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This Report belongs to the title:
ALLUVIAL BULK TESTING AND GOLD RESOURCE ESTIMATE
EASTERN MCN 1323 – MT TYMN, NT

EL 4871 ANNUAL REPORT

FOR THE PERIOD ENDED

19TH MARCH 1988

The following Report outlines work undertaken in the vicinity of EL 4871 on behalf of an associate company. While largely confined to alluvial resources, the report provides evidence of the general tenor of gold occurrences in the Mt. Tymn area.

At the time of submission negotiations were continuing into finalising the titles position which remained confused in the past year.

It is the intention of the Company to undertake a full appraisal of the mineral properties at the earliest possible time.

Annexed to this Report is a copy of a letter to the Department outlining our proposed work programme and expenditure.

PLET0299

ALLUVIAL BULK TESTING AND GOLD RESOURCE ESTIMATE

EASTERN MCN 1323 - MT TYMN, NT

1:250,000 Map Area - Pine Creek, NT
1:100,000 Map Area - Batchelor, NT

DARWIN, NT OCTOBER 1987

PRPT0002

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SUMMARY

Bulk testing of an area including old alluvial gold diggings on the flanks of Mt Tymn about 15 km south-east of Adelaide River township, NT indicates a resource of about 30,000 m^3 from which a minimum of 0.44 g/m^3 gold is recoverable by gravity means and a potential resource of 260,000 tonnes from which 0.86 g/t gold may be recoverable by cyanidation.

This report documents the results of the bulk testing programme and attempts to evaluate the area.

RECOMMENDATIONS

1. Assay for gold by amalgamation or cyanidation a further 6 or more selected tailings samples remaining from the bulk testing programme.

2. If this confirms the previous tailings assays then -

   (a) Establish by sampling, sizing and analysis the minimum sample size of insitu material and assay method that will on assay for gold return a representative result.

   (b) Resample and re-evaluate the area.

CONCLUSIONS

1. Within eastern MCN 1323 the old diggings contain about 30,000 m^3 at a minimum gravity recoverable grade of 0.44 g/m^3. It may be possible to upgrade this recovery to of the order of 0.9 g/m^3.

2. A further 4,000 m^3 of diggings at presumably similar gravity recoverable grades occur outside eastern MCN 1323 but within Mineral Claims applied for by Pacific Goldmines NL.

3. Within eastern MCN 1323 the alluvial flats and to a lesser extent the hillslope scree outside the diggings may contain the surprising amount of 210,000 tonnes at 0.86 g/t gold recoverable by cyanidation.

4. The total alluvial resource of eastern MCN 1323 may be of the order of 260,000 tonnes at 0.86 g/t gold recoverable by cyanidation.

5. The bulk of this gold is probably very fine and only economically recoverable by cyanidation.

6. Only the gold from within or near to the diggings may be economically recoverable by gravity means.

7. The possibility exists that the flats surrounding Mt Tymn may contain of the order of 1,000,000 tonnes of alluvium with potentially similar cyanide recoverable gold grades to that occurring within eastern MCN 1323.

   Of this about 90,000 tonnes may occur outside MCN 1323 but within Mineral Claims applied for by Pacific Goldmines NL.

8. Every bulk sample tested at Mt Tymn - no matter where it came from - diggings or hillslope scree, sand overburden and deep wash away from the diggings - contained gold.

9. The purity of the Mt Tymn alluvial gold is 0.8742 fine.

10. Gold nuggets do not occur at Mt Tymn.

11. Cassiterite in the form of "woody tin" occurred in every sample but in insignificant amounts only.

12. Insitu grades within eastern MCN 1323 were surprisingly high ranging from 1.77 - 4.08 g/m^3. Particularly significant were hillslope scree 4.08 g/m^3, sand overburden outside the diggings 2.05 g/m^3 and deep wash outside the diggings 2.73 g/m^3 all of which indicate significant reserves.

13. Throughout the testing there was a significant and constantly high gold loss in the tailings ranging from 1.36 - 4.78 g/m^3.

14. The plant at Mt Tymn was in fact operating primarily as a washing and screening plant with gold being concentrated into the tailings. The causes of this gold loss were -

    (a) the plant, ragging and plant operation, and probably primarily

    (b) the nature and very fine grain size of the gold.

15. Jig recoveries were very poor ranging from 0.06 - 0.80 g/m^3 or only 4 - 58% of the available free gold and averaging probably only about 20% for the programme. The highest recoveries came from the diggings and are probably a reflection of the coarser gold grain size nearer the source.

16. Jig recoveries from sand overburden and underlying wash relatively far from the source may be virtually the same - and of the order of 0.14 g/m^3.

17. Recoveries by amalgamation were good ranging from 0.58 - 2.16 g/m^3 or 42 - 96% of the available free gold - the highest recoveries, complimentary to the poor jig recoveries, coming from outside the diggings.

18. Overall recovery by jig and amalgamation was good ranging from 1.21 - 2.26 g/m^3 or 68 - 83% of the insitu gold and averaging slightly better outside the diggings - probably reflecting the depletion by mining within the diggings - and indicating the potential of significant recoverable reserves outside the diggings.

19. Unrecovered, presumably "bound", gold ranged from 0.47 - 0.89 g/m^3 or 17 - 22% of the insitu grade.

20. Potential methods of treatment may include heap leaching alone or in various combinations with gravity separation and screening. Also upgrading (to + 5 g/t?) by sizing then treatment by the Moline Plant may be possible.

21. All the resource estimate grades, with the exception of the jig recoveries, could be significantly in error due to the fact that -

    (a) they are based entirely on the results of analysis of only 7 tailings samples,

    (b) the actual gold distribution outside these 6 sample locations may be entirely different to that assumed, and, the relatively unlikely possibilities that -

    (c) the Amdel analysis of the tailings submitted to them are incorrect and/or

    (d) the estimates of the sample oversize volumes are substantially incorrect.

22. The possibility of the existence of the potential gold ore resource has to be confirmed or denied - by either amalgamation or cyanide assay for gold of the remaining tailings samples or new sampling/analysis.

23. Vertical channel sampling of the alluvial material, and fire assay, returns gold values even less than the jig recoveries and significantly less than the actual insitu grade.

24. The minimum sample size and method of analysis necessary to return a representative gold assay from an insitu sample is not known and could only be determined by testing.

25. The volumes of oversize material from the testing at Mt Tymn ranged from 4 - 24% of the sample - which is significantly different to the oversize volume range 32 - 43% reported from the Wandie testing.

26. During any elluvial/alluvial bulk testing for gold -

(a) Oversize and/or tailings volumes must be measured as accurately as possible.

(b) Bulk density determinations should be carried out on at least the insitu material and the tailings.

(c) The free gold loss in the tailings must be determined and this done by assay.

INTRODUCTION

Mt Tymn is situated about 1 km east of the Stuart Highway on Mt Ringwood Station about 70 km south south east of Darwin, NT. Road access of approximately 130 km from Darwin is via the Stuart highway to a gate about 14 km south-east of Adelaide River township thence via bush track for about 2 km to the prospect which lies on the eastern side of Mt Tymn. (Figure 1)

During May - June 1987 Australian Overseas Mining Limited carried out bulk testing of the old elluvial/alluvial gold diggings and adjacent area on the eastern side of Mt Tymn. This report documents the results of this work and attempts at this stage to evaluate the area.

GENERAL

Mt Tymn is the peak of a prominent ridge line about 2 km north-south long and rising on average approximately 60 m above the surrounding flats. The rocks are recorded on the 1:100,000 Batchelor geological map as being of a massive feldspathic greywacke unit of the Early Proterozoic Burrel Creek Formation. Old hardrock gold workings and prospects occur within these rocks and several of the Cainozoic - Recent creek gullies and alluvial outlets on both sides of the ridge have been worked for their alluvial gold. The bulk testing programme concentrated on and around the two largest of these old workings - both adjacent and occurring on the eastern side of Mt Tymn within the eastern portion of Mineral Claim N 1323.

Several years ago significant work including gridding, geological mapping and sampling was carried out by W R Grace (Aust) Ltd on the area - apparently concentrating on the hardrock potential of the ridge line. Their grid laid out on a true bearing with east-west lines every 100 m and pegs on those lines every 50 m was re-established and upgraded to a 50 m grid over the test area.

At the completion of the testing programme the area was mapped in detail. (Figure 2)

TENURE

The current tenure situation (as at 2/10/87) is shown on the Locality/Tenure Map (Figure 1) and is listed as follows -

TENURE	STATUS	DATE	EXPIRY	OWNER
MLN 805	GRANTED	29.9.73	31.12.93	SCRIMEGOUR & KOBERTSTEIN
MCN 1323	APPLICATION	17.9.73	-	PACIFIC GOLDMINES NL
MCN 1324	APPLICATION	17.9.73	-	PACIFIC GOLDMINES NL
MCN 1325	APPLICATION	17.9.73	-	PACIFIC GOLDMINES NL
MCN 1326	APPLICATION	17.9.73	-	PACIFIC GOLDMINES NL
EL 4871	GRANTED	20.3.86	19.3.90	SCRIMEGOUR & KOBERSTEIN
EL 5277	GRANTED	27.8.87	26.8.90	CORONATION HILL GOLD MINES NL
EL 5278	GRANTED	27.8.87	26.8.90	CORONATION HILL GOLD MINES NL
EL 5287	GRANTED	21.5.87	25.5.89	TOP END MINERAL VENTURES PTY LTD
EL 5515	APPLICATION	14.5.87	-	NORTHERN TERRITORY GOLD MINING NL

SAMPLING

With the experience of the previous bulk testing programme carried out at Wandie during 1986 (Elluvial Bulk Sampling Programme, Wandie, NT, by I Raleigh and R Graham, Australian overseas Mining Limited, January 1987) it was decided that the best and most objective way to evaluate the area would be to take a relatively large number of relatively small, though adequate and meaningful, samples, each about 10 m^3, on a grid system. Accordingly single samples were taken from each 50 m grid point - including the old workings, the ground between, and the alluvial flats to the east of the old workings. (Figure 1)

Each sample was obtained by hydraulic excavator from a trench - aligned perpendicular to the probable direction of alluvial flow - and cut as neatly as practicable with vertical ends and flat floor. The trenches ranging from 0.6 - 2.7 metres in depth generally revealed a sand overburden overlying a pebbly alluvial wash lying on bedrock. Some individual samples depending on their location, consisted almost entirely of hill slope scree (gravel) or pebbly alluvial wash or sand overburden (Figure 3, Appendix 1). Depending on the situation some or all of the overburden was stripped off or included with the sample which, including 10 cm of bedrock, was loaded into a truck - a single sample being a truck body filled to "water level".

Two trucks were in use and each of the first two loads was water line levelled with a shovel in an effort to demonstrate what was required and thereafter level loads were attempted by the excavator operator and truck driver. Each truck was kept as an "odd" or "even" sample number throughout the operation. Each sample was then trucked to a sample pad adjacent to the plant about 1 km away where the sample was dumped in order and flagged with its number.

At all times either J Love or G Hamilton were supervising the sampling and at the completion of the testing programme most of the sample holes outside the diggings were backfilled.

TREATMENT

General

The plant utilised was the Australian Overseas Mining Limited owned, Tristar manufactured "mobile" washing and gravity separator plant previously used in the Wandie bulk testing programme (Appendix 8). This plant, comprising hopper, trommel, conveyors, primary and secondary jigs mounted on a wheeled chassis was set up on a pad bulldozer cut into the hill slope on MCN 1326 adjacent to the sample pad. A road and ramp was constructed to allow (backhoe) loading of the samples into the hopper. Water was pumped from two billabongs situated on the flat about 200 m east of the plant and recycled via a settling dam back into these Billabongs. The plant was operated by G and R Hamilton and a licence to pump water from the billabongs was obtained from the Northern Territory Department of Mines and Energy, Water Resources Commission, for this purpose. (Appendix 7)

Each sample was individually treated in the plant, which has a dry material capacity of about 4 m^3 per hour, washing and separating the material into three products -

Oversize

The oversize from the trommel screen (10 mm) accumulated in a core at the end of the oversize conveyor. At an undetermined time during each test an oversize sample of approximately 10 kg was taken for each and every sample treated by holdings a pan underneath the end of the conveyor. For about 1/2 the samples the individual final heights of each sample oversize core was measured approximately and recorded (Table 3). Following each sample run the oversize cone was spread out and tested for gold nuggets with a metal detector. At the end of the programme the oversize sample in numbered plastic bags were neatly stacked at the plant site.

Tailings

The tailings from the primary jig were gravity discharged onto the hill slope adjacent to the plant. At an undetermined time during each test a tailings sample of approximately 5 kg was collected for each and every (except 21) sample treated by holding a bucket at the end of the discharge pipe. At the end of the programme six selected tailings samples were submitted to Amdel, NT for analysis (Amdel Report D 979/87 - Appendix 6) and the remainder in numbered plastic bags were neatly stacked at the plant site. On 22 September 1987 each of these samples was rebagged.

Jig Product

The jig product from the secondary jig was collected in buckets. At the end of each test the plant was allowed to run and "flush" itself for 5 - 10 minutes at the expiry of which for most of the samples the primary and secondary jig screens were given a cursory check by hand for coarse gold. Towards the end of the programme the ragging from the secondary jig was panned at the end of each sample run (Table 1).

The collected jig product from each sample was panned at least twice into middlings (if there was enough) and concentrate. This concentrate was then carefully and continuously panned until all the gold was extracted - that is virtually no visible gold remaining.

This gold was further cleaned using a fine paint brush and blowing techniques until it was not possible or practical to clean it any further at which point the gold from each sample, and any "specimen rock" recorded, was individually weighed on field scales (accurate to about 0.1 g) and lodged in separate plastic phials (Table 2). At the end of the programme the corner pieces of gold were (approximately) recorded from each sample (Table 2) following which all the bullion was combined, weighed and forwarded to the Perth Mint for refining (Perth Mint Deposit N^{o} 597-25/6/87 - Appendix 5). All panning and gold cleaning during the programme was done by J Love.

Problems

Compared to at Wandie the operation of the plant at Mt Tymn appeared to continue smoothly however there were problems - the main events being as follows:

Initially the "ironstone gravel" ragging used at Wandie was discarded and replaced by hematite collected from Tangent Creek however the first two samples processed produced an unacceptable amount of mostly sand jig product which was found to be due to -

(a) the complete clogging of the jig screens by hematite chips formed during prior crushing, and

(b) the existence of a small section of "1/2 PVC pipe" placed at the entrance to the jig in such a way as to supposedly act as a nugget trap.

The total cleaning of all the jig screens and the screening out of all potential hematite blocking chips from the ragging and the discarding of the PVC appeared to completely rectify the problem to produce an acceptable amount of jig product.

About half way through the programme it was realised that the amount of jig product was too small and that fine gold was probably being lost. Another major cleaning of all the jig screens and ragging was carried out. About half of the hematite ragging was removed and replaced with the original Wandie ragging in order to provide a pronounced layering within the ragging.

Although this appeared to produce a highly desirable effect it was later felt that the amount of jig product was still too small. This was rectified by slowing down the flow over the jigs and acceptable amount of jig product were maintained for the remainder of the operation.

Also at this stage it was realised that every fine gold (can just see with naked eye) general flaky, was being lost in the tailings (Table 1). However what ever could be done to tune the plant to prevent this was unsuccessful and this fine gold loss continued for the remainder of the programme - presumably this was the case for all the previous samples tested also.

About three quarters of the way through the planned programme it became apparent that only a relatively small resource of alluvial gold recoverable by gravity means existed and little purpose would be achieved by continuing. Accordingly the programme was terminated with nine samples untested.

RESULTS

The results are best seen in the accompanying figures and tables. A gold purity of 0.8742 fine as determined by the Perth Mint (Appendix 5) for the combined bullion recovered during the testing has been used for all relevant calculations.

Oversize Volume

During the programme not much attention was given to the oversize beyond cursory checking of its washed properties and its gold nugget content. However very approximate cone heights were recorded for about half the sample (Table 3).

It was felt during the programme that what little gold may have been lost in the tailings would not be significant and in any case probably not worth the effort of recovery. In retrospect of course this was seriously in error and the oversize cone - a measurable dimension - and the only means of relating gold recoveries, gold losses, and insitu grades should have been given much more serious attention with the cone dimensions being measured as accurately as possible.

The oversize cone heights that were recorded were plotted onto the sections and cone height estimates were made for each other sample - taking into account the nature of the wash and the sample volume (Table 3). The oversize cone angle of repose was not measured during the operation however measurements from two photographs of the plant (Appendix 8) suggest that the angle of repose was about 38° and this was used in the calculations. Gravel pushed up adjacent to the plant has an angle of repose recently measured of 35°.

Oversize cone volume calculations were subsequently made for each sample assuming a vertical cylinder of diameter 20 cms surrounded by a cone (Appendix 4).

VOLUMES - BULK DENSITY

Insitu Sample Volume

This was determined by measuring the internal dimensions of the most suitable trenches - that is the neatest upstanding trenches with the most regular and clearly defined dimensions from which all the material extracted had gone into the sample. Two even numbered and three odd numbered trenches were measured and their insitu volumes calculated (Appendix 2) as -

Odd Sample Numbers	7.81 m^3
Even Sample Numbers	8.40 m^3

Loose Sample Volume

This was determined by measuring the internal dimensions to water line of both trenches and calculated (Appendix 3) as -

Odd Sample Numbers	9.53
Even Sample Numbers	10.33

These calculations indicate low oversize volumes ranging from 0.4 - 2.3 loose m^3 which was equivalent to 4 - 24% of the sample.

At first thought, bearing in mind some of the material treated (medium-heavy wash), these figures appear low and are low when compared to the values of 32 - 43% of the sample used in the Wandie calculations. However, at this stage, unless a fundamental error is found, I am not prepared to dismiss the results as they are based on measurement and I cannot see the calculations being significantly in error. It is pertinent to ask how the Wandie values were determined?

Bulk Density

No bulk density determinations were carried out on any material from Mt Tymn. For the Wandie testing a sample of tailings was submitted to Amdel NT for analysis and the result reported as "average specific gravity of dry tailings" was 1.77 (Amdel Report D 426/87). On enquiry Amdel advised that the sample submitted was put into a known volume container, probably slightly compacted, and the weight measured. Thus is figure would appear to be a bulk density determination - not an average of specific gravities of the component minerals.

This figure has been used for all the Mt Tymn calculations as it was the only actual figure of this type available and it was reasoned that it probably is similar to the actual value of the Mt Tymn tailings and hopefully would not be very different to the Mt Tymn wash - if anything probably less than the actual bulk density of the insitu material. The AIMM Field Geologists Manual lists the insitu bulk density of dry gravel and dry sand as 1.8 and 1.95 respectively.

TAILINGS GRADE

At the completion of the testing programme six samples were submitted to Amdel NT to determine -

(a) The amount of free gold remaining in the tailings

(b) The amount of bound gold in the tailings

The six samples submitted and the reason for their selection were -

4T Unacceptably high volume in jig product due to jig clogging and PVC "nugget trap".

7T Sample processed immediately after all jig clean and ragging refurbish.

14T No fine gold detected in a panned sample of tailings.

17T Regarded as optimum jig product.

28T Tailings from a sample of overburden.

35T Unacceptably low jig product.

Note the location of all these samples in that 4, 7, 14, 28 and 35 provide information along the axis of the apparent alluvial run from near the source to furthest tested from the source. Bear in mind that presumably significant amount of gold have already been extracted from within the diggings. Sample 17 was well away from the diggings and taken from what is essentially hill slope scree.

The results from the Amdel analysis were unexpected revealing a constantly high and very significant tailings gold loss with tailings head grades ranging from 1.36 to 4.78 g/m^3 (Table 5, Appendix 6).

In answer to the reasons for the tailings selection a number of comments can be made which apply not only to the individual samples taken but to all the other samples and testing they represent -

4T Confirmation that significant free gold was being lost.

7T The cleaning of the screens and discarding of the PVC nugget trap caused a significant increase in the amount of gold collected by the plant.

14T Despite no fine gold being detected in the (single) tailings sample panned significant gold was being lost.

17T The plant tuning to give the jig product thought of as being the "optimum jig product' - that is the lowest product volume containing the (hoped for) maximum free gold recovery - was in fact losing significant free gold.

28T Very significant free gold from overburden material was not being recovered.

35T Significant free gold was clearly being lost in the many tests that recovered only low jig product.

Although it is possible that the Amdel results are incorrect due to incorrect analysis or a systematic error the values are plausible, the variation does not look wrong, there is no reason to doubt them except the surprise they are so high and as such, until they are shown to be wrong, the results have to be regarded as being correct.

Also, bear in mind that the tailings samples were only small samples - each about 5 kg - taken at a single instant in time and thus may not be truly representative. However, on the other hand the sample by the time it had gone through the plant was well and truly mixed, any fine gold would presumably be relatively evenly distributed through the sample and the results by not showing marked variation appear correct.

Similarly although the tailings samples are only six in number and thus only 19% of the total samples tested I see no reason why these results are not representative of all the samples tested.

OVERSIZE GRADE

No samples of oversize have been assayed and it is assumed that although there probably would be some free gold its total amount would be insignificantly small. With exceptions the cleanliness of the oversize material was "acceptable" throughout the programme.

Perhaps the gold not recovered by amalgamation in the six tailings samples submitted to Amdel is an indication of the "bound" gold that could be expected in the oversize - ranging from 0.29 - 0.61 g/t (Table 5).

The oversize from all samples was checked with a metal detector however no nuggets or "specimen rock" were found. This tends to confirm the reputation that nuggets do not occur at Mt Tymn.

CONCENTRATE AND MIDDLINGS GRADE

No samples of concentrate and/or middlings have been assayed and although there almost certainly would be free gold it is felt that the total amount would be very small and probably insignificant.

Presumably the free gold loss in the concentrates would be similar to that remaining in the concentrates at Wandie - that is from 2 - 11% of the panned gold (excluding the anomalous sample J). For Mt Tymn it is felt that for each of the samples the equivalent figure would be at the lowest of this range - that is about 2%.

Cassiterite of the "woody tin" variety occurred (from memory) in every sample concentrate however the amounts (about 35+ grams in sample 4) were not significant.

JIG RECOVERIES

Jig recoveries ranged from 0.07 - 0.80 g/m^3 for the programme (Figures 5, 6, 11, 12, 13 - Table 4). All the high values (5 from 0.43 - 0.80 g/m^3) originated from the relatively deep alluvial diggings and the intermediate values (5 from 0.21 - 0.34 g/m^3) came from within 25 metres of these diggings. With a single exception all the remaining low recoveries (22 from 0.06 - 0.16 g/m^3) were from outside the diggings.

The actual known jig recoveries were very poor being only 0.10, 0.14, 0.16, 0.23, 0.43, 0.80 g/m^3 or 4, 5, 12, 19, 25, 58% respectively of the available free gold (Figure 7 - Tables 6, 7). Of these the three highest were from the diggings whereas the three lowest were from wash, hillslope scree and overburden - all relatively far from the diggings. Presumably this is a reflection of relatively coarser gold within the diggings.

Note samples 28 and 29 where the actual jig recoveries were virtually the same from overburden (sample 28 - 0.14 g/m^3) and the underlying medium wash (sample 29 - 0.13 g/m^3) suggesting that the jig recoveries, at least in this area, relatively far from the presumed source, are independent of the grain size (energy) of the host.

It probably is no coincidence that the best recovery (sample 7) of 58% of the available free gold (40% of the insitu gold) was obtained immediately after a major clean and ragging refurbish of all the jigs - an increase of 33% from the previous sample (4) of similar material. This indicates that 60% (and therefore perhaps 70%?) of the available free gold could be recoverable from some of the material (the diggings) with clean jigs, the correct ragging and the proper "setting" of the jigs and plant.

However, all samples returned very fine float gold and I would not be surprised if, at least outside the diggings, a significant increase (> 20%) in jig recoveries could not be obtained).

AMALGAMATION RECOVERIES

Recoveries by amalgamation for the six samples tested were extremely good being 0.58, 1.31, 0.98, 1.34, 3.04, 2.16 g/m^3 or 42, 75, 81, 88, 95, 96% respectively of the available free gold (Figure 8, Table 6, 7). These recoveries are complimentary to the jig recoveries - the highest coming from the samples outside the diggings.

JIG AND AMALGAMATION RECOVERIES

Overall recovery of free gold by jig plus amalgamation for the six samples tested was good being 1.21, 1.37, 1.48, 1.73, 3.19, 2.26 g/m^3 or 68, 70, 72, 76, 78, 83% respectively of the insitu free gold (Figure 9, Table 6, 7). Overall these figures are remarkably consistent however there does appear to be a definite bias for the samples outside the diggings to have the higher recoveries.

UNRECOVERED GOLD

Gold that was not recovered by jig or amalgamation for the six samples tested was 0.47, 0.54, 0.59, 0.57, 0.58, 0.89 g/m^3 or 17, 24, 30, 32, 28, 22% respectively of the insitu grade (Table 6). There appears to be a bias for the diggings to contain the higher percentage of unrecovered gold.

INSITU GRADE

The calculated insitu grades of gold for the six samples tested are (Figures 4, 6, 10, 11, Table 6) -

SAMPLE	g/m^3	g/t	COMMENTS
4	2.28	1.29	Shallow alluvial diggings nearest source
7	1.77	1.11	Deep alluvial diggings midway from source
14	1.77	1.00	Edge of deep alluvial diggings furthest from source
17	4.08	2.03	Hill slope scree outside diggings
28	2.05	1.16	Overburden outside, but on strike of, diggings
35	2.73	1.54	Deep wash furthest (100 m) from diggings

In general it appears that the calculated grades of samples outside the workings are greater than within the workings - presumably the gold within the diggings has been depleted by mining. Within the diggings the lowering of grade as distance increases from the source presumably is a reflection of gold grain size and increasing distance from the source.

Although all the above values were surprisingly high the most surprising were samples 17, 28, 35. Note sample 17 - the highest insitu grade - was taken to include 30 cms of bedrock (reputedly this was the case also with similar samples at Brocks Creek).

CHANNEL SAMPLING

After the termination of the testing programme three vertical channel samples of lateritic wash (each from memory about 3 kg) were cut from the walls of the test sample holes. This was done to test if channel sampling could locate any possible gold bound in lateritic wash (possibly similar to at Brocks Creek) that may not be recoverable by the plant. The samples were submitted to Amdel NT for assay by fire and the results are as follows (Appendix 6) -

SAMPLE No.		AMDEL RESULT g/t	INSITU GRADE g/t	JIG RECOVERY g/t
7L	Trench NE end 30 - 120 cm from surface. Lateritic medium wash.	0.36	1.11	0.45
19L	Trench W wall centre 40 - 170 cm from surface. Lateritic medium-heavy wash.	0.16		0.25
21L	Trench W wall S end 50 - 160 cm from surface. Lateritic medium wash.	0.14		0.25

None of the channel sample results "appear" to indicate significant grades. The sample 7 result is quite different to the calculated insitu grade and all the channel results are less than the actual jig recoveries!

RESOURCE ESTIMATES

Eastern MCN 1323

At the completion of the testing programme the area was mapped in detail. This map has been divided into blocks and to each block has been applied a depth and grade - either known or estimated - of the resource being sought (Figure 14).

In this manner, using an overall bulk density factor of 1.77 and assuming the oversize and unrecovered concentrate grades are zero, calculations have been made for volume, tonnage, insitu grade, jig recoverable grade, amalgamation recoverable grade and jig and amalgamation recoverable grade (Figure 15, Tables 9-15). See Eastern MCN 1323. Resource Estimate Summary - Table 15.

Outside Eastern MCN 1323

Rough volume estimates have been made for several relatively small diggings located outside the area tested but within MCN 1323 - 1326. presumably these would have approximately the same insitu grades and recoveries as for the diggings within eastern MCN 1323 (Table 16).

Even though some amounts were very small, every sample tested actually contained gold and the possibility became apparent that gold in fact may be distributed in the hill slope scree and alluvial flats surrounding the entire ridge line at potential grades and recoveries similar to those within eastern MCN 1323.

For calculation purposes assuming a skirt of alluvium say 100 m wide averaging 1.5 m depth surrounding the ridge line say 2,000 m long and 300 m wide a potential, ignoring tenure boundaries, of the order of 700,000 m^3 or 1,250,000 tonnes is suggested.

Very approximate volume estimates have been made for other alluvial flats outside MCN 1323 but within MCN 1323 - 1326 (Table 17).

DISCUSSION

Although the number of samples actually taken from within the diggings is relatively small the estimates of the jig recoverable grades for the diggings, bearing in mind the poor recoveries, probably give some indication of the minimum jig recovery grades that would be obtained from the diggings. IF a jig recovery of 60% of the available free gold could be attained for all the diggings material (sample 7 returned 58%) then this would significantly increase the diggings jig recovery to of the order of 9.95 g/m^3 (Table 8). Similarly the jig recovery estimates for outside the diggings are probably lower than what may actually be attained in a production situation although not to the same extent because of the presumably finer gold grain size.

All the other resource estimates, because they are based entirely on the results from the analysis of only six small tailings samples, must be treated with caution and regarded only as an attempt to evaluate what is there. The estimated insitu grades and recoverable grades may in fact be entirely wrong due either to incorrect results returned from Amdel and/or the actual gold distribution within the area. The resource estimate is in fact essentially an exercise with figures on the limited information available however there appears to be no reason to doubt the Amdel analysis and if the calculations are correct the estimates could be indicating a significant resource that is present and recoverable.

The jig and amalgamation recoveries for samples 17, 28 and 35 are extremely significant.

SAMPLE	JIG AND AMALG REC		MATERIAL
	g/m^3	g/t	
17	3.19	1.80	Hillslope scree and bedrock
28	1.48	0.83	Overburden sand
35	2.26	1.28	Deep medium wash

Sample 17 implies significant recoveries from hillslope scree and perhaps bedrock, sample 28 implies significant recoveries from potentially large volumes of sand overburden and sample 35 implies significant recoveries from potentially significant resources to the east of MCN 1323.

Presumably the amalgamation recoveries could not be attained in a production situation because of the ore volumes involved however, also presumably, similar or better recoveries could be attained by cyanidation. Perhaps jig and amalgamation recoveries would be equivalent to heap or vat leach cyanidation. In this case although cyanidation may not recover all of the relatively coarse gold (maybe it would because there is virtually no coarse gold) it would presumably recover more of the fine gold and specimen gold not recoverable by amalgamation. The ore material of Cainozoic sand, elluvial and alluvium presumably would be highly amenable to percolation.

I find it difficult to believe so much gold, even if it is ultra fine, going through the plant and out in the tailings - surely jig recoveries of only 4 - 25% of the available free gold (Table 7) are wrong? But on the other hand if the sampling, analysis and calculations are correct the calculated jig recoveries must be correct. A worry is the sampling of the tailings - one instant in time - to produce about 5 kg - the same order of size as the trench channel samples - yet such a different result - which has to be adequately accounted for.

The jig recoveries suggest that the plant in the text was operating primarily as a screen with almost no gold saving properties and in fact going through the plant - ie washing and sizing - was apparently a concentrating process upgrading the gold into the tailings. Whether or not this was due to the material being treated - the plant - or the operation of the plant - I am not sure. Probably all had some effect however I suspect the probable "?ultra fine" grain size of the gold was the main reason.

Perhaps the comparison between the Mt Tymn recoveries of 4 - 25% (with an anomalous 58%) and the Wandie recoveries from 50 - 91% where the same plant was run by the same operators confirms that the low jig recoveries at Mt Tymn were due to the nature and very fine grain size of the gold? A gold distribution/sizing analysis would provide useful information. What was impressive was that although the jig recovered gold may have been low there was gold in every sample.

A major error and a crux of the situation may be in the oversize volume estimations - all we have is the angle of repose estimated from two photographs and some core heights measured only very approximately. The significant difference between the Mt Tymn oversize volumes ranging from only 4 - 24% of the sample to the Wandie volumes ranging from 32 - 43% is a worry. How exactly were the Wandie oversize volumes determined? If the Wandie estimates were done "by sight" of the heap without measurement (or memory) then they are probably wrong. It is possible that the oversize volumes at Wandie were actually of the same order of size as at Mt. Tymn therefore, potentially upgrading Wandie? Note the situation of Mt. Tymn sample 19 (for example) entirely of medium - heavy wash which although producing the maximum oversize cone height of 110cms, only calculated out at 24% oversize. Note also that the oversize volumes because of their coarse grain size, probably measure larger than they actually are, that is, the actual oversize volume is smaller therefore, the calculated tailings volumes would be larger therefore containing more grams of gold.

Several potential methods of treatment come to mind:-

1. Excavate the heap leach.
2. Wash and gravity concentrate the coarse gold in a normal trommel/jig alluvial plant then heap leach the tailings and oversize, or tailings only, depending upon recoverable gold content in the oversize and/or percolation rates in the tailings only.
3. Wash and gravity concentrate the coarse gold in a normal trommel/jig alluvial plant then screen out the +2mm material from the tailings and treat the -2mm tailings in the Moline Plant.

Also, perhaps are the possibilities that significant gravity recoveries may be attained by utilising other types of gravity plant that may recover the fine gold - ie. centrifugal separators and/or spirals used on their own or in conjunction with a normal trommel/jig plant.

The question is where do we go from here? Firstly the Amdel tailings analysis and/or the possibility of the existence of the estimated ore resources have to be confirmed or denied. This would appear to be approached in one or both of two ways:-

(a) Assay by amalgamation or cyanidation (or bromine extraction?) some or all of the remaining tailings samples. The advantage of this is that the samples are available and the results can be related to actual jig recoveries. A disadvantage may be that a systematic error in amalgamation by Amdel (if Amdel is used) may not be picked up however, this would be irrelevant if assaying was done by cyanidation, here the problem may be the recovery of the gold (grainsize) by the cyanide. The major disadvantage is that the oversize problem would not be bypassed.

(b) Resample the insitu material and assay by amalgamation or cyanidation several selected sample sites, perhaps the six originally submitted to Amdel so that the results could be compared. This would have the major advantage of bypassing the oversize problem however, again would all the coarser gold be recovered by cyanide? The major problem would be what minimum sample size would give the correct assay result, bearing in mind the channel sample results and the maximum practical sizes possible for amalgamation and/or cyanidation?

I am not familiar with the sample size ranges and mechanics of assaying by mercury amalgamation and/or cyanidation however, bearing in mind that most of the gold at Mt. Tymn apparently is very fine the therefore potentially evenly distributed throughout the insitu material (this destruction is the crux of the matter) would agitation cyanidation leaching of sat 50kg of insitu material give a representative answer or should larger bulk samples be taken.

Could a method of sample preparation for instance screening, based on gold size distribution analysis, followed by amalgamation or cyanidation gold assay allow the tailing of a relatively small (5-10kg) sample? Would it be possible for the facilities at Moline to be of any assistance in this?

If the potential for an ore resource can be confirmed then further evaluation of the area should continue, perhaps by complete resampling.

T A B L E 1

CLEAN UP INFORMATION - OBSERVED TAILINGS LOSS

(SAMPLES LISTED IN ORDER OF TREATMENT)

OBSERVED TAILINGS LOSS	SAMPLE	CLEAN UP INFORMATION
	1	
	4	
	7	At start of major clean, both jigs refurbish all ragging at end pan ragging J2 H1 + Z.
	21	
	27	
	39	
	41	
	38	
	37	
	22	
	33	
	36	
	35	
	40	
	19	
FGL	18	1/4 way through major clean both jigs refurbish all ragging.
FGL	17	
FGL	20	
FGL	16	
FGL	13	
FGL	5	
FGL	8	
IVF	6	Pan Z jig ragging H1 + Z
IVF (FLAKE)	3	3/4 way through primay jig major
IVVF (FLAKE)	9	Pan Z jig ragging H1
FGL	11	Pan Z jig ragging H1+2
NIL	14	Pan Z jig ragging H1 + Z
3VVF 1T	15	Pan Z jig ragging H1 + Z
1T	28	Pan Z jig ragging H1 + Z
NIL	29	Pan Z jig ragging H1 + Z
2VVF 1T	26	Pan Z jig ragging H1 + Z

NOTE:

1. All secondary jig product panned at least twice then concentrate from this panned until no more gold could be recovered.

2. Result of panning 1000 CC sample of tailings:

(a) FGL - Fine Gold Loss - Probably of the order of 1-2 VVF.
(b) VF - Very Fine - Approx 1/8 - 1/16mm.
VVF - Very Very Fine - can just see with naked eye.
T - Tiny - need hand lens to see.

PRPT0002

TABLE 2

JIG PRODUCT - BULLION INFORAMTIONM

SAMPLE - IN ORDER OF TREATMENT	MIDDLINGS - GRAMS	CONS - GRAMS	BULLION ON 2ND JIG - GRAMS	BULLION PANNED FROM CONS INCL B. ON 2ND JIG.	SPECIMENTROCK GRAMS	SPECIMEN ROCK SIZE - MM	PANNED BULLION APPROX. SIZING 1-2MM	2-3MM	3-4MM	>3MM	VERYVERY FINE GOLD - COMMENT	COMMENTS AT PANNING
1	25120	1020	-	0.5	-	-	4	-	-	-	LOW	
4	20140	1250	-	4.1	0.1	2@3MM	22	9	3	-	-	COARSE TIN
7	-	580	0.6	7.1	0.1	1@3MM	40	8	2	-	LOW	LOSING FLOUR GOLD?
21	-	400	-	3.9	0.1	2@4MM	23	2	-	-	LOW	LOSING FLOUR GOLD?
27	-	1220	-	1.1	1.0	1@10x 7.5MM	6	-	1	-	OK	WIRE GOLD. SPEC RK WORN LAT NODULE.
39	-	760	-	3.0	-		15	4	1	-	OK	
41	-	360	-	2.0	-		14	11	-	-	OK-LOW	
38	-	360	-	1.4	-		11	-	-	-	OK-LOW	
37	-	320	-	1.1	-		9	-	-	-	OK	
22	-	580	-	2.0	-		6	1	-	-	OK	
33	-	320	-	0.9	-		4	-	-	-		
36	-	290	-	1.3	-		12	-	-	-		
35	-	200	-	0.9	-		4	-	-	-		
36	-	290	-	1.3	-		12	-	-	-		
35	-	200	-	0.9	-		4	1	-	-	LOW	PROBABLE GOLD LOSS
40	-	180	-	1.3	-		4	-	-	-	LOW	
19	-	280	-	4.0	-		40	3	4	-	LOW	
18	5620	580	-	3.3	-		14	6	1	-		
17	-	1860	-	1.4	-	1@2MM	9	1	-	-	OK	
20	-	900	-	1.3	-		4	1	-	-	LOW	
16	-	840	-	1.1	-		5	1	-	-	OK	
13	-	600	-	2.3	-		4	-	-	-	LOW	
30	3480	560	-	0.9	-		2	-	-	-		
5	3240	520	-	1.0	-		2	-	-	-		
8	2120	1160	-	1.4	-		6	-	-	-		
6	5440	1360	0.3	4.6	-		31	9	2	-		
3	-	1900	-	1.0	-		5	4	-	-		BRIGHT YELLOW JAGGED IRREGULAR.
9	5200	880	-	0.7	-		3	2	-	-	LOW-OK	WIRE GOLD NOTED.
11	3600	940	0.1	1.3	0.1	1@3MM	5	-	-	1	LOW	>3mm = 1@5x3x1½mm.
14	1680	590	-	2.2	-		3	-	-	-	OK	
15	6000	800	-	1,1	-	1@0.15MM	5	-	-	-	OK	
28	3000	500	-	1.3	-		8	-	-	-		
29	2220	540	0.3	1.2	-		3	-	-	-	LOW	
26	2900	460	-	1.1	-		16	-	-	-		

T A B L E 3

OVERSIZE AND TAILINGS - VOLUME ESTIMATES

SAMPLE	VOLUME INSITU M^3	VOLUME LOOSE M^3	OVERSIZE CONE HEIGHT CMS	OVERSIZE CONE VOL LOOSE M^3	OVERSIZE %	TAILS %
1	7.8	9.5	E110	2.3	24	76
2	8.4	10.3	E100	1.7	17	83
3	7.8	9.5	100	1.7	18	82
4	8.4	10.3	E100	1.7	17	83
5	7.8	9.5	110	2.3	24	76
6	8.4	10.3	90	1.3	13	87
7	7.8	9.5	E 90	1.3	14	86
8	8.4	10.3	100	1.7	17	83
9	7.8	9.5	70	0.6	6	94
10	8.4	10.3	E 70	0.6	6	94
11	7.8	9.5	E 80	0.9	9	91
12	8.4	10.3	E 80	0.9	9	91
13	7.8	9.5	E 90	1.3	14	86
14	8.4	10.3	110	2.3	22	78
15	7.8	9.5	90	1.3	14	86
16	8.4	10.3	E110	2.3	22	78
17	7.8	9.5	E100	1.7	18	82
18	8.4	10.3	E110	2.3	22	78
19	7.8	9.5	110	2.3	24	76
20	8.4	10.3	E100	1.7	17	83
21	7.8	9.5	E 90	1.3	14	86
22	8.4	10.3	E110	2.3	22	78
23	7.8	9.5	E 90	1.3	14	86
24	8.4	10.3	E 60	0.4	4	96
25	7.8	9.5	E 90	1.3	14	86
26	8.4	10.3	90	1.3	13	87
27	7.8	9.5	80	0.9	9	91
28	8.4	10.3	60	0.4	4	96
29	7.8	9.5	70	0.6	6	94
30	8.4	10.3	110	2.3	22	78
31	7.8	9.5	E 90	1.3	14	86
32	8.4	10.3	E 60	0.4	4	96
33	7.8	9.5	90	1.3	14	86
34	8.4	10.3	E 70	0.6	6	94
35	7.8	9.5	80	0.9	9	91
36	8.4	10.3	110	2.3	22	78
37	7.8	9.5	80	0.9	9	91
38	8.4	10.3	E100	1.7	17	83
39	7.8	9.5	E 90	1.3	14	86
40	8.4	10.3	90	1.3	13	87
41	7.8	9.5	E100	1.7	18	82

TABLE 4

JIG RECOVERIES - ALL SAMPLES

SAMPLE NO.	VOL INSITU M^3	RECOVERED BULLION AT 8742 FINE G	RECOVERED GOLD G	RECOV'D GRADE INSITU G/M^3
1	7.8	0.5	0.4371	0.06
2	8.4	-	-	-
3	7.8	2.0	0.8742	0.11
4	8.4	4.1	3.5842*	0.43
5	7.8	1.0	0.8742	0.11
6	8.4	4.6	4.0213	0.48
7	7.8	7.1	6.2068*	0.80
8	8.4	1.4	1.2239	0.15
9	7.8	0.7	0.6119	0.08
10	8.4	-	-	-
11	7.8	1.3	1.1365*	0.15
12	8.4	-	-	-
13	7.8	2.3	2.0107	0.26
14	8.4	2.2	1.9232	0.23
15	7.8	1.1	0.9616*	0.12
16	8.4	1.1	0.9616	0.11
17	7.8	1.4	1.2239*	0.16
18	8.4	3.3	2.8849	0.34
19	7.8	4.0	3.4968	0.45
20	8.4	1.3	1.1365	0.14
21	7.8	3.9	3.4094*	0.44
22	8.4	2.0	1.7484	0.21
22	8.4	-	-	-
23	7.8	-	-	-
24	8.4	-	-	-
25	7.8	-	-	-
26	8.4	1.1	0.9616	0.11
27	7.8	1.1	0.9616*	0.12
28	8.4	1.3	1.1365	0.14
29	7.8	1.2	1.0490	0.13
30	8.4	0.9	0.7868	0.09
31	7.8	-	-	-
32	8.4	-	-	-
33	7.8	0.9	0.7868	0.10
34	8.4	-	-	-
35	7.8	0.9	0.7868	0.10
36	8.4	1.3	1.1365	0.14
37	7.8	1.1	0.9616	0.12
38	8.4	1.3	1.2239	0.15
39	7.8	3.0	2.6226	0.34
40	8.4	1.3	1.1365	0.14
41	7.8	2.0	1.7484	0.22
		61.8		

NOTE:
1. FINENESS 0.8742 - PERTH MINT DEPOSIT NO. 597.
2. * SPECIMEN ROCK GOLD EXCLUDED.

T A B L E 5

TAILINGS SAMPLES - AMDEL ANALYSIS - CALCULATIONS

TAILS	VOL	INSITU	HEAD GRADE		RECOVERY BY AMALG				NOT REC BY AMALG			
NO.	%	M^3	G/T	G/M^3	%	G/T	G/M^3	G	G/T	G/M^3	G	%
4T	83	6.97	1.26	2.23	70.7	0.89	1.58	10.98	0.37	0.65	4.56	29.3
7T	86	6.71	0.77	1.36	49.4	0.38	0.67	4.50	0.39	0.69	4.63	50.6
14T	78	6.55	1.12	1.98	63.5	0.71	1.26	8.23	0.41	0.73	4.75	36.5
17T	82	6.40	2.70	4.78	77.4	2.09	3.70	23.68	0.61	1.08	6.91	22.6
28T	96	8.06	1.13	2.00	69.9	0.79	1.40	11.27	0.34	0.60	4.85	30.1
35T	91	7.10	1.63	2.89	82.2	1.34	2.37	16.84	0.29	0.51	3.64	17.8

ANALYSIS - AMDEL REPORT D979/87.

TABLE 6

MEASURED RECOVERIES - CALCULATIONS

SAMP NO	VOL INSITU M^3	JIG RECOVERY %	JIG RECOVERY G	JIG RECOVERY G/M^3	JIG RECOVERY G/T	REC BY AMALG %	REC BY AMALG G	REC BY AMALG G/M^3	REC BY AMALG G/T	NOT RECOVERED %	NOT RECOVERED G	NOT RECOVERED G/M^3	NOT RECOVERED G/T
4	8.4	18.75	3.58	0.43	0.24	57.52	10.98	1.31	0.74	23.85	4.56	0.54	0.31
7	7.8	40.48	6.21	0.80	0.45	29.34	4.50	0.58	0.33	30.18	4.63	0.59	0.33
14	8.4	12.89	1.92	0.23	0.13	55.23	8.23	0.98	0.55	31.88	4.75	0.57	0.32
17	7.8	3.84	1.22	0.16	0.09	74.44	23.68	3.04	1.72	21.72	6.91	0.89	0.50
28	8.4	6.60	1.44	0.14	0.08	65.30	11.27	1.34	0.76	28.10	4.85	0.58	0.33
35	7.8	3.71	0.79	0.10	0.06	79.19	16.84	1.16	1.22	17.11	3.64	0.47	0.27

SAMPLE NO.	VOL INSITU M^3	RECOVERY JIG + AMALG %	RECOVERY JIG + AMALG G	RECOVERY JIG + AMALG G/M^3	RECOVERY JIG + AMALG G/T	TOTAL G	INSITU GRADE G/M^3	INSITU GRADE G/T
4	8.4	76.15	14.56	1.73	0.98	19.12	2.28	1.29
7	7.8	69.82	10.71	1.37	0.78	15.34	1.97	1.11
14	8.4	68.12	10.15	1.21	0.68	14.90	1.77	1.00
17	7.8	78.28	24.90	3.19	1.80	31.81	4.08	2.30
28	8.4	71.90	12.41	1.48	0.83	17.26	2.05	1.16
35	7.8	82.89	17.63	2.26	1.28	21.27	2,73	1.54

NOTE:
1. EXCLUDING RECOVERED SPECIMEN GOLD.
2. ASSUMING GOLD IN OVERSIZE IS ZERO.

T A B L E 7

MEASURED FREE GOLD RECOVERY

SAMPLE NO.	JIG RECOVERY G	JIG RECOVERY %	AMALG RECOVERY G	AMALG RECOVERY %	JIG + AMALG REC G
4	3.58	25	10.98	75	14.56
7	6.21	58	4.50	42	10.71
14	1.92	19	8.23	81	10.15
17	1.22	5	23.68	95	24.90
28	1.44	12	11.27	88	12.41
35	0.79	4	16.84	96	17.63

TABLE 8

DIGGINGS - POTENTIAL JIG RECOVERIES

SAMPLE NO.	JIG G	RECOVERY % OF FREE AU	FREE GOLD AVAILABLE G	ASSUME JIG REC 60% OF FREE AU G	INSITU GOLD G	60% FREE AU AS % OF INSITU AU %
4	3.58	25	14.56	8.74	19.12	45.71
7	6.21	58	10.71	6.42	15.34	40.68
14	1.92	19	10.15	6.09	14.90	40.87
	11.71		35.42	21.25	49.36	43.05

NOTE: 43% OF DIGGINGS INSITU GRADE OF 2.2g/m^3 = 0.95g/m^3.

T A B L E 9

INSITU GOLD - WITHIN DIGGINGS

BLOCK	SQUARES @25M^2	AREA M^2	DEPTH M	VOLUME M^3	INSITU GRADE EST G/M^3	INSITU GOLD GRAMMES
NORTHERN DIGGINGS						
A	27	675	1.0	675	2.5	1687.5
B	36	900	1.2	1080	2.5	2700
C	10	250	1.2	300	2.5	750
D	5	125	0.5	62.5	2.5	156.25
E	13	325	2.0	650	2.5	1625
F	11	275	1.0	275	2.5	687.5
G	23	575	1.0	575	2.5	1437.5
H	11	275	1.2	330	2.5	825
I	10	250	1.2	300	2.3	690
J	28	700	1.0	700	2.3	1610
K	8	200	1.0	200	2.3	460
L	27	675	1.2	810	1.9	1539
M	9	225	1.2	270	2.3	621
N	51	1275	1.4	1785	2.3	4105.5
O	17	425	1.2	510	2.3	1173
P	20	500	1.2	600	2.0	1200
Q	70	1750	1.7	2975	2.0	5950
R	76	1900	1.8	3420	2.0	6840
S	49	1225	1.2	1470	1.9	2793
T	8	200	1.6	320	2.0	640
				17307.5	2.17	37490.25
SOUTHERN DIGGINGS						
U	71	1775	1.2	2130	2.5	5325
V	67	1675	1.5	2512.5	2.5	6281.25
W	42	1050	1.5	1575	2.3	3622.5
X	64	1600	1.7	2720	2.0	5440
Y	63	1575	1.6	2520	2.0	5040
				11457.5	2.24	25708.75
				28765	2.20	63199

T A B L E 10

INSITU GOLD

BLOCK	SQUARES @25M^2	AREA M^2	DEPTH M	VOLUME M^3	INSITU GR EST G/M^3	INSITU GLD GRAMMES
OUTSIDE DIGGINGS						
9650E 10300N	50	1250	1.0	1250	2.0	2500
250	100	2500	0.4	1000	3.0	3000
200	99	2475	0.5	1237.5	3.0	3712.5
150	6	150	0.5	75	3.0	225
100	65	1625	0.5	812.5	3.0	2437.5
9700E 10300N	50	1250	1.6	2000	1.5	3000
250	100	2500	1.7	4250	2.0	8500
200	75	1875	1.2	2250	2.0	4500
150	0	0	-	-	-	-
100	10	250	1.2	300	2.0	600
50	100	2500	0.8	2000	3.0	6000
9750E 10300N	50	1250	1.6	2000	1.5	3000
250	100	2500	2.2	5500	1.5	8250
200	94	2350	1.4	3290	1.7	5593
150	83	2075	1.2	2490	1.8	4482
100	95	2375	1.3	3087.5	2.0	6175
50	100	2500	1.2	3000	2.5	7500
0	100	2500	1.0	2500	4.0	10000
950	40	1000	1.0	1000	2.5	2500
900	33	825	1.4	1155	2.2	2541
850	100	2500	0.5	1250	3.0	3750
800	50	1250	0.5	625	3.0	1875
9800E 10300N	50	1250	2.1	2625	2.0	5250
250	100	2500	2.2	5500	2.0	11000
200	100	2500	1.7	4250	2.0	8500
150	100	2500	1.7	4250	2.0	8500
100	100	2500	1.9	4750	2.0	9500
50	100	2500	1.7	4250	2.0	8500
0	100	2500	1.6	4000	2.0	8000
950	91	2275	1.2	2730	1.5	4095
900	30	750	1.5	1125	1.9	2137.5
850	100	2500	1.2	3000	1.5	4500
800	50	1250	0.6	750	1.5	1125
9850E 10300N	50	1250	2.1	2625	2.3	6037.5
250	100	2500	2.4	6000	2.5	15000
200	100	2500	1.8	4500	2.7	12150
150	100	2500	1.2	3000	2.7	8100
100	100	2500	1.9	4750	2.8	13300
50	100	2500	1.4	3500	2.5	8750
0	100	2500	2.7	6750	2.2	14850
950	100	2500	1.7	4250	2.0	8500
900	44	1100	1.6	1760	1.7	2992
850	100	2500	1.0	2500	1.7	4250
800	50	1250	0.5	625	1.7	1062.5
				118562.5	2.16	

256240.5

T A B L E 11

JIG RECOVERED BULLION

BLOCK	SQUARES @25M^2	AREA M^2	DEPTH M	VOLUME M^3	JIG REC BULLION GRADE-G/M^3	JIG REC BULLION GRAMMES
NORTHERN DIGGINGS						
A	27	675	1.0	675	0.4	270
B	36	900	1.2	1080	0.5	540
C	10	250	1.2	300	0.5	150
D	5	125	0.5	62.5	0.5	31.25
E	13	325	2.0	650	0.5	325
F	11	275	1.0	275	0.5	137.50
G	23	575	1.0	575	0.5	287.50
H	11	275	1.2	330	0.5	165
I	10	250	1.2	300	0.5	150
J	28	700	1.0	700	0.5	350
K	8	200	1.0	200	0.4	80
L	27	675	1.2	810	0.4	324
M	9	225	1.2	270	0.5	135
N	51	1275	1.4	1785	0.5	892.5
O	17	425	1.2	510	0.4	204
P	20	500	1.2	600	0.4	240
Q	70	1750	1.7	2975	0.55	1636.25
R	76	1900	1.8	3420	0.8	2736
S	49	1225	1.2	1470	0.4	588
T	8	200	1.6	320	0.4	128
				17307.5	0.5414	9370
SOUTHERN DIGGINGS						
U	71	1775	1.2	2130	0.4	852
V	67	1675	1.5	2512.5	0.5	1256.25
W	42	1050	1.5	1575	0.5	787.5
X	64	1600	1.7	2720	0.5	1360
Y	63	1575	1.6	2520	0.4	1008
				11457.5	0.4594	5263.75
				28765	0.5087	14633.75

T A B L E 12

JIG RECOVERIES

BLOCK		SQUARES @25M^2	AREA M^2	DEPTH M	VOLUME M^3	JIG RECOVERY G/M^3	JIG REC. GRAMS
9650E	10300N	50	1250	1.0	1250	0.06	75
	350	100	2500	0.4	1000	E0.11	110
	150	99	2475	0.5	1237.5	0.11	136.125
	150	6	150	0.5	75	E0.20	15
	100	65	1625	0.5	812.5	0.11	89.375
9700E	10300N	50	1250	1.6	2000	E0.10	200
	250	100	2500	1.7	4250	0.08	340
	200	75	1875	1.2	2250	0.15	337.5
	150	0	0	-	-	-	-
	100	10	250	1.2	300	0.20	60
	50	100	2500	0.8	2000	0.11	220
9750E	10300N	50	1250	1.6	2000	0.15	300
	250	100	2500	2.2	5500	E0.09	495
	200	94	2350	1.4	3290	0.26	855.4
	150	83	2075	1.2	2490	0.23	572.7
	100	95	2375	1.3	3087.5	0.12	370.5
	50	100	2500	1.2	3000	0.11	330
	0	100	2500	1.0	2500	0.16	400
	950	40	1000	1.0	1000	E0.20	200
	900	33	825	1.4	1155	E0.20	231
	850	100	2500	0.5	1250	E0.12	150
	800	50	1250	0.5	625	E0.12	75
9800E	10300N	50	1250	2.1	2625	E0.09	236.25
	250	100	2500	2.2	5500	0.09	495
	200	100	2500	1.7	4250	0.14	595
	150	100	2500	1.7	4250	0.12	510
	100	100	2500	1.9	4750	0.11	522.5
	50	100	2500	1.7	4250	0.11	467.5
	0	100	2500	1.6	4000	E0.14	560
	950	91	2275	1.2	2730	0.21	573.3
	900	30	750	1.5	1125	0.20	225
	850	100	2500	1.2	3000	0.14	420
	800	50	1250	0.6	750	0.12	90
9850E	10300N	50	1250	2.1	2625	E0.09	236.25
	250	100	2500	2.4	6000	E0.09	540
	200	100	2500	1.8	4500	0.10	450
	150	100	2500	1.2	3000	E0.10	300
	100	100	2500	1.9	4750	0.10	475
	50	100	2500	1.4	3500	0.14	490
	0	100	2500	2.7	6750	0.12	810
	950	100	2500	1.7	4250	0.15	637.5
	900	44	1100	1.6	1760	E0.20	352
	850	100	2500	1.0	2500	0.14	350
	800	50	1250	0.5	625	0.22	137.5
					118562.5	0.13	15035.4

T A B L E 13

RECOVERY ESTIMATES

	JIG RECOVERY GRAMS	%	HG RECOVERY GRAMS	%	JIG + HG RECOVERY GRAMS AT SAY 70%	INSITU GRAMS
9650E 10300N	75	3	1675	67	1750	2500
250	110	4	1990	66	2100	3000
200	136.125	4	2462.625	66	2598.75	3712.5
150	15	7	142.5	63	157.5	225
100	89.375	4	1616.875	66	1706.25	2437.5
9700E 10300N	200	7	1900	63	2100	3000
250	340	4	5610	66	5950	8500
200	337.5	7	2812.5	63	3150	4500
150	-	-	-	-	-	-
100	60	10	360	60	420	600
50	220	4	3980	66	4200	6000
9705E 10300N	300	10	1800	60	2100	3000
250	495	6	5280	64	5775	8250
200	855.4	15	3059.7	55	3915.1	5593
150	572.7	13	2564.7	57	3137.4	4482
100	370.5	6	3952	64	4322.5	6175
50	330	4	4920	66	5250	7500
0	400	4	6600	66	7000	10000
950	200	8	1550	62	1750	2500
900	231	9	1547.7	61	1778.7	2541
850	150	4	2474	66	2625	3750
800	75	4	1237.5	66	1312.5	1875
9800E 10300N	236.25	4	3438.75	66	3675	5250
250	495	4	7205	66	7700	11000
200	595	7	5355	63	5950	8500
150	510	6	5440	64	5950	8500
100	522.5	5	6127.5	65	6650	9500
50	467.5	5	5482.5	65	5950	8500
0	560	7	5040	63	5600	8000
950	573.3	14	2293.2	56	2866.5	4095
900	225	11	1271.25	59	1496.25	2137.5
850	420	9	2730	61	3150	4500
800	90	8	697.5	62	787.5	1125
9850E 10300N	236.25	4	3990	66	4226.25	6037.5
250	540	4	9960	66	10500	15000
200	450	4	8055	66	8505	12150
150	300	4	5370	66	5670	8100
100	475	4	8835	66	9310	13300
50	490	6	5635	64	6125	8750
0	810	5	9585	65	10395	14850
950	637.5	7	5312.5	63	5950	8500
900	352	12	1742.4	58	2094.4	2992
850	350	8	2625	62	2975	4250
800	137.5	13	606.25	57	743.75	1062.5
	15035.4	6	164332.95	6	179368.35	256240.5

TABLE 14

RECOVERY ESTIMATES - SUMMARY

	JIG RECOVERY GRAMS	%	HG RECOVERY GRAMS	%	JIG+HG RECOVERY GRAMS AT SAY 70%	INSITU GRAMS
NORTHERN DIGGINGS	8191. 254	22	18051.921	48	26243.175	37490.25
SOUTHERN DIGGINGS	4601.5702	18	13394.555	52	17996.125	25708.75
TOTAL DIGGINGS	12792.824	20	31446.476	50	44239.3	63199
OUTSIDE DIGGINGS	15035.4	6	164332.95	64	179368.35	256240.5
TOTAL	27828.224	9	195779.42	61	223607.65	319439.5

T A B L E 15

GOLD RESOURCE ESTIMATE - EASTERN MCN 1323

	WITHIN DIGGINGS	OUTSIDE DIGGINGS	TOTAL
VOLUME	28765 (20%)	118563 (80%)	147328
BULK DENSITY (SAY)	1.77	1.77	1.77
TONNES	50914	209857	260771
GRADE g/m^3	2.2	2.16	2.17
GRADE g/t	1.24	1.22	1.22
GOLD INSITU g	63199	256241	319440
JIG RECOVERY			
g/m^3	0.44	0.13	0.19
g/t	0.25	0.07	0.11
%	20	6	9
g	12793 (46%)	15035 (54%)	27828
AMALGAMATION RECOVERY			
g/m^3	1.09	1.39	1.33
g/t	0.62	0.78	0.75
&	50	64	61
g	31446 (16%)	164333 (84%)	195779
JIG + AMALGAMATION REC.			
g/m^3	1.54	1.51	1.52
g/t	0.87	0.85	0.86
% (SAY)	70	70	70
g	44239 (20%)	179368 (80%)	223608

NOTE: FIGURES IN BRACKETS INDICATE PERCENT OF TOTAL.

TABLE 16

OTHER DIGGINGS WITHIN MCN 1323-1326 - VOLUMES

GENERAL LOCATION	GRID LOCATION APPROX.	APPROX LENGTH	DIMENSIONS - M WIDTH	DEPTH	VOL EST M^3	TONNES EST T
SW MCN 1324	9300E 10150N	70	10	1½	1050	1859
SW MCN 1324	9150E 10275N	70	5	1½	525	929
SW MCN 1326	(?) 9340E 8800N	160	5	1½	1200	2124
NE MCN 1326	9500E 9150N	80	10	1½	1200	2124
					3975	7036

NOTES:

1. EXCLUDING EASTERN MCN 1323.
2. PRESUMABLY THESE DIGGINGS WOULD HAVE APPROXIMATELY THE SAME INSITU GRADES AND RECOVERIES AS THE EASTERN MCN 1323 DIGGINGS.
3. BULK DENSITY TAKEN AS 1.77.

TABLE 17

OTHER ALLUVIAL FLATS WITHIN MCN 1323-1326 - VOLUMES

GENERAL LOCATION	APPROXIMATE LENGTH	DIMENSIONS - M WIDTH	DEPTH	VOL EST M^3	TONNES EST T
MCN 1325 SW CNR	100	50	1	5000	8850
MCN 1326 W EDGE	500	50	1	25000	44250
MCN 1325 SW CNR	50	50	1	2500	4425
MCN 1324 SW CNR	200	100	1	20000	35400
				52500	92925

NOTES:

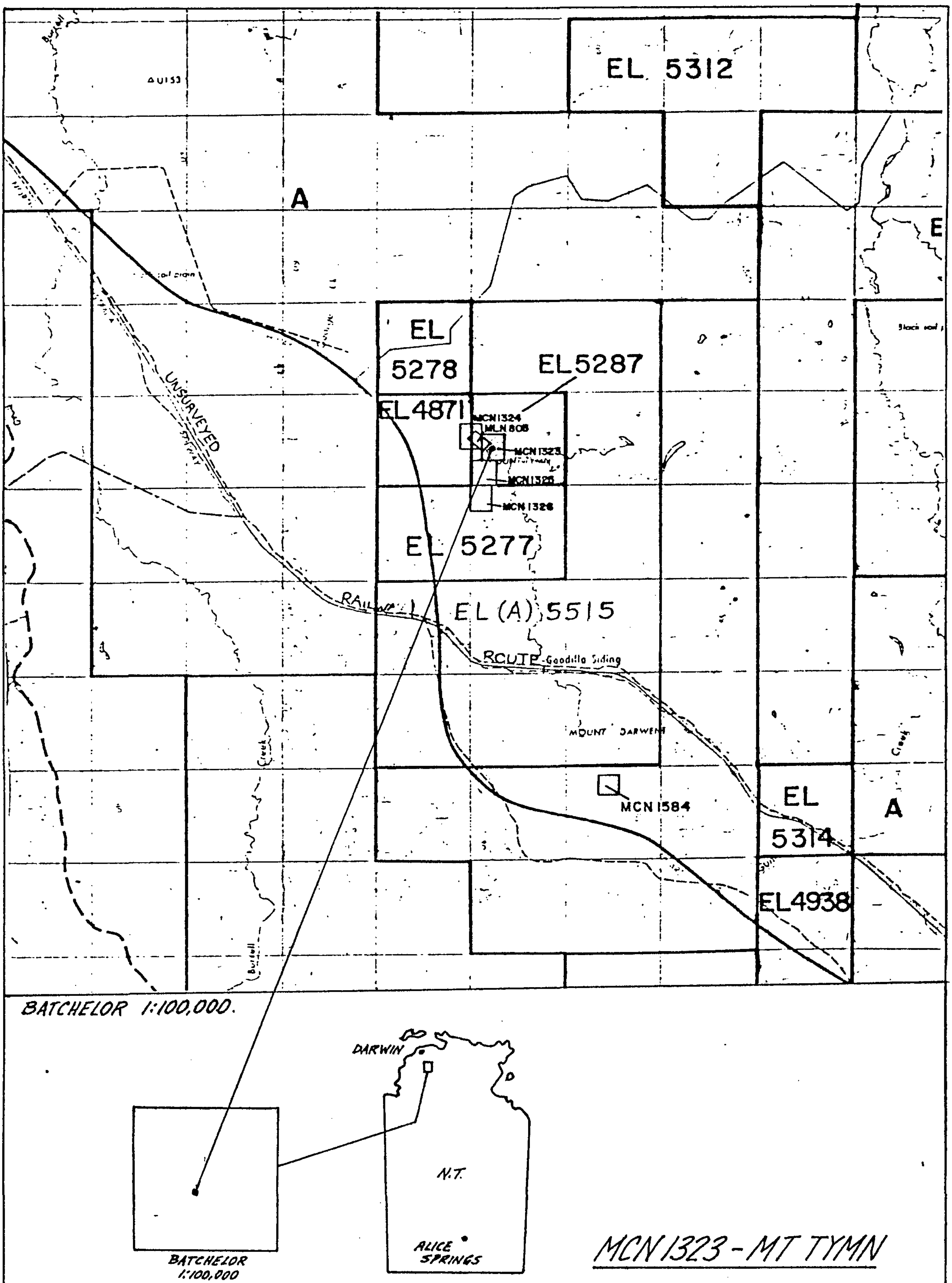
1. EXCLUDING EASTERN MCN 1323.
2. PERHAPS THESE FLATS HAVE THE SAME INSITU GRADES AND RECOVERY POTENTIAL AS THE EASTERN MCN 1323 FLAT.
3. BULK DENSITY TAKEN AS 1.77.

NOTES TO ACCOMPANY DIAGRAMATIC SECTIONS

OB	OVERBURDEN	FINE TO MEDIUM GRAINED SILTY SAND - TEND TO COARSE SAND/GRIT AT BASE.
G	GRAVEL	AS "ROAD BASE" - PEBBLES MOSTLY <2CM, ANGULAR, TOUCHING. MATRIX SANDY <10%.
LW	LIGHT WEIGHT	PEBBLES AVERAGE 1-3CM, FEW <10% UP TO 10CM, MOSTLY TOUCHING SOME DISPERSED, PEBBLES QUARTZ, SANDSTONE SILTSTONE. MATRIX SANDY 10-30%
HW	HEAVY WASH	PEBBLES AVERAGE >3CM, ALL TOUCHING. MATRIX <10%.

NOTE:

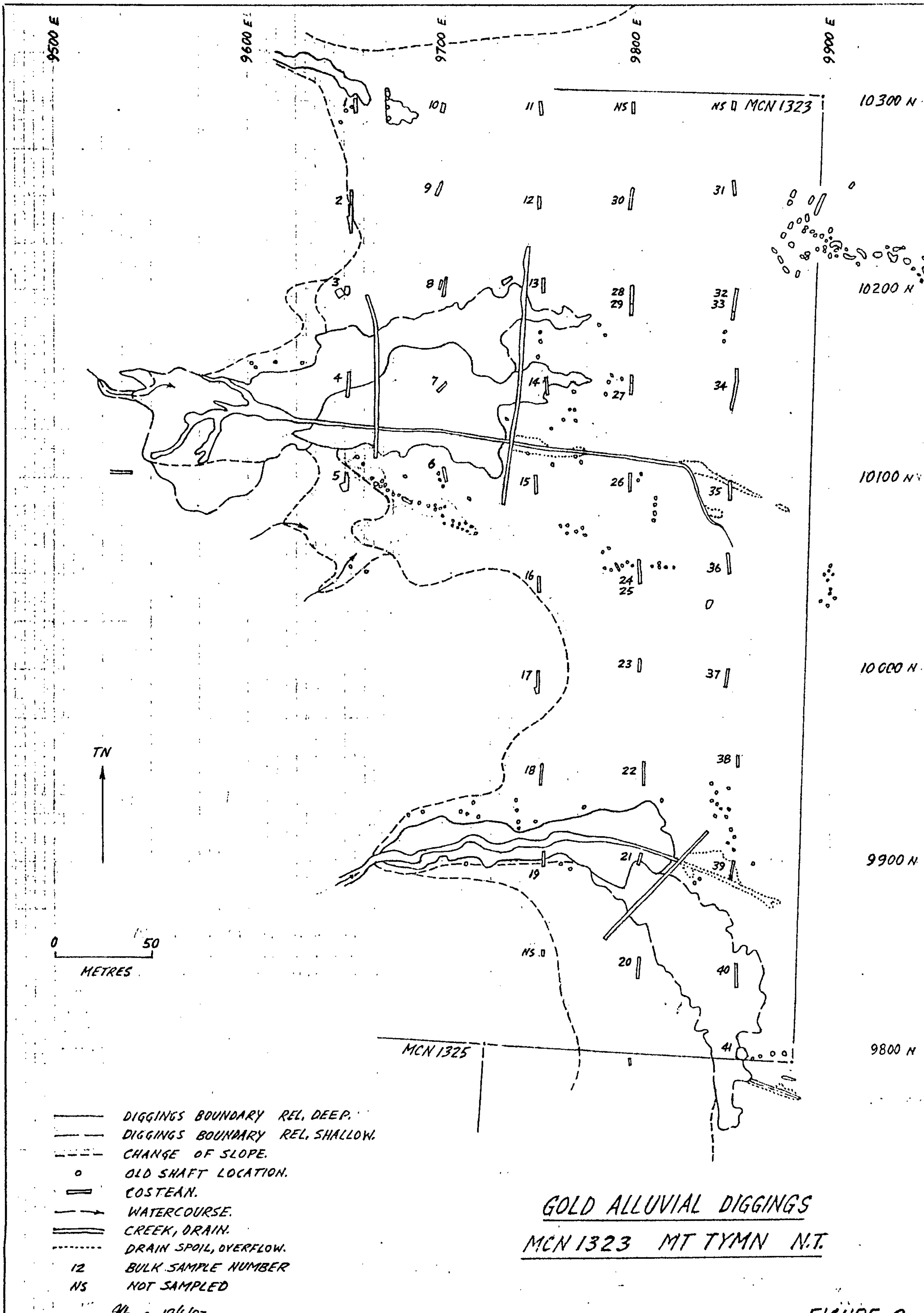
G AND MW SIMILAR - G DERIVED FROM HILL SLOPE SCREE COMPARED TO MW WHICH MAY BE MORE ALLUVIAL IN ORIGIN. G ONLY RECORDED WHERE OBVIOUS TO DO SO.



MCN 1323 - MT TYMN

LOCALITY AND TENURE

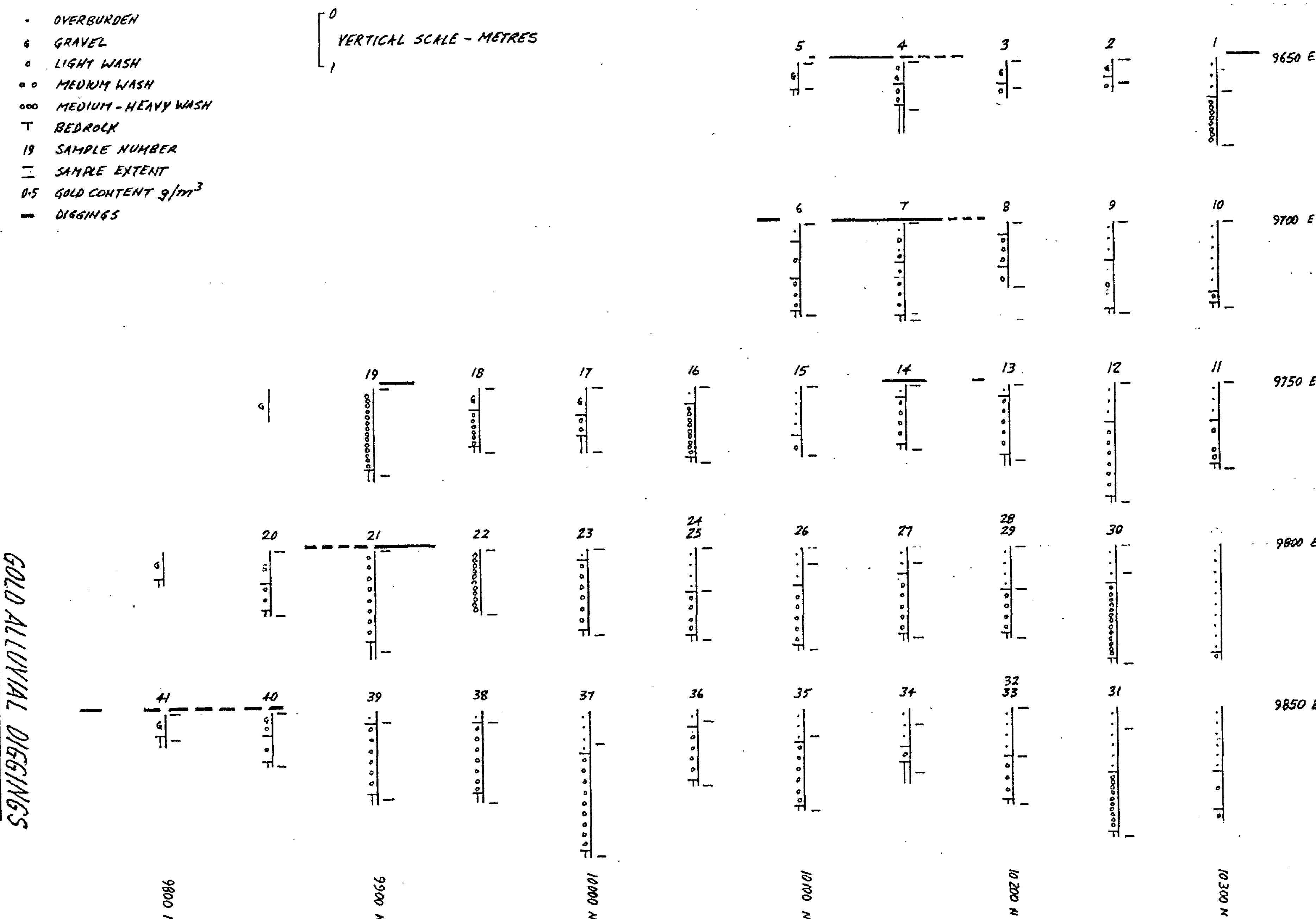
FIGURE 1.



GOLD ALLUVIAL DIGGINGS

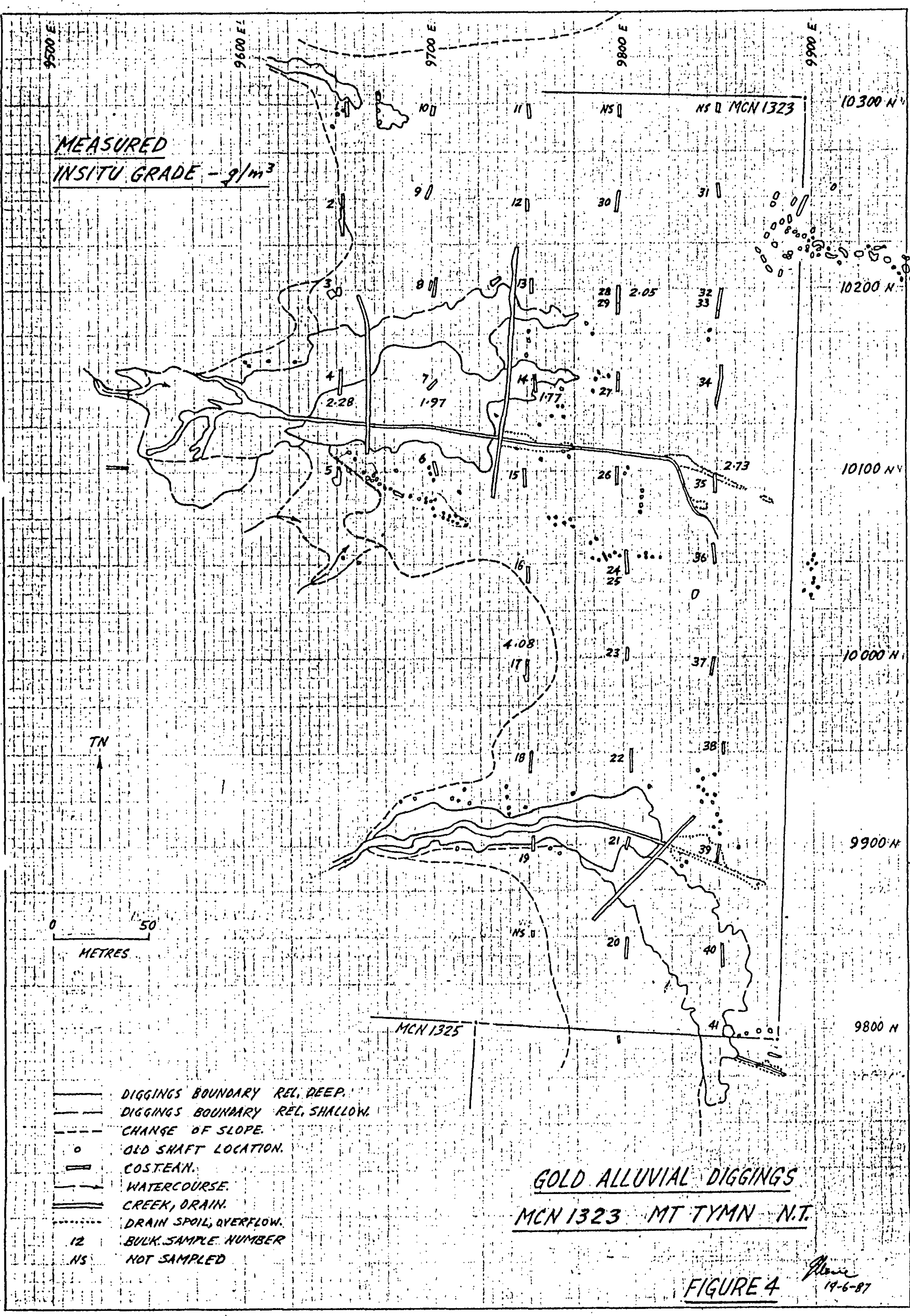
MCN 1323 MT TYMN N.T.

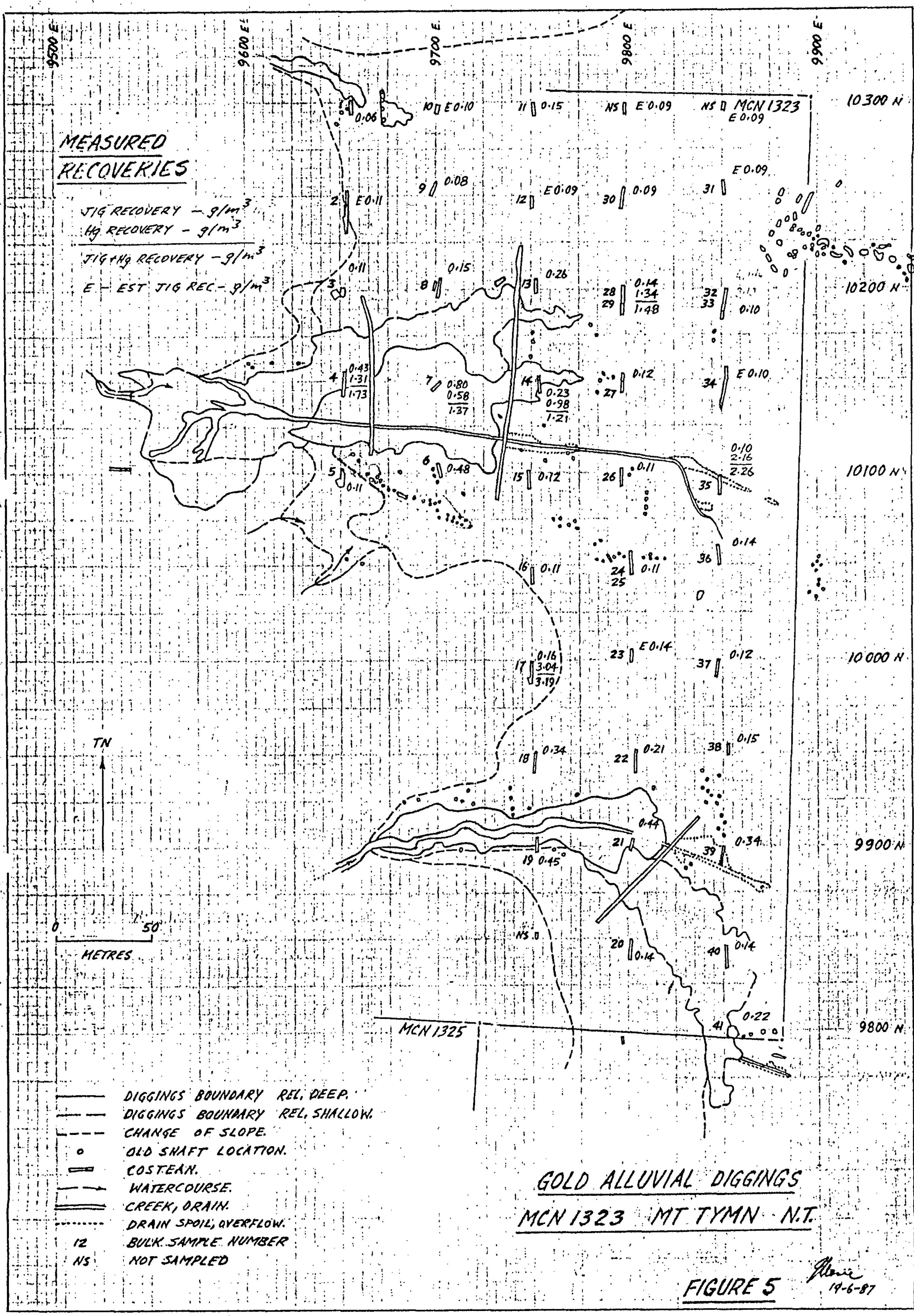
FIGURE 2



GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
DIAGRAMATIC SECTIONS

FIGURE 3

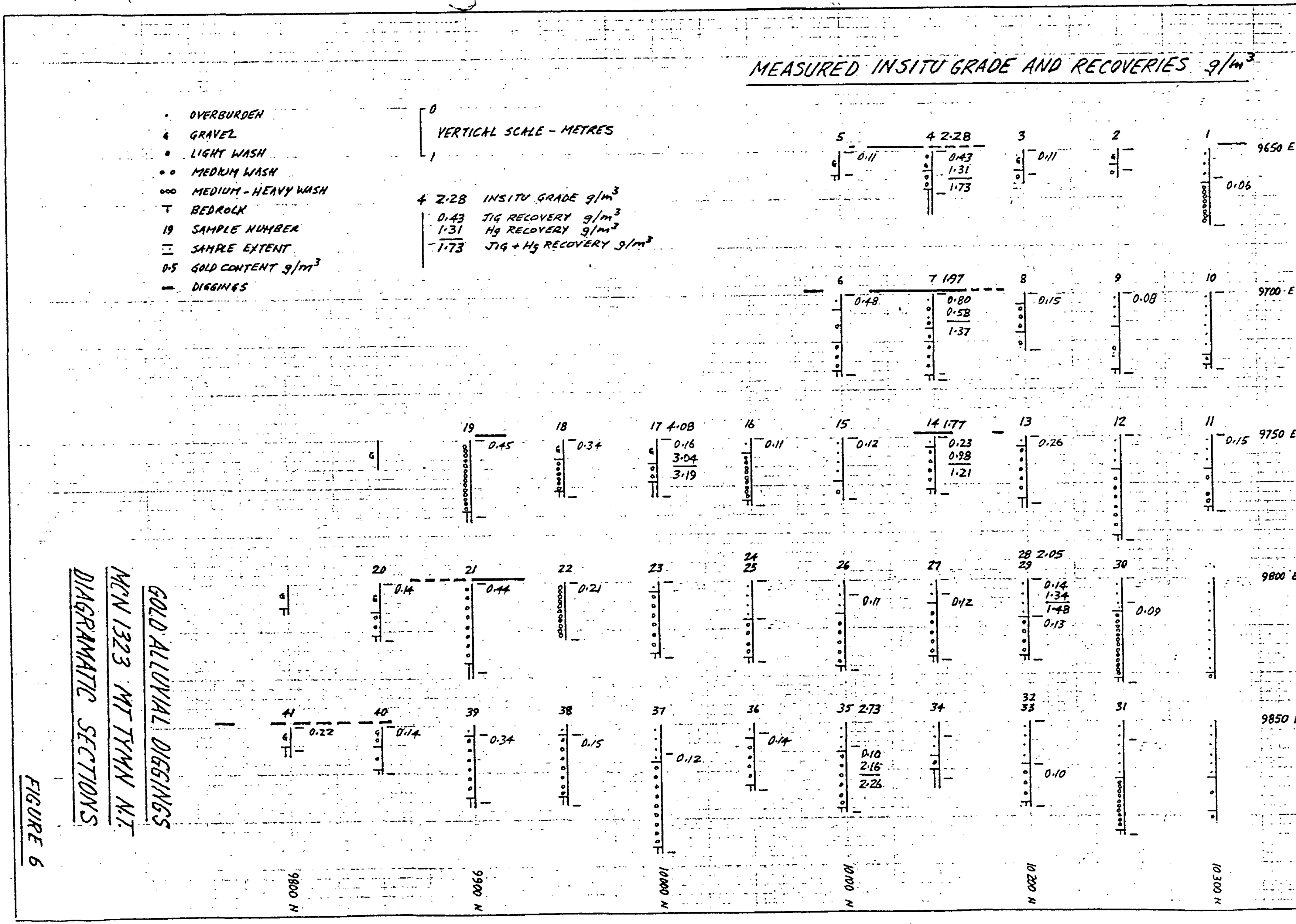

MEASURED
INSITU GRADE - g/m³
9500 E
9600 E
9700 E
9800 E
9900 E
10300 N
10200 N
10100 N
10000 N
9900 N
9800 N
MCN 1323
MCN 1325
NS
2.28
1.97
1.77
2.05
2.73
4.08
TN
0
50
METRES
DIGGINGS BOUNDARY REL. DEEP.
DIGGINGS BOUNDARY REL. SHALLOW.
CHANGE OF SLOPE.
OLD SHAFT LOCATION.
COSTEAN.
WATERCOURSE.
CREEK, DRAIN.
DRAIN SPOIL, OVERFLOW.
12 BULK SAMPLE NUMBER
NS NOT SAMPLED
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
FIGURE 4
19-6-87



GOLD ALLUVIAL DIGGINGS

MCN 1323 MT TYMN N.T.

FIGURE 5



MEASURED INSITU GRADE AND RECOVERIES g/m³
· OVERBURDEN
G GRAVEL
• LIGHT WASH
•• MEDIUM WASH
••• MEDIUM - HEAVY WASH
⊤ BEDROCK
19 SAMPLE NUMBER
SAMPLE EXTENT
0.5 GOLD CONTENT g/m³
— DIGGINGS
0
VERTICAL SCALE - METRES
1
4 2.28 INSITU GRADE g/m³
0.43 JIG RECOVERY g/m³
1.31 Hg RECOVERY g/m³
1.73 JIG + Hg RECOVERY g/m³
5
0.11
4 2.28
0.43
1.31
1.73
3
0.11
2
1
0.06
9650 E
6
0.48
7 1.97
0.80
0.58
1.37
8
0.15
9
0.08
10
9700 E
19
0.45
18
0.34
17 4.08
0.16
3.04
3.19
16
0.11
15
0.12
14 1.77
0.23
0.98
1.21
13
0.26
12
11
0.15
9750 E
20
0.14
21
0.44
22
0.21
23
24
25
26
0.11
27
0.12
28 2.05
29
0.14
1.34
1.48
0.13
30
0.09
9800 E
41
0.22
40
0.14
39
0.34
38
0.15
37
0.12
36
0.14
35 2.73
0.10
2.16
2.26
34
32
33
0.10
31
9850 E
9800 N
9900 N
10000 N
10100 N
10200 N
10300 N
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
DIAGRAMATIC SECTIONS
FIGURE 6

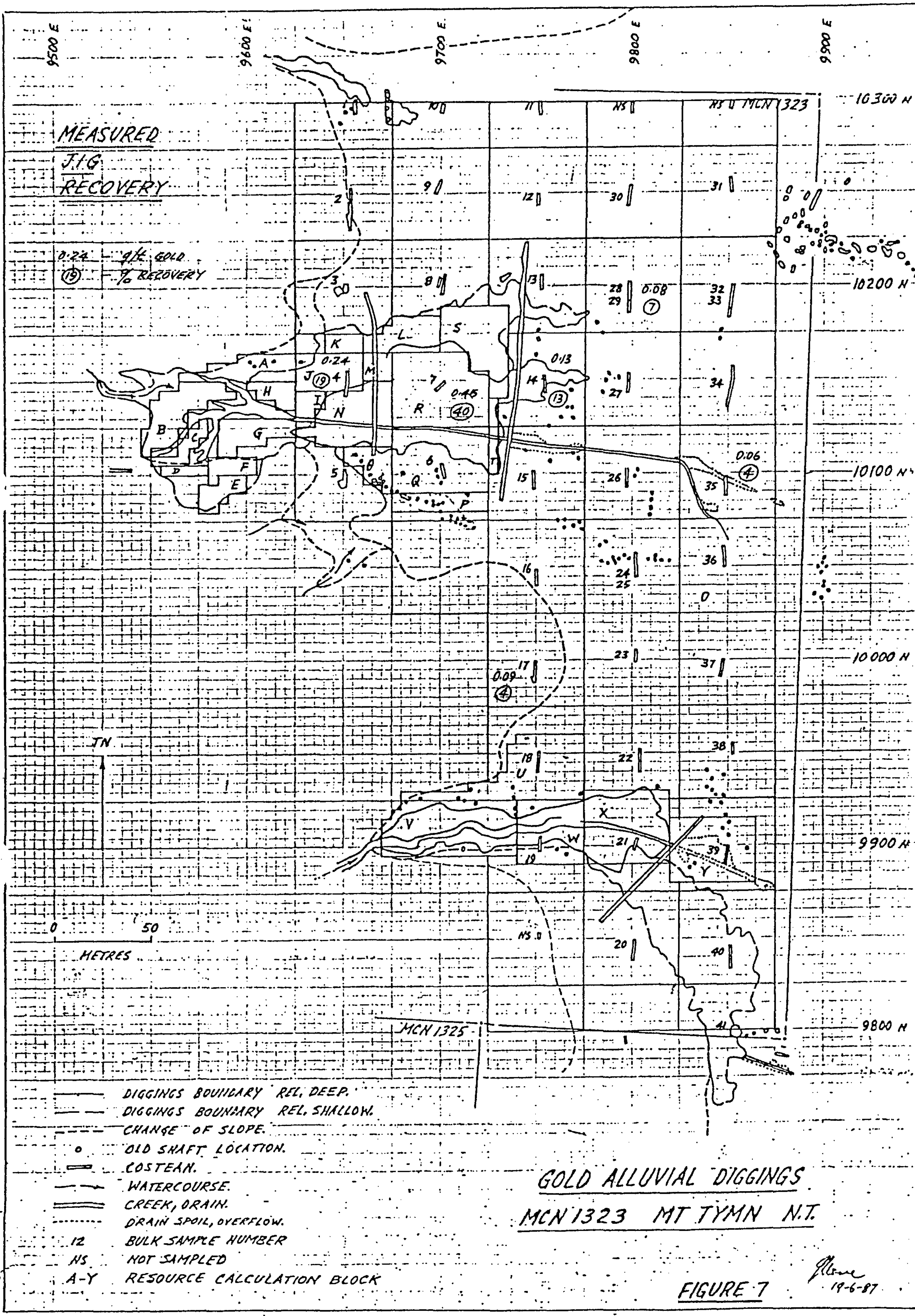
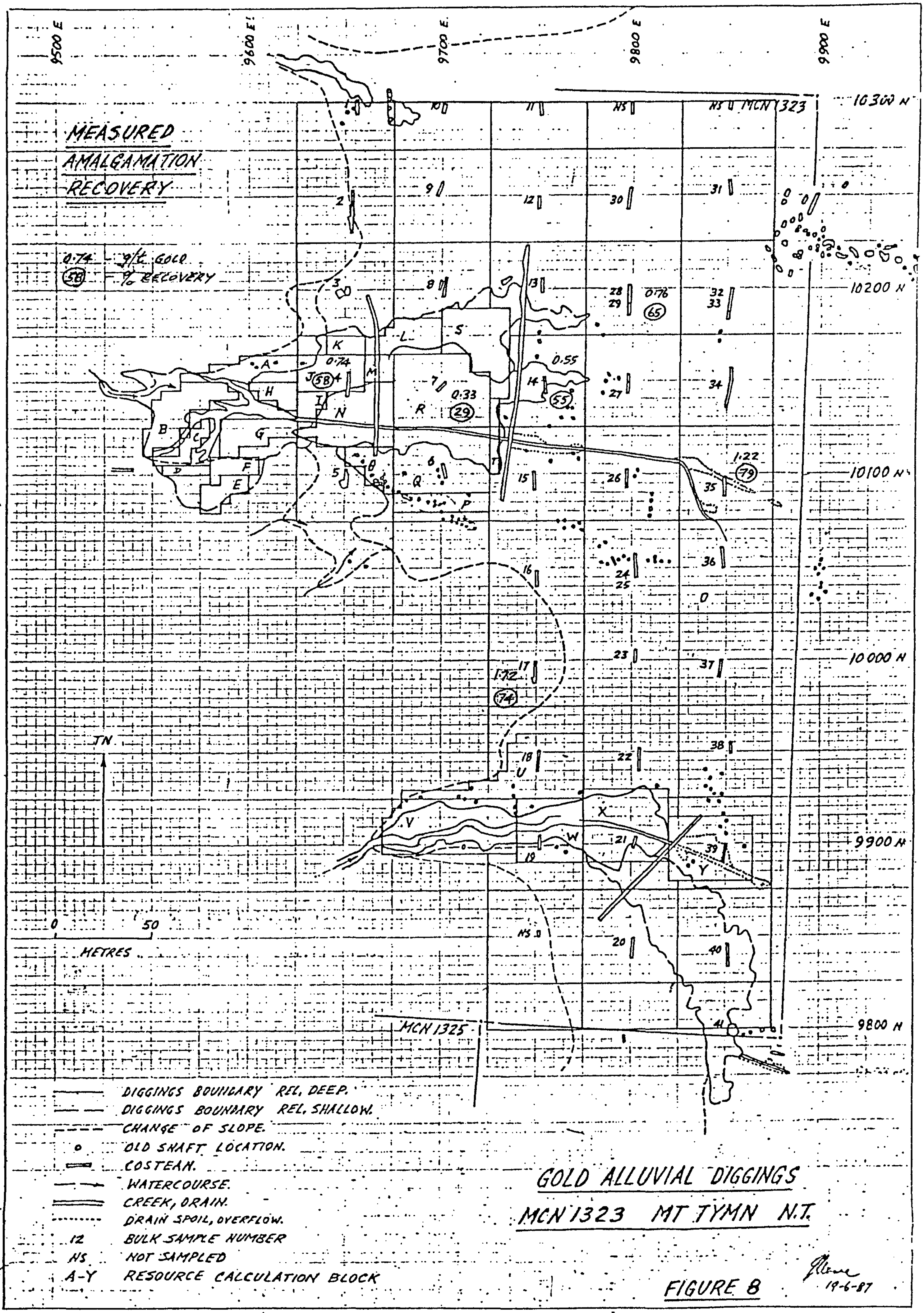
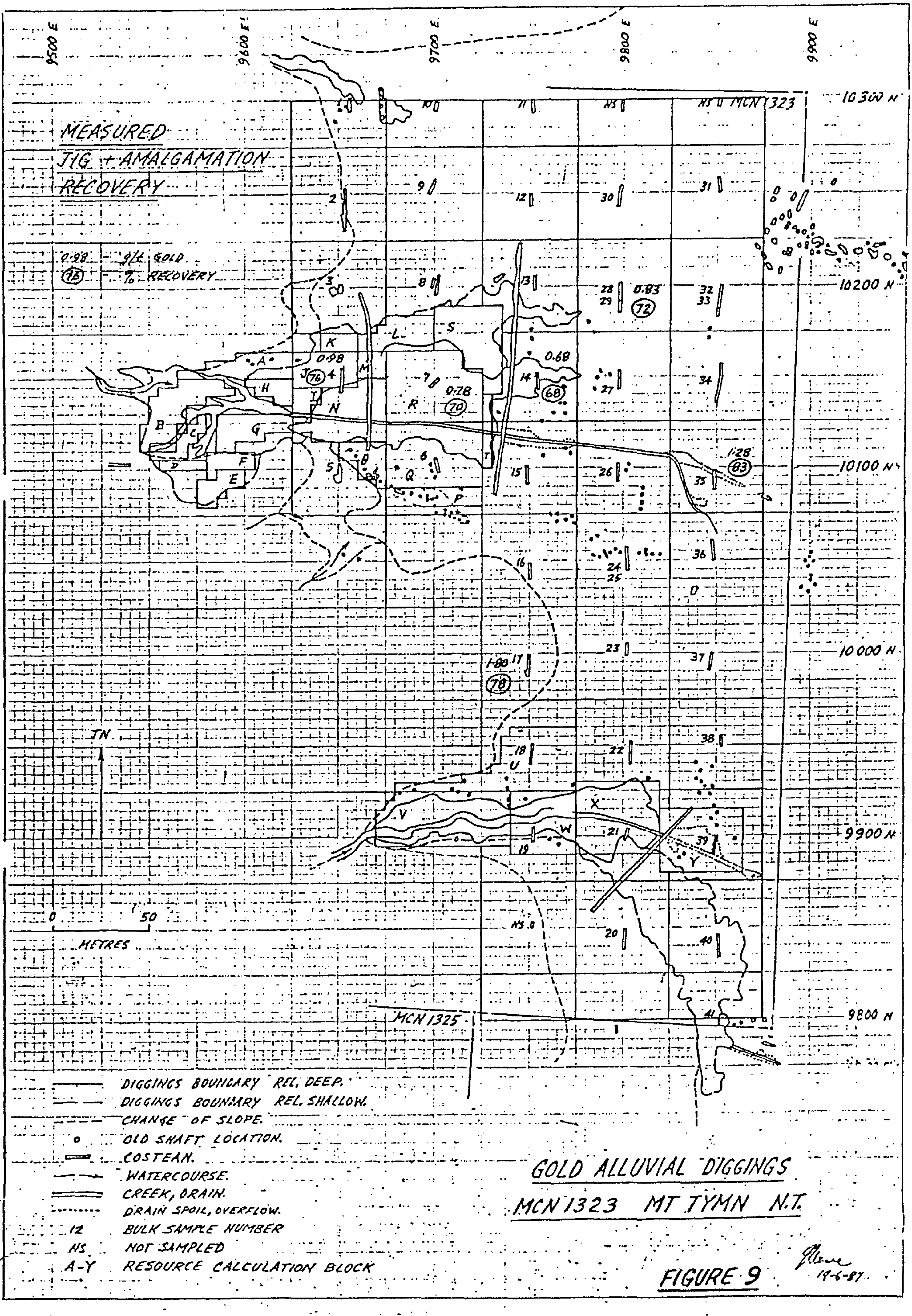
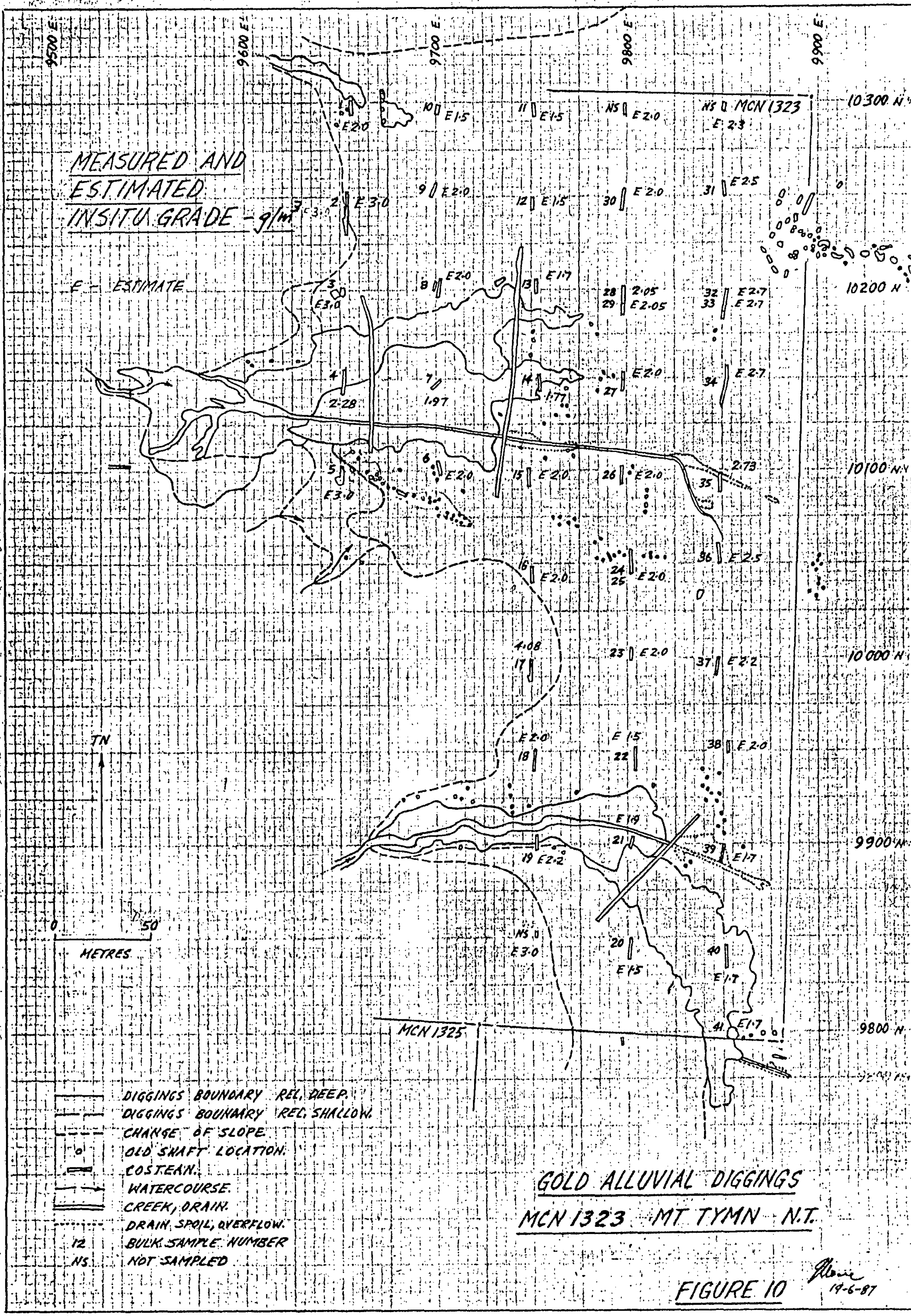

9500 E
9600 E
9700 E
9800 E
9900 E
10300 N
10200 N
10100 N
10000 N
9900 N
9800 N
MEASURED
J.I.G
RECOVERY
0.24 — g/t GOLD
19 — % RECOVERY
MCN 1323
MCN 1325
TN
0
50
METRES
DIGGINGS BOUNDARY REL. DEEP.
DIGGINGS BOUNDARY REL. SHALLOW.
CHANGE OF SLOPE.
OLD SHAFT LOCATION.
COSTEAN.
WATERCOURSE.
CREEK, DRAIN.
DRAIN SPOIL, OVERFLOW.
12 BULK SAMPLE NUMBER
NS NOT SAMPLED
A-Y RESOURCE CALCULATION BLOCK
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
19-6-87

FIGURE 7


MEASURED AMALGAMATION RECOVERY
0.74 g/t GOLD
58 % RECOVERY
9500 E
9600 E
9700 E
9800 E
9900 E
10300 N
10200 N
10100 N
10000 N
9900 N
9800 N
MCN 1323
MCN 1325
NS
TN
0
50
METRES
0.74
0.33
0.55
0.76
1.22
1.72
58
29
55
65
79
74
DIGGINGS BOUNDARY REL. DEEP.
DIGGINGS BOUNDARY REL. SHALLOW.
CHANGE OF SLOPE.
OLD SHAFT LOCATION.
COSTEAN.
WATERCOURSE.
CREEK, DRAIN.
DRAIN SPOIL, OVERFLOW.
12 BULK SAMPLE NUMBER
NS NOT SAMPLED
A-Y RESOURCE CALCULATION BLOCK
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
FIGURE 8
19-6-87

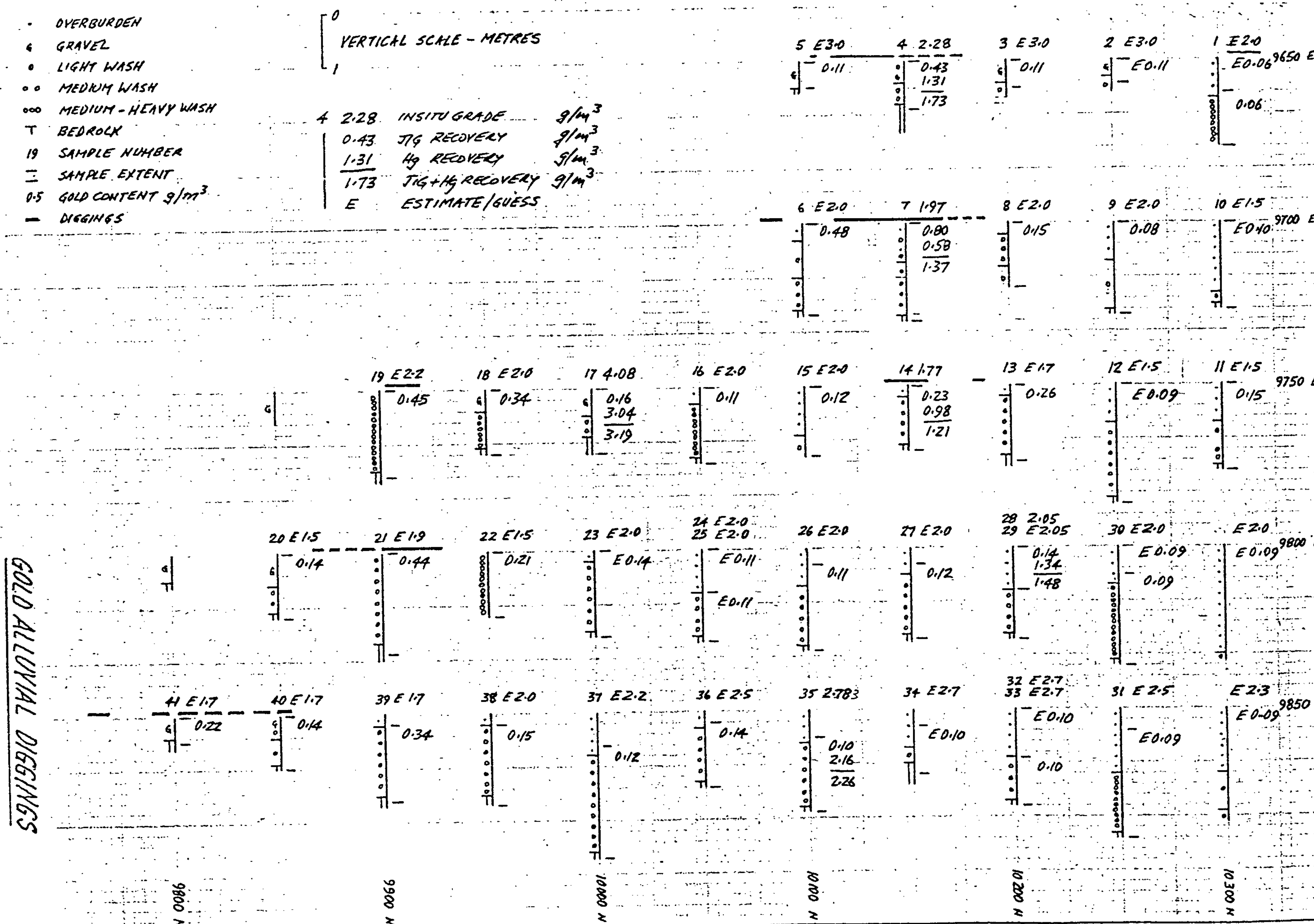

MEASURED
JIG + AMALGAMATION
RECOVERY
0.98 g/t GOLD
(78) % RECOVERY
9500 E
9600 E
9700 E
9800 E
9900 E
10300 N
10200 N
10100 N
10000 N
9900 N
9800 N
MCN 1323
MCN 1325
TN
0 50
METRES
DIGGINGS BOUNDARY REL. DEEP.
DIGGINGS BOUNDARY REL. SHALLOW.
CHANGE OF SLOPE.
OLD SHAFT LOCATION.
COSTEAN.
WATERCOURSE.
CREEK, DRAIN.
DRAIN SPOIL, OVERFLOW.
12 BULK SAMPLE NUMBER
NS NOT SAMPLED
A-Y RESOURCE CALCULATION BLOCK
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
FIGURE 9
19-6-87



GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.

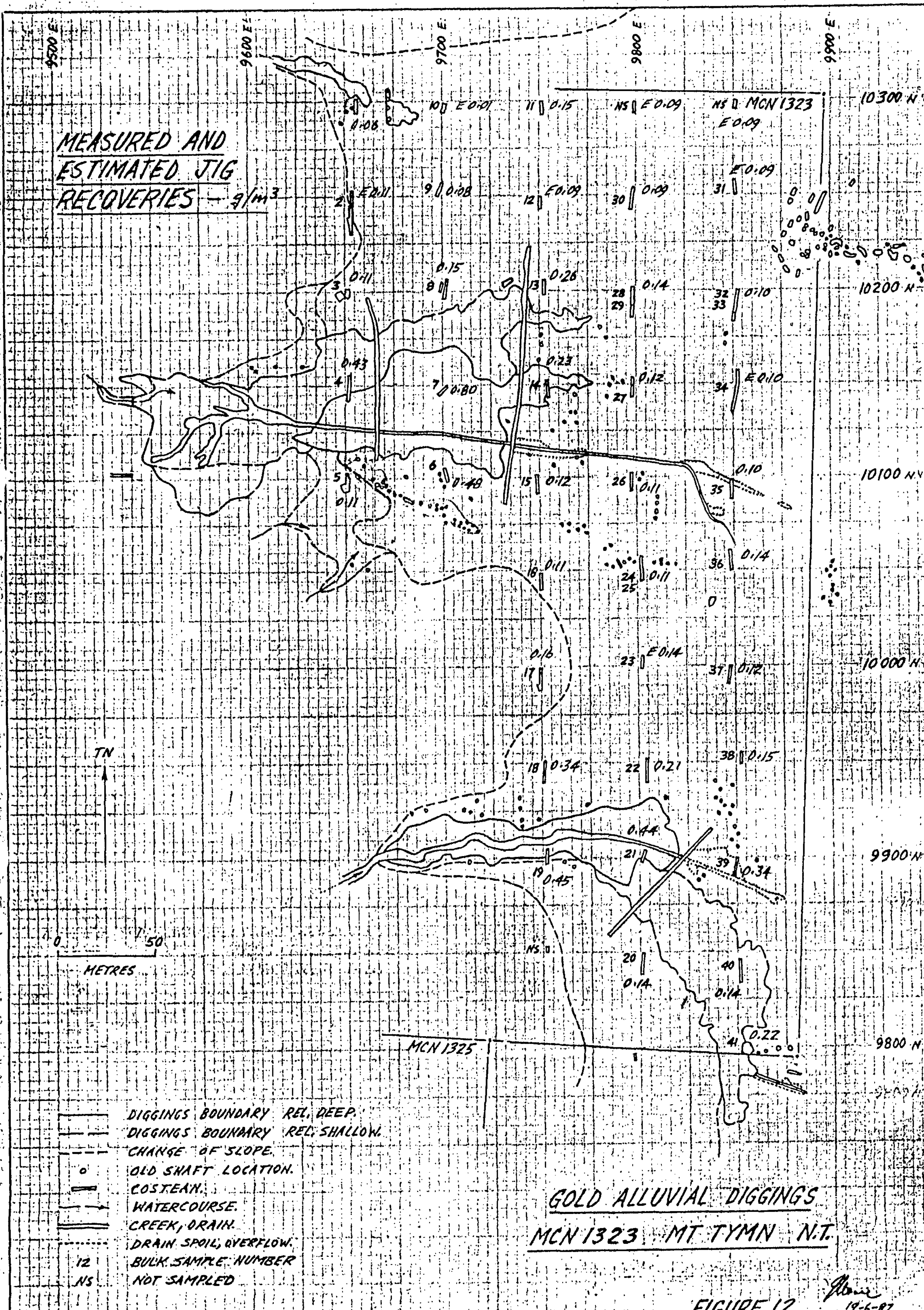
FIGURE 10

MEASURED AND ESTIMATED INSITU GRADE - g/m³



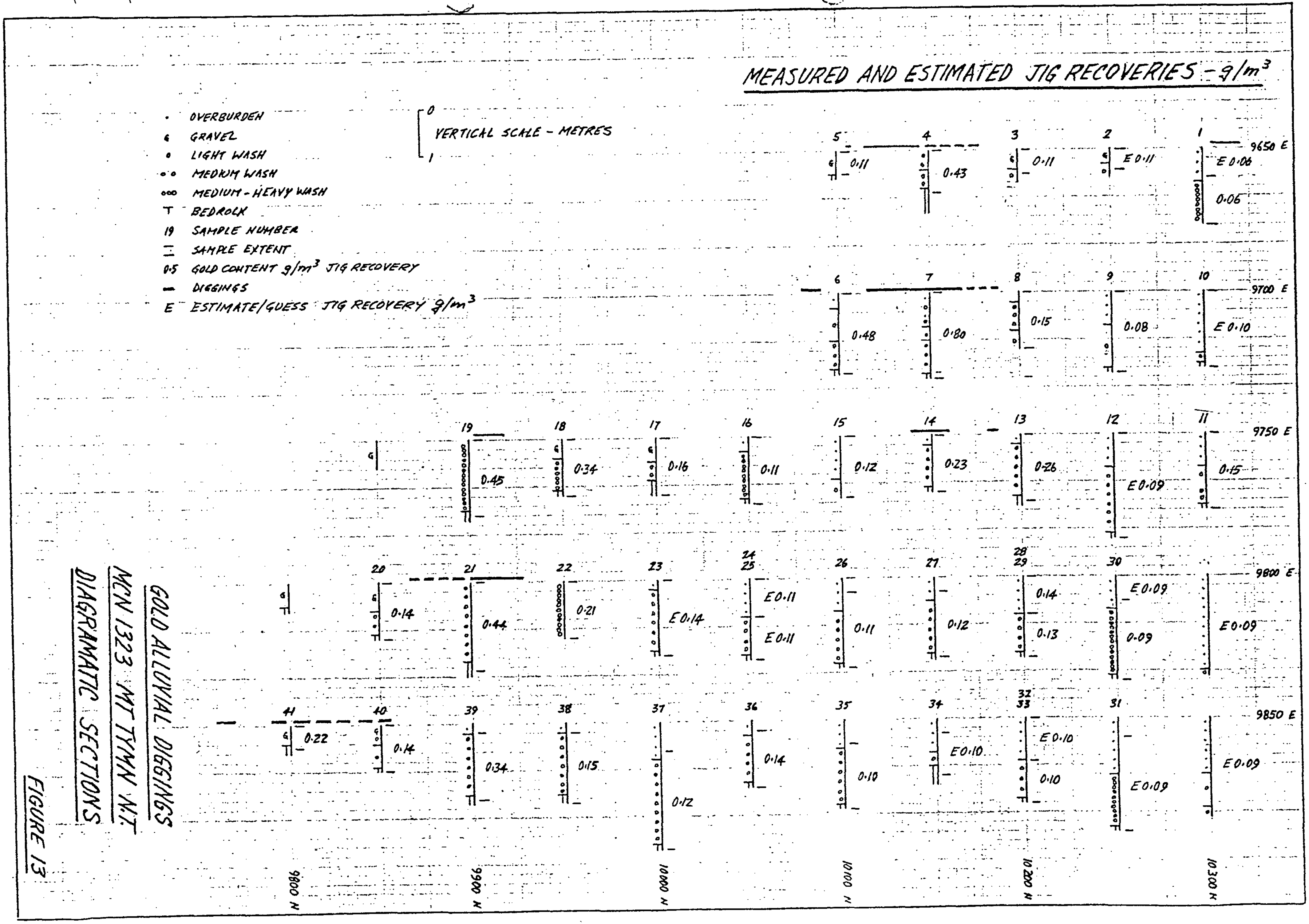
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
DIAGRAMATIC SECTIONS

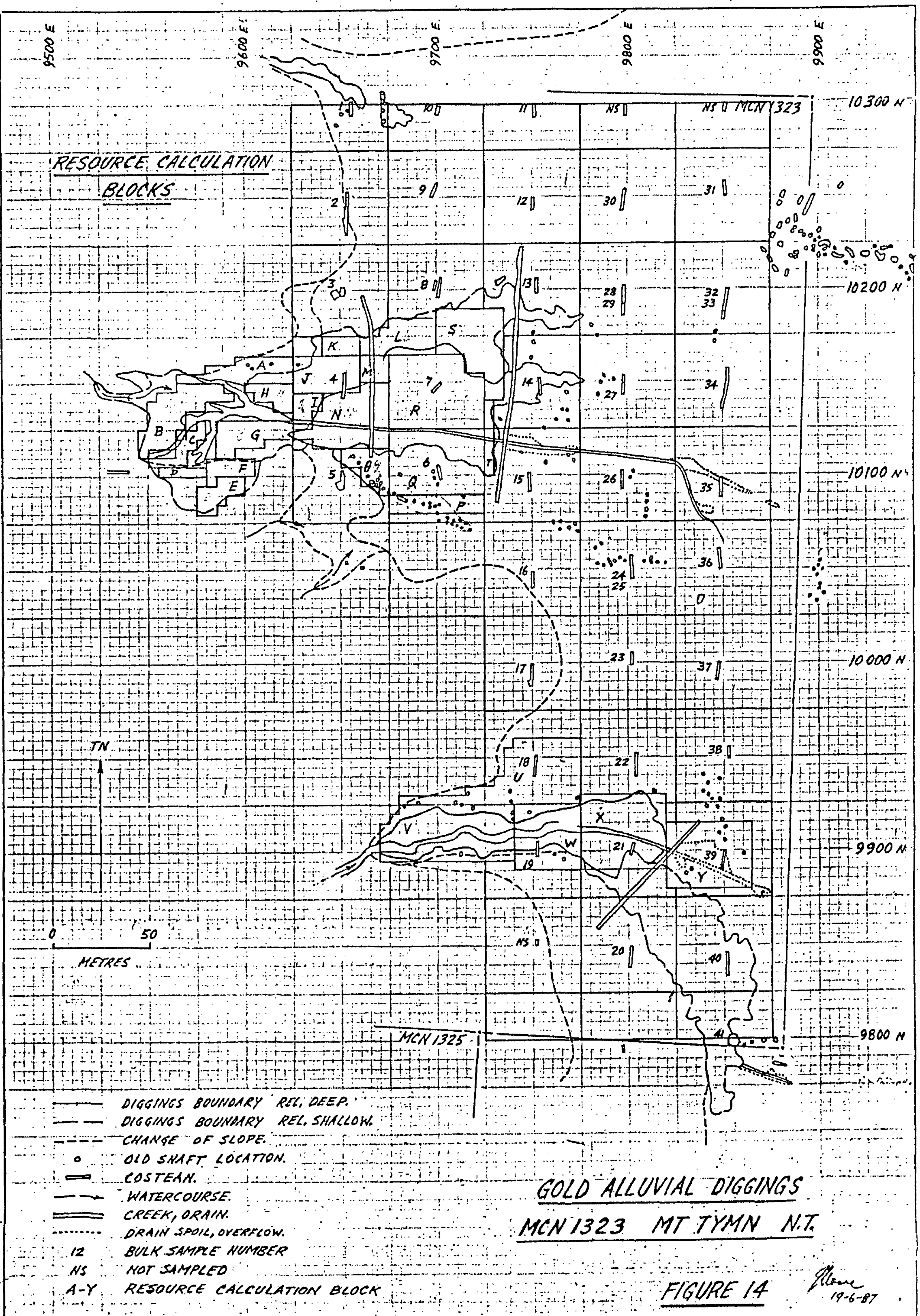
FIGURE 11



GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.

FIGURE 12


MEASURED AND ESTIMATED JIG RECOVERIES - g/m³
OVERBURDEN
G GRAVEL
LIGHT WASH
MEDIUM WASH
MEDIUM - HEAVY WASH
BEDROCK
19 SAMPLE NUMBER
SAMPLE EXTENT
0.5 GOLD CONTENT g/m³ JIG RECOVERY
DIGGINGS
E ESTIMATE/GUESS JIG RECOVERY g/m³
0
VERTICAL SCALE - METRES
1
5 0.11
4 0.43
3 0.11
2 E 0.11
1 E 0.06 0.06
9650 E
6 0.48
7 0.80
8 0.15
9 0.08
10 E 0.10
9700 E
19 0.45
18 0.34
17 0.16
16 0.11
15 0.12
14 0.23
13 0.26
12 E 0.09
11 0.15
9750 E
20 0.14
21 0.44
22 0.21
23 E 0.14
24 25 E 0.11 E 0.11
26 0.11
27 0.12
28 29 0.14 0.13
30 E 0.09 0.09
E 0.09
9800 E
41 0.22
40 0.14
39 0.34
38 0.15
37 0.12
36 0.14
35 0.10
34 E 0.10
32 33 E 0.10 0.10
31 E 0.09
E 0.09
9850 E
9800 N
9900 N
10000 N
10100 N
10200 N
10300 N
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
DIAGRAMATIC SECTIONS
FIGURE 13

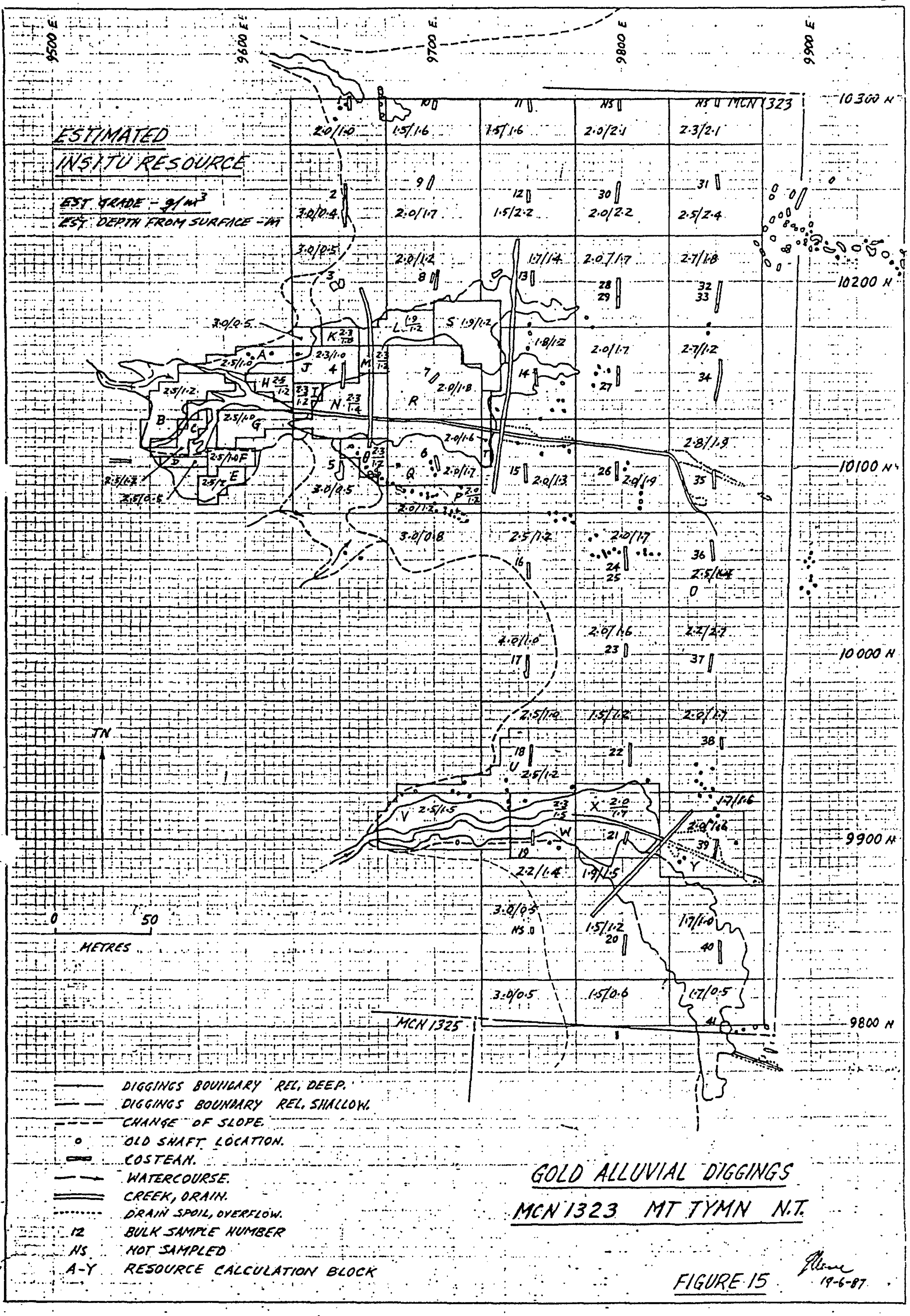


GOLD ALLUVIAL DIGGINGS

MCN 1323 MT TYMN N.T.

FIGURE 14

19-6-87



ESTIMATED INSITU RESOURCE
EST GRADE - g/m³
EST DEPTH FROM SURFACE - m
9500 E
9600 E
9700 E
9800 E
9900 E
10300 N
10200 N
10100 N
10000 N
9900 N
9800 N
MCN 1323
MCN 1325
TN
0
50
METRES
DIGGINGS BOUNDARY REL. DEEP.
DIGGINGS BOUNDARY REL. SHALLOW.
CHANGE OF SLOPE.
OLD SHAFT LOCATION.
COSTEAN.
WATERCOURSE.
CREEK, DRAIN.
DRAIN SPOIL, OVERFLOW.
12 BULK SAMPLE NUMBER
NS NOT SAMPLED
A-Y RESOURCE CALCULATION BLOCK
GOLD ALLUVIAL DIGGINGS
MCN 1323 MT TYMN N.T.
FIGURE 15
19-6-87

CLEAN UP INFORMATION – OBSERVED TAILINGS LOSS

SAMPLES LISTED IN ORDER OF TREATMENT

OBSERVED TAILINGS LOSS	SAMPLE	CLEAN UP INFORMATION
	1	
	4	
	7	AT START MAJOR CLEAN BOTH JIGS REFURBISH ALL RAGGING AT END PAN RAGGING J2 H1+2
	21	
	27	
	39	
	41	
	38	
	37	
	22	
	33	
	36	
	35	
	40	
	19	
FGL	18	¼ WAY THROUGH MAJOR CLEAN BOTH JIGS REFURBISH ALL RAGGING
FGL	17	
FGL	20	
FGL	16	
FGL	13	
FGL	30	
FGL	5	
FGL	8	
1VF	6	PAN 2 JIG RAGGING H 1+2
1VF (FLAKE)	3	¾ WAY THROUGH PRIMARY JIG MAJOR CLEAN
1VVF (FLAKE)	9	PAN 2 JIG RAGGING H 1
FGL	11	PAN 2 JIG RAGGING H 1+2
NIL	14	PAN 2 JIG RAGGING H 1+2
3VVF 1T	15	PAN 2 JIG RAGGING H 1
1T	28	PAN 2 JIG RAGGING H 1+2
NIL	29	PAN 2 JIG RAGGING H1+2
2VVF 1T	26	PAN 2 JIG RAGGING H 1+2

NOTE

1. ALL SECONDARY JIG PRODUCT PANNED AT LEAST TWICE THEN CONCENTRATE FROM THIS PANNED UNTIL NO MORE GOLD COULD BE RECOVERED.

2. RESULT OF PANNING 1000 CC SAMPLE OF TAILINGS

   a) FGL – FINE GOLD LOSS – PROBABLY OF THE ORDER OF 1-2 VVF

   b) VF – VERY FINE – APPROX $\frac{1}{8}$–$\frac{1}{16}$ mm.

   VVF – VERY VERY FINE – CAN JUST SEE WITH NAKED EYE.

   T – TINY – NEED HAND LENS TO SEE.

TABLE 1

JIG PRODUCT - BULLION INFORMATION

SAMPLE – IN ORDER OF TREATMENT	MIDDLINGS-GRAMS	CONS-GRAMS	BULLION ON 2ND JIG - GRAMS	BULLION PANNED FROM CONS INCL B. ON 2ND JIG.	SPECIMEN ROCK GRAMS.	SPECIMEN ROCK SIZE - mm	PANNED BULLION APPROX SIZING 1-2mm	2-3mm	3-4mm	>3mm	VERY VERY FINE GOLD - COMMENT	COMMENTS AT PANNING.
1	25120	1020	—	0.5	—	—	4	—	—	—	LOW	
4	20140	1250	—	4.1	0.1	2@3mm	22	9	3	—	—	COARSE TIN
7	–	580	0.6	7.1	0.1	1@3mm	40	8	2	—	LOW	LOSING FLOUR GOLD ?
21	–	400	–	3.9	0.1	2@4mm	23	2	–	–	LOW	LOSING FLOUR GOLD ? WIRE GOLD
27	–	1220	–	1.1	1.0	1@10x7x5mm	6	—	1	—	OK	SPEC RK WORN LAT NODULE
39	–	760	–	3.0	–		15	4	1	–	OK	
41	–	360	–	2.0	–		14	1	–	–	OK-LOW	
38	–	360	–	1.4	–		11	–	–	–	OK-LOW	
37	–	320	–	1.1	–		9	–	–	–	OK	
22	–	580	–	2.0	–		6	1	–	–	OK	
33	–	320	–	0.9	–		4	–	–	–		
36	–	290	–	1.3	–		12	–	–	–		
35	–	200	–	0.9	–		4	1	–	–	LOW	PROBABLE GOLD LOSS ?
40	–	180	–	1.3	–		4	–	–	–	LOW	
19	–	280	–	4.0	–		40	3	4	–	LOW	
18	5620	580	–	3.3	–		14	6	1	–		
17	–	1860	–	1.4	–	1@2mm	9	1	–	–	OK	
20	–	900	–	1.3	–		4	1	–	–	LOW	
16	–	840	–	1.1	–		5	1	–	–	OK	
13	–	600	–	2.3	–		4	–	–	–	LOW	
30	3480	560	–	0.9	–		2	–	–	–		
5	3240	520	–	1.0	–		2	–	–	–		
8	2120	1160	–	1.4	–		6	–	–	–		
6	5440	1360	0.3	4.6	–		31	9	2	–		
3	–	1900	–	1.0	–		5	4	–	–		BRIGHT YELLOW TAGGED IRREGULAR
9	5200	880	–	0.7	–		3	2	–	–	LOW-OK	WIRE GOLD NOTED
11	3600	940	0.1	1.3	0.1	1@3mm	5	–	–	1	LOW	>3mm = 1@5x3x1½ mm.
14	1680	590	–	2.2	–		3	–	–	–	OK	
15	6000	800	–	1.1	–	1@0.15mm	5	–	–	–	OK	
28	3000	500	–	1.3	–		8	–	–	–		
29	2220	540	0.3	1.2	–		3	–	–	–	LOW	
26	2900	460	–	1.1	–		16	–	–	–		

TABLE 2

OVERSIZE AND TAILINGS – VOLUME ESTIMATES

SAMPLE	VOLUME INSITU m^3	VOLUME LOOSE m^3	OVERSIZE CONE HEIGHT Cms	OVERSIZE CONE VOL LOOSE m^3	OVERSIZE %	TAILS %
1	7.8	9.5	E 110 ✓	2.3 ✓	24 ✓	76 ✓
2	8.4	10.3	E 100 ✓	1.7 ✓	17 ✓	83 ✓
3	7.8	9.5	100 ✓	1.7 ✓	18 ✓	82 ✓
4	8.4	10.3	E 100 ✓	1.7 ✓	17 ✓	83 ✓
5	7.8	9.5	110 ✓	2.3 ✓	24 ✓	76 ✓
6	8.4	10.3	90 ✓	1.3 ✓	13 ✓	87 ✓
7	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
8	8.4	10.3	100 ✓	1.7 ✓	17 ✓	83 ✓
9	7.8	9.5	70 ✓	0.6 ✓	6 ✓	94 ✓
10	8.4	10.3	E 70 ✓	0.6 ✓	6 ✓	94 ✓
11	7.8	9.5	E 80 ✓	0.9 ✓	9 ✓	91 ✓
12	8.4	10.3	E 80 ✓	0.9 ✓	9 ✓	91 ✓
13	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
14	8.4	10.3	110 ✓	2.3 ✓	22 ✓	78 ✓
15	7.8	9.5	90 ✓	1.3 ✓	14 ✓	86 ✓
16	8.4	10.3	E 110 ✓	2.3 ✓	22 ✓	78 ✓
17	7.8	9.5	E 100 ✓	1.7 ✓	18 ✓	82 ✓
18	8.4	10.3	E 110 ✓	2.3 ✓	22 ✓	78 ✓
19	7.8	9.5	110 ✓	2.3 ✓	24 ✓	76 ✓
20	8.4	10.3	E 100 ✓	1.7 ✓	17 ✓	83 ✓
21	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
22	8.4	10.3	E 110 ✓	2.3 ✓	22 ✓	78 ✓
23	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
24	8.4	10.3	E 60 ✓	0.4 ✓	4 ✓	96 ✓
25	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
26	8.4	10.3	90 ✓	1.3 ✓	13 ✓	87 ✓
27	7.8	9.5	80 ✓	0.9 ✓	9 ✓	91 ✓
28	8.4	10.3	60 ✓	0.4 ✓	4 ✓	96 ✓
29	7.8	9.5	70 ✓	0.6 ✓	6 ✓	94 ✓
30	8.4	10.3	110 ✓	2.3 ✓	22 ✓	78 ✓
31	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
32	8.4	10.3	E 60 ✓	0.4 ✓	4 ✓	96 ✓
33	7.8	9.5	90 ✓	1.3 ✓	14 ✓	86 ✓
34	8.4	10.3	E 70 ✓	0.6 ✓	6 ✓	94 ✓
35	7.8	9.5	80 ✓	0.9 ✓	9 ✓	91 ✓
36	8.4	10.3	110 ✓	2.3 ✓	22 ✓	78 ✓
37	7.8	9.5	80 ✓	0.9 ✓	9 ✓	91 ✓
38	8.4	10.3	E 100 ✓	1.7 ✓	17 ✓	83 ✓
39	7.8	9.5	E 90 ✓	1.3 ✓	14 ✓	86 ✓
40	8.4	10.3	90 ✓	1.3 ✓	13 ✓	87 ✓
41	7.8	9.5	E 100 ✓	1.7 ✓	18 ✓	82 ✓

TABLE 3

JIG RECOVERIES - ALL SAMPLES

SAMPLE NO	VOL INSITU m^3	RECOVERED BULLION AT 8742 FINE g	RECOVERED GOLD g	RECOVERED GRADE INSITU g/m^3
1	7.8	0.5	0.4371	0.06
2	8.4	—	—	
3	7.8	1.0	0.8742	0.11
4	8.4	4.1	3.5842 x	0.43
5	7.8	1.0	0.8742	0.11
6	8.4	4.6	4.0213	0.48
7	7.8	7.1	6.2068 x	0.80
8	8.4	1.4	1.2239	0.15
9	7.8	0.7	0.6119	0.08
10	8.4	—	—	
11	7.8	1.3	1.1365 x	0.15
12	8.4	—	—	
13	7.8	2.3	2.0107	0.26
14	8.4	2.2	1.9232	0.23
15	7.8	1.1	0.9616 x	0.12
16	8.4	1.1	0.9616	0.11
17	7.8	1.4	1.2239 x	0.16
18	8.4	3.3	2.8849	0.34
19	7.8	4.0	3.4968	0.45
20	8.4	1.3	1.1365	0.14
21	7.8	3.9	3.4094 x	0.44
22	8.4	2.0	1.7484	0.21
23	7.8	—	—	
24	8.4	—	—	
25	7.8	—	—	
26	8.4	1.1	0.9616	0.11
27	7.8	1.1	0.9616 x	0.12
28	8.4	1.3	1.1365	0.14
29	7.8	1.2	1.0490	0.13
30	8.4	0.9	0.7868	0.09
31	7.8	—	—	
32	8.4	—	—	
33	7.8	0.9	0.7868	0.10
34	8.4	—	—	
35	7.8	0.9	0.7868	0.10
36	8.4	1.3	1.1365	0.14
37	7.8	1.1	0.9616	0.12
38	8.4	1.4	1.2239	0.15
39	7.8	3.0	2.6226	0.34
40	8.4	1.3	1.1365	0.14
41	7.8	2.0	1.7484	0.22
		61.8		

NOTE

1. FINENESS 0.8742 - PERTH MINT DEPOSIT NO 597
2. X - SPECIMEN ROCK GOLD EXCLUDED.

TABLE 4

TAILINGS SAMPLES - AMDEL ANALYSIS - CALCULATIONS.

TAILS	VOL INSITU		HEAD GRADE		RECOVERY BY AMALGN				NOT REC BY AMALG.			
Nº	%	m^3	g/t	g/m^3	%	g/t	g/m^3	g	g/t	g/m^3	g	%
4 T	83	6.97	1.26	2.23	70.7	0.89	1.58	10.98	0.37	0.65	4.56	29.3
7 T	86	6.71	0.77	1.36	49.4	0.38	0.67	4.50	0.39	0.69	4.63	50.6
14 T	78	6.55	1.12	1.98	63.5	0.71	1.26	8.23	0.41	0.73	4.75	36.5
17 T	82	6.40	2.70	4.78	77.4	2.09	3.70	23.68	0.61	1.08	6.91	22.6
28 T	96	8.06	1.13	2.00	69.9	0.79	1.40	11.27	0.34	0.60	4.85	30.1
35 T	91	7.10	1.63	2.89	82.2	1.34	2.37	16.84	0.29	0.51	3.64	17.8

ANALYSIS - AMDEL REPORT 0979/87

TABLE 5

MEASURED RECOVERIES – CALCULATIONS

SAMPLE	VOL INSITU	JIG RECOVERY				REC BY AMALGAMN				NOT RECOVERED			
No	m^3	%	g	g/m^3	g/t	%	g	g/m^3	g/t	%	g	g/m^3	g/t
4	8.4	18.75	3.58	0.43	0.24	57.52	10.98	1.31	0.74	23.85	4.56	0.54	0.31
7	7.8	40.48	6.21	0.80	0.45	29.34	4.50	0.58	0.33	30.18	4.63	0.59	0.33
14	8.4	12.89	1.92	0.23	0.13	55.23	8.23	0.98	0.55	31.88	4.75	0.57	0.32
17	7.8	3.84	1.22	0.16	0.09	74.44	23.68	3.04	1.72	21.72	6.91	0.89	0.50
28	8.4	6.60	1.44	0.14	0.08	65.30	11.27	1.34	0.76	28.10	4.85	0.58	0.33
35	7.8	3.71	0.79	0.10	0.06	79.17	16.84	2.16	1.22	17.11	3.64	0.47	0.27

SAMPLE	VOL INSITU	RECOVERY JIG + AMALGAMN.				TOTAL GOLD	INSITU GRADE	
No	m^3	%	g	g/m^3	g/t	g	g/m^3	g/t
4	8.4	76.15	14.56	1.73	0.98	19.12	2.28	1.29
7	7.8	69.82	10.71	1.37	0.78	15.34	1.97	1.11
14	8.4	68.12	10.15	1.21	0.68	14.90	1.77	1.00
17	7.8	78.28	24.90	3.19	1.80	31.81	4.08	2.30
28	8.4	71.90	12.41	1.48	0.83	17.26	2.05	1.16
35	7.8	82.89	17.63	2.26	1.28	21.27	2.73	1.54

NOTE

1. EXCLUDING RECOVERED SPECIMEN GOLD
2. ASSUMING GOLD IN OVERSIZE IS ZERO

TABLE 6

MEASURED FREE GOLD RECOVERY

SAMPLE	JIG RECOVERY		AMALG RECOVERY		JIG + AMALG REC
Nº	g	%	g	%.	g
4	3.58	25	10.98	75	14.56
7	6.21	58	4.50	42	10.71
14	1.92	19	8.23	81	10.15
17	1.22	5	23.68	95	24.90
28	1.44	12	11.27	88	12.41
35	0.79	4	16.84	96	17.63

TABLE 7

DIGGINGS – POTENTIAL JIG RECOVERIES

SAMPLE	JIG RECOVERY		FREE GOLD	ASSUME JIG REC	INSITU	60% FREE Au
		% OF	AVAILABLE	60% OF FREE Au	GOLD	AS % OF INSITU Au.
No	g	FREE Au	g	g	g	%
4	3.58	25	14.56	8.74	19.12	45.71
7	6.21	58	10.71	6.42	15.34	40.68
14	1.92	19	10.15	6.09	14.90	40.87
	11.71		35.42	21.25	49.36	43.05

NOTE

1. 43% OF DIGGINGS INSITU GRADE OF 2.2 g/m^3 = 0.95 g/m^3.

TABLE 8

INSITU GOLD – WITHIN DIGGINGS

BLOCK	SQUARES @25m²	AREA m^2	DEPTH m	VOLUME m^3	INSITU GRADE ESTIMATED g/m³	INSITU GOLD GRAMMES
NORTHERN DIGGINGS						
A	27	675	1.0	675	2.5	1687.5
B	36	900	1.2	1080	2.5	2700
C	10	250	1.2	300	2.5	750
D	5	125	0.5	62.5	2.5	156.25
E	13	325	2.0	650	2.5	1625
F	11	275	1.0	275	2.5	687.5
G	23	575	1.0	575	2.5	1437.5
H	11	275	1.2	330	2.5	825
I	10	250	1.2	300	2.3 ✓	690
J	28	700	1.0	700	2.3 ✓	1610
K	8	200	1.0	200	2.3	460
L	27	675	1.2	810	1.9	1539
M	9	225	1.2	270	2.3	621
N	51	1275	1.4	1785	2.3	4105.5
O	17	425	1.2	510	2.3	1173
P	20	500	1.2	600	2.0	1200
Q	70	1750	1.7	2975	2.0	5950
R	76	1900	1.8	3420	2.0	6840
S	49	1225	1.2	1470	1.9	2793
T	8	200	1.6	320	2.0	640
				17307.5	2.17	37490.25
SOUTHERN DIGGINGS						
U	71	1775	1.2	2130	2.5	5325
V	67	1675	1.5	2512.5	2.5	6281.25
W	42	1050	1.5	1575	2.3	3622.5
X	64	1600	1.7	2720	2.0	5440
Y	63	1575	1.6	2520	2.0	5040
				11457.5	2.24	25708.75
				28765	2.20	63199

TABLE 9

INSITU GOLD

OUTSIDE DIGGINGS

BLOCK	SQUARES @25m²	AREA m^2	DEPTH m	VOLUME m^3	INSITU GRADE EST. g/m^3	INSITU GOLD GRAMS
9650E 10300N	50	1250	1.0	1250	2.0	2500
250	100	2500	0.4	1000	3.0	3000
200	99	2475	0.5	1237.5	3.0	3712.5
150	6	150	0.5	75	3.0	225
100	65	1625	0.5	812.5	3.0	2437.5
9700E 10300N	50	1250	1.6	2000	1.5	3000
250	100	2500	1.7	4250	2.0	8500
200	75	1875	1.2	2250	2.0	4500
150	0	0	—	—	—	—
100	10	250	1.2	300	2.0	600
50	100	2500	0.8	2000	3.0	6000
9750E 10300N	50	1250	1.6	2000	1.5	3000
250	100	2500	2.2	5500	1.5	8250
200	94	2350	1.4	3290	1.7	5593
150	83	2075	1.2	2490	1.8	4482
100	95	2375	1.3	3087.5	2.0	6175
50	100	2500	1.2	3000	2.5	7500
0	100	2500	1.0	2500	4.0	10000
950	40	1000	1.0	1000	2.5	2500
900	33	825	1.4	1155	2.2	2541
850	100	2500	0.5	1250	3.0	3750
800	50	1250	0.5	625	3.0	1875
9800E 10300N	50	1250	2.1	2625	2.0	5250
250	100	2500	2.2	5500	2.0	11000
200	100	2500	1.7	4250	2.0	8500
150	100	2500	1.7	4250	2.0	8500
100	100	2500	1.9	4750	2.0	9500
50	100	2500	1.7	4250	2.0	8500
0	100	2500	1.6	4000	2.0	[illegible]
950	91	2275	1.2	2730	1.5	[illegible]
900	30	750	1.5	1125	1.9	2137.5
850	100	2500	1.2	3000	1.5	4500
800	50	1250	0.6	750	1.5	1125
9850E 10300N	50	1250	2.1	2625	2.3	6037.5
250	100	2500	2.4	6000	2.5	15000
200	100	2500	1.8	4500	2.7	12150
150	100	2500	1.2	3000	2.7	8100
100	100	2500	1.9	4750	2.8	13300
50	100	2500	1.4	3500	2.5	8750
0	100	2500	2.7	6750	2.2	14850
950	100	2500	1.7	4250	2.0	8500
900	44	1100	1.6	1760	1.7	2992
850	100	2500	1.0	2500	1.7	4250
800	50	1250	0.5	625	1.7	1062.5
				118562.5	2.16	256240.5

TABLE 10

JIG RECOVERED BULLION

BLOCK	SQUARES @25m²	AREA m²	DEPTH m	VOLUME m³	JIG REC BULLION GRADE – g/m³	JIG REC BULLION GRAMMES
NORTHERN DIGGINGS						
A	27	675	1.0	675	0.4	270
B	36	900	1.2	1080	0.5	540
C	10	250	1.2	300	0.5	150
D	5	125	0.5	62.5	0.5	31.25
E	13	325	2.0	650	0.5	325
F	11	275	1.0	275	0.5	137.50
G	23	575	1.0	575	0.5	287.50
H	11	275	1.2	330	0.5	165
I	10	250	1.2	300	0.5	150
J	28	700	1.0	700	0.5	350
K	8	200	1.0	200	0.4	80
L	27	675	1.2	810	0.4	324
M	9	225	1.2	270	0.5	135
N	51	1275	1.4	1785	0.5	892.5
O	17	425	1.2	510	0.4	204
P	20	500	1.2	600	0.4	240
Q	70	1750	1.7	2975	0.55	1636.25
R	76	1900	1.8	3420	0.8	2736
S	49	1225	1.2	1470	0.4	588
T	8	200	1.6	320	0.4	128
				17307.5	0.5414	9370
SOUTHERN DIGGINGS						
U	71	1775	1.2	2130	0.4	852
V	67	1675	1.5	2512.5	0.5	1256.25
W	42	1050	1.5	1575	0.5	787.5
X	64	1600	1.7	2720	0.5	1360
Y	63	1575	1.6	2520	0.4	1008
				11457.5	0.4594	5263.75
				28765	0.5087	14633.75

TABLE II

JIG RECOVERIES

OUTSIDE DIGGINGS

BLOCK	SQUARES @25m²	AREA m²	DEPTH m	VOLUME m³	JIG RECOVERY g/m³	JIG REC. GRAMS
9650E 10300N	50	1250	1.0	1250	0.06	75
250	100	2500	0.4	1000	E 0.11	110
200	99	2475	0.5	1237.5	0.11	136.125
150	6	150	0.5	75	E 0.20	15
100	65	1625	0.5	812.5	0.11	89.375
9700E 10300N	50	1250	1.6	2000	E 0.10	200
250	100	2500	1.7	4250	0.08	340
200	75	1875	1.2	2250	0.15	337.5
150	0	0	–	–	–	–
100	10	250	1.2	300	0.20	60
50	100	2500	0.8	2000	0.11	220
9750E 10300N	50	1250	1.6	2000	0.15	300
250	100	2500	2.2	5500	E 0.09	495
200	94	2350	1.4	3290	0.26	855.4
150	83	2075	1.2	2490	0.23	572.7
100	95	2375	1.3	3087.5	0.12	370.5
50	100	2500	1.2	3000	0.11	330
0	100	2500	1.0	2500	0.16	400
950	40	1000	1.0	1000	E 0.20	200
900	33	825	1.4	1155	E 0.20	231
850	100	2500	0.5	1250	E 0.12	150
800	50	1250	0.5	625	E 0.12	75
9800E 10300N	50	1250	2.1	2625	E 0.09	236.25
250	100	2500	2.2	5500	0.09	495
200	100	2500	1.7	4250	0.14	595
150	100	2500	1.7	4250	0.12	510
100	100	2500	1.9	4750	0.11	522.5
50	100	2500	1.7	4250	0.11	467.5
0	100	2500	1.6	4000	E 0.14	560
950	91	2275	1.2	2730	0.21	573.3
900	30	750	1.5	1125	0.20	225
850	100	2500	1.2	3000	0.14	420
800	50	1250	0.6	750	0.12	90
9850E 10300N	50	1250	2.1	2625	E 0.09	236.25
250	100	2500	2.4	6000	E 0.09	540
200	100	2500	1.8	4500	0.10	450
150	100	2500	1.2	3000	E 0.10	300
100	100	2500	1.9	4750	0.10	475
50	100	2500	1.4	3500	0.14	490
0	100	2500	2.7	6750	0.12	810
950	100	2500	1.7	4250	0.15	637.5
900	44	1100	1.6	1760	E 0.20	352
850	100	2500	1.0	2500	0.14	350
800	50	1250	0.5	625	0.22	137.5
				118562.5	0.13	15035.4

TABLE 12

RECOVERY ESTIMATES

OUTSIDE DIGGINGS

	JIG RECOVERY		Hg RECOVERY		JIG + Hg RECOVERY	INSITU
	GRAMS	%	GRAMS	%	GRAMS AT SAY 70%	GRAMS
9650E 10 300N	75	3	1675	67	1750	2500
250	110	4	1990	66	2100	3000
200	136.125	4	2462.625	66	2598.75	3712.5
150	15	7	142.5	63	157.5	225
100	89.375	4	1616.875	66	1706.25	2437.5
9700E 10 300N	200	7	1900	63	2100	3000
250	340	4	5610	66	5950	8500
200	337.5	7	2812.5	63	3150	4500
150	–	–	–	–	–	–
100	60	10	360	60	420	600
50	220	4	3980	66	4200	6000
9750E 10300N	300	10	1800	60	2100	3000
250	495	6	5280	64	5775	8250
200	855.4	15	3059.7	55	3915.1	5593
150	572.7	13	2564.7	57	3137.4	4482
100	370.5	6	3952	64	4322.5	6175
50	330	4	4920	66	5250	7500
0	400	4	6600	66	7000	10000
950	200	8	1550	62	1750	2500
900	231	9	1547.7	61	1778.7	2541
850	150	4	2475	66	2625	3750
800	75	4	1237.5	66	1312.5	1875
9800E 10 300N	236.25	4	3438.75	66	3675	5250
250	495	4	7205	66	7700	11000 ✓
200	595	7	5355	63	5950	8500
150	510	6	5440	64	5950	8500
100	522.5	5	6127.5	65	6650	9500
50	467.5	5	5482.5	65	5950	8500
0	560	7	5040	63	5600	8000
950	573.3	14	2293.2	56	2866.5	4095
900	225	11	1271.25	59	1496.25	2137.5
850	420	9	2730	61	3150	4500
800	90	8	697.5	62	787.5	1125
9850E 10300N	236.25	4	3990	66	4226.25	6037.5
250	540	4	9960	66	10500	15000
200	450	4	8055	66	8505	12150
150	300	4	5370	66	5670	8100
100	475	4	8835	66	9310	13300
50	490	6	5635	64	6125	8750
0	810	5	9585	65	10395	14850
950	637.5	7	5312.5	63	5950	8500
900	352	12	1742.4	58	2094.4	2992
850	350	8	2625	62	2975	4250
800	137.5	13	606.25	57	743.75	1062.5
	15035.4	6	164332.95 ✓	64	179368.35	256240.5

TABLE 13

RECOVERY ESTIMATES - SUMMARY

	JIG RECOVERY		Hg RECOVERY		JIG + Hg RECOVERY	INSITU
	GRAMS	%	GRAMS	%	GRAMS AT SAY 70%	GRAMS
NORTHERN DIGGINGS	8191.254	22	18051.921	48	26243.175	37490.25
SOUTHERN DIGGINGS	4601.5702	18	13394.555	52	17996.125	25708.75
TOTAL DIGGINGS	12792.824	20	31446.476	50	44239.3	63199
OUTSIDE DIGGINGS	15035.4	6	164332.95	64	179368.35	256240.5
TOTAL	27828.224	9	195779.42	61	223607.65	319439.5

TABLE 14

GOLD RESOURCE ESTIMATE – EASTERN MCN 1323

	WITHIN DIGGINGS	OUTSIDE DIGGINGS	TOTAL
VOLUME	28765 (20%)	118563 (80%)	147328
BULK DENSITY (SAY)	1.77	1.77	1.77
TONNES	50914	209857	260771
GRADE g/m³	2.2	2.16	2.17
GRADE g/t	1.24	1.22	1.22
GOLD INSITU g	63199	256241	319440
JIG RECOVERY			
g/m³	0.44	0.13	0.19
g/t	0.25	0.07	0.11
%	20	6	9
g	12793 (46%)	15035 (54%)	27828
AMALGAMATION RECOVERY			
g/m³	1.09	1.39	1.33
g/t	0.62	0.78	0.75
%	50	64	61
g	31446 (16%)	164333 (84%)	195779
JIG + AMALGAMATION REC.			
g/m³	1.54	1.51	1.52
g/t	0.87	0.85	0.86
% (SAY)	70	70	70
g	44239 (20%)	179368 (80%)	223608

NOTE – FIGURES IN BRACKETS INDICATE PERCENT OF TOTAL

TABLE 15

OTHER DIGGINGS WITHIN MCN 1323-1326 - VOLUMES

GENERAL LOCATION	GRID LOCATION APPROXIMATE	APPROXIMATE DIMENSIONS - m LENGTH	WIDTH	DEPTH	VOL EST m^3	TONNES EST t
SW MCN 1324	9300E 10150N	70	10	1½	1050	1859
SW MCN 1324	9150E 10275N	70	5	1½	525	929
SW MCN 1326	(?)9340E 8800N	160	5	1½	1200	2124
NE MCN 1326	9500E 9150N	80	10	1½	1200	2124
					3975	7036

NOTES

1. EXCLUDING EASTERN MCN 1323
2. PRESUMABLY THESE DIGGINGS WOULD HAVE APPROXIMATELY THE SAME INSITU GRADES AND RECOVERIES AS THE EASTERN MCN 1323 DIGGINGS.
3. BULK DENSITY TAKEN AS 1.77.

TABLE 16

OTHER ALLUVIAL FLATS WITHIN MCN 1323 - 1326 - VOLUMES

GENERAL LOCATION	APPROXIMATE DIMENSIONS m LENGTH	WIDTH	DEPTH	VOL EST m^3	TONNES EST t
MCN 1325 SW CNR	100	50	1	5000	8850
MCN 1326 W EDGE	500	50	1	25000	44250
MCN 1325 SW CNR	50	50	1	2500	4425
MCN 1324 SW CNR	200	100	1	20000	35400
				52500	92925

NOTES

1. EXCLUDING EASTERN MCN 1323
2. PERHAPS THESE FLATS HAVE THE SAME INSITU GRADES AND RECOVERY POTENTIAL AS THE EASTERN MCN 1323 FLAT
3. BULK DENSITY TAKEN AS 1.77.

TABLE 17

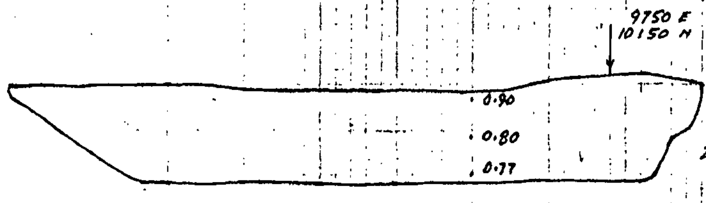
NOTES TO ACCOMPANY DIAGRAMATIC SECTIONS

OB.	OVERBURDEN	FINE TO MEDIUM GRAINED SILTY SAND - TEND TO COARSE SAND/GRIT AT BASE
G.	GRAVEL	AS "ROAD BASE" - PEBBLES MOSTLY < 2CM, ANGULAR, TOUCHING. MATRIX SANDY < 10%
LW.	LIGHT WASH	PEBBLES AVERAGE < 2 CM, DISPERSED. MATRIX > 30%
MW.	MEDIUM WASH	PEBBLES AVERAGE 1-3 CM, FEW < 10% UP TO 10 CM, MOSTLY TOUCHING SOME DISPERSED, PEBBLES QUARTZ, SANDSTONE, SILTSTONE. MATRIX SANDY 10-30%
HW	HEAVY WASH	PEBBLES AVERAGE > 3CM, ALL TOUCHING. MATRIX < 10%

NOTE

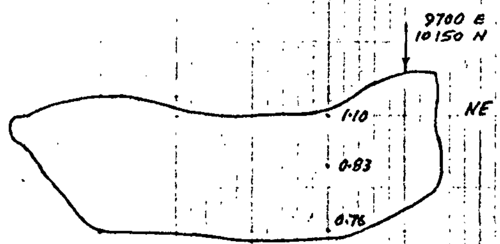
G AND MW SIMILAR - G DERIVED FROM HILL SLOPE SCREE COMPARED TO MW WHICH MAY BE MORE ALLUVIAL IN ORIGIN. G ONLY RECORDED WHERE OBVIOUS TO DO SO.

SAMPLE 14 S



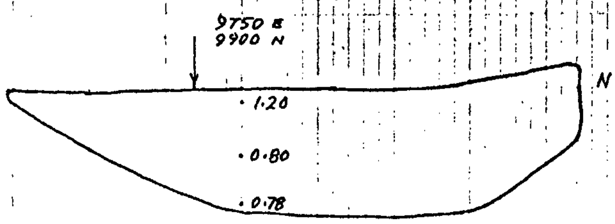
$259 \times 0.04 = 10.38 \times 0.80 = 8.30\ m^3$

SAMPLE 7 SW



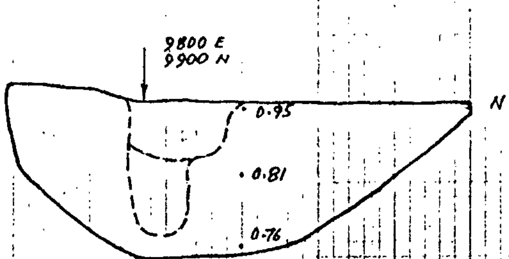
$227 \times 0.04 = 9.08 \times 0.83 = 7.54\ m^3$

SAMPLE 19 S



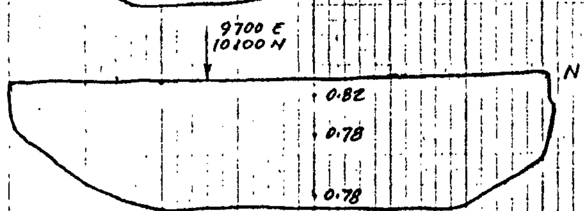
$252\frac{1}{2} \times 0.04 = 10.10 \times 0.80 = 8.08\ m^3$

SAMPLE 21 S



$241\frac{1}{2} \times 0.04 = 9.66 \times 0.81 = 7.82\ m^3$

SAMPLE 6 S



$272 \times 0.04 = 10.88 \times 0.78 = 8.49\ m^3$

0 1
METRE

NUMBER OF SQUARES × AREA OF SQUARE = AREA OF TRENCH WALL × WIDTH OF TRENCH = VOLUME OF TRENCH

SUMMARY VOLUMES

ODD	7.54	8.08	7.82	AVERAGE	$7.81\ m^3$
EVEN	8.30	8.49			$8.40\ m^3$

MT TYMN ALLUVIAL PROJECT

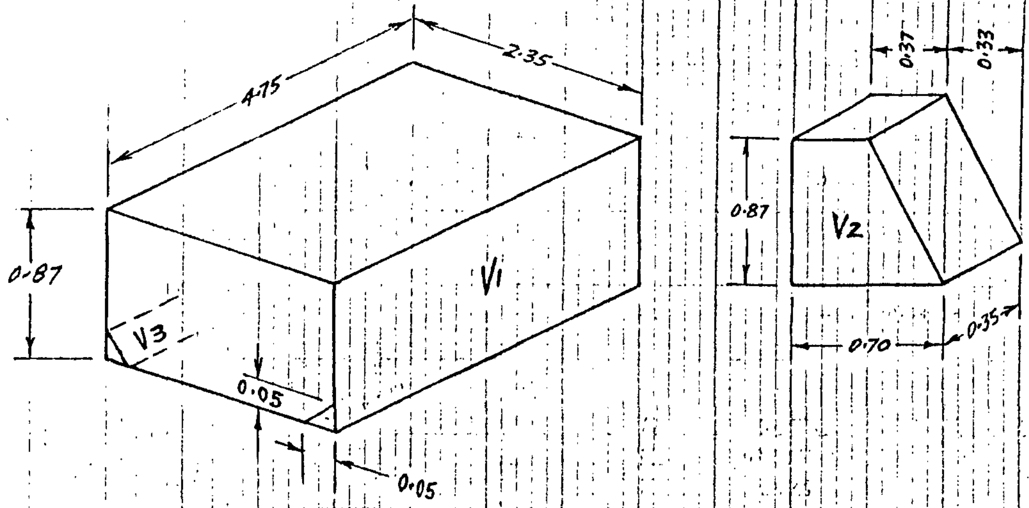
INSITU VOLUME CALCULATIONS

24/5/87 21/6/87

APPENDIX 2

TRUCK VOLUMES

ODD SAMPLE NUMBERS



$V_1 = 4.75 \times 2.35 \times 0.87 = 9.71$

$V_2 = [(0.37 \times 0.87) + (0.33 \times 0.87/2)] \times 0.35 = 0.16$

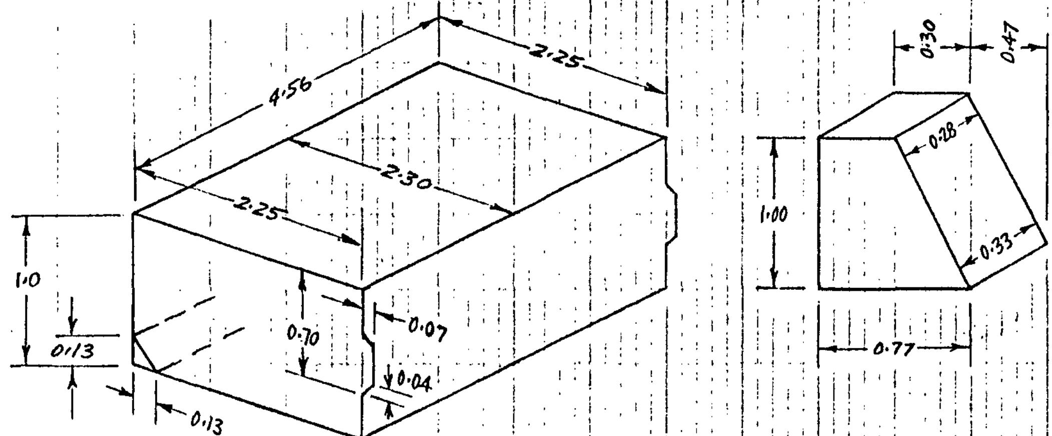
$V_3 = (0.05 \times 0.05/2) \times 4.75 = \sim 0.01$

$V_{TRUCK} = V_1 - V_2 - 2V_3$

$= 9.71 - 0.16 - 0.02$

ODD $= 9.53\ m^3$ LOOSE

EVEN SAMPLE NUMBERS



$V_1 = 4.56 \times 2.30 \times 1.00 = 10.488$

$V_2 = [(1.0 \times 0.3) + (0.47 \times 1/2)] \times 0.305 = 0.163$

$V_3 =$ SAY 0

$V_{TRUCK} = V_1 - V_2$

$= 10.488 - 0.163$

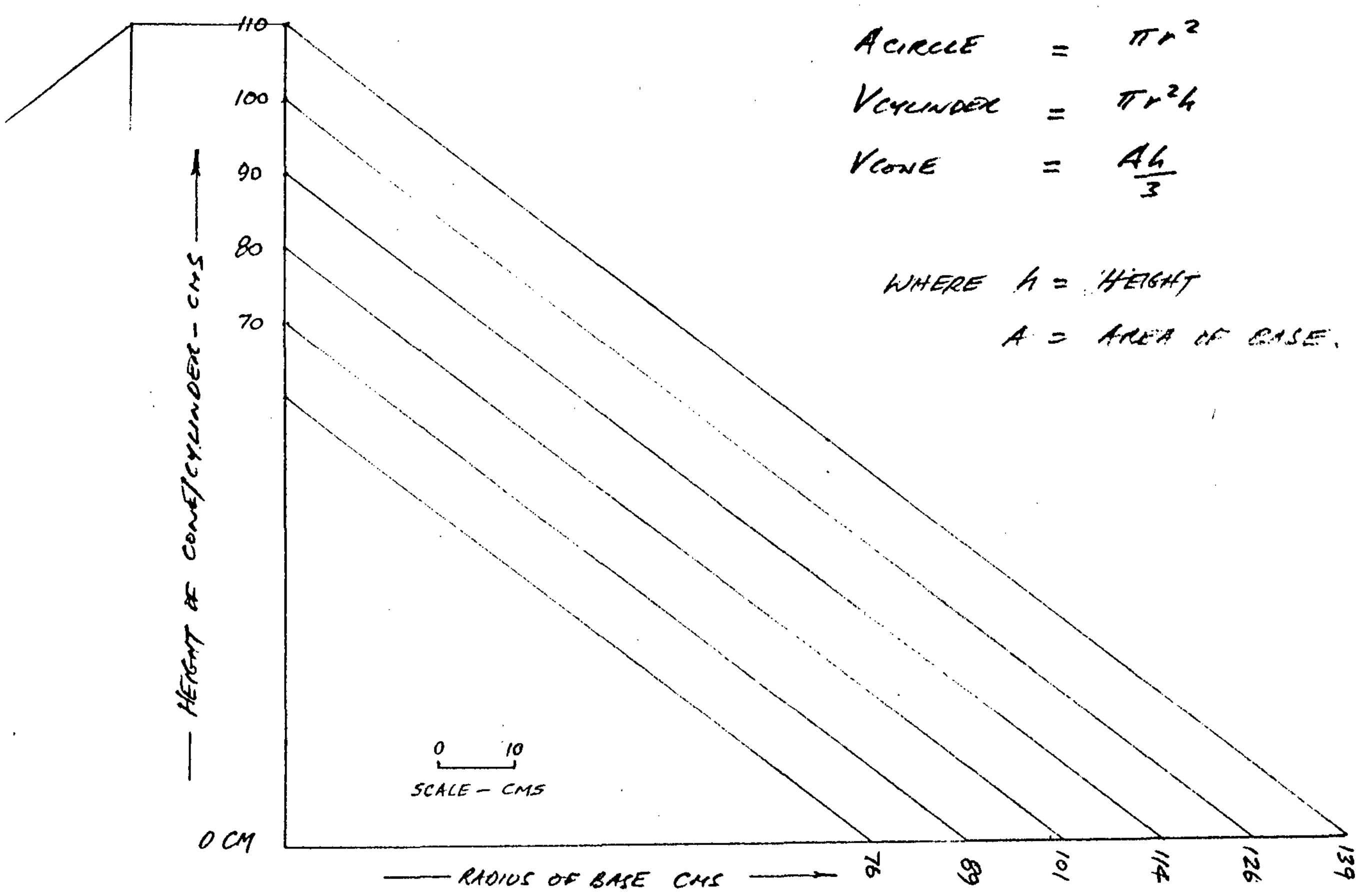
EVEN $= 10.325$ LOOSE

OVERSIZE VOLUME CALCULATION.

ASSUME OVERSIZE HEAP MADE UP OF VERTICAL CYLINDER (OF DIAMETER 20 CMS) AND SURROUNDING CONE

OVERSIZE ANGLE OF REPOSE FROM PHOTOS

MT TYMN – PLANT FRONT SIDE	38°	SAY 38°
MT TYMN – PLANT FRONT END	38°	
GRAVEL ANGLE OF REPOSE		
22/9/87 – N EDGE	35°	
22/9/87 – E EDGE	35°	



$A_{CIRCLE} = \pi r^2$

$V_{CYLINDER} = \pi r^2 h$

$V_{CONE} = \frac{Ah}{3}$

WHERE h = HEIGHT
A = AREA OF BASE.

h–CMS	VOLUME OF CONE		VOLUME OF CYLINDER		VOL TOTAL m^3	
60	$22/7 \times (0.76)^2 \times 0.6/3$ =	0.363 ✓	$22/7 \times (0.1)^2 \times 0.6$ =	0.019	0.382	0.4
70	$22/7 \times (0.89)^2 \times 0.7/3$ =	0.581 ✓	$22/7 \times (0.1)^2 \times 0.7$ =	0.022	0.603	0.6
80	$22/7 \times (1.01)^2 \times 0.8/3$ =	0.855 ✓	$22/7 \times (0.1)^2 \times 0.8$ =	0.025	0.880	0.9
90	$22/7 \times (1.14)^2 \times 0.9/3$ =	1.225 ✓	$22/7 \times (0.1)^2 \times 0.9$ =	0.028	1.253	1.3
100	$22/7 \times (1.26)^2 \times 1.0/3$ =	1.663 ✓	$22/7 \times (0.1)^2 \times 1.0$ =	0.031	1.694	1.7
110	$22/7 \times (1.39)^2 \times 1.1/3$ =	2.227 ✓	$22/7 \times (0.1)^2 \times 1.1$ =	0.035	2.262	2.3

G. Moore 24/9/87

APPENDIX 4

PM. 3 FD 5000/7/85.

TELEPHONES: 325 4177
325 3443
TELEX — MINTWA AA94832
DAILY PRICES ONLY: 325 5996

THE PERTH MINT, W.A.

310 HAY STREET,
PERTH,
WESTERN AUSTRALIA 6000

MEMORANDUM of Out-Turn

Deposit Number: 597
Lodged By: JOHN LOVE A/C AUSTRALIAN OVERSEAS MINING LTD.
Date of Lodgment: 25.6.87
Date of Payment: 2.7.87
Gold Priced at $601.94 per fine ounce
Silver Priced at $ 8.05 per fine ounce
Weight of Lodgment: 2.05 ounces Bar Nos.:

COPY

Weight after Melting		ASSAY REPORT		Fine Gold [redacted]		Fine Silver Allowed	
		Gold	Silver				
ozs.				ozs.		ozs.	
1	98	8742	113	1	73	-	21

Fine Gold Value		Fine Silver Value		Total Value		Deduct Charges			Amount Due	
$	c	$	c	$	c		$	c	$	c
1,041	36	1	69	1,043	05	Ordinary	70	00	971	85
						Extra	1	20		
						Special				
						Total	71	20		

M. R. Kennedy
for the DIRECTOR

APPENDIX 5

amdel
technology and enterprise

Amdel Limited
(Incorporated in S.A.)
P.O. Box 58
Berrimah, N.T. 5788

Telephone (089) 32 2637
Telex: AA85987

5th August, 1987

Our Ref : D979/87

REPORT NUMBER : D979/87

CLIENT :	Australian Overseas Mining
CLIENT REFERENCE :	Verbal Request
REPORT COMPRISING :	Cover Page Pages 1-2
DATE RECEIVED :	26th June, 1987

A. Ciplys

Alan Ciplys
Manager
AMDEL Limited (N.T.)

APPENDIX 6

AMDEL—N.T.

ANALYSIS

SAMPLE MARK	µg Au	Dry Weight g	Tails Au g/t	% Recovery	HEAD GRADE
MT 4T	3130	3241.4	0.37	70.7	1.26
MT 7T	1560	4176.2	0.39	49.4	0.77
MT 14T	3650	5124.3	0.41	63.5	1.12
MT 17T	9600	4511.4	0.61	77.4	2.70
MT 28T	3490	4479.6	0.34	69.9	1.13
MT 35T	6000	4374.4	0.29	82.2	1.63

METHOD : Z

AMDEL—N.T.

ANALYSIS

SAMPLE MARK	Au ppm
MT 7L	0.36
MT 19L	0.16
MT 21L	0.14

METHOD : PM3/2

THE NORTHERN TERRITORY OF AUSTRALIA

Control of Waters Regulations

LICENCE NO. 352

I, NORMAN ALFRED WATSON, the Controller of Water Resources, as a delegate of the Minister for Mines and Energy by an Instrument of Delegation dated 29 January, 1982, pursuant to section 14C of the Control of Waters Act, do hereby issue to JOHN L LOVE OF WAHROONGA IN THE STATE OF NEW SOUTH WALES, a licence to construct the work detailed on the following drawing W87/1009 signed by me, a copy of which is attached, and to take and use water from the unnamed Billabong near Bridge Creek for Mineral Testing purposes subject to such special conditions and provisions as are hereunder specified for a period of one (1) year from the date hereof.

SPECIAL CONDITIONS AND PROVISIONS

1. Maximum amount of water to be taken;

Weekly	$500m^3$
Annually	$1500m^3$

2. Water used for testing must not be returned to the billabongs unless cleaned by way of settling ponds.

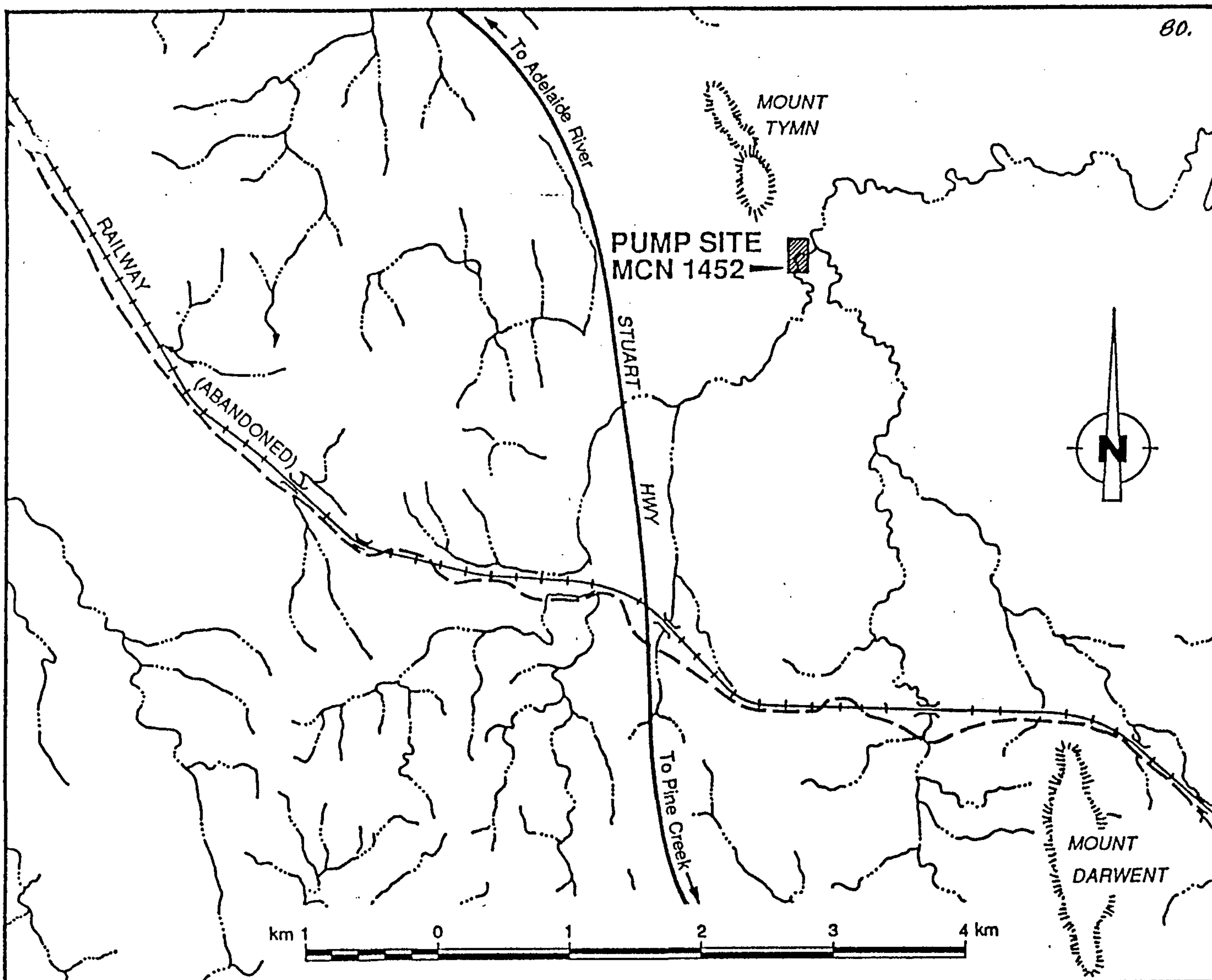
3. Cyanide or similar chemicals are not to be used without further approval of the Controller.

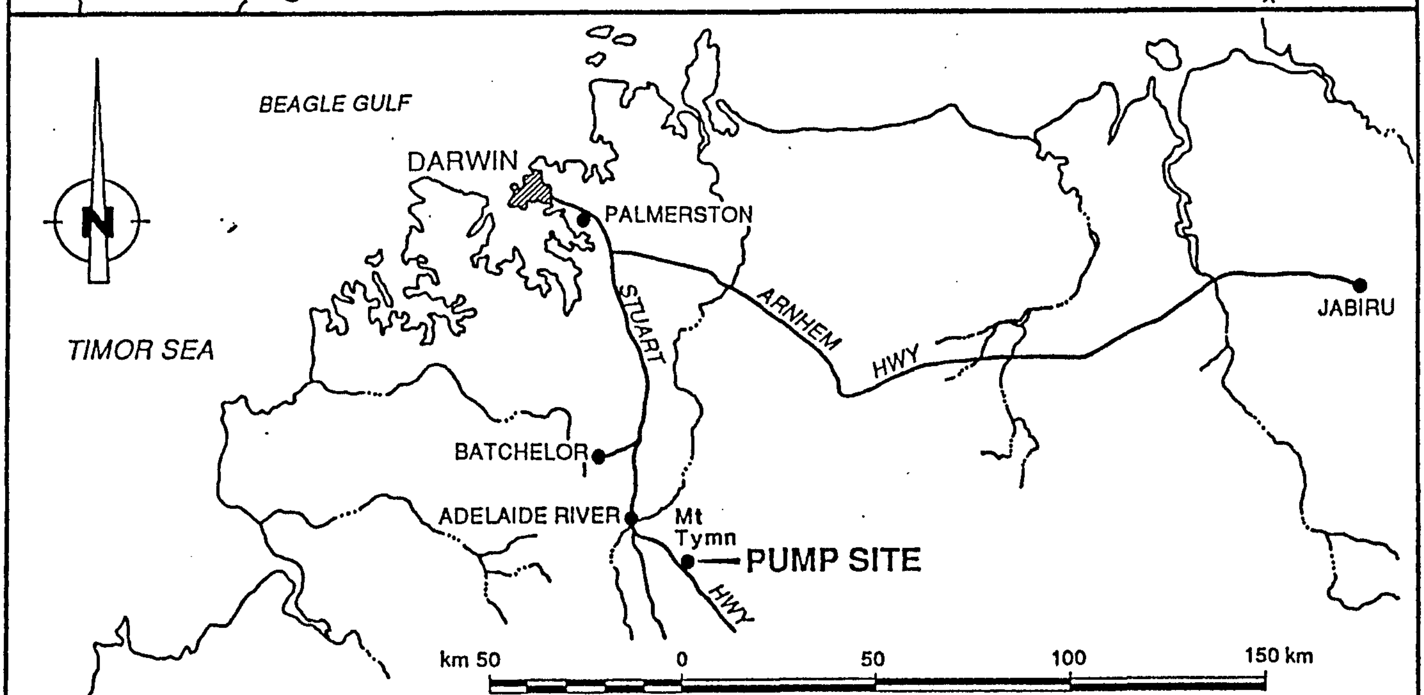
Dated at Darwin this 26th day of March 1987

N A WATSON
Controller of Water Resources

13:RWAS

APPENDIX 7





FILE 4-65-169 DSD. G.HOLMES 2/87 DRN. A.CHIN 2/87 CKD. G.HOLMES 2/87	**WATER RESOURCES DIVISION** DEPARTMENT OF MINES AND ENERGY NORTHERN TERRITORY OF AUSTRALIA Copyright Reserved		RPT
CONTROLLER OF WATER RESOURCES [signature] 26/3/87	TITLE WATERWORKS LICENCE No.352	**W87/1009**	

Pacific Goldmines N.L.
Incorporated in New South Wales
Head office: 5th Floor P&O Building 55 Hunter Street Sydney NSW 2000
Telephone: (02) 223 1800 Telex: AA176025 Fax: (02) 235 1436
Postal Address: GPO Box 2706 Sydney NSW 2001 Australia

DJ/rje/PLET0137

1st June 1988

Department of Mines and Energy
Title Registration Branch
G.P.O. Box 2901
DARWIN NT 5794

Attention : Mining Registrar

Dear Sirs

*re : **EL 4871 - Mt. Tymn***

Proposed Works Program and Exploration for the year to 19th March 1989.

Pacific Goldmines N.L. (PGNL) have negotiated an agreement with the registered titleholders of the above tenement. At the time of writing PGNL are negotiating further agreements with a number of parties holding titles and entitlements in the vicinity of EL4871 and other interested parties who wish to form a Joint Venture with PGNL over the properties. In the light of these developments and the results of limited testing of alluvials in the vicinity of EL4871 a tentative program of examination has been formulated.

It is anticipated that the program will take a staged approach to exploration in the forthcoming year and will comprise :-

1) *surface mapping and sampling*

2) *a later program of costeaning after successful completion of Stage 1*

3) *a program of alluvial evaluation*

The timing of the programs would be dependent on the programs of prospective joint venturers, prevailing weather conditions and PGNL's commitments to other field programs.

Department of Mines & Energy
Attention : Mining Registrar

1st June 1988

re : **EL 4871 - Mt. Tymn**

Proposed expenditure is as follows :-

Surface mapping and sampling 10 days at $400 per day	$4,000
Costeaning 5 days at $600 per day	$3,000
Costean mapping and sampling 3 days at $400 per day	$1,200
Sample analysis 200 samples at $12 per sample	$2,400
Subsistence, consummables, vehicles	$1,500
Report preparation	$600
TOTAL	$12,700

Should agreement be reached regarding joint evaluation of alluvial resources it is proposed that up to a further $6,000 be allocated as part of PGNL's contribution to the joint testing program.

Yours faithfully,
for PACIFIC GOLDMINES N.L.

DAVID JOHNSON
Exploration Manager