



WEBB CREEK
1968-1970

85-2391

ANGLO AMERICAN CORPORATION (AUSTRALIA) LIMITED

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UNRECORDED

175001

1.

COMSTAFF PTY. LTD.

1969-1970

W E B B C R E E K
(EL 5/63, 1/68)

DATE	AC.	FILE	CLASS.
DIR.	11 JUN 1985		SECTION
DEPT. OF MINES			ECL
REF. No.	6000/85		

GENERAL:

Webb Creek is a relatively large tributary of the Huskisson River, and drains the area to the south and southwest of Mt. Ramsay. The area covered lies on the boundary of E.L. 1/68 and E.L. 5/63. (Map 1).

A study of available literature had shown the occurrence of several alluvial workings for tin associated with the Meredith granite, of which Mt. Ramsay is formed, and of other alluvial workings for gold and osmiridium, associated with serpentinites, within the drainage basins adjacent to that of Webb Creek.

An ultramafic body (? serpentinite), corresponding approximately to the position of an anomaly detected by an aeromagnetic survey, is shown on the Geological Survey map of the area as being drained by tributary 6 (Map 2) of Webb Creek.

The aerial photographs of the Webb Creek area indicate an extensive swamp, about three-quarters of a mile long and half a mile wide situated around the middle reaches of the creek. A detailed study of the photographs suggests that the sides of the swamp are steeply sloping and that the alluvium might thus be deep.

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It therefore appeared that in the area the following conditions pertained: that there was a large area of alluvium, possibly of substantial depth, in the valley of a creek draining a stanniferous granite, and which also drained a supposed serpentinite. Further the swamp lies within a region where alluvial deposits of gold and osmiridium, derived from ultramafics, had been worked.

For these reasons it was decided that the Webb Creek Area merited investigation.

GEOGRAPHY:

The climate, vegetation and topography are typical of the north-western interior of Tasmania. Access was solely by helicopter.

WORK PROGRAMME:

In the first instance field manager A. McKinley and six field-assistants moved into the area and established a camp in the south-eastern part of the swamp. This team then commenced to investigate the alluvium. It had been intended to do this by means of hand augering and/or Banks drilling at 8 chain intervals along a series of lines cut across the swamp, but because of poor penetration by the auger, a pitting programme had to be substituted for the boring programme.

Alluvium samples collected from the auger holes and pits were panned to obtain the heavy mineral concentrates.

At the commencement of the pitting programme H. Robison joined the camp to carry out a brief regional reconnaissance of the geology of the environs of the swamp and the area drained by Webb Creek and its tributaries.

/3. During the

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During the course of this geological reconnaissance several outcrops of a sulphide-bearing rock were encountered, and samples of this were sent for analysis. It was decided to check further on this sulphide occurrence by means of geo-chemical stream sediment and soil samples.

Heavy mineral concentrates were also collected from Webb Creek and from each of the tributaries mapped.

(a) BORING AND PITTING (Map 2)

A main trace was cut along the length of the swamp, and from this cross-lines B and C, 16 chains apart, were cut across the alluvial flat on a bearing of 102° magnetic. In view of the lack of known fixed points, the main trace was not surveyed in accurately, but the relative positions of the auger holes and pits are correct.

Once the lines were cut, boring was commenced using the Dormer Sand Borer (in effect a hand auger) which has a good performance provided that the particle size within the media through which it passes does not exceed 1 inch. The casing and sand bailer were not used, as "overburden" - in this case the humus and soil layer - was shallow. In suitable ground a depth of 20 feet can be bored in an hour.

Seventeen holes, distributed over 10 sites, were attempted but in the majority of cases it was not possible to penetrate to a depth of more than 2-5 feet, due to the presence of boulder beds within the alluvial material. Details of the auger holes are as follows:-

/4. B5 - one attempt.

- B5 - One attempt was made, and a depth of 5 feet reached.
- B6 - two attempts were made, both striking an obstruction at a depth of 2½ feet.
- B7 - two attempts were made, both striking an obstruction at a depth of 2 feet.
- C4 - two attempts were made, both reaching a depth of 3 feet before hitting an obstruction.
- C5 - three attempts were made, two reaching a depth of 2 feet and one a depth of 5 feet, before striking an obstruction.
- C6 - one attempt was made, and this reached a depth of 13 feet before striking an obstruction.
- C7 - two attempts were made, both reaching a depth of two feet before reaching an obstruction.
- C2½ - (east of Webb Creek) two attempts were made and both reached a depth of 5 feet before hitting an obstruction.
- C2 - (east of Webb Creek) one attempt was made and reached a depth of 5 feet.
- D5 - this hole was bored from the bottom of Pit 3, which was 7 feet deep, and reached a depth of 20 feet 9 inches. The total depth before hitting an obstruction at this location was thus 27 feet 9 inches.

In view of the fact that hand-augering was proving an inadequate method of investigating the alluvium, it was decided to pit the swamp in order to obtain more information regarding its depth and the nature of the obstructions encountered in the auger holes. Three pits were dug, one near the centre of the swamp, one toward the north, and one toward the southern end of the swamp.

/5. Details are.

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Details are as follows:-

Pit No. 1. This was initially attempted at the site of auger hole B6, but ^(b) was moved to ~~the~~ ^{CHINA EAST} site of B7 when the original excavation flooded at a depth of 2½ feet. At the new site pitting reached a depth of almost 14 feet before water became a problem. A seepage at 13 feet began to undermine the boulder bed, and lagging would have been necessary to make this pit safe for working at any greater depth.

Pit No. 2. This was dug at the site of auger hole C5 and reached a depth of about 11 feet before being discontinued.

Pit No. 3. This was dug at the site of auger hole D5 to a depth of 7 feet. Since the ground appeared suitable for augering a hole was bored from the bottom of this pit and reached a depth of 27 feet 9 inches below surface before reaching an obstruction.

Heavy mineral concentrates were collected from both the auger holes and pits, and were examined for gold, osmiridium and tin. Neither gold nor osmiridium were observed, and in all cases the tin values were extremely poor.

Bore and pit logs are submitted as appendices to this report.

/6. (b) GEOLOGY.

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(b) GEOLOGY: (Map 2)

Owing to the nature of the terrain and vegetational cover, geological mapping was almost entirely restricted to stream bed exposures and the picture that obtained was, at best incomplete. In all, 47,300 feet of creek were cut and mapped, but it should be borne in mind that outcrops only occurred in about one-quarter of this distance, and that large stretches of creek were devoid of exposure.

The regional map of the area shows Webb Creek to be on the eastern limb of the Huskisson Syncline, and this was confirmed by field observation. The number of exposures from which dips and/or strikes could be obtained was very limited (nine), but in all cases strikes were within 30° of NW-SSE and dips, whilst varying from 20° to near vertical, were consistently to the west. The poor degree of exposure prevents any attempt at correlation or detailed interpretation, but a broad and tentative division into three rock units may be made. The western part of the area mapped is occupied by a tuffaceous sequence, exposed in tributaries 6, 7, 8 and 9 and in the upper part of Webb Creek, whilst the central zone is occupied by an arenaceous sequence, seen in exposures in Webb Creek, tributaries 5 and 3 and the lower reaches of tributaries 1 and 2. To the east of this a second tuffaceous sequence is seen in the upper reaches of tributaries 1 and 2.

(1) Western tuffaceous sequence

Known strike length c.	3,000 feet.
Width across strike c.	1,200 feet.
Recorded strikes (magnetic):	145°, 130°, 165°, 152°.
Recorded dips (N/SW):	- 80° - near vertical
Number of exposures:	40

/7. This rock.

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This rock unit comprises a number of low-grade metamorphic derivatives of fine grained greywackes, sub-greywackes and/or tuffaceous siltstones, which present a compact fine grained grey almost cherty appearance. In addition a coarse breccia and a number of medium to fine grained brownish tuffs, and minor amounts of relatively unaltered mudstone and siltstone are present.

The low grade metamorphic members of this sequence include the sulphide-bearing rock, noted above as having been sent for analysis. This carried pyrite and chalcopyrite in blebs and fine stringers, and another extremely fine grained and highly disseminated sulphide, which appeared to constitute up to 30% of the rock. The latter is now thought to be pyrrhotite. Analytical results, in p.p.m., of two samples, are as follows:-

	Bi.	Co.	Cu.	Mo.	Ni.	Sb.
Sample 1 (‘Spotted hornfels’)	<10	20	35	6	60	<10
Sample 2 (meta-calcareous siltstone)	<1	5	25	4	30	<1

The samples were also subjected to a forty-two element spectrographic scan, which did not detect an economically significant concentration of any element.

(ii) Arenaceous sequence.

Known strike length: c. 3,000 feet
 Width across strikes: c. 3,000 feet
 Recorded strikes (magnetic): 190°, 135°
 Recorded dips (to W/SW): 29°, 35°
 Number of exposures: 15

/8. This unit.

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This unit comprises a number of quartzite and sandstone members, in addition to what are apparently very subordinate mudstones. At the bottom of tributary 4A, just above its confluence with tributary 4 is a 45 foot exposure of conglomerate, consisting of large (up to 1") waterworn white quartz pebbles set in a reddish-brown sandy matrix, which probably marks the base of the arenaceous sequence. One exposure of dolerite, of indeterminate form, represents the only evidence of igneous activity within the area of outcrop of the arenaceous sequence.

(iii) Eastern tuffaceous sequence

Known strike length: c	6,000 feet.
Width across strikes: c	3,000 feet.
Recorded strike (magnetic):	140°, 140°, 142°.
Recorded dips:	36°, 42°, 35°.
Number of exposures:	49

This sequence consists of a series of alternating acid and (?) intermediate brown and purple micaceous tuffs, mudstones, shales and siltstones with the occasional development of a sandy facies as is seen in the central part of tributary 1. From the evidence available it would seem that this unit forms the base of the succession in the area mapped and that it is overlain in turn by the arenaceous sequence and the western tuffaceous sequence.

Similarities in lithology and strike suggest that these rocks may be equated with, or form part of the same stratigraphic unit as, the Ramsay succession of the Coldstream-Ramsay area.

/9. (c) STRUCTURE:

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(c) STRUCTURE

The limited nature of field observation precludes the possibility of any detailed interpretation. Such readings as were obtained serve to confirm that the area lies on the eastern limb of the Huskisson Syncline and indicate a flexure in this limb with the dip steepening toward the axis of this structure.

(d) MINERALISATION

With the exception of the sulphide-bearing metamorphics of the western tuffaceous sequence, to which reference has been made above, no mineralisation was observed.

(e) GEOCHEMISTRY (Map 2)

Two minor programmes were instigated to obtain more information on the sulphide occurrences within the western tuffaceous sequence. At the time that this work was undertaken results of the rock analyses were still outstanding, and it was therefore acknowledged that the project might be superfluous. However, in view of the difficulties of access to the area, it was deemed expedient to carry out this sampling before the party was withdrawn.

Stream sediment samples were collected at 500 foot intervals from tributaries 7, 8 and 9, and were subsequently analysed for Cu., Pb. and Zn. The results received have indicated only very low concentrations of these elements.

/10. Three lines.

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Three lines, each 3,000 feet long and aligned at 230° magnetic (across strike) were cut, one to the south of tributary 7, one between tributaries 7 and 8 and one between tributaries 8 and 9. A₀ soil samples were taken at 100 foot intervals along these lines, and these were analysed for Bi., Cu., Pb. and Zn., and as in the case of the stream sediment samples no concentration of economic import was detected.

(f) HEAVY MINERAL CONCENTRATE COLLECTION (Map 2)

Four samples were collected from Webb Creek, two from tributaries 4 and 6, and one each from the other tributaries mapped. The concentrates obtained were examined for the presence of minerals of economic importance, particularly gold, osmiridium and tin. Cassiterite was present in the sample from the bottom of tributary 4, and a trace of this mineral was also detected in the samples from tributaries 2, 3, 4A, 5, 6 and 7 and in two of the samples from Webb Creek itself. However the quantities were not sufficient to arouse any specific interest.

Selected samples have been submitted for analysis for tungsten, tantalum and niobium, and these results are awaited.

CONCLUSIONS AND RECOMMENDATIONS

The rocks of the Webb Creek area are part of a sedimentary succession forming the eastern limb of the Huskisson Syncline, and dipping toward the west. In the eastern part of the area mapped dips are relatively gentle, being in the region of 30°, whilst toward the west the dips increase and become near vertical, indicating a flexure in the major structure.

/11. There was no.

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There was no evidence of any major intrusion and field observation does not support the existence of the ultramafic body postulated by the survey.

With regard to economic considerations, it seems unlikely that there is any significant mineralisation within the area studied. Pyrite and/or chalcopyrite occur sporadically throughout the western tuffaceous sequence, but the detailed geochemical work carried out has shown the only observed concentration of sulphides to be of no consequence.

The alluvial testing programme must be regarded as incomplete, but the absence of gold and osmiridium, and virtual absence of tin in the concentrates obtained from the auger holes and pits, together with the fact that the creeks entering the swamp are not carrying appreciable amounts of these minerals indicate it is most unlikely that a workable alluvial deposit is present here.

Admittedly it is possible, if the alluvium is deep (>30 feet), that stanniferous horizons are blanketed by barren overburden, as is the case in established alluvial tin workings elsewhere in the world. To investigate fully this possibility would necessitate the mounting of a full scale programme utilising specialist staff employed specifically for this purpose, which undertaking would be hampered by the area's poor accessibility and would be extremely expensive.

In view of these logistic and economic considerations, plus the preponderance of negative results it is recommended that no further work be carried out in this area.

H. R. Robison. March 1970.

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Appendix 1.

DRE LOGS

<u>Hole No</u>	<u>Core Recovery</u>	<u>Depth</u>	<u>Description</u>	<u>Remarks</u>
C2	1/4 cu.ft.	0 - 4' 8"	Brown sandy clay	Good washing, very poor concentrate recovery Some 1/8" quartz in pan.
		4' 8" - 4' 10"	White sandy clay	
		4' 10" - 5' 0"	Not recovered	
C2 1/2	1/4 cu.ft.	0 - 5' 0"	Brown sandy clay	Good washing, very poor concentrate recovery Some 1/8" quartz in pan.
		(b) 0 - 5' 0"	Brown sandy clay	
C4	3/16 cu.ft.	0 - 1' 6"	Humus + soil	Good washing, poor concentrate recovery.
		1' 6" - 3' 0"	Fine sand + 1/8" quartz	
	(b)	0 - 2' 0"	Humus + soil	
		2' 0" - 3' 0"	Fine sand + 1/8" quartz	
C5	5/16 cu.ft.	0" - 6"	Humus + soil	Good washing, very poor concentrate recovery.
		6" - 5' 0"	Fine sand	
	(b)	0" - 9"	Humus + soil	
		9" - 2' 0"	Fine sand	
	(c)	0" - 6"	Humus	
		6" - 2' 0"	Fine sand	
C6	1/4 cu.ft.	0 - 2' 0"	Humus + soil	Good washing, very poor concentrate recovery.
	1/4 cu.ft	2' 0" - 5' 0"	Fine sand	
		5' 0" - 5' 6"	Fine sand	
	7/12 cu.ft.	5' 6" - 10' 0"	Compact sand	
		10' 0" - 12' 6"	Compact sand	
	12' 6" - 13' 0"	Compact sand + 1/8" quartz		

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Hole No	Core Recovery	Depth	Description	Remarks
C7	1/2 cu.ft.	0 - 1' 0"	Humus + soil	Good washing, very poor concentrate recovery.
		1'0" - 2' 0"	Fine sand + 1/4" quartz	
		0 - 1' 0"	Humus + soil	
		1'0" - 2' 0"	Fine sand + 1/4" quartz	
B5	1/2 cu.ft.	0 - 2' 0"	Humus + soil	Good washing, very poor concentrate recovery
		2'0" - 5' 0"	Black sandy clay	
	1/2 cu.ft.	0 - 1' 6"	Humus + soil	Good washing, very poor concentrate recovery
		1'6" - 2' 6"	Fine grained sand	
		0 - 1' 6"	Humus + soil	Good washing, very poor
		1'6" - 2' 6"	Fine grained sand	
B7	1/2 cu.ft.	0 - 1' 0"	Humus + soil	Good washing, very poor concentrate recovery
		1'0" - 2' 0"	Fine grained sand	
		0 - 1' 0"	Humus + soil	
		1'0" - 2' 0"	Fine grained sand	
(PIT 3)	1/2 cu.ft.	1'6" - 7' 0"	Brown sandy clay	Not washed. Channel sample from side of pit. Good washing, poor concentrate recovery.
	1/2 cu.ft.	7'0" - 9' 0"	Light brown compact sand	Good washing, poor concentrate recovery <u>Trace fine cassiterite seen</u>
		9'0" - 10' 0"	Transition	
		10'0" - 12' 0"	White compact sand	
D5	1/2 cu.ft.	12'0" - 17' 0"	Compact white sand	Good washing, very poor concentrate recovery Good washing, very poor concentrate recovery
		17'0" - 18' 9"	Compact white sand	
		18'9" - 19' 6"	Transition	
		19'6" - 22' 0"	Compact light brown sand	
	1/2 cu.ft.	22'0" - 27' 0"	Compact light brown very sandy clay.	Inclined to "ball" when panned. Some 1/4" quartz in pan. Poor concentrate recovery
	1/6 cu.ft.	27'0" - 27'9"	Very plastic brown clay	Inclined to "ball". Some 1/4" quartz present Poor concentrate recovery

PIT LOGSPIT 1

- 0 - 1' 0" Humus
1' 0" - 3' 0" Grey sandy clay
3' 0" - 3' 4" Sandy clay + small (<1in.) sandstone pebbles.
3' 4" - 7' 0" Boulder Beds: matrix of coarse sand, with admixture of organic material, containing 1" - 8" diameter, cobbles of sandstone, quartzite, decomposing granite, microgranite and siltstone. Most fragments are of the 2" - 5" fraction. In the eastern side of the pit is a minor clay bed within the boulder bed. This comprises 2 - 6 in. of putty coloured plastic clay + sericite.
7' 0" - 12' 6" Boulder Beds: matrix of clayey sand, containing 1 - 12 in. cobbles (mainly 3-7 in) of sandstone, decomposing granite, chalcedony and quartzite.
12' 6" - 13' 0" Sandy clay with occasional pebbles.
13' 0" - 13' 9" Pebble Beds: closely packed 1-2 in. pebbles of sandstone, quartz, chert, decomposing granite and quartzite in a sandy matrix.
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PIT 2

- 0 - 1' 0" Humus
1' 0" - 2' 0" Fine sand + 1/4" quartz particles.
2' 0" - 2' 3" Fine sand
2' 3" - 3' 3" Fine sand + 1/4" particles and 1-2 in pebbles of quartzite.
3' 3" - 4' 3" Pebble Beds: mottled orange gritty clay containing 1-2 in. pebbles of quartzite, sandstone, quartz and decomposing granite.
4' 3" - 5' 3" Cobble Bed: matrix of sand and organic material containing 2-4 in. cobbles and occasional 6 in. boulders of quartzite, shale, mudstone and fine sandstone.
5' 3" - 10' 3" Boulder Beds: coarse sandy matrix containing 4-6 in. boulders of quartzite, decomposing granite and fine sandstone.
10' 3" - 11' 3" Plastic clay with glassy quartz particles (<1/4" dia) and occasional waterworn pebbles.
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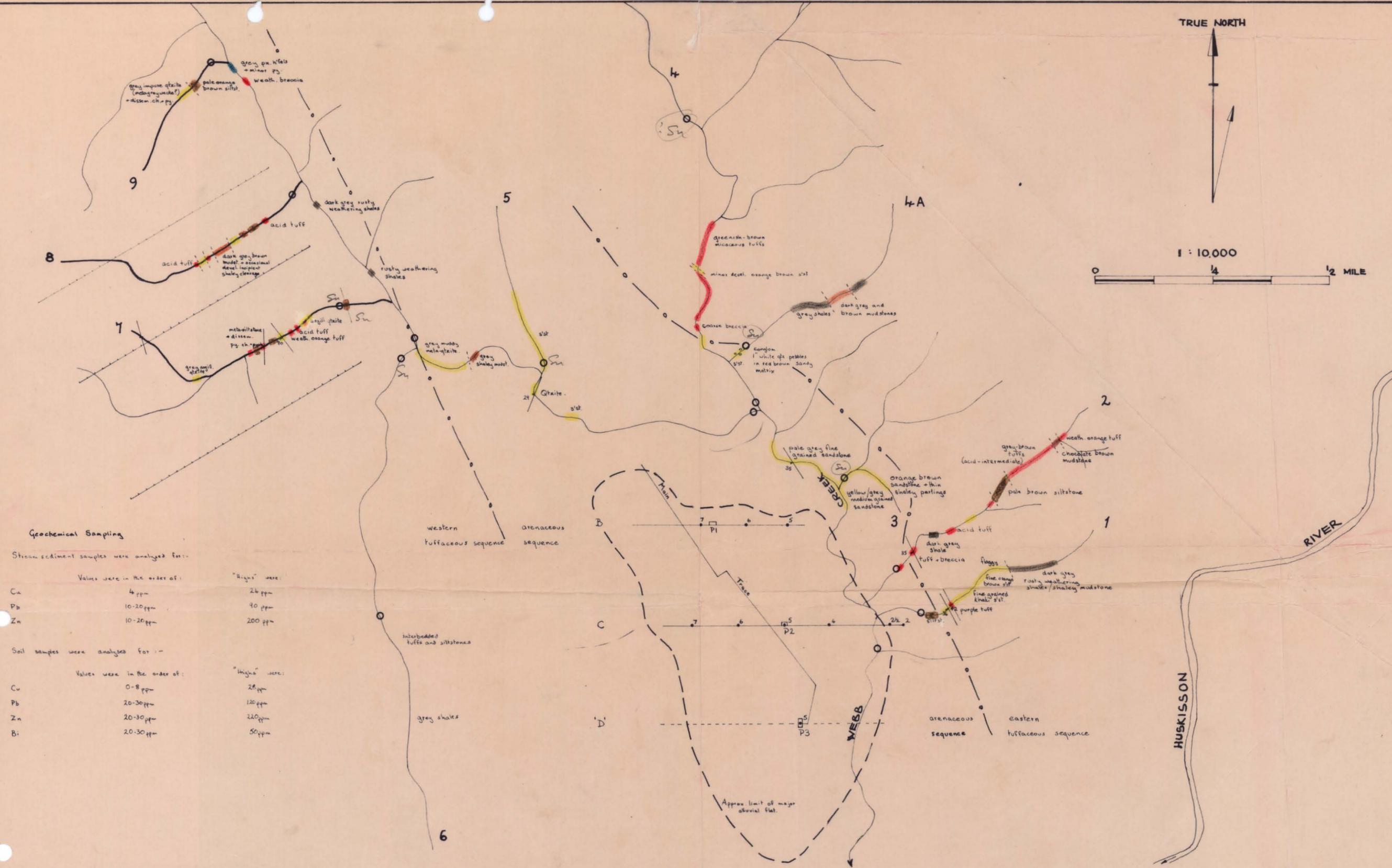
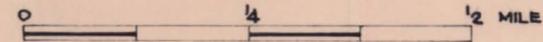
PIT 3

See Bore Log D5 (Appendix 1)

85-2391

TRUE NORTH

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Geochemical Sampling

Stream sediment samples were analyzed for:-

	Values were in the order of:	"Highs" were:
Cu	4 ppm	24 ppm
Pb	10-20 ppm	40 ppm
Zn	10-20 ppm	200 ppm

Soil samples were analyzed for:-

	Values were in the order of:	"Highs" were:
Cu	0-8 ppm	28 ppm
Pb	20-30 ppm	120 ppm
Zn	20-30 ppm	220 ppm
Bi	20-30 ppm	50 ppm

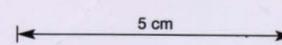
LEGEND

- Creek.
- Creek, stream sediment sampled.
- Cut line.
- Cut line with soil sample positions.
- Cut line with augering position.
- Pit site.
- Heavy mineral concentrate site.
- Approx boundary of rock groups.
- Sandstone/Quartzite.
- Conglomerate.
- Siltstone.
- Mudstone.
- Shale.
- Horstfels.
- Dolerite.
- Tuff.

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COMSTAFF PROPRIETARY LIMITED

WEBB CREEK 015
GEOLOGY AND SAMPLING



DRAWN
CHECKED
DATE 1969 - 70
SCALE 1 : 10,000
PLAN N ^o TAS-2L-2