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Report on Alluvial Exploration Program carried out by
Tasmanian Alluvials on EL 55/1983 at Mangana for
Tasmanian Alluvials*

Anon

EL55/1983

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DATE	AD.		
CL. DIR.	30 OCT 1986		
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INTRODUCTION

The testing program carried out by Tasmanian Alluvials on EL 55/83 at Mangana was concentrated in Majors Gully which is a tributary to Richardsons Creek which runs through Mangana and thence to the South Esk River.

The program consisted basically of setting up an alluvial treatment plant, digging a number of costeans, and treating the material from these costeans to determine economical viability of the ground.

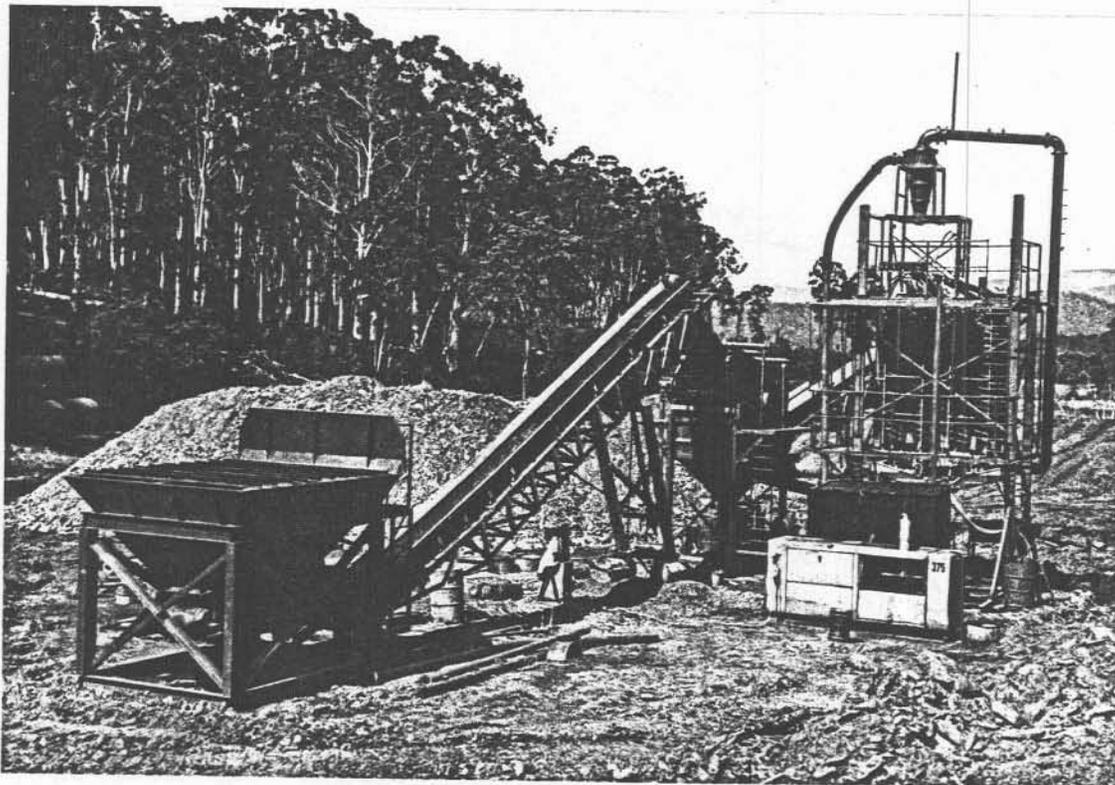
OUTLINE OF WORK

We commenced testing work on EL 55/83 with the transportation and setting up of the alluvial treatment plant at the start of September 1986. This coincided with the digging of several costeans and the making of roads etc.

A total of four costeans were dug, these started from the mouth of Majors Gully, with the last being excavated 1700m from the first, up the gully. (see plate 1)

The material from the costeans was trucked to the wash plant where it was then treated in bulk samples to determine values. (see results)

In addition to this the gully was measured in seven places to determine both width of gully, and also depth of material. So in turn we could then calculate the total yardage.



DISCRIPTION OF TREATMENT

The wash material was dropped into a feed bin with a loader from there it was fed onto a conveyor belt with a belt feeder. The conveyor belt in turn fed onto a 10 x 4 vibrating screen equipped with a number of spray bars. From here it was screened to various sizes, the oversize being greater than 10mm, the undersize being smaller than 2mm. The material between 10mm - 2mm was run down a riffled sluice to collect heavy particals. The undersize was then pumped to a cyclone which deslimed and the underflow from this was run down a set of Reichart RG7 spiral concentrators. The concentrate from this was then run over a very flat sluice equipped with spray bar type agitaters which trapped the fine gold. The oversize and slurry from all of the test holes was stockpiled back into hole No. 1 near which the plant was located.

The material in each costean was treated in exactly the same way, with the screening and spiral plant being thourally cleaned after each test, to give the most accurate results.

Shown are photographs of screening plant and equipment.



RESULTS

Of the four costeans excavated the first three were bulk tested, with the fourth being dug to evaluate wheather the wash material was the same, as it was, and also the average depth of ground. From the first costean dug which was No.1 the top wash layer (1(a) see table 1) was treated this re- turned a very poor result so consequently the top layer was discarded from slot Nos. 2 and 3. Underneath the top layer of wash was a bottom yellow clayey wash which averaged 2.74m deep up the entire gully. It was this wash which was tested.

The results being listed below.

TABLE 1.

Costean No.	Volume m ³	Value Au g/m ³
1(a)	76	0.073
1(b)	714	0.305
2	84	0.362
3	87	0.266
Average without 1(a)	885	0.307

As mentioned earlier Majors Gully was measured at various intervals (see plate No.1) to establish volume. the depths listed in Table 2 are the total depth of ground, overburden included. The wash layer however remains reasonably consis- tant in depth, the average being 2.74m

TABLE 2.

Location	Width of diggings m	Average depth m
A	59	5.1
B	68	3.4
C	50	3.0
D	54	3.6
E	41	4.6
F	59	3.2
G	54	6.0
Average	54.86	4.1

RESULTS Cont

The proved section of Majors Gully measures 2000m up from the treatment plant to the junction of Maudwit and Golden Gullies.

The width was taken at a total of seven places, the average being 54.86m. From the results taken we have a conservative volume of 300632m^3 averaging $0.307\text{g}/\text{m}^3$ of gold.

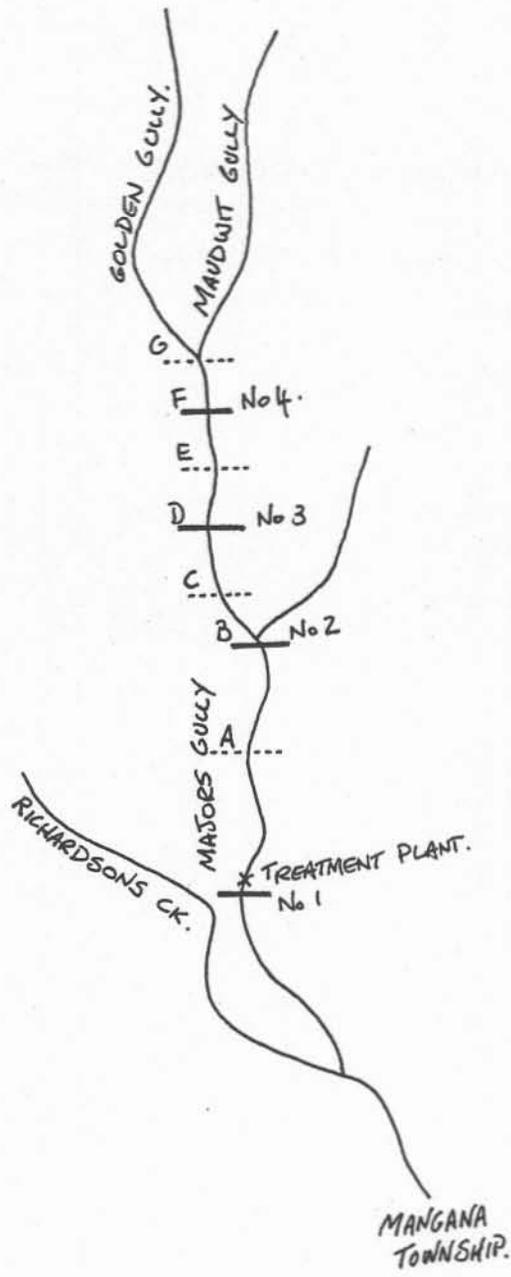
This is to a mining operation of our size and minimum overheads an economic proposition so steps will be taken in the very near future to take out a lease over this area, as well as establish a central plant with lower overheads than the one used in the testing program.

EXPENDITURE

An outline of total expenditure on the program is listed below. Costs such as wages, fuel, etc. are included in total amounts.

Establishing camp.....	\$2500
Transporting equipment.....	\$2500
Plant erection.....	\$10000
Excavator hire 200 hours @ \$45/h.....	\$9000
Loader hire 80 hours @ \$50/h.....	\$4000
Truck hire 10 hours @ \$30/h.....	<u>\$300</u>
Total Expenditure.....	<u>\$28300</u>

PLATE No.1



Legend
— Costeans
----- Measurements taken

Scale aprox 1:35000