banding of mafics and larger, up to 4 mm, orthoclase phenocrysts. Most fractures are coated with calcite or clay minerals.	H46258	BKGD	64					20° TO 30° 1/4-5'	110		
	H46259	20/BKGD	13								115
	H46260	PATCHY 0-10/BKGD	22								120
117.7'-134.2': a broad fracture zone, possibly a fault zone, cuts the syenite. Most fractures are coated with talc, + clay, chlorite and carbonates. Slickensides, often curved, are abundant on the 30° fractures. Adjacent to the fractures, olive to pale green, sericitic alteration is common. Pyrrhotite is rare in the fracture zone, probably having been leached.	H46261		45			90		60° TO 80° 1/2-4'	125		
	H46262		60								130
	H46263	BKGD PATCHY 20/BKGD	48								135
134.2'-211.8': MIXED TINGUAITE: normal plt lenses and bands are separated by brecciated and weakly foliated, sheared tinguaites. The plt to sheared tinguaites ratio ranges from more than 5:1 between 134.0'-154.0', to 1:1 below 154.0'. The normal plt consists of 20-40% anhedral, dull light grey to white 3-15 mm pl phenocrysts, in places containing blue feldspathoids or limonite. The closed fractures are shallow and are filled with white orthoclase. Sulphides are a minor constituent of the rock. The sheared tinguaites contains fragments up to 4 mm across but most are less than 1 mm. The groundmass of the sheared tinguaites is dull grey and lighter in color than the plt groundmass. The foliation is illustrated best by flattening of the pl phenocrysts and alignment of the mafics. Biotite alteration of the sheared tinguaites is weak to moderate.	H46264		55			100		70° TO 80° 1/2-4'	140		
	H37479		68								145
	H37480	BKGD	23.5								
142.2'-142.4' and 142.9'-143.1': 2, 3 cm fine to medium grained syenite dykes composed of 90% white orthoclase and 10% black mafics cut the core axis at 25°. Between the 2 dykes is a 1 mm chloritized, 20° fracture containing pyrrhotite, chlorite and purple fluorite.											



# DRILL HOLE LOG

PROJECT UJV HOLE TH6 LOCATION - CORE SIZE BQ STARTED 3/03/79 FINISHED 4/08/79 PAGE 4 OF 10  
CLAIM GROUP TOMBSTONE LENGTH 725' DIP -90° AZIMUTH - COLLAR ELEVATION 5034' DRILLED BY CARON LOGGED BY EATON

GEOLOGICAL DESCRIPTION	SAMPLE NUMBER	RADIO-ACTIVITY IN CPS BGS-ISL	GEOCHEMISTRY AND ASSAY				% RECOV	GEOLOGY	STRUCTURE to core	HOLE DEPTH (FEET)	MOUNT SOPRIS GAMMA PROBE LOG																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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and containing fragments of orthoclase phenocryst and plt groundmass. The fragments are up to 8 mm across. Fractures are usually coated with carbonate and clay minerals if open and filled with white orthoclase, dolomite or pyrrhotite if closed.	H37495		28						0°																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

GEOLOGICAL DESCRIPTION	SAMPLE NUMBER	RADIO-ACTIVITY IN CPS BGS-ISL	GEOCHEMISTRY AND ASSAY				% RECOV	GEOLOGY	STRUCTURE $\frac{L}{\% \text{ core}}$	HOLE DEPTH (FEET)	MOUNT SOPRIS GAMMA PROBE LOG
			$\frac{\% \text{U}_3\text{O}_8}{\text{ppm U}}$	ppm Cu							
301.4'-301.8': 2 narrow (7 mm and 1 mm) fine to medium grained tan syenite dykelets have undergone convolute folding. It appears that they initially cut the core axis at 60°, but have been deformed by the shearing which runs subparallel to the core axis at this point. 302.7': 2,2-3 mm, tan syenite dykelets cut the core axis at 60° which is parallel to the foliation. The foliation is highly erratic however as it changes abruptly from 0° to 60° to core axis in only 10 cm. 303.2': sharp contact between foliated and brecciated rock. 303.2'-16.0': MIXED TINGUAITE: foliation in tinguaitite is weak or absent but brecciation is very significant. The normal plt to sheared tinguaitite ratio is 1:3. Moderate biotite alteration is common in the brecciated plt.	H37507		39							305	
	H37508		32							310	
	H37509		32							315	
316.0'-321.5': SHEARED TINGUAITE: generally as described for 287.7-303.2'. Where foliation is most intense the pl phenocrysts are completely obliterated. Where it is less intense the pl phenocrysts are flattened, further enhancing the foliation. The orientation of the foliation to the core axis is variable between 0° and 45°. 321.5'-326.5': MIXED TINGUAITE: brecciation >> foliation. Normal plt to sheared plt ratio is 1:2. Toward the bottom of the interval, biotite alteration is quite strong, principally affecting the pl phenocrysts.	H37510		21.0					30° 1/25'		320	
	H37511		38							325	
	H37512		23.5							330	
326.5'-330.7': LEUCOCRATIC SYENITE DYKES: 4 barely discernible, fine grained syenite dykes are composed 95% of light grey orthoclase, 3% mafics and 1-2% pyrite replacing mafics. These dykes are separated by bands of slightly darker, foliated tinguaitite. The dykes vary in size from 15 cm down to 4 cm wide and have irregular, wispy contacts with the adjacent tinguaitite. The contacts range from 20° to 60° to core axis. 330.7'-336.0': SHEARED TINGUAITE: this interval has the appearance of a very fine grained rock. Over the bulk of the interval evidence of brecciation and of foliation is evident, however between 332.0' and 332.8' the groundmass takes on a uniform dark grey color with the exception of irregular to rounded light grey orthoclase fragments. The distinctive aphanitic appearance may be due to alteration or to intense milling. The foliation where visible is at 10° to the core axis. This tinguaitite is further distinguished from normal tinguaitite by the presence of 2 to 5% disseminated pyrite. 336.0': INDISTINCT GRADATIONAL (?) CONTACT 336.0'-339.0': APLITE DYKE: sugary leucocratic syenite dyke composed of 95% light grey orthoclase, 2% biotite, 2% pyrite replacing biotite, 1% sericite and trace amounts of molybdenite or galena? 339.0' IRREGULAR 10-20° CONTACT 339.0'-355.5': INTENSELY ALTERED TINGUAITE: a very significant interval as it clearly illustrates relative intensities of alteration. Adjacent to the dyke the altered tinguaitite exhibits a striking pink coloration due to pervasive pink mica (most too fine to be recognized but locally coarser) alteration of the groundmass and secondary (after pl phenocryst) biotite. A cloudy white mineral forms indistinct rounded masses: this is probably secondary orthoclase. Locally the rock is greenish due to green sericite alteration. Approximately 2 m from the contact the pink tint gives way to an unidentified white mineral, possibly a clay. The pink rock is deficient in sulphides while the white altered rock contains 1-3% pyrite. This pyrite appears to be derived from iron released from the destruction of the biotite. The white alteration gives way to a zone in which the pl phenocrysts are extremely indistinct and are partially altered to the white mineral and partially to biotite. In the pink, white and upper part of this mixed zone the orthoclase phenocrysts are destroyed. Beyond the mixed zone is a zone of strong biotite alteration in which the pl phenocrysts are easily recognized but have been replaced wholly or partially by biotite. Pyrite is again rare. Outside of the biotite zone (below 355.5') the pl phenocrysts are distinct, however their light grey color suggests a still lower grade alteration has affected them. In the lower mixed, biotite and lower alteration zones the orthoclase phenocrysts look fresh and pyrite is rare. Small pockets of higher or lower grade alteration can occur within any given zone. For example, at 249.4 m irregular pod of pink-green muscovite alteration occurs in the mixed zone.	H37513	BKGD	27.5			100				335	
	H46271		67							340	
	H37514		12.0						45° TO 50° 1/10'	345	
355.5'-373.9': PSEUDOLEUCITE TINGUAITE: light grey, weakly altered (sericite, clays?) anhedral, 3-14 mm pl phenocrysts comprising 20-30% of the rock; white, subhedral, 1-7 mm orthoclase phenocrysts comprising 5-10% of the rock and irregular whips of biotite in a medium grey, aphanitic groundmass. Fractures are generally coated with weak clay or limonite if open and filled with white orthoclase if closed. Disseminated pyrrhotite is about 0.1% of the rock. Blue feldspathoid is common in the pl phenocrysts. 362.3'-362.5': a 2 mm, 25° fracture is filled with white orthoclase > pyrrhotite > mafics.	H37515		29							350	
	H37516		26							355	
	H37517		6.0							360	
373.9': SHARP, 45° CONTACT: with a 5 cm band of foliated tinguaitite (flattened pl phenocrysts) paralleling the contact. 373.9'-377.0': SYENITE DYKE: a medium to coarse grained, tan syenite composed 90% of orthoclase and 10% of black mafics with 3 cm margins exhibiting good compositional banding. The chilled margins are the only part of the dyke with pyrrhotite; the lower contact also has a 5 mm band containing 1% molybdenite.	H37518		10.0					60° 1/5-7'		365	
	H37519		9.0						30° TO 45° 1/10'	370	
	H37520		4.0							375	
	H46272		69								



GEOLOGICAL DESCRIPTION	SAMPLE NUMBER	RADIO-ACTIVITY IN CPS BGS-ISL	GEOCHEMISTRY AND ASSAY				% RECOV	GEOLOGY	STRUCTURE ° TO core	HOLE DEPTH (FEET)	MOUNT SOPRIS GAMMA PROBE LOG
			1% U <sub>2</sub> O <sub>8</sub> ppm U	ppm Cu							
377.0': SHARP 50° CONTACT: again with a 5 cm band of flattened pl phenocrysts. 377.0'-461.0': PSEUDOLEUCITE TINGUAITE: as described above except the orthoclase phenocrysts are larger, up to 1 cm long and are highly fractured. The pl phenocrysts often exhibit fuzzy reaction rims. Sulphides are minor (0.1%).	H37521		15.0					+		380	
378.9'-379.0': 2 mm syenite dyke as between 373.9-377.0' cuts core axis at 45°. 379.7'-379.8': 1 cm syenite dyke as above. 383.5': 1 cm, tan pegmatitic syenite dyke as above.	H37522		9.0							385	
388.0'-393.0': a number of hairline to 2 mm fractures filled with orthoclase > mafics > pyrrhotite. They cut the core axis at 30°-50°.	H37523	BKGD	14.0							390	
	H37524		21.0							395	
	H37525		32							400	
	H46273		55							405	
406.3'-406.4': orthoclase > mafics > pyrrhotite in a closed 30°, 2 mm fracture. 407.0'-424.0': PSEUDOLEUCITE TINGUAITE: as before except that very finely disseminated sulphides (pyrrhotite) comprise 1/4 - 1/2% of the rock. Fracture density is much higher; especially significant are the shallow angle fractures which are heavily coated with calcite, clay, orthoclase and/or weak limonite stains. These fractures often have a yellow-orange or greenish coloration which could be a weak uranium staining. The 30-40° fractures are generally closed with orthoclase, mafics and pyrrhotite. The high angle fractures are usually open and coated with weak limonite and clays.	H46274	40/BKGD	38				100		0° TO 10°	410	
	H46275	50/BKGD	47						30° TO 40°	415	
	H46276	80/BKGD	102						80° TO 90°	420	
	H46277	110/BKGD	229							425	
421.7'-424.0': a pinkish tan, shallow angle, hairline fracture is surrounded by an alteration envelope up to 2 cm wide in which the pl phenocrysts have apparently been altered yielding a similar pinkish color.	H46278	70/BKGD	110							430	
	H46279	20/BKGD	93						0° TO 10°	435	
	H46280	30/BKGD	69						30° TO 40°	440	
	H46281		53						60° TO 70°	445	
445.8'-446.0': fine to medium grained, buff, 7 cm syenite dyke composed of 90% orthoclase, 8% mafics and 2% smoky quartz cuts the core axis at 70°. 446.0'-448.2': a hairline fracture running subparallel to the core axis is filled with clay minerals and calcite. Some pl phenocrysts within 1 cm of this fracture have been altered to clays?	H46282	BKGD	63							450	

PROJECT UJV HOLE TH6 LOCATION - CORE SIZE BQ STARTED 24/07/79 FINISHED 9/02/79 PAGE 7 OF 10.  
CLAIM GROUP TOMBSTONE LENGTH 725' DIP -90° AZIMUTH - COLLAR ELEVATION 5224' DRILLED BY CAPON LOGGED BY EATON

GEOLOGICAL DESCRIPTION	SAMPLE NUMBER	RADIO-ACTIVITY IN CPS BGS-ISL	GEOCHEMISTRY AND ASSAY			% RECOV	GEOLOGY	STRUCTURE f to core	HOLE DEPTH (FEET)	MOUNT SOPRIS GAMMA PROBE LOG
			(% U <sub>3</sub> O <sub>8</sub> ) ppm U	ppm Cu						
450.0'-450.7': 2 syenite dykes as between 445.8-446.0'; one 1 cm wide at 30° and the other 7 cm wide at 60°.	H46283		76							
451.4'-452.0': a 2 mm, 15° syenite dykelet as before, locally flattening of pl phenocrysts is subparallel to the fracture.		20/BKGD							455	
	H46284		74						460	
461.0'-495.0': PSEUDOLEUCITE TINGUAITE: rocks are essentially the same as the previous 100' except that the pl phenocrysts are usually cracked with a further pervasive system of hairline cracks filled with mafics cutting the core axis at 50°. These cracks rarely are continuous and are generally wispy. They have a density of 100's per foot. Cross cutting these cracks are 50-60° fractures dipping in the opposite direction. The fractures may be open or closed but are usually filled with white orthoclase or clays. The sulphide content appears to be lower than in the previous interval but the extremely fine grained nature of the sulphides makes this uncertain. The rock has a faint bluish tint due to the minor blue feldspathoids in the pl phenocrysts.	H37526	10/BKGD	57						465	
	H37527		29						470	
470.0'-470.1': a 2 mm closed 60° fracture is filled with calcite, some of which is very dark in color.	H37528		30						475	
	H37529		21.5					50° to 60° 1/2'	480	
479.7'-482.0': 3 mm white orthoclase >> mafic syenite dykelet runs subparallel to core axis.									485	
482.2'-482.8': a 5 cm grey to tan, orthoclase >> mafic > pyrrhotite syenite dyke.	H46285		36			100			490	
	H37530		14.5						495	
489.5'-492.0': a series of irregular, 1 mm orthoclase > mafic = pyrrhotite filled fractures cut the core axis at between 20-40°.		BKGD							500	
	H37531		25.0						505	
495.0' GRADATIONAL CONTACT									510	
495.0'-497.0': SHEARED TINGUAITE: identical to normal plt except that the pl phenocrysts have been flattened, producing a foliation which parallels the core axis. Cutting the core axis at 20° are 3, 5 mm slightly wavy white orthoclase >> mafic > pyrrhotite dykes.	H37532		26						515	
497.0'-531.0': MIXED TINGUAITE: lenses of normal plt, 5-20 cm across and surrounded by foliated, sheared tinguaites at a ratio of 1:1. In addition to the foliation, weak to moderate biotite alteration has attacked the cores of pl phenocrysts both in the normal plt and the sheared tinguaites. The general foliation of the foliated plt is 20° to core axis, however this is variable locally. The rock has very few fractures: most of them are filled or coated with white orthoclase or white clays. Sulphides are rare.	H37533		16.0					15° 1/12'	520	
499.4'-499.7': a 2 mm, 30° fracture is filled with the orthoclase >> mafic syenite. This fracture cuts the foliation which is subparallel to the core axis at this point.								30° 1/7'	525	
509.5'-509.7': a 2 mm syenite filled fracture as above cuts the foliation. As before the foliation is subparallel to the core axis, however this dyke has a convolute appearance with the fold axis parallel to the foliation.	H37534		39					70° to 80° 1/6'	530	
	H37535		41						535	
	H37536		15.0						540	
523.0'-523.3': an intensely sheared band is cored by a 2 mm syenite dyke. Both the dyke and the foliation cut the core axis at 50°.	H37537		10.5						545	

PROJECT UJV HOLE TH6 LOCATION - CORE SIZE BQ STARTED 29/03/79 FINISHED 9/08/79 PAGE 8 OF 10  
CLAIM GROUP TOMBSTONE LENGTH 725' DIP -90° AZIMUTH - COLLAR ELEVATION 5034' DRILLED BY CARON LOGGED BY EATON

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CLAIM GROUP TOMBSTONE LENGTH 725' DIP -90° AZIMUTH - COLLAR ELEVATION 5034' DRILLED BY CARON LOGGED BY EATON

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CLAIM GROUP TOMBSTONE LENGTH 725' DIP -90° AZIMUTH - COLLAR ELEVATION 5034' DRILLED BY CARON LOGGED BY EATON

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