FINAL REPORT ON
AUTHORITY TO PROSPECT NO.2020
WALKER'S CREEK EAST

Distribution:

N.T. Administration (2)
Sydney
Vancouver
Oakland
Nevsam

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SUMMARY & CONCLUSIONS:

Authority to Prospect No. 2020 was originally taken up to investigate possible copper deposits, but it was later found that its only potential was for tin and tantalum.

Photogeological interpretation, stream sediment sampling, and auger drilling were carried out.

As results of this work were not encouraging, Australus Mining Co. Pty. Ltd. has decided to relinquish the area.

INTRODUCTION:

Authority to Prospect No. 2020 was granted on 13th August 1967, and has been held for two years. It comprises 15 sq. miles in the Katherine-Darwin region, adjacent to A/P 2066, also held by Australus. Originally, the A/P was acquired to investigate possible copper deposits, but it was found that the area had more potential for tin and tantalum.

OWNERSHIP & HISTORY:

Australus Mining Company Pty. Ltd. was granted A/P No. 2020 in the Walker's Creek East area.

In 1872 gold was discovered in the general area, and several geologists visited it. In 1912, during a reconnaissance of the accessible portions of the Northern Territory, Woolnough visited the district.

Between 1935 and 1939, the Aerial Geological and Geophysical Survey of Northern Australia mapped several mines in the general area.

The discovery of uranium at Rum Jungle in 1949 led to intensive geological mapping and prospecting by both private company and government geologists, in the Katherine-Darwin region.

Tin has been mined at a few places in the A/P, namely the Goodwill Extended Mine and the Tin Pot Mine, but production was not more than a few hundred tons.

LOCATION AND ACCESS:

A/P 2020 is covered by the B.M.R. 1 mile to the inch geological maps of Tumbling Waters and Mt. Tolmer, and by the Pine Creek and Darwin 1:250,000 geological sheets.

The climate is monsoonal, with a short summer wet season of three to five months, and a winter dry season of seven to nine months. The mean annual rainfall is about 50 inches.

Access to the area is via the Bamboo Creek Road.

GEOLOGY:

A/P 2020 falls into a pegmatite belt, 120 miles long and up to 10 miles wide, which extends from West Arm to Mount Finniss and Fletcher's Gully. This belt contains a large number of tin and tantalite-bearing greisens and pegmatites, generally intruded into greywacke and slate of the Lower Proterozoic Noltenius and Burrell Creek Formations. The belt is marked by a high grade of metamorphism, phyllite and schist predominating amongst the rock types. To the west, the belt is bordered by the Litchfield Granite, to the east, metamorphism grades down. The pegmatites are not evenly distributed throughout the belt, but tend to be grouped together, usually in lines that also strike north-south. At least 90 separate mines and prospects are known in the belt. Recorded production from the individual mines is generally small.

Two mines occur within A/P 2020, the Goodwill Extended and the Tin Pot Mines. These are north of the Goodwill Mine, which is located in A/P 1889. They contained some tantalite, but were mined for their tin content. They also contain lepidolite.

The main rocks units occuring in A/P 2020 are the Robert's Creek Granite and the Noltenius Formation.

The Robert's Creek Granite is a small stock with a north-south elongation, intruding the Noltenius Formation. It is mainly a medium-grained granite that contains an abundance of small, tourmaline-bearing pegmatite veins.

The Noltenius Formation is a subdivision of the Finniss River Group. It consists mainly of turbidites (quartz greywacke, greywacke, and siltstone), but also includes irregular deposits of conglomerate, graded sandstone, arkose, claystone, micaceous greywacke, siltstone, and quartz siltstone.

GEOCHEMISTRY:

Air photo coverage of the A/P was obtained, and a photo-geological interpretation made. Geological, base, and drainage map overlays were prepared.

Stream Sampling Survey:

A limited stream sediment survey was carried out on some drainages in the A/P. Samples were analysed for molybdenum, copper, zinc, manganese, lead, nickel, and cobalt.

The results failed to indicate any significant anomalies.

Drilling:

Auger drilling was carried out on tin and tantalum bearing colluvium across the Finniss River.

PROSPECTING AUTHORITY NO.2020

ANALYSIS OF EXPENDITURE

	$
Surface prospecting	-
Geology	1277
Geophysics	-
Geochemistry	-
Drilling	-
Property expenses	-
Sampling, assaying	68
Road building	-
Transportation	499
Legal costs	32
Consulting fees	-
Evaluation	-
TOTAL	$1876

APPENDIX I

GEOCHEMICAL STREAM SAMPLE ANALYSES

WALKER'S CREEK EAST

Sample No.	Mo	Cu	Zn	Mn	Pb
WCE 3		10-	63		29
WCE 4		10-	58		27
WCE 5		10	53		21
WCE 6		25	55		20-
WCE 7		802	88		200
WCE 8		20	52		27
WCE 9		10	38		20-
WCE 10		10	48		27
WCE 11		10-	60		20-
WCE 12		10-	83		24
WCE 13		25	50		27
WCE 27		10-	45		20-
WCE 28		10-	32		20-
WCE 29		15-	35		20-
WCE 30		20	62		20-

APPENDIX II

GEOCHEMICAL AUGER SAMPLE ANALYSES - A/P 2020

Sample No.	Cu	Zn	Pb	PPm
FR1	10-	87	32	
FR2	20	98	35	
FR3	15	73	27	
FR4	10-	130	21	
FR5	10-	113	24	
FR6	40	135	29	
FR7	30	143	27	

APPENDIX III

AUGER DRILLING LOGS - A/P 2020

FINNISS RIVER:

Hole FR1:

0 - 5'	Yellow Clay
5 - 14'	Yellow Clay
14'	Grey Schist

Hole FR2:

0 - 4'	Black silt, grey clay and sand
4 - 5'	Rubble and clay
5 - 10'	Red clay (harder)
10'	Hard quartz

Hole FR3:

0 - 5'	Sand and loam
5 - 10'	Yellow sand and clay
10 - 15'	Yellow wet clay
15 - 20'	Wet sand and yellow clay
20 - 29'	Little return - wet.

Hole FR4:

0 - 5'	Yellow clay and sand
5 - 10'	Yellow clay and sand
10 - 22'	Sand and quartz fragments
22'	Yellow schist

Hole FR5:

0 - 5'	Grey sand
5 - 10'	Sand
15 - 17'	Scree, quartz and mica.
17 - 24'	Scree, quartz and mica.
24'	Yellow schist

Hole FR6:

0 - 5'	Sand, sandy clay
5 - 10'	Quartz, scree and sand
10 - 15'	Clay and scree
15 - 21'	Clay and scree
21'	Schist, scree and sand (hard)

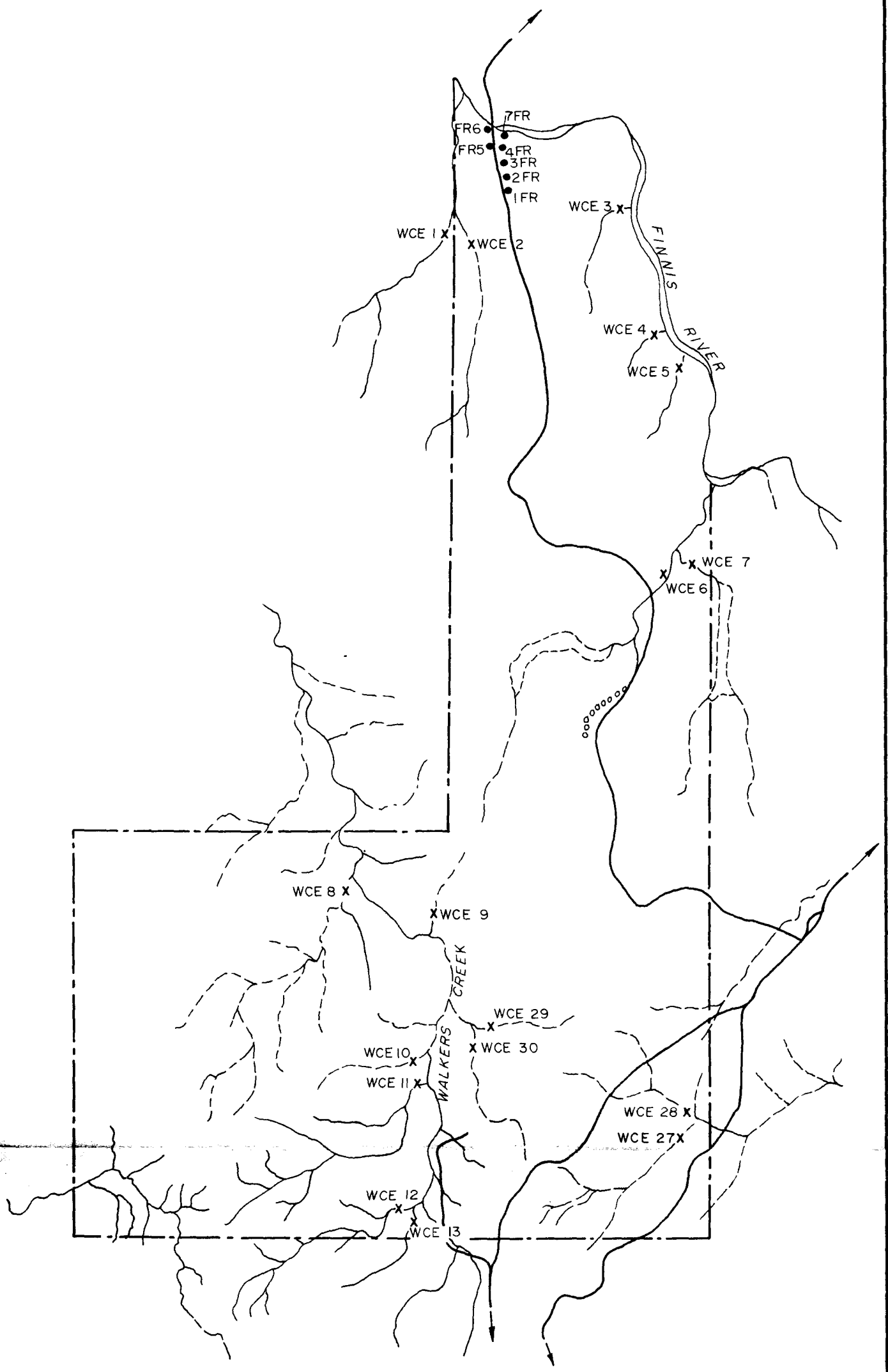
Hole FR7:

0 - 5'	Scree and sand
5 - 10'	Water - no return
10 - 15'	Quartz
15 - 20'	Hard scree
20 - 24'	Sand and fine quartz

APPENDIX IV

TIN-TANTALITE PROVING RESULTS A/P 2020

Sample No.		Length of Core	Wt. Core	Core Recovery	Wt.per yd. heavy conc.
FR1	0' - 14'	14'	28lb	.27C.ft	Nil
FR2	0' - 9'	9'	20lb	.20C.ft	Nil
FR3	0' - 10'	10'	18lb	.19C.ft	Nil
FR3	10' - 20'	10'	26lb	.25C.ft	Nil
FR3	20' - 29'	9'	40lb	.34C.ft	Nil
FR4	0' - 10'	10'	19lb	.20C.ft	Nil
FR4	10' - 20'	10'	21lb	.20C.ft	Nil
FR4	22' - 24'	2'	11lb.	.04C.ft	Nil
FR5	0' - 10'	10'	20lb	.20C.ft	Nil
FR5	10' - 20'	10'	36lb	.33C.ft	Nil
FR5	20' - 24'	4'	15lb.	.12C.ft	Nil
FR6	0' - 5'	5'	9lb	.04C.ft	Nil
FR6	10' - 20'	10'	28lb	.26C.ft	Nil
FR6	20' - 24'	4'	12lb	.10C.ft	Nil
FR7	0' - 10'	10'	25lb	.25C.ft	Nil
FR7	10' - 15'	5'	13lb	.11C.ft	Nil
FR7	15' - 20'	5'	54lb	.50C.ft	Trace



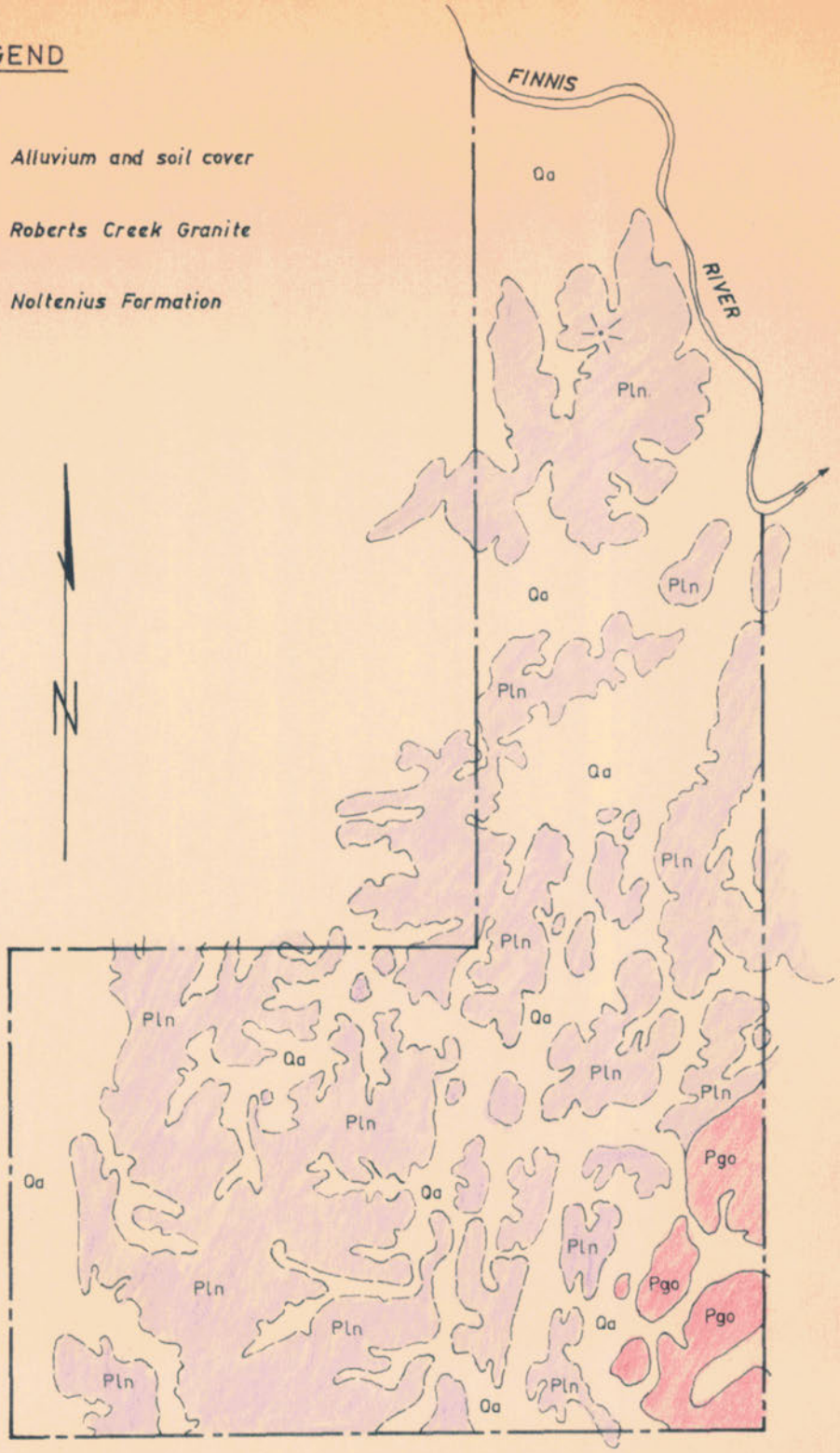
PLACER PROSPECTING (AUST.) PTY LTD	
A/P 2020 **WALKER CREEK EAST** GEOCHEMICAL & AUGER SAMPLE PLAN	
DATE: 26 · 8 · 70	GEOLOGIST:
SCALE: 1:50,000	DRAWN by: P.O'C
REVISIONS:	FILE N°: 1859-N.T.

LEGEND

QUATERNARY — Qa — Alluvium and soil cover

LOWER PROTEROZOIC — Pgo — Roberts Creek Granite

LOWER PROTEROZOIC — Pln — Noltenius Formation



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GEOLOGY OF A/P 2020

WALKER'S CREEK EAST – N.T.

Date: AUG. 1970	Geology: K.S.
Scale: 1 in. to 1 ml.	Drawn by: K.K.
Revisions:	File No.: 1856 – N.T.

8·5/11