INSPECTION REPORT

ON

REWARD CREEK GOLD AREA

FOR

JANE RIVER SYNDICATE

by

DOUGLAS MCKENNA & PARTNERS
PTY. LTD.

October 1976

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SUMMARY

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At the request of the Jane River Syndicate an alluvial gold prospect was inspected and mapped on Reward Creek some 120 kilometres north west of Hobart.

The syndicate hold mineral leases and an Exploration Licence over the area.

Over the Precambrian basement of quartz-impregnated metasediments lie Tertiary gravels. The gravels comprise small angular quartz, silt and vegetal matter but very little clay.

Workings in the Reward Creek area extend over a length of 350 metres, width of up to 20 metres and reputed depth of up to 5 metres. There are no reliable previous production records.

In February 1976 about 20 pits and a costean were dug to outline the deposit, but due to bedrock basement not being reached in many cases the programme failed to achieve its purpose.

Estimates of the potential of the area are virtually impossible to make due to lack of basic information. As a guide line it is considered that under a maximum area of 13,000 sq. metres the most that could be expected is 2000 oz of gold.

It is recommended that a minimum target be determined on a cost structure basis; that the costs and availability of a suitable drill and sample concentrating system be ascertained for an initial programme of 250 to 300 metres of drilling; and that the extent of some unprospected "higher" Tertiary gravels be outlined with the use of a hand auger.

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INTRODUCTION

Reports on an alluvial gold deposit near Jane River, Tasmania, were forwarded by the Jane River Syndicate in July 1976. It was recommended in August 1976 that a geologist inspect the area as a preliminary step in advising how to set about assessing the potential of the area.

A field inspection was made by A. L. Alexander and A. Jannink, geologists, accompanied by various syndicate members, between 20th and 22nd September 1976. During this visit a theodolite survey was carried out over the Reward Creek alluvial area and a map has been produced.

LOCATION:

The Reward Creek alluvial workings lie 25 kilometres east of the Jane River, some 21 kilometres south of the Lyell Highway where it crosses the Franklin River (Queenstown 1: 250,000 series sheet), and about 120 kilometres north west of Hobart.

Access from the sealed Lyell Highway is by 4 wheel drive track that has been reconstructed by the syndicate. The track is 26 kilometres long, crosses three permanently flowing rivers and takes between $1\frac{1}{2}$ to 2 hours to negotiate.

Water is available from small creeks in the area or from the Jane River 2.5 kilometres to the west or Erebos River 3 kilometres to the north west.

There are no power facilities in the district.

The natural countryside has thick undergrowth.

TENEMENTS:

No title searches have been made, but on a plan supplied by the syndicate, 12 mineral leases are held in the Reward Creek area. Surrounding this area an Exploration Licence (or Special Prospector's Licence) is held by the syndicate covering many square kilometres.

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GEOLOGY:

The country rock of the area is made up of Precambrian metasediments. Most of the rock types are slates and silty schists, with some hard quartzite. Much of this Precambrian basement in the Reward Creek area is filled with quartz impregnations as veins and laminae. Generally there is little basement outcrop due to soil and vegetation cover.

The Tertiary gravels are exposed in the Reward Creek area in the creek and old workings over a length of 350 metres. They are composed of angular quartz, generally in the 1 to 2 cm range and rarely as large boulders, pale to medium grey silt and vegetal trash. No real clay material was observed, and all the sedimentary constituents are of local origin.

PREVIOUS WORK:

Gold was first found in 1935 on Reward Creek. After that time the creek was worked over a length of 350 metres to a depth reputedly of up to 5 metres and with widths of up to 20 metres.

There are no production records, the old reports giving reference to only short periods of time:

"Approximately 100 ozs. of gold have been won during recent months" (F. Blake 1935); and

"The record gold production from Jane River field for two quarters ending March 1936 is given as 242 ozs. fine". (F. Blake 1936)

An idea of the grade for the "lower 12 inches" (0.3m) in the original reward claim is indicated by:

"About 40 cubic yards of material has been worked here for a yield of 45 ozs of gold". (F. Blake 1936)

Other creeks were worked and prospected in the area but none proved to be as rich as the Reward Creek.

Since the field was abandoned - presumably in the late 1930's - no work was carried out on the area until recent times. In February 1976 a programme of digging backhoe pits and bulldozing a costean was implemented under the partial supervision of a government geologist. About 20 pits were excavated (see accompanying plan) to depths of about 2 metres and one costean about 40 metres long was bulldozed across the eastern end of the small valley, also to a depth of 2 metres.

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The costean and many of the backhoe pits failed to reach bedrock basement (see plan). Samples of the spoil from the pits were panned. Twelve of the pits gave colours of gold in varying amounts. A bulk sample of 1100 kg. from the costean was sent for ore dressing investigation by the Dept. of Mines. This sample assayed 0.19 gram/tonne Au (0.006 oz/tonne).

No estimates of quantity or grade of the gravels could be made as a result of this pitting programme.

ALLUVIAL ESTIMATES:

Mapping of the Reward Creek area has revealed that about 3000 square metres of ground have been worked in the past. The present average depth of the workings is between 2 and 3 metres, however it must be assumed that the miners usually reached bedrock basement and have backfilled their workings to some extent. Basement has been exposed in the creek and workings in some areas (e.g. 20 metres s.w. of survey station F, and 40 metres north west of stn. D), but on the other hand some pits put down from the creek floor failed to reach basement (e.g. 20 metres north of stn. B, and 70 metres northwest of stn. D).

For the purposes of this exercise let an average depth of gravel of 4 metres be assumed. This would indicate that the volume of gravel turned over by the miners was of the order of 12,000 cubic metres. Had the gravel been running 1oz Au to the cubic yard then over 15,000 oz Au would have been produced. This figure is obviously excessive by a factor of perhaps x20. It would appear much more likely that the upper levels were removed as overburden and only the lower level was sluiced or panned. Had the average grade been 5 dwt. Au to the cubic yard and the total production been 750 oz. then a thickness average of 0.75 metres would have been worked in the past.

From the mapping of the valley, a maximum area potential of 16,000 sq. metres, less the 3000 square metres already worked, leaving 13,000 square metres exists. Assuming the same parameters as above (0.75 metres of 5 dwt Au to the cubic yard) then 9750 cubic metres of gravel would produce 3170 oz. of gold, with 42,250 cubic metres of overburden.

DISCUSSION:

It must be emphasized that the estimates given above are purely speculative since there is almost a total lack of data to work on.

The figures are thought to be maxima, and it is more likely that considerably less gold exists. Widths of 40 metres of gravel have been shown to exist by the pitting and costeaning programme, but it may be found that the gold is contained in narrow gutters at the base of the gravel. On the other hand, if the top portion of the gravels contains sufficient gold to work - although it appears this was not true in the past - then the volume of treatable material is considerably increased.

Even if the maximum volume of 52,000 cubic metres (4 metres deep x 13000 sq. metres) of gravel is of sufficient grade for treatment, the operation is still considered to be of syndicate size rather than company size. If, as is expected, the smaller volume (9,750 cubic metres) is available then the gravels could be treated by a 3 man operation with minimal equipment of a front end loader, a bulldozer (part time to strip overburden, but possibly the front end loader may be able to handle this, a pump and small treatment plant. Due to the lack of clay, the treatment is expected to be fairly simple.

It is suggested that the syndicate estimate the cost that such an operation would involve for them through their connections with the earthmoving industry, including treatment plant construction and use of labour (i.e. employed or syndicate members on part time basis). From this estimate the necessary minimum quantity of recoverable gold can be calculated to cover costs and provide a profit for the syndicate. This can then be related to parameters of grade and volume that must be proved up in an exploration programme. If, for instance, these capital and running costs exceed $200,000 (i.e. approx 2000 oz. gold), then a viable operation may not exist (again this is conjecture due to lack of basic information and exploration results).

In order to assess the potential of the Reward Creek area a programme of drilling would be recommended since it has already been shown that both the backhoe and bulldozer failed in some areas to reach basement. Costs of such a programme will depend on availability and type of drilling rigs and concentrating equipment. These are still to be investigated. It is envisaged that initially 250 to 300 metres of drilling would be required.

Whilst mapping the Reward Creek area it was noticed that other Tertiary gravels exist in the region that have not been worked in the past. The tops of these gravels appear to be higher in elevation and probably represent river beds of an earlier age than Reward Creek. One extensive area was noted just to the north of Reward Creek comprising

some of the E-W spur between approx. 80 metres ENE of stn. E and 100 metres NNE of stn. B. It is understood that gravels have been found high on the southern bank of the valley to the south east of stn. A. Gravels are crossed on the track between Reward Creek and the camp and colours of gold were obtained from a dish of these gravels. These three locations may constitute the same old river bed. It is considered that the syndicate could trace the area extent of these gravels with the use of a hand auger by running lines across them until no gravel is encountered on either side. When the outline is obtained then the area and a postulated volume can be calculated. Drill testing of these gravels may be outside the financial scope of the syndicate due to excessive depth.
The gravels in Ridge Creek to the south of Warne's Lookout (i.e. 1 kilometre west of Reward Creek workings) appear to have been worked out. No further prospecting is recommended for that area.
The origin of the gold appears to be local due to the angularity of the gravels and reputedly of the gold. The primary introduction of the gold is probably associated with the quartz veins and laminae impregnated in the basement Precambrian rock. Some concentration may have been effected by the streams of the "higher" gravels prior to their being partly eroded by the streams of the "lower" gravels.

RECOMMENDATIONS:

1. The cost structure be determined to set up a small operation as outlined above.

2. The cost and availability of a suitable drilling machine be ascertained, and thereby the cost of a drilling programme be estimated. Initially a grid on 10 x 50 metres would be drilled involving approximately 50 holes for 250 to 300 metres of drilling. Some form of concentrating the drill samples would be needed.

3. The "higher" gravels be outlined and panned to indicate whether further exploratory work is warranted.

Douglas McKenna + Partners P/L.

Douglas McKenna & Partners Pty. Ltd.

October 1976 AJ.

REFERENCES:

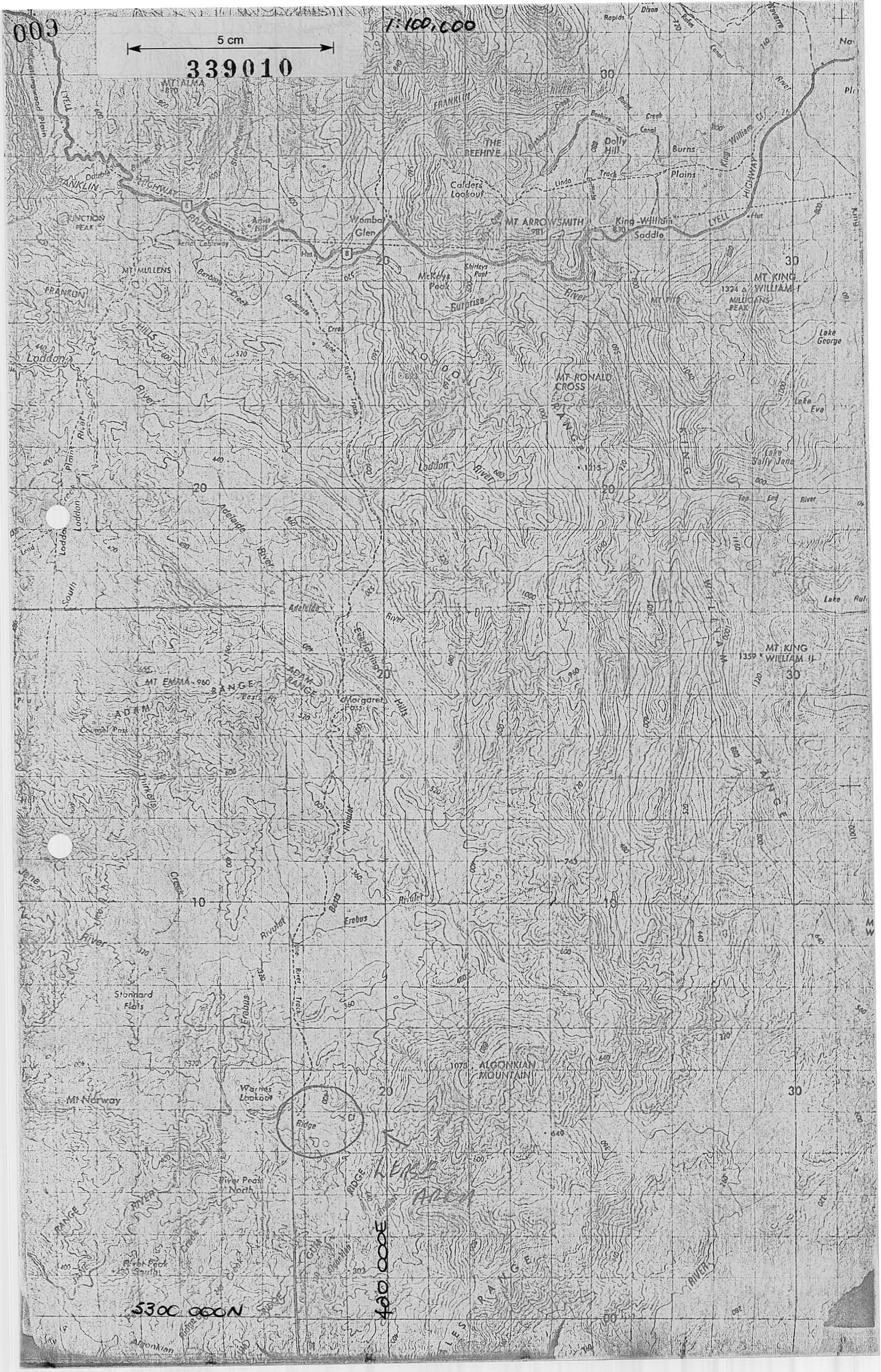
The following references were supplied by the Syndicate:

F. Blake 1936 Acting Government Geologist, Dept. Mines
Preliminary Report on Jane River Goldfields
Report on District between Jane River and Prince of Wales Range

R. Billingham 1976 Inspector of Mines
Visit to Jane River 19-20th February 1976

D. J. Jennings 1976 Senior Geologist, Dept. Mines
Visit to Warne's Lookout : Jane River Area
J. Bennetto's Leases. Warne's Lookout February 1976

H. K. Wellington Chief Chemist and Metallurgist, Dept. of Mines
Letter to Jane River Syndicate 18th June 1976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THE BEEHIVE
Dolly Hill
Burns Plains
Calders Lookout
Wombat Glen
MT ARROWSMITH 981
King William Saddle
LYELL HIGHWAY
FRANKLIN
HIGHWAY
JUNCTION PEAK
MT MULLENS
McKays Peak
Surprise River
MT KING WILLIAM I
MILLIGANS PEAK
Lake George
Loddon
MT RONALD CROSS
LODDON RANGE
Loddon River
KING WILLIAM RANGE
Lake Eve
Lake Sally Jane
Adelaide River
MT KING WILLIAM II
MT EMMA 960
ADAM RANGE
Margaret Pass
Rivulet
Erebus
Stannard Flats
ALGONKIAN MOUNTAIN
Mt Norway
Warnes Lookout
Ridge
River Peak North
River Peak South
Algonkian
5300 000N
400 000E
RIVER
RANGE

WARNES LOOKOUT

1M 68 30.

5M 68 30.

41M 73 30

39M 73 30

J. Bennetto

J. Bennetto

8M 68 30.

CONS^D LEASE

7M 73 290

Renaud

15'rd

Myrtle Ck.

56M 73 40.

J. Bennetto M.L.

15'rd

25'rds

7M 68 30.

6M 68 30

91M 66 30

13M 67

12W 67

J. Bennetto

9M 68 30

J. Bennetto

Ck

J. Bennetto

(PREVIOUSLY - T.H. WATSON)

38M 13 60

M.L.

Ck.

52M 68 80.

J. Bennetto

Ck

Bacon

3989011

LEGEND

- GRAVEL
- BASEMENT
- 1.5 metres GRAVEL over BASEMENT
- PROSPECTING PIT/BACKHOE PIT
- OLD ALLUVIAL WORKINGS
- WATER RACE
- CREEK
- TRACK
- SURVEY STATION
- SURFACE CONTOUR IN METRES (APPROXIMATE ONLY) ARBITRARY DATUM STATION A GIVEN 400m E.L.

REWARD CREEK

BIDER CREEK

MAXIMUM EXTENT OF ALLUVIALS

PROPOSED DAM LINE

HUT

N

0 10 20 50 100
Scale in Metres

76-1185

JANE RIVER SYNDICATE	
PLAN OF REWARD CREEK AREA 011	
COMPILED: DMAP	SCALE 1:500
DATE: SEPT 1976	DRAWN: A.J.

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5 cm