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NOV 1986			
DEPT. OF MINES			
11,614/86			

ANNUAL REPORT ON EXPLORATION LICENCE 55/83
by TASMANIAN ALLUVIALS

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ANNUAL REPORT ON EXPLORATION LICENCE 55/83

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by TASMANIAN ALLUVIALS

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ANNUAL REPORT ON EXPLORATION LICENCE 55/83
BY TASMANIAN ALLUVIALS

INTRODUCTION

The Exploration Program on EL 55/83 by Tasmanian Alluvials for 1985-86 involved alluvial exploration at both Mathinna and Mangana. A more detailed report of this program is explained in the following pages.

REPORT ON ALLUVIAL EXPLORATION PROGRAM
(FEBRUARY - MARCH 1986)
AT MATHINNA TASMANIA

SUMMARY

The first stage of the Alluvial Exploration Program carried out by Tasmanian Alluvials at Mathinna from February to March 1986 involved the digging of firstly 3 test costeans and secondly the digging of 16 test holes.

The second stage involved the transporting of material removed from these costeans to our treatment plant at Lisle where it was then treated to determine values of the deposit at Mathinna.

The third stage involved and weighing of gold and a breakdown of costing for the exploration program.

WINNING AND TREATMENT OF TEST GROUND

At the time work was commenced at the start of February, 1986 the paddock's in which we decided to test were too wet to gain access with the excavator or trucks. Permission was then sought from the Fingal Municipality to excavate costeans along the Upper Eask Road and the top end of Dunn Street. Permission was granted and we commenced excavation along Dunn Street with the use of an excavator and two $7.3m^3$ trucks which we hired locally. Overburden or topsoil was stockpiled beside the costean and 500 yards³ of wash was removed and carted to the top end of Dunn Street and stockpiled on a block of ground aquired by us. Once the removal of wash was completed from this costean we then backfilled with oversize rubble from old mine dumps in the area and topsoil was then returned to leave the ground as it was originally. (Refer to Plate No. 1.).

We then moved down to the South Esk Road and repeated exactly the same procedure removing 500 yards³ of wash from the table drain beside the road and backfilling as above. (Refer to Plate No. 2.)

This wash was then trucked to our treatment plant at Lisle using 14.6m³ trucks. Once the 1,000 yards³ was stock-piled at Lisle in two separate heaps we cleaned our treatment plant out thoroughly and commenced putting through the wash from costean No.1 (Dunn Street) once this was completed we once again cleaned the treatment plant thoroughly and concentrated all of the recovered gold into one sample.

We then washed the material from costean No.2 (Upper Esk road) and repeated the same procedure.

With continuing dry weather conditions by the 6th March, 1986 the ground had dried out sufficiently to enable us to excavate a third costean 750 metres up Black Horse Gully from Dunn Street.

We then hired a low loader and trucked our excavator to Mathinna. We also hired a fleet of 14.6m³ trucks. Because access was easily attained to the costean we could load directly into the trucks with the excavator and cart straight to Lisle. We once again trucked 500 yards³ to our treatment plant and backfilled the costean as before.

After all of the wash had arrived to our plant we once again put it through and concentrated the gold as before.

While our excavator was at Mathinna we also dug numerous holes to determine overburden to wash ratios. These holes were dug 100 metres apart along Black Horse Gully and 50 metres apart across the Gully commencing at James Street going up towards costean No.3.

The excavating of these holes involved stripping the topsoil and placing it to one side of the hole, then the wash was removed until we struck a definite bedrock bottom. The next step involved recording the hole number, the depth of topsoil or overburden and the depth of wash. Hence the overburden to wash ratio and finally the type of bottom. Once this was recorded (see result) the wash material was then placed back in the hole and packed down by the excavator, finally the topsoil was replaced and rolled down leaving the paddocks in their original condition.

APENDIX 1

Depths of Test Holes.

Numbers 1-16

Refer to Plate No.4 - All Measurements in
MetresH.1.0 - 0.3
0.3 - 2.6
2.6Overburden
Gravel
Sandstone BedrockH.2.0 - 0.67
0.67 - 2.0
2.0Overburden
Gravel
Sandstone BedrockH.3.0 - 0.67
0.67 - 2.0
2.0Overburden
Gravel
Sandstone BedrockH.4.0 - .8
0.8 - 1.8
1.8Overburden
Gravel
Sandstone BedrockH.5.0 - 0.3
0.3 - 1.8
1.8 - 3.6
3.6Overburden
Clayey Gravel
Gravel
Sandstone BedrockH.6.0 - 0.3
0.3 - 2.1
2.1Overburden
Gravel
Sandstone BedrockH.7.0 - 0.67
0.67 - 2.3
2.3Overburden
Gravel
SandstoneH.8.0 - 0.3
0.3 - 2.1
2.1Overburden
Gravel
Sandstone BedrockH.9.0 - 0.3
0.3 - 2.4
2.4Overburden
Gravel
Sandstone BedrockH.10.0 - 1.2
1.2 - 3.9
3.9Overburden
Clay
Sandstone Bedrock

H.11.
0 - 0.45
0.45 - 3.5
3.5

Overburden
Gravel
Sandstone Bedrock

H.12.
0 - 0.8
0.8 - 3.9
3.9

Overburden
Gravel
Sandstone Bedrock

H.13.
0 - 0.45
0.45 - 1.65
1.65 - 3.5
3.5

Overburden
Clay
Gravel
Sandstone Bedrock

H.14.
0 - 4.7
4.7

Gravel
Sandstone Bedrock

H.15.
0 - 0.3
0.3 - 2.1
2.1

Overburden
Clay
Sandstone Bedrock

H.16.
0 - 0.3
0.3 - 3.0
3.0

Overburden
Gravel
Sandstone Bedrock

$$\begin{aligned}
 \text{Amount of gold} & \\
 &= 500,000 \times .184 \\
 &= 92,000 \text{ g} \\
 &= \underline{2958.2 \text{ g}} \\
 \text{Value} &\geq \$1,479,099.6 \\
 \text{①} &
 \end{aligned}$$

$$\begin{aligned}
 \text{Value} &\leq 570,000 \times .184 \\
 \text{②} &\leq 104,880 \text{ g} \\
 &\leq 3372.3 \\
 &\leq \$1,686,174
 \end{aligned}$$

MATHWA

$$\begin{aligned}
 &\$1 \text{ } 600 / \text{yr} \\
 &\$ \text{ } 20 / \text{gram} \\
 &\$ \text{ } 4 / .2 \text{ gm} / \text{yr}^3 \\
 \text{in cm} &\underline{\$ 2 \times 10^6 / 1/2 \text{ m}^3}
 \end{aligned}$$

$$\begin{aligned}
 \text{Whole value} & \\
 &\leq \$ 3 \times 10^6 \\
 &\text{approx.}
 \end{aligned}$$

RESULTSVALUES

The free gold collected from each of the costeans was batched and weighed seperately so as to determine the values of each. We obtained a result by taking 80% of the weight of the gold as being pure. This was accounting for two things, the gold not being pure to start with and also not being as clean as we would like. After this weight was determined we then divided it by the amount of yardage in each trench, in this case 500, to establish how many grams per yard the ground was going.

Total weight of gold recovered was 254.3 grams. 62.2 grams of this was returned to the Tasmanian Mines Department, we have kept the remaining 192.1 grams to have for sizing analysis. This will be forwarded to the Mines Department at a later date.

THE RESULTS BEING

Costean No.1.(Dunn Street) - .1841 grams/yard³.
Costean No.2.(Upper Esk Road) - .1197 grams/yard³.
Costean No.3.(750 metres from Dunn Street) -
.2048 grams/yard³.

Our estimated reserves from surface area of the ground multiplied by the average depth comes to approximately 1,070,000 yards³ of material, of which 500,000 yards³ is better than .1841 grams/yard³. The remaining 570,000 yards³ being under .1841 grams/yard³.

AVERAGE DEPTHS

The average depths of ground from each costean and the test holes are as follows:

COSTEAN NO.1. (DUNN STREET)

Overburden - 0.77m
Wash - 1.27m
Total - 2.04m

COSTEAN NO.2 (UPPER ESK ROAD)

Overburden - 1.06m

Wash - 1.06m

Total - 2.12m

COSTEAN NO.3 (750m FROM DUNN STREET)

Overburden - 0.29m

Wash - 2.36m

Total - 2.65m

TEST HOLES

Overburden - 0.477m

Wash - 2.39m

Total depth - 2.86m

REPORT ON ALLUVIAL EXPLORATION PROGRAM
(SEPTEMBER - OCTOBER 1986)
AT MANGANA TASMANIA

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 ~~2~~₅.)

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.

DESCRIPTION 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 particulates. 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 agitators which trapped the fine gold. The oversize and slurry from all of the test holes was stock-piled 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 thoroughly cleaned after each test, to give the most accurate results.

Shown are photographs of screening plant and equipment.



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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 returned 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	885	0.307 ✓
without 1(a)		

As mentioned earlier Majors Gully was measured at various intervals (see plate No.3) to establish volume. The depths listed in table 2 are the total depth of ground, overburden included. The wash layer however remains reasonably consistent 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

MANCANA

\$6 / $\frac{1}{2}$ m³

= 1.8×10^6

RESULTS cont

The proved section of Majors Gully measures 2,000m 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 $300,632\text{m}^3$ 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.



MAN HOURS

The total man hours worked on Exploration Licence 55/83 for 1985-86 was 1840.5. A breakdown of this is listed below.

MATHINNA

Excavator (Contractor).....	35hours
10 Yard trucks	45.5
Tasmanian Alluvials staff :	
Man hours at Mathinna (Evaluating deposit, Mapping, supervising contractors, negotiating with land holders, recording data, backfilling.).....	160
Man hours treating material at Lisle plant (processing, assaying, cleaning of plant soas to avoid contamination of test batches).....	180
Cartage of material to Lisle for treatment (75 20cubic yard-truckloads @ 4 hours per round trip).....	300

MANGANA

Transportation of plant and equipment to Mangana from Lisle (crew of 4 for 1 week).....	160
Erection of test plant and subsequent treating and evaluating (crew of 4 for 6 weeks)	<u>960</u>

TOTAL 1 840.5

EXPENDITURE

An outline of total expenditure on Exploration Licence 55/83 for year ending November 1986 is listed below. Costs such as wages, fuel, etc. are included in total amounts.

Truck Hire.....	\$ 20 552
Excavator Hire	13 175
Treatment Costs	4 555
Establishing camp (Mangana)	2 500
Transporting equipment (Mangana)	2 500
Transporting equipment (Mathinna)	690
Plant erection (Mangana)	10 000
Loader Hire	4 000
Research (Hardrock)	340
Incidentals	<u>270.80</u>
TOTAL	\$ 58 582.80

PROPOSED WORK PROGRAM FOR 1986 - 87

As an alluvial plant will be commissioned early in the new year, as a result of exploration work carried out at Mangana a further exploration program will be carried out to determine if economic reserves are available as an extension of previous proved up ground at Mangana.

Further exploration involving a program of costeaning will be carried out in Long Gully at Mathinna and some alluvial flats on freehold land bordering on the South Esk River, The aim of this exploration is to prove up a minimum of 2.5 million cubic metres of material grading .2 grams/metre, this would then justify a mining operation involving a modern cutter-suction dredge.

From research carried out by us this year into possible hard rock potential on Exploration Licence 55/83 we envisage hiring consultant Geologists with the aim of outlining a potential resource. If these steps are positive \$10 000 will be spent on preliminary drilling.

ESTIMATED EXPENDITURE

The estimated expenditure on Exploration Licence 55/83 for 1986 - 87 will involve approximately \$30 000 being spent on alluvial deposits with \$20 000 being spent on hard rock potential. The break down being :-

ALLUVIALS

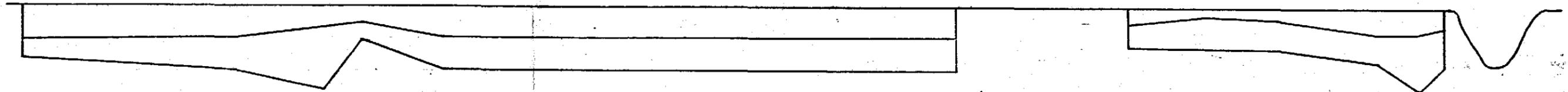
Mangana	\$ 10 000
Mathinna	20 000

HARD ROCK POTENTIAL

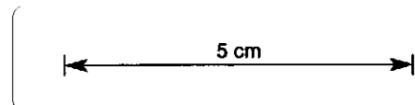
Consultant Geologist	10 000
Percussion Drilling	<u>10 000</u>
TOTAL	\$ 50 000

We envisage a total expenditure on Exploration Licence 55/83 for 1986 - 87 of \$ 50 000.

COSTEAN No. 1. — DUNN ST.



VERTICAL SCALE 1:150
HORIZONTAL SCALE 1:1000



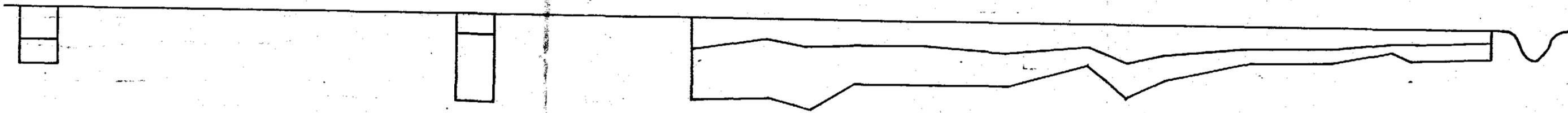
□ OVERBURDEN MATERIAL
□ WASH MATERIAL.

Locality required
" Street plan

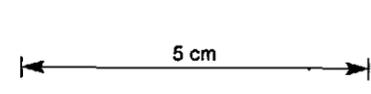
974018

PLATE No. 1.
TASMANIAN ALLUVIALS.

COSTEAN No. 2. — UPPER ESK RD.



VERTICAL SCALE 1: 150
HORIZONTAL SCALE 1: 1000



□ OVERBURDEN MATERIAL.
□ WASH MATERIAL.

locality required
As a working street plan

974019

410

86-2607

PLATE No. 2.
TASMANIAN ALLUVIALS

019

574000

5407300

~~5473000~~

HIGH ST

JAMES ST

5407200

□ OLD DIGGINGS.

□ CREEK.

■ OUR SLOTS. 5407100

OLD ROAD

5407000

SAND DUMP

WATER SLOT

412

5406900

LOTION No 3

5406800

FW VVT S R P P

BH16

5406700

5406600

BLACK HORSE GULLY

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

SCALE 1:3300

5 cm

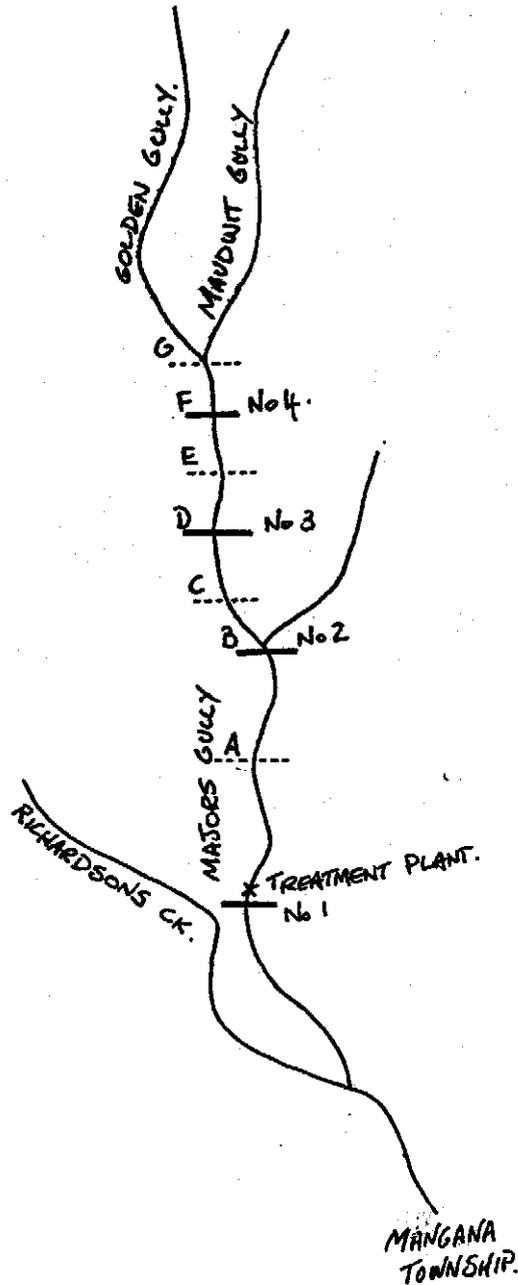
PLATE No. 4

TASMANIAN ALLOUVIALS

LOGZ-98

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PLATE No. 5.



Legend

- Costeans
- Measurements taken

Scale aprox 1:35000