

000

765001

88-2826

MINES	
File Ref.	EL 9/86
23 JUN 1988	
Doc. Ref.	
Action Officer	Initials
LETTER	
22. 6. '88	
REFERS	
Resubmit to	Date

ANNUAL REPORT  
E.L. 9/86  
ALFRED RIVER AREA  
WESTERN TASMANIA 1987-88

PIONEER RESOURCES N.L.

PREPARED BY:

*Christin Browne*

ON 27TH JUNE, 1988

CC: Mines Department

**OPEN FILE**

C O N T E N T S

		PAGE
1.	SUMMARY	3
2.	INTRODUCTION	4
3.	LICENCE TENURE	5
4.	PREVIOUS WORK & EXPLORATION ACTIVITY	6
5.	REGIONAL GEOLOGY	7
6.	WORK COMPLETED 1987-88	9
6.1	AIM	
6.2	METHOD	
7.	RESULTS	10
8.	RECOMMENDATIONS AND PROPOSED EXPLORATION PROGRAMME	11
9.	PROPOSED EXPLORATION BUDGET 1988-89	11
10.	BIBLIOGRAPHY	12

L I S T O F F I G U R E S

FIGURE 1.	E.L. 9/86 LOCALITY MAP
2.	E.L. 9/86 ACCESS AND CAMPSITE LOCATIONS
3.	E.L. 9/86 1987-88 SAMPLE SITE LOCATIONS
4.	LOCAL GEOLOGY. NORTHERN SECTION OF E.L. 9/86 (AFTER BROWN 1986)
5.	E.L. 9/86 PROPOSED FUTURE SAMPLING AREAS 1988-89

A P P E N D I C E S

APPENDIX 1

TABLE SUMMARISING SAMPLE DETAILS AND RESULTS

27th June 1988

1. SUMMARY

Work carried out in the 1987-88 field season consisted of original stream sediment survey work carried out by contractors on behalf of Pioneer Resources N.L. The survey involved taking samples of stream sediments and concentrating them in the field to examine the visible presence of precious metals. The work carried out was largely dependant upon accessibility throughout the exploration licence, to that end several walking tracks were cut to gain access to Alfred River and its lower reaches. Samples taken from the area have been held in storage at the exploration headquarters of Callina N.L. (located at Wilson River), an associated company of Pioneer Resources N.L.

During the course of the current tenure of the exploration licence a purchase and sale agreement was reached between Pioneer Resources N.L. and Timothy Noel Parish being the holder of E.L.9/86. This agreement was finalized in December of 1987, at which point Pioneer Resources N.L. became responsible for the conduct of exploration activities on the licence. Prior to returning this annual report to the Mines Department, transfer documents have been prepared to affect the change of licensee.

The above mentioned exploration programme took 3 weeks of field time and a total of 8 weeks to completion. The cost of carrying out the above work was approximately \$8,000.

In 1988-89 it is proposed to expend \$8,000 on E.L. 9/86 in the following areas.

1. Regional geological mapping.
2. Stream sediment sampling.
3. Soil sampling.
4. Hand auger coring.
5. Analysis of all stream, soil and auger core samples for gold, platinum group elements and chromite.
6. Cutting an access track from Wilson River to Helipad One.

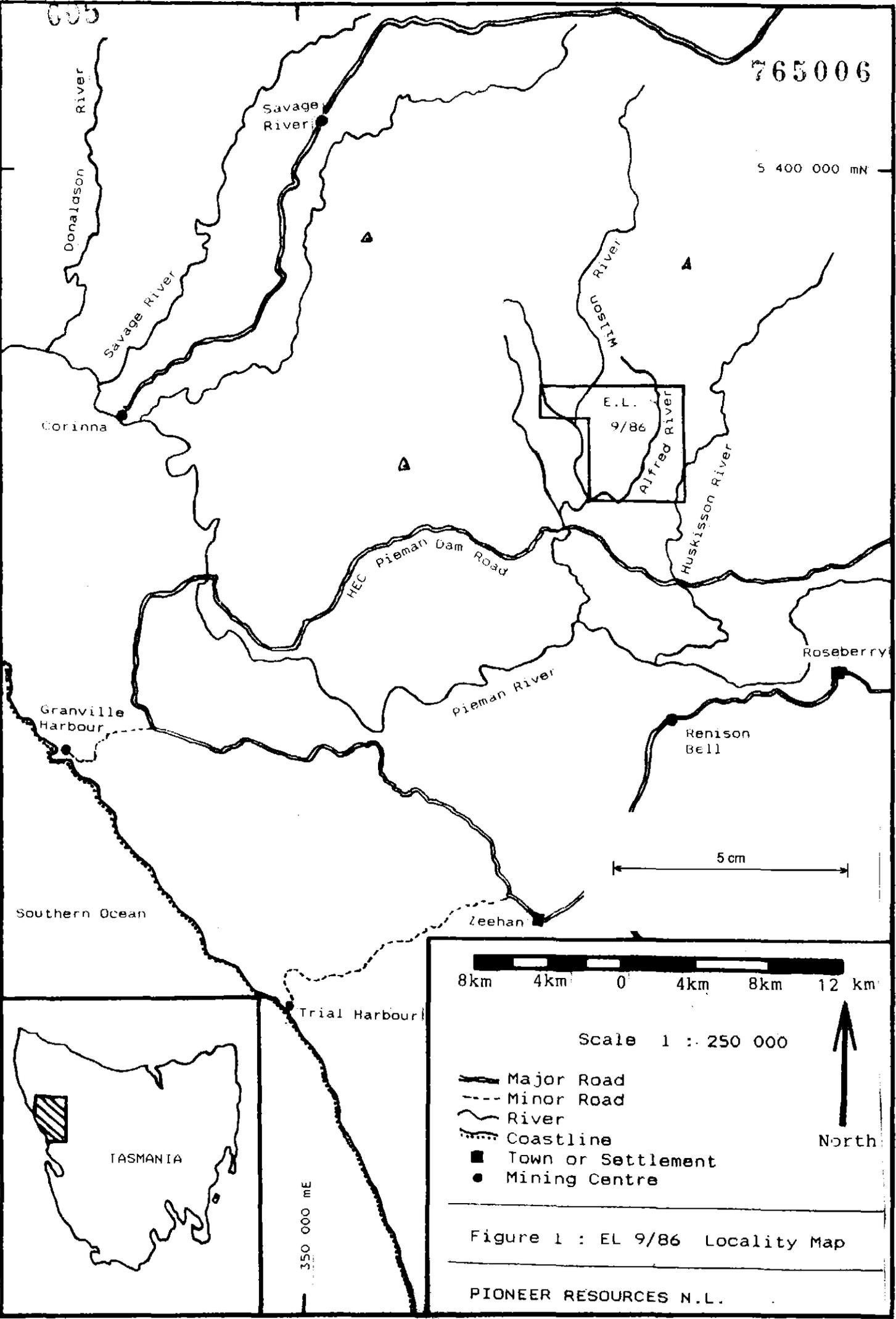
2.        INTRODUCTION

Exploration Licence 9/86 covers an area of 33 square kilometres (Figure 1) in Western Tasmania. Access into the area is good via the Pieman Dam Road, and then walking tracks to the Alfred River area (Figure 2).

The area covers sections of the Little Wilson River, Alfred River and Limestone Creek and associated tributaries which in the first quarter of the century were prospected locally and worked for alluvial concentrations of osmiridium and gold.

765006

S 400 000 mN



E.L.  
9/86

HEC Pieman Dam Road

Pieman River

Huskisson River

Uostim River

Donaldson River

Savage River

Savage River

Corinna

Granville Harbour

Roseberry

Renison Bell

Zeehan

Trial Harbour

Southern Ocean

5 cm

8km 4km 0 4km 8km 12 km

Scale 1 : 250 000

- Major Road
- Minor Road
- River
- Coastline
- Town or Settlement
- Mining Centre



TASMANIA

S 350 000 mE

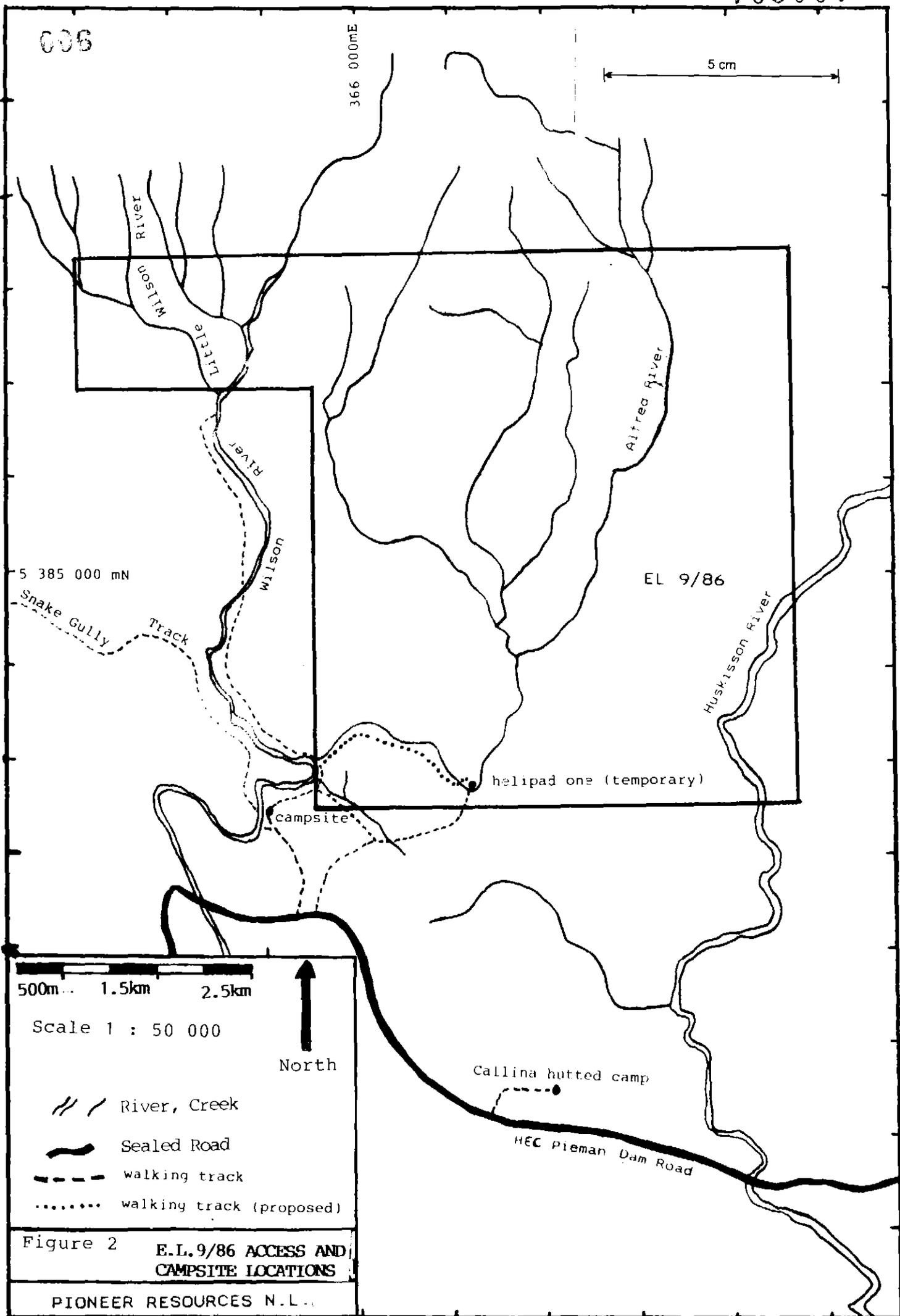
Figure 1 : EL 9/86 Locality Map

PIONEER RESOURCES N.L.

606

366 000mE

5 cm



500m... 1.5km 2.5km

Scale 1 : 50 000

North

- River, Creek
- Sealed Road
- walking track
- walking track (proposed)

Figure 2 E.L.9/86 ACCESS AND CAMPSITE LOCATIONS

- 5 -

3. LICENCE TENURE

Under the terms of an agreement dated 30th November 1987 ownership of Exploration Licence 9/86 was sold by Mr Tim Parish to Pioneer Resources N.L. Consistent with this sale a transfer document was prepared and signed by Mr Tim Parish in favour of Pioneer Resources N.L.

Delays have been encountered in lodging the transfer document with the Mines Department due to the fact that the necessary company arrangements have required Corporate Affairs Commission approval.

The new licensee is Pioneer Resources N.L., whose address is, First Floor, 100 Mill Point Road, South Perth, W.A., 6151.

#### 4. PREVIOUS WORK AND EXPLORATION ACTIVITY

A detailed summary of the exploration history of the area is contained in Renison Ltd's and Goldfields Exploration's reporting under E.L. 2/63 and E.L. 7/77 respectively. This history is summarised below.

The Alfred River locality was an area of small scale alluvial mining and prospecting for tin, gold and osmiridium during the early 1900's. Historical records show that gold and osmiridium were mainly gained from Limestone Creek and tin from Wilson River.

In the 1960's, Aberfoyle conducted reconnaissance geological mapping. They located minor sulphides in silicified ultrabasics near the Wilson - Little Wilson River junction.

During 1976-77 the Australia New Zealand Exploration Company explored and sampled much of the area under E.L. 3/76. However, the company did not follow up the exploration results and no anomalies were further investigated.

G.F.E. surveyed the area in the 1978-79 period. They carried out an Airborne Input E.M./Magnetics survey (Butt, 1978) and a photogeological survey. G.F.E. then performed reconnaissance, geological mapping and stream sediment sampling in the Huskisson syncline from 1981-84 (Martin, 1981; Roberts & Martin, 1982).

In 1985, Timron Mining investigated the Alfred River tin anomaly and Little Wilson River anomaly with follow up gridding and geochemistry.

Further work on, or in, the vicinity of E.L. 9/86 is reported in the following list of reports submitted to the Tasmanian Mines Department:-

##### RENISON LIMITED

1. Gradient Array E.I.P. Survey, Mt. Merton Grid 1979-80.
2. Mt. Lindsay Area Annual Report. 1979-80.
3. Merton Hill Area Progress Report. May 1980.
4. Mt. Lindsay Area; Merton Hill Area Progress Report. 1982.
5. Summary Report on the 1982 Geophysical Surveys over the Little Wilson River Infill Grid. September 1982.
6. Detailed E.I.P. Gradient Array Survey, Little Wilson River Grid. October 1982.

##### GOLD FIELDS EXPLORATION PTY LTD

1. Alfred River Final Report. October 1985

##### TIMRON MINING

1. Annual Report on E.L.9/86. May 1987.

## 5. REGIONAL GEOLOGY

Exploration Licence 9/86 predominantly covers a synclinally folded sequence of Ordovician to Devonian sediments known as the Huskisson Syncline. The north western portion of the lease covers a Devonian granite and Eocambrian serpentized ultramafics. Figure 3 (after Brown, 1986) shows the local geology. In the Little Wilson River Area, in the north western section of the lease, Ordovician Limestone (OR) is exposed through recent river alluvial. Brown (1986) describes the limestone beds as being up to 200mm thick and containing interbedded 1-2mm thick mudstone units. Some of the beds are massive or foliated limestone whilst other beds contain thin discontinuous mudstone laminae (Brown 1986). A minimum thickness of 150m of limestone is exposed in the Little Wilson River.

Overlying the limestone is a Silurian sandstone (Sc) sequence. This is structurally conformable but Brown notes that the biostratigraphy implies a disconformity in sedimentation between Middle Ordovician and Early Silurian. The sandstone sequence is predominantly composed of white and pink quartz sandstone beds which generally range in thickness from 20 - 300mm but beds up to 600mm occur. Truncated cross-bedding is common. Minor units of granule and pebble conglomerate, siltstone and mudstone occur in the sequence.

Conformably overlying the sandstone sequence is a finer grained sedimentary sequence (Sa). It is composed of usually well bedded and laminated, grey-green siltstone and mudstone with minor, 50 - 300mm thick, cross bedded sandstone units with siltstone partings (Brown 1986).

The following overlying unit consists of well-bedded fossiliferous, siliceous and friable quartz sandstone interbedded with minor laminated siltstone. Brown describes the friable units as leached and highly fossiliferous and also that both the siliceous and friable beds can contain cross-bedding. Zones of interbedded and bio-turbated laminated siltstone (up to 100mm thick) and interbedded muddy sandstone beds between 100 and 300mm thick occur throughout the succession, which averages between 300 and 350m (Brown 1986).

With a fairly sharp but gradational contact the lithology changes from a white sandstone into a unit comprised of interbedded dark grey siliceous siltstone with mudstone lamellae, bioturbated muddy sandstone and siltstone, and minor sandstone. The succession also contains multiple ripple marked horizons, scours and bulbous bases in the sandstone units. Cross laminated and thinly bedded micaceous sandstone with platy partings, and siltstone units - 5mm thick with convolute slumpings also occur (Brown 1986). The unit is more than 950m thick.

LOCAL GEOLOGY Northern Section of E.L.9/86 (After Brown 1985)

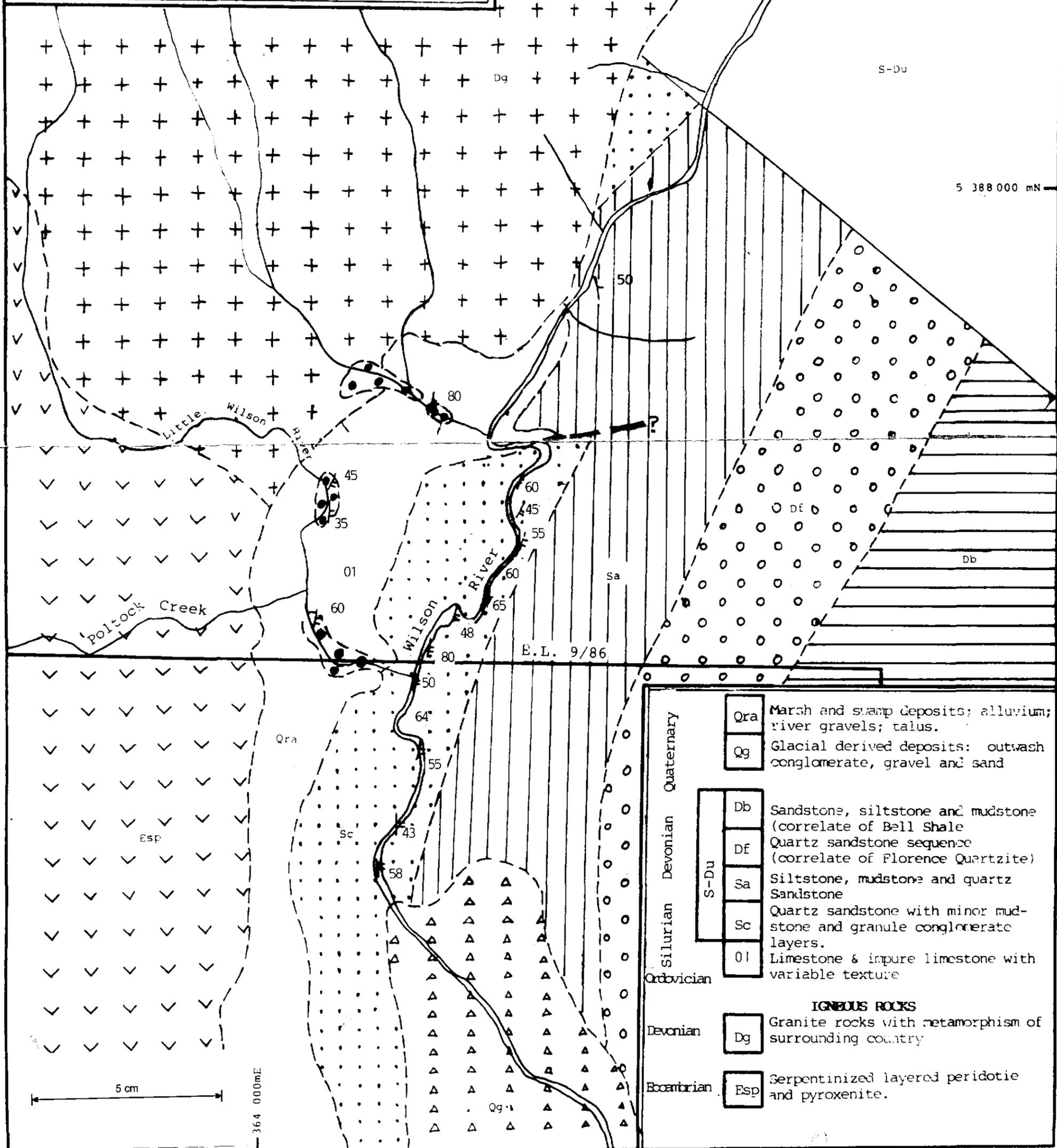
0 100 200 300 400 500  
Scale 1 : 10 000

- River, Creek
- Geological Boundary
- Strike and Dip of bedding Facing unknown
- Fault

North

FIGURE 3

PIONEER RESOURCES N.L.



Quaternary	Qra	Marsh and swamp deposits; alluvium; river gravels; talus.
	Qg	Glacial derived deposits: outwash conglomerate, gravel and sand
Devonian	Db	Sandstone, siltstone and mudstone (correlate of Bell Shale)
	Df	Quartz sandstone sequence (correlate of Florence Quartzite)
	Sa	Siltstone, mudstone and quartz Sandstone
	Sc	Quartz sandstone with minor mudstone and granule conglomerate layers.
Ordovician	O1	Limestone & impure limestone with variable texture
Devonian	Dg	Granite rocks with metamorphism of surrounding country
	Esp	Serpentinized layered peridotite and pyroxenite.

Ultramafic rocks in the north western portion of the lease are comprised of serpentized layers of peridotite and pyroxenite. Brown (1986) described these rocks as belonging to the Layered Dunite Harzburgite (LDH) succession. He described the succession as "relatively uniform in composition containing a foliation parallel to layering defined by primary mineral alignment of orthopyroxene and chrome spinel grains, as well as later flattening and elongation of olivine grains."

The granitoid to the north of E.L. 9/86 is part of the Meredith Granite, dated as 350 Ma (McDougall and Leggo, 1965; Brooks, 1966). The section of the Meredith Granite located on E.L. 9/86 is a medium-grained to coarse-grained equi-granular biotite granite/adamellite with porphyritic zones. The phenocrysts comprise feldspar crystals up to 10mm in length.

## 6. WORK COMPLETED 1987-88

### 6.1 AIM

The aim of the 1987-88 exploration programme was essentially to obtain stream sediment samples in the following areas, deemed to have the highest prospect of containing economic concentrations of heavy minerals:

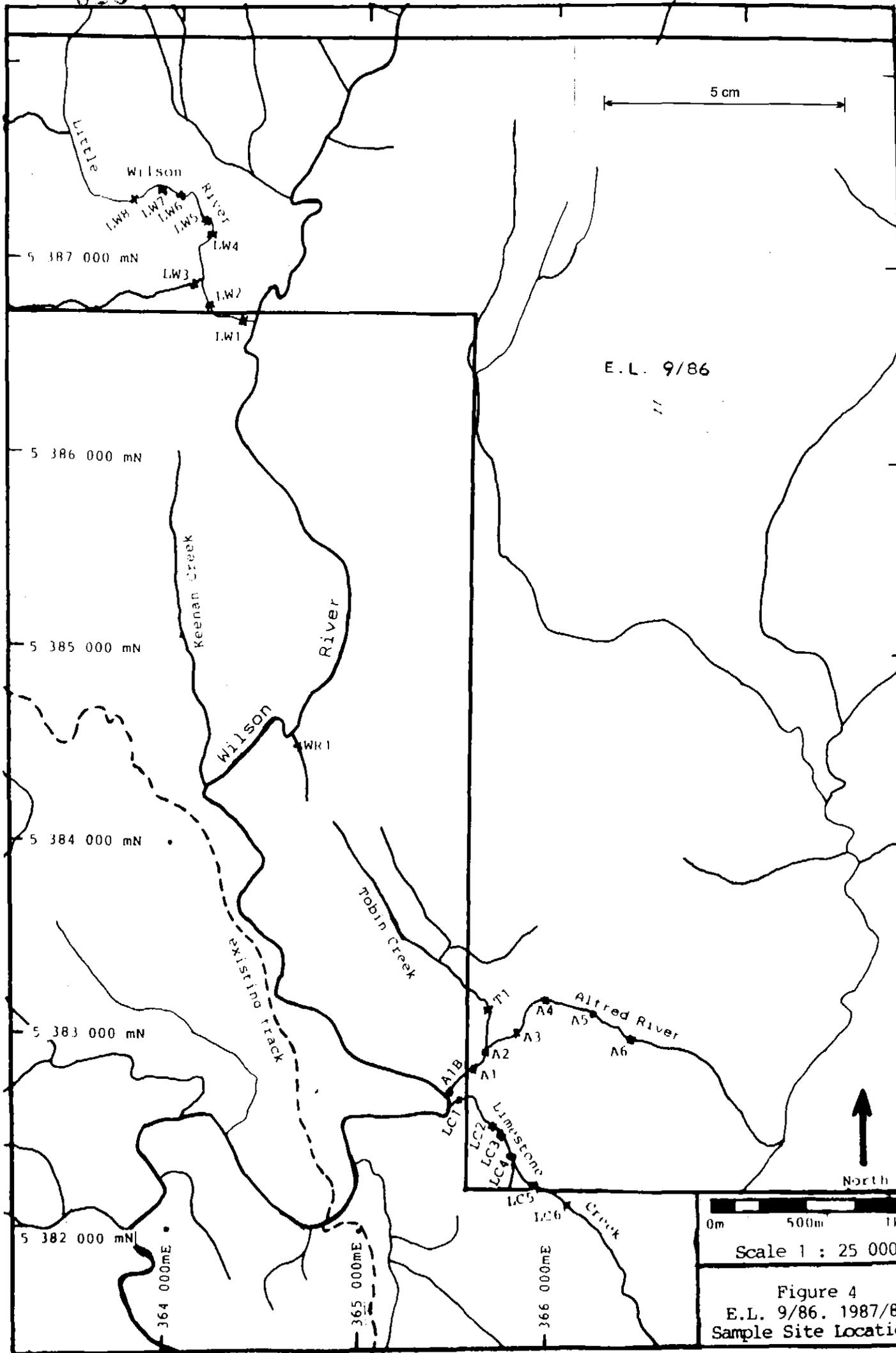
1. Limestone Creek
2. Little Wilson River
3. Alfred River and its tributaries
4. Huskisson River

### 6.2 METHOD

Sampling of Limestone Creek was facilitated through existing foot tracks and vehicular access tracks. Sampling of the Little Wilson River was achieved by cutting a track from Limestone Creek along the Wilson River and crossing the Wilson River at the most suitable fording found. Cutting of this foot track also enabled sampling of the Alfred River and its tributaries.

Each of the 23 stream sediment samples collected comprised a minimum mass of 10 kilograms screened to less than 2 mm. A sub-sample of the screened material was panned to a concentrate and examined for visible content of precious metal. The samples were then bagged and forwarded for further analysis.

Refer to Figure 4 for sample site locations.



0m 500m 1km  
 Scale 1 : 25 000

Figure 4  
 E.L. 9/86. 1987/88  
 Sample Site Locations

- 10 -

7.           RESULTS

No assay results from the stream sediment samples taken in 1987-88 have yet been received from the laboratory.

Overall the panning results, summarized in Appendix 1, are disappointing, as only three sites showed traces of precious metals. However, these three sites were consecutive sites along Limestone Creek and were the only 3 good trap sites sampled along the creek. This is encouraging and warrants further sampling.

The absence of any visible precious metal from Little Wilson River, despite good traps, is discouraging and unless assay results indicate otherwise further sampling is not recommended.

The Alfred River samples showed no visible precious metals and trap sites for heavy particles were difficult to locate.

8. RECOMMENDATIONS AND PROPOSED EXPLORATION PROGRAMME

1. Regional geological mapping of the area to determine the relationship of gold, osmiridium and chromite anomalies within E.L.9/86 with those located at Wilson River (E.L.24/85) and Huskisson River (E.L.14/86).
2. Further stream sediment sampling to determine the extent of anomalies located in the 1986 and 1987 field seasons. Specifically, the areas that will be further sampled (Figure 5) are:
  - a) the Little Wilson River.
  - b) the streams entering the Wilson River and located half to one kilometre north of Little Wilson River.
  - c) Keenan Creek, reported to have been once worked for alluvial gold and osmiridium, will also be investigated and sampled. *- EL14/86!*

Continued sampling of Little Wilson River will be determined by the assay results of the 1987/88 Little Wilson River stream sediments (these results are not yet available).

3. Soil sampling in the vicinity of anomalous stream sediment samples.
4. Reconnaissance and hand auger coring of:
  - a) the flats adjacent to Alfred River between Helipad One and Wilson River;
  - b) the river flat adjacent to the Wilson River between Alfred River and Limestone Creek.

All samples taken in the 1988/89 exploration season will be analysed for gold, platinum group elements and chromite.

9. PROPOSED EXPLORATION BUDGET 1988-89

The budget for the proposed exploration programme recommended above is \$8,000, as outlined below:-

Regional geological mapping	\$4,500
-----------------------------	---------

- The budget makes provision for the employment of a geologist and field assistant, use of a helicopter, sample analysis and report preparation.

Stream sediment and soil sampling	\$3,500
-----------------------------------	---------

- The budget provides for the employment of a geologist and field assistant, sample analysis and mineralogy. Depending on analytical results, the budget may be increased to include hand auger coring of selected areas.

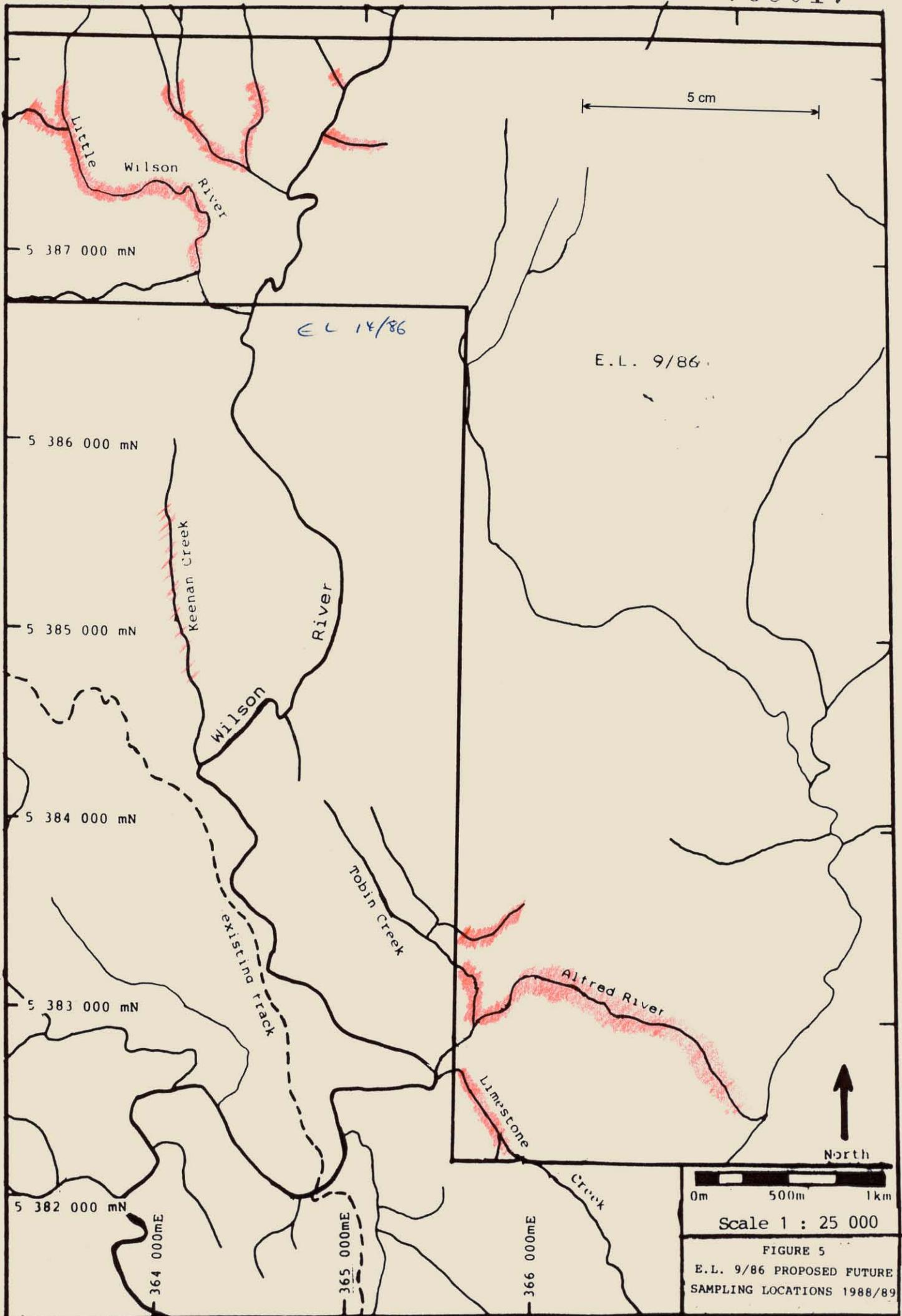


FIGURE 5  
 E.L. 9/86 PROPOSED FUTURE  
 SAMPLING LOCATIONS 1988/89

10. BIBLIOGRAPHY

- Brown, A.V. Geology of the Dundas - Mt. Lindsay - Mt. Youngbuck Region. Geological Survey Bulletin, 62, 1986.
- Butt, G., 1978: Interpretation Report Airborne Electro-magnetic (INPUT) Survey of the Wilson River Area, Tas. Australia. Geoterrex Pty Ltd Report.
- Martin, L.A., 1981 Annual Report, E.L. 17/77 - Wilson River 81-1594 Area, Western Tasmania., 1980-1. Renison Ltd Report.
- Roberts, P.A., and Martin L.L, 1982 Annual Report, E.L. 17/77 - Wilson River 82-1857 Area, Western Tas., 1981-82. Gold Fields Exploration Pty Ltd Report.
- McIntosh Reid, A. Geological Survey Bulletin, Osmiridium in Tasmania, 1920.
- Parish, T. Annual report on E.L. 9/86, 1987.

APPENDIX 1 Table Summarising Sample Details and Results.

NO.	LOCATION	GRID REF.	RIVER OR CREEK	OUTCROP	TRAP DETAILS	PRECIOUS METAL IN PAN CON- CENTRATE
LC1	65m up- stream of junction with Wilson River	<sup>3</sup> 65538269	Limestone Creek	Nil outcrop decomposed limestone silt	Nil	Nil
LC2	273m up- stream of junction with Wilson River	65698256	Limestone Creek	Nil outcrop appeared to be tail- ings from old alluvial working	Nil	Nil
LC3	350m up- stream of junction with Wilson River	65768252	Limestone Creek	limestone outcrop	rockbar across creek	possibly 0.1 mg Au
LC4	400m up- stream of junction with Wilson river	65798243	north branch of Limestone Creek	limestone outcrop	rockbar across creek	possibly 0.1 mg Os
LC5	650m up- stream of junction with Wilson River	65938224	north branch of Limestone Creek	limestone outcrop	below 2m high water- fall	possibly 0.2 mg Os
LC6	850m up- stream of junction with Wilson River	66108214	north branch of where track crosses creek	limestone outcrop	gravel behind rock bar	Nil
A1 B	20m from junction of Wilson and Alfred River	65468274	Alfred River	Nil	eddy location	Nil

- 14 -  
(CONTINUED)

NO.	LOCATION	GRID REF.	RIVER OR CREEK	OUTCROP	TRAP DETAILS	PRECIOUS METAL IN PAN CONCENTRATE
A 1	250m from junction of Wilson River and Alfred River	65608284	Alfred River	Nil	gravel in lee of large rock	Nil
A 2	450m on downstream of Tobin Creek junction with Alfred River	65678294	Alfred River	Nil quartz sandstone 20m downstream of sample	no trap	Nil
A 3	600m from junction of Wilson River and Alfred River	65808303	Alfred River	siltstone mudstone bedrock	good boilhole trap	Nil
A 4	835m from junction of Wilson River and Alfred River	65938320	Alfred River	no outcrop but siltstone nearby	gravel bar in mid stream	Nil
A 5	1000m from junction of Wilson River and Alfred River	66158317	Alfred River	no outcrop but siltstone nearby	eddy location on side of the river	Nil
A 6	1250m from junction of Wilson River and Alfred river	66368304	Alfred River	no outcrop by siltstone nearby	gravel bar in mid stream	Nil
T 1	250m upstream of junction of Tobin Creek with Alfred River	65688315	Tobin Creek	no outcrop quartz sand	no trap sample taken in centre of small creek	Nil

609

- 15 -

(CONTINUED)

NO.	LOCATION	GRID REF.	RIVER OR CREEK	OUTCROP	TRAP DETAILS	PRECIOUS METAL IN PAN CON- CENTRATE
LW1	35m from junction of Little Wilson and Wilson River	64338669	Little Wilson River	limestone in river bed, quartz sandstone scree on adjoining hills	eddy location	Nil
LW2	250m from junction of Little Wilson River and Wilson River	64138678	Little Wilson River	limestone bedrock	gravel bar, old alluvial workings in the vicinity	Nil
LW3	300m from junction of Little Wilson River and Wilson River	64118690	small creek entering Little Wilson River from the west	limestone bedrock	gravel behind limestone rock bar	Nil
LW4	500m from junction Little Wilson and Wilson River	64168716	Little Wilson River	limestone outcrop	gravel bar below water fall	Nil
LW5	550m from junction of Little Wilson River	64118721	Little Wilson River	limestone outcrop	limestone bar across river (alluvial workings nearby)	
LW6	800m from junction of Little Wilson and Wilson River	63998731	Little Wilson River	Nil	gravel bar on inside bend	Nil

621

- 16 -

(CONTINUED)

NO.	LOCATION	GRID REF.	RIVER OR CREEK	OUTCROP	TRAP DETAILS	PRECIOUS METAL IN PAN CON- CENTRATE
LW7	880m from junction of Little Wilson River	63928735	Little Wilson River	Nil	creek from north which was later found to be a bypass to river dug by old miners	Nil
LW8	950m from junction of Little Wilson and Wilson River	63788731	Little Wilson River	hard granite outcrop	below large water- fall	Nil
WR1	Wilson River un- named stream from the east	64358454	Wilson River	no outcrop quartz sandy alluvial	no trap	Nil