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T.D.M 801502

EXPLORATION LICENCE 17/78

SUMMARY OF COMPLETED WORK PROGRAMME

For the Period

MAY 1st, 1980 to OCTOBER 31st, 1980

And

PROPOSED WORK PROGRAMME

For the Period

NOVEMBER 1st, 1980 to APRIL 30th 1981

MICROFILMED

OPEN FILE

*N.B.
loan card inside
back cover*

E.N. Charlton
6th November 1980

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|-------------|---------------------|------------------|----------|
| 1. Profiles | · Alluvial deposits | Long Gully | Mathinna |
| 2 | " " " | Mangana | " |
| 3 | " " " | Blackhorse Gully | Mathinna |

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EXPLORATION LICENCE 17/78

SUMMARY OF COMPLETED WORK PROGRAMME

PERIOD 30th APRIL - 31st OCTOBER 1980

1. INTRODUCTION

Exploration Licence 17/78 covers an area of 100 sq. km. in north-eastern Tasmania, and includes the Mathinna, Tower Hill and Mangana goldfields.

Work carried out by this Company in 1979 involved stream sediment sampling in the Mangana area and preliminary testing of the Golden Gate tailings dump at Mathinna, as well as a general reconnaissance of old mineworkings.

*really
back-hole
sampling of
alluvials*

Early in 1980 it was decided that the alluvial deposits surrounding the township of Mathinna offered the best prospects for an early gold-producing operation, and most of this period has been devoted to the systematic testing of these alluvials.

A primary backhoe survey to locate economic concentrations of alluvial gold has been completed, and arrangements made for selective bulk sampling of some of the more promising locations.

Further sampling and metallurgical testing of the Golden Gate tailings has indicated the economic viability of cyanidation of this material, and investigations are being made to determine the most suitable method of treatment.

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A limited amount of work has been done in examining old mineworkings and quartz outcrops in the Mathinna area, and an attempt made to correlate veins and fault zones from the few available plans of the old mines.

2. ALLUVIAL DEPOSITS

(Location maps and profiles appended to this report)

(a) Method of Sampling

A total of 15 lines of backhoe holes were excavated and sampled at Mathinna, and four lines of holes at Mangana. Lines were generally 300 metres apart with holes spaced at 25 metres along each line. Geological logs of all backhoe holes are given in Appendix A.

Backhoe holes in Black Horse Gully and Long Gully at Mathinna averaged 2.5 metres depth to bedrock. In the Dan Rivulet valley north of Mathinna the solitary line TDA consisted of 26 holes of which only 9 reached bedrock. Six of the remaining holes had still not reached bedrock at 4.8 metres, and there was a general problem with water inflow. Of the 33 holes excavated at Mangana 10 did not reach bedrock at a depth of 6 metres.

Each backhoe trench was sampled in duplicate at intervals of 0.5 to 1.0 metre up the vertical profile of the gravel intersection. Sample weights varied from 5 kg to 30 kg (damp weight) depending on the maximum clast size. Each sample was then reduced to a panned sample concentrate weighing between 50 and 300 grams. Initially these concentrate samples were sent to AMDEL for analysis by Atomic Absorbtion Spectrometer.

Results of these analyses gave much lower gold values than expected, as visible gold had been observed and recorded in many of the concentrate samples. It appeared that AMDEL had not analysed the whole of each sample, but only a "representative" portion, which implied that they might have missed some of the few but relatively coarse particles of free gold.

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Because of this uncertainty and also because of the long delay in obtaining results from AMDEL it was decided to rely instead on a careful particle count and weight estimation of the gold in each panned sample. Expert advice indicated that this was in any case a more realistic method, as any particle too small to be observed would probably not be recoverable in a gravity treatment plant.

Not only all subsequent backhoe samples, but also all the duplicates of the samples which had been sent to AMDEL were panned, and all visible particles of gold removed and a weight estimation made. A number of the gold samples were eventually weighed at the Hobart University Geology Department, and this showed that the gold weights were being considerably overestimated, and that the original AMDEL analyses were not, after all, as unreliable as had been suspected.

(b) Problems Encountered in Sampling

As the alluvial pile becomes deeper, so also does the clast size (pebble, cobble, boulder), and a larger sample size is required to truly represent the deposit. The presence of boulders in some locations made backhoe digging very difficult; boulders up to 2 metres diameter were encountered which added to the difficulty of ascertaining the bedrock.

In some instances, due to the limited reach of the backhoe and the greater depth of the gravels, it was necessary to dig a wider trench and bench down. This often meant digging below the water table, and while a portable pump was available, this could not always cope with the rate

of inflow. In such cases the gravels could only be sampled "approximately" by the backhoe itself.

Evidence of having reached the bedrock was not always obvious. It was not uncommon to find that the bedrock had weathered to a white-grey pipe clay with an incipient cleavage.

(c) Review of Assay Data from Backhoe Sampling
(Data in Appendix B)

From 19 survey lines in the Mathinna and Mangana areas a total of 240 backhoe trenches were excavated, and from these a total of 1,026 samples were taken and panned to a sample concentrate. Of these 1,026 samples 317 were assayed for gold and 134 recorded observed free gold. The various methods of analysis applied to the 317 samples is shown as follows:-

	FIRE ASSAY	ATOMIC ABSORPTION SPECTROMETRY	PRECISION WEIGHED
AMDEL	6	210	-
SPECTROMETER SERVICES	2	25	-
MINES DEPT. LAUNCESTON	12	-	-
A.B. DALY UNIVERSITY OF TASMANIA	-	-	62

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Of the 317 sample concentrates assayed only 169 recorded measureable gold. Of these 169 samples, 63 were duplicate samples; 29 samples recorded gold only in the duplicate sample whereas 71 recorded gold in the original sample only. The remainder of the 169 samples recorded gold in both original and duplicate samples. This reflects the erratic nature of the gold occurrences and the "hit or miss" probability of small weight sampling.

The remainder of the 1,026 samples which were concentrated contained no visible gold. As mentioned above, two or three samples were taken in each gravel intersection according to the thickness, and gold was not found consistently at any particular horizon. It was not uncommon to find the gold concentrating at the top of the gravel profile, and there was no evidence of concentration near the bedrock as might have been expected.

Assay Discrepancies

It will be seen from the various assay results tabulated in Appendix B that results received from AMDEL and from the Mines Department, Launceston sometimes deviated from the "precision weight determined" assays. It is assumed that gold particles could be deleted from the actual analytical sample which was a 'sub-sample' of the pulverised sample concentrate, (i.e. a 2.5 gm, 20 gm or 30 gm subsample of a 50-300 gm sample concentrate).

In the case of assays received from Spectrometer Services of Melbourne it had been requested that they

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analysed the whole of the sample concentrate, and these results are in much closer accord with the 'precision weight determined' assays, which are themselves precise to the nearest 10^{-5} gram.

In the panning process it appeared that the size estimate of individual colours of gold relative to a 1 mm^3 "pinhead" resulted in at least a 10-fold error of over-estimation. Assuming a gold density of 20 gm/cm^3 a colour of gold equal to 1 mm^3 should weigh 20 mg. Precision weighing indicated 1 mm^3 as being nearer to 2 mg, and on closer examination of the gold particles this appeared due to their flakey, porous and irregular nature.

(d) Alluvial Bulk Sampling

Because of the erratic distribution of gold in the gravels it was decided to follow expert advice on the subject and establish a method of treating bulk samples, which would permit a more reliable economic appraisal to be made.

Equipment comprising basically a screen and jigs was obtained and erected at the site of the old Golden Gate Mine on the Mining Lease 100M/68 which this Company holds. This site was ideal for the purpose, having a water supply, a suitable area for settling ponds, and causing no inconvenience to other land users. It was also fairly centrally located for treating bulk samples brought by truck from various selected locations in the area.

In order to test this plant and make the necessary adjustments for recovery of gold, an experimental bulk sample totalling about 100 tonnes of gravel has been put through it. This bulk sample was obtained from within the Mining Lease 100M/68, from the alluvium actually underlying part of the old tailings dump.

(e) Comparison with Geophoto (1973) Survey

In 1973 Geophoto documented a backhoe trench survey in the Black Horse Gully area at Mathinna, and an average of 0.39 ppm gold was recorded over an area containing 75,000 m³ of gravels.

While the sample excavations made by Tasminex N.L. do not exactly coincide with those of Geophoto, Line TA approximates Geophoto's Line E, and Lines TK, TAB and TB approximate Lines L, K and D and J respectively.

Line TA is located 40 m north of Geophoto's Line E. In the vicinity of TA 10 to 15, true river gravel was sampled, whereas in Line E gravels are less common and occur in a dominantly clay matrix.

Line TA gave an average of 0.038 ppm, whereas Line E averaged 0.154 ppm.

(f) Fineness of Gold

Six composite samples of gold obtained from the alluvial sampling were submitted to the Mines Department, Launceston, for analysis to determine the "fineness" of the gold. The results were as follows (see Appendix D):-

Mathinna

Line TAB 11-1D	910 ppt from 12.3mg
Line TK 18-3D	874 ppt from 10.3mg
Line TH 2-2D	877 ppt from 9.3 mg
Line TY 7-4D, 3-4	911 ppt from 9.5mg

Mangana

Line TMD 2-1, 2-2, 3-2, 5-2	940 ppt from 12.3mg
Line TMA 2-2, 5-3, 6-2, 8-2, 9-1	876 ppt from 9.9 mg

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3. TAILINGS DUMPS, GOLDEN GATE, MATHINNA

(a) Metallurgical Testing

An estimated minimum of 250,000 tonnes of tailings are available for treatment, averaging about 1.4 ppm gold. There are three distinct materials within the dumps:

(i) Sand and (ii) Slimes, presumed to be the residue from mercury amalgamation while the Golden Gate Mine was operating, and not having been subject to cyanide treatment.

(iii) Residues, which are residues from quantities of (i) and (ii) which were treated by cyanidation in a plant erected in the early 1940's.

The "sand" contains typically 1 - 2 ppm Au, the "slimes" 3 ppm and the "residues" 1 ppm.

The most comprehensive source of information on the tailings dumps is the survey carried out for the Mines Department in 1948 by T. Hughes, when a grid of 358 auger holes was drilled over the whole area of the tailings, and assays obtained from each hole. These assays gave an overall average of 1.56 ppm Au, whereas various samples taken in recent times give a slightly lower average of 1.34 ppm.

In 1979 tests by cyaniding were carried out by the Mines Department in Launceston on six auger samples from the tailings dumps. The results appeared disappointing, giving recoveries ranging from 16% to 43% (averaging 28%) on material having an average assay of 1.2 ppm Au.

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Information was subsequently obtained on the "carbon-pulp" process and the advantages claimed for it over the use of zinc in the cyanidation of gold ores. In particular, the "heap leach" process developed in recent years appeared to be readily applicable to the Golden Gate tailings.

In June 1980 contact was made with Mr. David Wright, a qualified metallurgist operating a small plant in Victoria for recovery of gold from old mine tailings by the carbon-pulp process. Mr. Wright has since carried out recovery tests on 7 samples of material from the Golden Gate dumps; recoveries ranged from 28% to 91.7%, and averaged 51.7%. Copies of Mr. Wright's reports are included in Appendix C.

(b) Proposed Treatment of Mathinna Tailings

Recovery tests have been carried out on 13 samples of material from the old tailings dumps - six of these by the Mines Department, Launceston, and seven by Mr. David Wright of Eaglehawk, Victoria. Gold recoveries by cyanidation varied from 16% to 91.7%, and averaged about 40%. It is believed that recoveries from the predominant "sand" can be considerably improved by finer grinding.

At recent and anticipated gold prices it is estimated that even at 40% recovery the tailings can be profitably treated.

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A study is being made of the "heap leach" method of treating the tailings by cyanidation, and a design and quotation has been obtained from Davy McKee Pacific Pty. Ltd. for a 200 tonnes-per-day carbon pulp plant to extract gold from the pregnant cyanide solution which would result from the leaching.

Further consideration is being given to the suitability of the tailings for leaching, and it is possible that difficulties could be anticipated due to the fineness of the "slimes" which might not have adequate permeability. On the other hand the predominant "sand" would leach satisfactorily; however it appears that grinding of this material would increase gold recovery.

The alternative is therefore being considered of a "normal" cyanidation using the "carbon-in-pulp" process. This would involve grinding the sand to the fineness of the existing "slimes" and would give maximum recovery. However, equipment for this method would be much more expensive and environmental problems might be greater, due to the fact that a tailing of slimes in a weak cyanide solution would require disposal.

Copies of reports on metallurgical testing of the Mathinna tailings are given in Appendix C.

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4. LODE GOLD

While the ultimate aim of the Tasminex exploration programme on E.L. 17/78 is to search for lode gold, priority has been given to the alluvials and to the old tailings dumps because of the greater possibility these offer of the early establishment of a gold-producing operation.

Initial study of old mine records and other geological information indicated the difficulties which would be encountered in locating suitable targets for diamond drilling.

An attempt is in progress to accumulate information from old mine records, from interviews with local residents and from examination and sampling of surface exposures and abandoned mineworkings. From this information it is proposed to prepare an 'isometric projection' of the Mathinna area which could be valuable in locating shear zones and in correlating the geological structures in the various old mines.

Consideration is also being given to the possible value of resistivity, or induced potential surveys in locating shear zones. If so located, such shear zones could be confirmed by surface trenching or by diamond drilling.

5. PERSONNEL

Geologist Mr. Adrian B. Daly has been employed full time during the past six months on E.L. 17/78. Two to three field assistants have been employed under his supervision, mainly in panning alluvial samples.

Mr. Daly worked under the general direction of Mr. E.N. Charlton of Tasminex N.L., and with the guidance of Dr. M. Solomon of the University of Tasmania, in a consulting capacity.

Installation of the plant for bulk sampling of the gravels was carried out by an experienced foreman who had operated this plant previously with alluvial tin. While two or three men, including mechanics, were supplied from the Burnie area during the installation of the plant, the operation of the plant was with local labour under the foreman's supervision. It was arranged that the geologist Mr. Daly would collect all concentrates produced from the jigs for examination and assay.

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6. EXPENDITUREATTACHMENT "A"EXPLORATION LICENCE 17/78Statement of Expenditure for the Period May 1st 1980
to October 31st 1980

Services, Rentals	\$16,249.53
Wages, Salaries, Fees	\$33,520.15
Accommodation	2,014.96
Transportation	8,298.86
Assays	1,059.56
	<hr/>
Total	\$61,143.06

5. PROPOSED PROGRAMME OF EXPLORATORY WORK

During the next six months bulk sampling will be carried out on alluvial gravels from locations at Mathinna and Mangana which backhoe testing has suggested might be of interest.

The extent of this bulk sampling, and of further backhoe trenching will be determined by the results obtained. It should be stated however that the results obtained to date from backhoe trenching have been disappointing, and it is possible that this work may be terminated within the next month or so.

The proposed cyanidation of tailings from the old Golden Gate mine will be investigated further, and it is anticipated that a firm decision on a treatment method will be made in the near future. The major portion of the tailings dump is included within the area of the Mining Lease 100M/68 held by this Company, but the southern section is within E.L. 17/78 and an extension of the mining lease would be required to include this.

The decision on a treatment method for the tailings will to some extent affect the nature of the programme of exploration for the next six months. The establishment of a cyanidation plant - and especially of the "heap leach" process if this is selected - would permit the cyanidation of low grade ores, and opens the possibility of treating material from old mine waste dumps in the area, as well as occurrences of low grade ore which might be obtained by small opencut operations.

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It is known that a number of outcrops occur over the E.L. of narrow or low grade veins which might present economic possibilities, and a search will be made for such occurrences, and estimates made of their extent and potential.

The ultimate interest of Tasminex N.L. is in the location of new gold orebodies which might be developed by underground mining. Work will continue in attempting to identify suitable targets for diamond drilling, in particular the location and mapping of shear zones where mineralisation might be expected. In this connection the possible use of electric resistivity and induced potential survey methods is under consideration.

It is anticipated that at least \$50,000 will be spent on exploration and test work during the next six months.



E.N. Charlton, M(Aus)IMM
Director,
Tasminex N.L.

APPENDIX A

GEOLOGICAL LOGS OF BACKHOE EXCAVATIONS

APPENDIX A

Tasminex N.L. E.L.17/78 - Backhoe Hole Logs and
Sample Locations.

LINE TA

TA-1 Depth 2 m, no water.

0-0.3 dark gray humic soil
0.3-0.6 yellow & gray silty clay with minor gravel
0.6-0.8 dark gray humic soil
0.8-1.1 yellow & gray silty clay with minor gravel
1.1-2.0 decomposed bed rock (slate)

Sample locations: TA-1-1 0.25-0.65 m
TA-1-2 0.65-1.10 m

TA-2 Depth 2.3 m, no water.

0-0.5 dark gray humic soil
0.5-2.0 yellow & gray silty clay
2.0-2.3 decomposed bed rock (slate)

Sample locations: TA-2-1 1.0-1.5 m
TA-2-2 1.5-2.0 m

TA-3 Depth 1.7 m, water table at 1.6 m

0.0-0.6 yellow & gray silty clay
0.6-1.6 as above with minor gravel
1.6-1.7 decomposed bed rock (slate)

Sample locations: TA-3-1 0.6-1.10 m
TA-3-2 1.10-1.60 m

TA-4 Depth 1.4 m, no water.

0.0-0.1 dark grey humic soil
0.1-0.7 yellow & gray silty clay
0.7-1.3 as above with minor gravel
1.3-1.4 decomposed bed rock (slate)

Sample location: TA-4-1 0.7-1.3 m

TA-5 Depth 1.6 m, water table at 1.4 m

0.0-0.2 dark gray humic soil
0.2-0.6 yellow & gray clay
0.6-1.1 as above with minor gravel
1.1-1.6 decomposed bed rock (slate)

Sample location: TA-5.1 0.6-1.1 m

TA-6 Depth 1.7 m, water table at 1.2 m

0.0-0.2 dark gray humic soil
0.2-1.2 yellow & gray clay
1.2-1.7 as above with minor gravel
1.7 decomposed bed rock (slate)

Sample location: TA-6-1 1.2-1.7 m

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- TA-7 Depth 1.5 m, water table at 1 m
 0.3-0.5 dark gray humic soil
 0.5-1.5 yellow & gray silty clay
 1.5 decomposed bed rock?
 Sample location: TA-7-1 1.0-1.5 m
- TA-8 Depth 1.7 m, water table at 1.2 m
 0.0-0.4 dark gray humic soil
 0.4-1.2 yellow & gray silty clay
 1.2-1.7 gravel in yellow gray clay
 1.7 decomposed bed rock (slate)
 Sample locations: TA-8-1 0.7-1.2 m
 TA-8-2 1.2-1.7 m
- TA-9 Depth 1.7 m, water table at 1 m
 0.0-0.3 dark gray humic soil
 0.3-0.7 yellow & gray silty clay
 0.7-1.7 gravel in yellow gray sandy clay
 1.7 decomposed bed rock (slate)
 Sample locations: TA-9-1 0.7-1.2 m
 TA-9-2 1.2-1.7 m
- TA-10 Depth 2.1 m, water table at 2.0 m
 0.0-0.3 dark gray humic soil
 0.3-0.7 yellow gray clay
 0.7-1.2 iron-coated gravel in yellow gray clay
 1.2-1.7 yellow gray silty clay
 1.7-2.0 gravel in yellow gray silty clay
 2.0-2.1 decomposed bed rock (slate)
- TA-11 Depth 2.8 m, water table at 2.2 m
 0.0-0.5 dark gray humic soil
 0.5-0.9 yellow gray silty clay
 0.9-2.6 gravel in yellow gray clay
 2.6-2.8 decomposed bed rock
 Sample locations: TA-11-1 0.9-1.7 m
 TA-11-2 1.7-2.2 m
 TA-11-3 2.2-2.7 m
- TA-12 Depth 3.1 m, water at 2 m
 0.0-0.2 dark gray humic soil
 0.2-1.4 yellow gray clay
 1.4-2.9 gravel in yellow gray silty clay
 2.9-3.1 decomposed bed rock (slate)
 Sample locations: TA-12-1 0.9-1.4 m
 TA-12-2 1.4-1.9 m
 TA-12-3 1.9-2.4 m
 TA-12-4 2.4-2.9 m

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- TA-18 Depth 2.2 m, water table at 1.6 m
 0.0-0.2 dark gray humic soil
 0.2-0.6 yellow & gray silty clay
 0.6-2.2 gravel in yellow and gray silty clay
 2.2 decomposed bed rock (slate)
 Sample locations: TA-18-1 0.6-1.2 m
 TA-18-2 1.2-2.2 m
- TA-19 Depth 2.0 m, water table at 1.6 m
 0.0-0.9 dark gray humic soil
 0.9-1.0 yellow and gray silty clay with minor gravel
 1.0-2.0 gravel in yellow and gray silty clay
 2.0 decomposed bed rock (slate)
 Sample location: TA-19-1 1.0-2.0 m
- TA-20 Depth 2.4 m, water table at 2.3 m
 0.0-0.2 dark gray humic soil
 0.2-0.6 light gray clay
 0.6-1.0 yellow and gray silty clay
 1.0-2.2 yellow and gray silty clay with minor gravel
 2.2-2.4 decomposed bed rock (slate)
 Sample locations: TA-20-1 0.6-1.0 m
 TA-20-2 1.0-1.8 m
 TA-20-3 1.8-2.9 m
- TA-21 Depth 1.9 m, no water
 0.0-0.3 dark gray humic soil
 0.3-0.7 gravel with gray silty clay
 0.7-1.8 yellow and gray silty clay
 1.8- decomposed bed rock (slate)
 Sample locations: TA-21-1 0.3-0.7 m
 TA-21-2 1.2-1.8 m
- TA-22 Depth 1.7 m, water table at 1.6 m
 0.0-0.4 dark gray humic soil
 0.4-0.8 yellow and gray silty clay
 0.8-1.5 gravel in yellow and gray silty clay
 1.5-1.7 decomposed bed rock (slate)
 Sample location: TA-22-1 0.8-1.5 m
- TA-23 Depth 1.9 m, water table at 1.7 m
 0.0-0.3 dark gray humic soil
 0.3-0.8 yellow and gray silty clay
 0.8-1.3 gravel in yellow and gray silty clay
 1.3-1.9 decomposed bed rock (slate)
 Sample locations: TA-23-1 0.7-1.4 m
 TA-23-2 1.4-1.9 m

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TA-24 Depth 1.7 m, water table at 1.1 m

0.0-0.3 dark gray humic soil
 0.3-1.1 yellow and gray silty clay
 1.1-1.6 yellow and gray clay with minor gravel
 1.6-1.7 decomposed bed rock (slate)

Sample location: TA-24-1 1.2-1.7 m

TA-25 Depth 1.3 m, water table at 0.9 m

0.0-0.2 dark gray humic soil
 0.2-0.9 yellow and gray silty clay
 0.9-1.3 yellow and gray silty clay with minor gravel
 1.3 decomposed bed rock ?

Sample location: TA-25-1 0.9-1.3 m

TA-26 Depth 1.7 m, water table at 1.5 m

0.0-0.3 dark gray humic soil
 0.3-1.3 yellow and gray silty clay
 1.3-1.7 yellow and gray silty clay with gravel
 1.7 decomposed bed rock

Sample location: TA-26-1 1.2-1.7 m

LINE TB

TB-1 Depth 1.5 m, no water

0.0-0.5 dark gray humic soil
 0.5-1.3 yellow and gray silty clay
 1.3-1.5 decomposed bed rock (slate)

Sample location: TB-1-1 0.8-1.3 m

TB-2 Depth 1.5 m, no water

0.0-0.3 dark gray humic soil
 0.3-0.5 yellow silty clay
 0.5-1.1 yellow silty clay with minor gravel
 1.1-1.5 decomposed bed rock

Sample location: TB-2-1 0.5-1.0 m

TB-3 Depth 2 m, no water

0.0-0.4 dark gray humic soil
 0.4-0.7 yellow and gray silty clay
 0.7-1.2 yellow and gray silty clay with minor gravel
 1.2-1.7 gravel in yellow and gray silty clay
 1.7-2.0 relatively fresh bed rock (slate)

Sample locations: TB-3-1 0.7-1.2 m
 TB-3-2 1.2-1.7 m

TB-4 Depth 2 m, no water

0.0-0.2 dark gray humic soil
 0.2-1.1 yellow and gray silty clay
 1.1-1.6 gravel, 5-10 cm diameter, subrounded in yellow and gray silty clay
 1.6-2.0 decomposed bed rock (slate)

Sample locations: TB-4-1 0.6-1.1 m
 TB-4-2 1.1-1.6 m

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TB-19 Depth 1.7 m, no water
 0.0-0.1 dark gray humic soil
 0.1-0.5 tailing sand and silt
 0.5-0.9 gray humic soil
 0.9-1.7 decomposed bed rock (slate)
 No sample required

TB-20 Depth 1.7 m, no water
 0.0-0.1 dark gray humic soil
 0.1-0.8 yellow and gray silty clay
 0.8-1.7 decomposed bed rock (slate)
 No sample required. 5 cm thick v.g. trending E-W and dipping steeply
 due S is exposed in the hole. Rare free gold was observed in this
 vein.

TB-21 Depth 1.7 m, no water
 0.0-0.1 dark gray humic soil
 0.1-0.9 yellow and gray silty clay
 0.9-1.7 decomposed bed rock (slate)
 No sample required

TB-22 Depth 1.3 m, no water
 0.0-0.1 dark gray humic soil
 0.1-0.9 yellow and gray silty clay
 0.9-1.3 decomposed bed rock (slate)
 No sample required

LINE TC

TC-1 Depth 1.5 m, no water
 0.0-0.4 dark gray humic soil
 0.4-1.4 yellow and gray silty clay
 1.4-1.5 decomposed bed rock (slate)
 No sample required

TC-2 Depth 2.6 m, no water
 0.0-0.6 dark gray humic soil
 0.6-1.6 yellow and gray silty clay
 1.6-2.6 gravel in yellow and gray silty sandy clay
 2.6- decomposed bed rock (slate)
 Sample locations: TC-2-1 1.6-2.1 m
 TC-2-2 2.1-2.6 m

TC-3 Depth 2.5 m, water table at 2.3 m
 0.0-0.3 dark gray humic soil
 0.3-0.6 tailing sand?
 0.6-2.5 gravel in dark gray sandy soil
 2.5- decomposed bed rock (Slate)
 Sample locations: TC-3-1 1.0-1.5 m
 TC-3-2 1.5-2.0 m
 TC-3-3 2.0-2.5 m

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LINE TD

- TD-1 Depth 2 m, no water
 0.0-0.6 dark gray humic soil
 0.6-1.8 yellow and gray silty clay
 1.8-2.0 yellow and gray clay with angular 2.5 cm dia. pebbles
 of slate
 2.0- relatively fresh bed rock (slate)
 No sample required
- TD-2 Depth 2.6 m, no water
 0.0-0.5 dark gray humic soil
 0.5-1.6 yellow and gray silty clay
 1.6-2.6 gravel, 2.5 cm dia.s, subangular, in yellow and
 gray clay
 2.6- decomposed bed rock (slate)
 Sample location: TD-2-1 1.6-2.6 m
- TD-3 Depth 3.1 m, water table at 3 m
 0.0-0.5 dark gray humic soil
 0.5-1.3 yellow and gray silty clay
 1.3-3.1 gravel, 2-5 cm dia., subangular, in yellow and gray
 silty clay
 3-1- decomposed bed rock (slate)
 Sample locations: TD-3-1 1.6-2.1 m
 TD-3-2 2.1-2.6 m
 TD-3-3 2.6-3.1 m
- TD-4 Depth 2.7 m, water table at 2.6 m
 0.0-0.5 dark gray humic soil
 0.5-1.2 yellow and gray silty clay
 1.2-2.7 gravel, 5-10 cm dia., subrounded, in gray silty clay
 2.7 decomposed bed rock (slate)
 Sample locations: TD-4-1 1.2-1.7 m
 TD-4-2 1.7-2.2 m
 TD-4-3 2.2-2.7 m
- TD-5 Depth 2.3 m, water table at 2.1 m
 0.0-0.5 dark gray humic soil
 0.5-1.3 yellow and gray silty clay
 1.3-2.3 gravel, 5-10 cm dia., subrounded, in gray silty clay
 2.3 decomposed bed rock (slate)
 Sample locations: TD-5-1 1.3-1.8 m
 TD-5-2 1.8-2.3 m
- TD-6 Depth 1.8 m, no water
 0.0-0.2 dark gray humic soil
 0.2-1.8 yellow and gray silty clay
 1.8- decomposed bed rock (slate)
 No sample taken.

035

TF-9 Depth 2.8 m, no water

0.0-0.2 dark gray humic soil
 0.2-1.3 light gray sandy clay
 1.3-2.8 yellow and gray silty clay
 2.8 decomposed bed rock (slate)

Sample locations: TF-9-1 1.8-2.3 m
 TF-9-2 2.3-2.8 m

TF-10 Depth 2.4 m, no water

0.0-0.2 dark gray humic soil
 0.2-1.4 yellow and gray silty clay
 1.4-2.2 yellow sandy clay with minor gravel, 2-5 cm dia.,
 subrounded
 2.2-2.4 decomposed bed rock (slate)

Sample locations: TF-10-1 1.4-1.9 m
 TF-10-2 1.9-2.4 m

TF-11 Depth 3.5 m, water table at 3 m

0.0-1.7 dark gray sandy soil
 1.7-3.5 gravel 5-15 cm dia., subrounded in dark gray sandy clay
 3.5 relatively fresh bed rock (slate)

Sample locations: TF-11-1 1.5-2.5 m
 TF-11-2 2.5-3.0 m
 TF-11-3 3.0-3.5 m

TF-12 Depth 3.4 m, water table at 3 m

0.0-1.4 dark gray sandy soil
 1.4-3.4 gravel 5-15 cm dia., subrounded, in dark gray sandy clay
 3.4 relatively fresh bed rock (slate)

Sample locations: TF-12-1 1.4-2.5 m
 TF-12-2 2.5-3.0 m
 TF-12-3 3.0-3.4 m

LINE TG

TG-1 Depth 2.5 m, no water

0.0-0.2 dark gray humic soil
 0.2-1.2 yellow and gray silty clay
 1.2-1.9 yellow sandy clay with minor gravel, 205 cm dia.,
 angular to subangular
 1.9-2.5 gravel 2-5 cm dia., angular to subangular, minor v.g.
 pebbles in yellow sandy clay
 2.5 relatively fresh bed rock (slate)

Sample locations: TG-1-1 1.2-1.9 m
 TG-1-2 1.9-2.5 m

TG-2 Depth 2.3 m, no water

0.0-0.2 dark gray humic soil
 0.2-1.8 yellow sandy clay with gravel, 205 cm dia., subangular,
 minor v.g. pebbles
 1.8-2.3 decomposed bed rock (sandstone?)

Sample locations: TG-1-1 0.6-1.3 m
 TG-1-2 1.3-1.8 m

038

TI-4 Depth 3.2 m, no water

0.0-0.6 dark gray humic soil

0.6-1.6 yellow and gray silty clay

1.6-2.8 yellow sand with some clay

2.8-3.2 yellow sandy clay with minor gravel

3.2 relatively fresh bed rock

Sample locations: TI-4-1 1.8-2.2 m

 TI-4-2 2.2-2.7 m

 TI-4-3 2.7-3.2 m

TI-5 Depth 2 m, no water

0.0-0.3 dark gray humic soil

0.3-0.5 tailings

0.5-1.0 yellow and gray clay

1.0-2.0 relatively fresh bed rock

No sample taken.

TI-6 Depth 1.6 m, no water

0.0-0.2 dark gray humic soil

0.2-1.2 tailings?

1.2-1.6 relatively fresh bed rock (slate)

No sample taken.

LINE TMA

TMA-1 Depth 1.7 m, no water

0.0-1.3 dark gray sandy clay with rare gravel

1.3-1.7 relatively fresh bed rock

Sample location: TMA-1-1 0.8-1.7 m

TMA-2 Depth 1.9 m, water table at 1.6 m

0.0-1.6 gravel, 5-30 cm dia., rounded, in dark gray

1.6-1.9 gravel as above in yellow sandy clay

1.9- decomposed bed rock

Sample locations: TMA-2-1 0.9-1.5 m

 TMA-2-2 1.5-1.9 m

TMA-3 Depth 3.8 m, water table at 2 m

0.0-2.1 gravel, 5-30 cm dia., rounded, in dark gray sandy clay

2.1-3.8 as above in yellow sandy clay

3.8 decomposed bed rock (slate)

Sample locations: TMA-3-1 1.5-2.1 m

 TMA-3-2 2.1-3.0 m

 TMA-3-3 3.0-3.8 m

040

TMA-10 Depth 3.8 m, water table at 2.5 m

0.0-0.5 dark gray humic soil
 0.5-2.5 gravel, 5-30 cm dia., rounded, in gray sandy clay
 2.5-3.8 gravel as above in yellow sandy clay
 3.8- decomposed bed rock?

Sample locations: TMA-10-1 2.3-2.8 m
 TMA-10-2 2.8-3.3 m
 TMA-10-3 3.3-3.8 m

TMA-11 Depth 3.2 m, no water

0.0-0.2 dark gray humic soil
 0.2-1.0 dark gray sandy clay with gravel 2-10 cm dia.,
 rounded
 1.0-2.0 dark gray sandy clay
 2.0-3.2 gravel, 5-20 cm dia., rounded, in gray sandy clay
 3.2- relatively fresh bed rock (slate)

Sample locations: TMA-11-1 2.0-2.7 m
 TMA-11-2 2.7-3.2 m

TMA-12 Depth 1.9 m, no water

0.0-0.6 dark gray humic soil
 0.6-1.9 gravel, 5-20 cm dia., rounded, in gray sandy soil
 1.9- relatively fresh bed rock (slate)

Sample locations: TMA-12-1 0.7-1.4 m
 TMA-12-2 1.4-1.9 m

TMA-13 Depth 2.9 m, water table at 2.4 m

0.0-1.1 dark gray humic soil
 1.1-2.4 gravel, 5-30 cm dia., subrounded, in gray sandy clay
 2.4-2.9 gravel as above in yellow sandy clay
 2.9- relatively fresh bed rock (slate)

Sample locations: TMA-13-1 1.5-2.4 m
 TMA-13-2 2.4-2.9 m

TMA-14 Depth 2.2 m, no water

0.0-0.3 dark gray humic soil
 0.3-2.2 gravel, 5-20 cm dia., in gray sandy clay
 2.2 decomposed bed rock (slate)

Sample locations: TMA-14-1 1.2-1.7 m
 TMA-14-2 1.7-2.2 m

TMA-15 Depth 2.7 m, no water

0.0-2.7 gravel, 5-30 cm dia., rounded, in gray sandy clay
 2.7 decomposed bed rock (slate)

Sample locations: TMA-15-1 1.7-2.2 m
 TMA-15-2 2.2-2.7 m

2

Profile (Backhoe trench) Descriptions

A. Long Gully. South of Golden Gate Tailings. Line TJ

a. TJ.1

Total Depth = 2.7m

Water Depth = none

No. Samples = 3

Bags per sample = 4

0.0 - 0.2m grey brown topsoil

0.2 - 1.5m yellow brown silty clay

1.5 - 2.7m brown silty sand clay binding
gravel (Pelites). Clasts < 4cm
subrounded. sorted.

Sample TJ1-1 = 1.5 - 1.9m

TJ1-2 = 1.9 - 2.3m

TJ1-3 = 2.3 - 2.7m

~~~~~  
Bed-rock

weathered pelite

b. TJ.2

Total Depth = 3.0m

Water Depth = none

No. samples = 5

No. bags per spl = 4

0.0 - 0.2 grey brown topsoil

0.2 - 3.0 Gravel. clasts < 60cm  
subrounded (pelites, psammite).  
Sorted (av. clast 5-10cm)  
in grey yellow brown sandy  
clay matrix

Sample TJ 2-1 = 0.5 - 1.0m

2-2 = 1.0 - 1.5m

2-3 = 1.5 - 2.0m

2-4 = 2.0 - 2.5m

2-5 = 2.5 - 3.0m

~~~~~  
Bed-rock

weathered pelite

c. TJ.3

Total Depth = 3.2m

Water Depth = none

No. Samples = 4

Bags per sample = 4

0.0 - 0.2 m grey brown topsoil

0.2 - 0.9m Gravel. clasts < 25cm.
subrounded. Brown sandy clay
matrix

0.9 - 1.5m Brown silty clay

044

f. TJ 6

Total Depth = 4.3m

Water Depth = moist bottom gravel

No. Samples = 5

Bags per sample = 4

Backbench excavation.

Sampling by Backhoe
(approximate)

0.0 - 0.2m Dark grey topsoil

0.2 - 1.1m Gravel. Clasts 2-5cm. Subrounded
in grey sandy clay matrix

1.1 - 1.6m Gravel. Clasts 5-20cm. Subrounded

1.6 - 2.8m Dark grey, sandy clay ~~matrix~~2.8 - 4.3m Gravel. Yellow sandy clay
matrix. Clasts < 20cm.~~~~~
Bedrock fresh but weathered peliteSample TJ 6-1 = 0.4 - 1.1m

6-2 = 1.1 - 1.6m

6-3 = 2.7 - 3.3m

TJ 6-4 = 3.3 - 3.8m

6-5 = 3.8 - 4.4m

g. TJ 7

Total Depth = 4.1m

Water Depth = moist bottom gravel

No. samples = 1

Bags per sample = 4

Backbench excavation

0.0 - 0.4m Dark grey topsoil

0.4 - 3.6m Grey, sandy clay with
mixed gravel lenses for
1.1m - 1.3m.3.6 - 4.1m Gravel. Clasts 5-20cm
subrounded in grey silty
clay matrix.~~~~~
Bedrock v. weathered pelite.Sample TJ 7-1 = 3.6 - 4.2mh. TJ 8

Total Depth = 1.8m

Water Depth = none

No. samples = 2

Bags per sample = 4

0.0 - 0.2m dark grey topsoil

0.2 - 1.1m Gravel in silty sand clay matrix
clasts < 10cm.~~~~~
Bedrock Very weathered peliteSample TJ 8-1 = 0.2 - 0.7m

8-2 = 0.7 - 1.2m

B. Long Gully. Malthinna. Evercreech. Line TAA.

(TK * 30m between 13+14 & 23+24 * stream between 23+24 & 28+29)

a. TAA.1

* 13+14 = 35m ; 14+15 = 25m ; 15+TAA.1 = 15m.

Total Depth = 2.4m	0.0 - 0.2 m	Brown Topsoil
Water Depth = (2.0m) 0	0.2 - 1.6 m	Yellow clay
(actual hole depth = 3.7m)	1.6 - 2.4m	Gravel. Clasts < 5cm. subangular platy pelite
No. Samples = 2		
Bags per sample = 4		Blue-grey clay with minor flakes of pelite

Sample TAA 1-1 = 1.6 - 2.0m
 1-2 = 2.0 - 2.4m

b. TAA.2

Total Depth = 3.7m	0.0 - 0.4m	Dark chocolate Brown topsoil
Water Depth = (2.3m) 1.4m	0.2 - 2.3 m	mixed topsoil & clay. brown
No. Samples = 2	2.3 - 3.7 m	Gravel. Clasts < 15cm. subrounded
Bags per sample = 4		Clasts include granitoids. Brown silty matrix. Plant remains.
Backhoe Approx. sampling		
Flex-tooth Water Pump		Blue-yellow clay, massive.
<u>Sample</u> TAA 2-1 = 2.3 - 3.0 m		
2-2 = 3.0 - 3.8 m		

c. TAA 3.

Total Depth = 3.8m	0.0 - 3.0m	Rich chocolate brown topsoil, Increasing clay content down profile
Water Depth = (2.7m) 1.1m		
No. Samples = 2	3.0 - 3.8m	Gravel. Clasts < 10cm. Subangular Granitoid clast & pelite. sorted
Bags per sample = 4		Sandy micaceous matrix.
Backhoe Approx. sampling		
Slumping due to water inflow.		Clay - blue-grey-yellow, massive.
Flex-tooth Water Pump		
<u>Sample</u> TAA 3-1 = 3.0 - 3.5 m		
3-2 = 3.5 - 3.9 m		

d. TAA 4

Total Depth = 3.6m
 Water Depth = (1.4 m) 2.2m
 No. Samples = 3
 Bags per Sample = 4
 Backhoe approx., sampling
 Water Pump.
 Slumping - minor

0.0 - 1.4m Dark chocolate brown topsoil.
 Increasing clay content down profile
 1.4 - 3.6m Gravel. Clasts < 20cm. Granitoid
 & pelitic clasts, subrounded/angular
 in sandy silt matrix.
 Bed-rock decomposed pelite./Psammite.

Sample TAA 4-1 = 1.4 - 2.3 m
 4-2 = 2.3 - 3.0 m
 4-3 = 3.0 - 3.7 m

e. TAA 5

Total Depth = 3.0m
 Water Depth = (~~1.3m~~) 1.7m
 No. Samples = 2
 Bags per sample = 4
 Back hoe approx. sampling
 Water Pump.
 minor slumping

0.0 - 0.2m Dark brown topsoil
 0.2 - 1.8m grey-brown clay
 1.8 - 3.0m Gravel. Clasts < 25cm.
 subrounded. Granitoid & pelitic
 clasts. Sub-angular/rounded
 in sandy silt matrix.
 Bed-rock / Blue-grey clays. Relict Pelite.

Sample TAA 5-1 = 1.8 - 2.5 m .
 5-2 = 2.5 - 3.0 m .

f. TAA 6

Total Depth = 2.7m
 Water Depth = (1.0 m) 1.7m
 No. Samples = 2
 Bags per sample = 4
 Backhoe approx. sampling.
 Water Pump.

0.0 - 0.2 m Dark brown topsoil
 0.2 - 1.9 m brown clay - topsoil ..
 1.9 - 2.7m Gravel. Clasts < 25cm
 subrounded in silty clay
 matrix
 Bedrock hard pelitic, brown weathered

047

Sample TAA 6-1 = 1.9 - 2.2 m

6-2 = 2.2 - 2.7 m

g. TAA 7

Total Depth = 3.1 m

0.0 - 0.2 m Dark brown topsoil

Water Depth = (1.8 m) 1.3 m

0.2 - 1.8 m brown clay.

No. of Samples = 2

1.8 - 3.1 m Gravel. < 30 cm. subrounded.

Bags per sample = 4

sand clay matrix. organic roots penetrative.

Backhoe approx. sampling


Bedrock

hard weathered semipelite..

Water Pump.

Near stream course

Sample TAA 7-1 = 1.8 - 2.5 m.

7-2 = 2.5 - 3.1 m.

h. TAA 8

Total Depth = 2.8 m

0.0 - 0.2 m Dark brown topsoil

Water Depth = (2.0 m) 0.8 m.

0.2 - 1.2 m brown clay

No. of samples = 2

1.2 - 2.0 m Gravel. < 10 cm clasts. Brown sandy silt matrix.

Bags per samples = 4

Backhoe approx. sampling.

2.0 - 2.3 m yellow grey clay.

Water Pump.

2.3 - 2.8 m Gravel. clasts < 20 cm.

Near stream course.

Yellow brown sandy clay matrix.


Bedrock - Hard psammite.Sample TAA 8-1 = 1.2 - 2.0 m

8-2 = 2.3 - 2.8 m.

i. TAA 9

Total Depth = 3.3 m

0.0 - 0.2 brown topsoil

Water Depth = (2.1 m) 1.2 m

0.2 - 3.3 Gravel < 5 cm top to < 15 cm at bottom. subrounded.

No. of Samples = 5

Bags per sample = 4

Brown sandy silt matrix at

Backhoe approx., sampling
Waterpump.
Slumping.

The top to yellow brown at bottom
Bed-rock fresh massive psammite.

Sample TAA 9-1 = 0.2 - 0.6 m.
9-2 = 0.6 - 1.6 m.
9-3 = 1.6 - 2.3 m.
9-4 = 2.3 - 2.8 m.
9-5 = 2.8 - 3.3 m.

j. TAA 10

Total Depth = 4.0 m
Water Depth = (~~3.5~~) 0.5 m
No. samples = 0

0.0 - 0.2 m Brown topsoil
0.2 - 4.0 m Yellow to Blue-grey clay
at bottom ..
Blue Grey clay

No Sample Required.

k. TAA 11

Total Depth = 3.2 m
Water Depth = 0
No. samples = 1
Bags per sample = 4

0.0 - 0.2 m Brown topsoil.
0.2 - 1.5 m Yellow grey clay.
1.5 - 2.0 m Gravel. clasts < 5 cm in clay
matrix.
Bedrock weathered blue grey clay.

Sample TAA 11-1 = 1.5 - 2.0 m.

l. TAA 12

Total Depth = 3.5 m
Water Depth = 0
No. samples = 4
Bags per sample = 4

0.0 - 0.2 m Brown topsoil
0.2 - 0.7 m brown clayey topsoil
0.7 - 2.8 m Gravel with clay matrix.
clasts < 10 cm. subangular.
Blue grey clay weathered retic pelite.

Sample TAA 12-1 = 0.8 - 1.3 m.
 12-2 = 1.3 - 1.8 m.
 12-3 = 1.8 - 2.3 m.
 12-4 = 2.3 - 2.8 m.

m. TAA 13

Total Depth = 2.8 m 0.0 - 0.1 m Brown topsoil.
 Water Depth = 0 0.1 - 1.1 m Clay (brown) with minor gravel
 No. Samples = 1 Clay - Blue-grey bottom.
 Bags per sample = 4

Samples TAA 13-1 = 0.1 - 1.1 m

* note: TAA 13 to 14 = 35 m.
 14 to 15 = 25 m.
 15 to TAA 1 = 15 m.

n. TAA 14 (old mine tailings)

Total Depth = 1.5 m 0.0 - 0.1 m Brown topsoil
 Water Depth = 0 (water main) 0.1 - 0.5 m shattered grey mine tailings (< 15 cm)
 No. Samples = 1 Brown clay - blue grey bottom.
 Bags per sample = 4

Sample TAA 14-1 = 0.1 - 0.5 m.

o. TAA 15

Total Depth = 2.8 m 0.0 - 0.1 m Brown topsoil
 Water Depth = 0 0.1 - 0.6 m shattered (< 15 cm) grey pelite
 No. Samples = 1 mine tailings
 Bags per sample = 4 Yellow to Blue-grey clay

Sample TAA 15-1 = 0.1 - 0.6 m.

TBB Line = Line TK.

*Stream between (13+14 & 23+24) 23+24 & 28+29.

30m between 13+14 & 23+24.

TBB 3

Total Depth = 4.0 m

Water Depth = (2.8m) 1.2m

No. Samples = 3

Bags per sample = 4

Backhoe approx sampling

Water Pump.

Slumping.

0.0 - 0.2m Brown topsoil

0.2 - 4.0m Gravel < 50cm. Brown
sandy silt matrix. Yellow at
bottom.

hard bottom. Possible. (?)

Sample TBB 3-1 = 2.5 - 3.0 m.

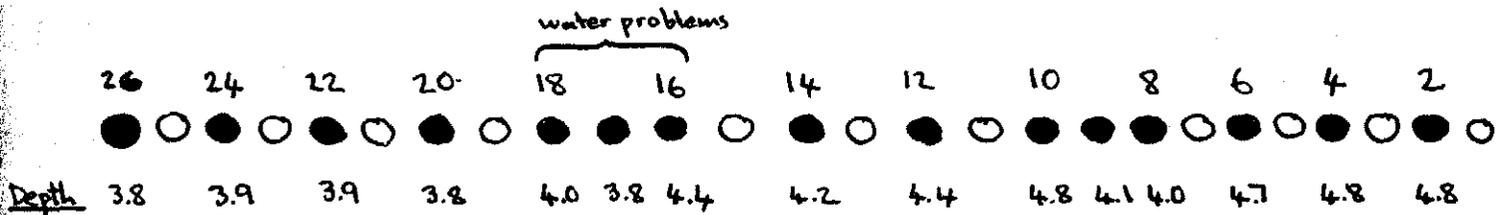
3-2 = 3.0 - 3.5 m.

3-3 = 3.5 - 4.0 m.

051
C. Dans Rivulet. Mathinna. Line TDA.

* clasts ≥ 40 cm are removed from sample bags.

a. TDA Line



* All holes were sampled approximately by Backhoe.

* Large clasts \Rightarrow 2 large bags or 6 small per sample.

a. TDA 2

Total Depth = +4.8m

Water Depth = ~~(4.0m)~~ 0.2m

No. samples = 8

Bags per sample = 6

Bed-rock not reached

Backhoe bench location.

0.0 - 0.2m Brown topsoil

0.2 - 1.8m Gravel < 15cm, with major brown silty clay.

1.8 - 3.3m Clay lense poor in gravel.

3.3 - +4.8m Gravel. < 40cm. Subrounded

----- Silty clay matrix.

Bed-rock

Sample TDA 2-1 = 0.3 - 0.8m.

2-2 = 0.8 - 1.3m.

2-3 = 1.3 - 1.8m.

2-4 = 1.8 - 2.3m

TDA 2-5 = 2.3 - 2.8m.

2-6 = 2.8 - 3.3m.

2-7 = 3.3 - 3.8m.

2-8 = 3.8 - 4.8m.

b. TDA 4

Total Depth = +4.8m

Water Depth = (4.5m) 0.3m

No. samples = 5

Bags per sample = 2 large.

Backhoe bench location

Bedrock not reached.

0.0 - 0.2m Brown topsoil.

0.2 - 1.5m Yellow grey silty clay.

1.5 - +4.8m Gravel. Clasts < 60cm (Average is 15cm). Subrounded. Sandy clay matrix. Yellow at base
 Curved coarser bottom. Sorted

 Bed-rock.

Sample TDA 4-1 = 1.5 - 2.0m.

4-2 = 2.0 - 2.5m.

4-3 = 2.5 - 3.0m.

TDA 4-4 = 3.0 - 4.0m.

4-5 = 4.0 - 4.8m.

c. TDA 6

Total Depth = + 4.7m
 Water Depth = (4.2m) 0.5m
 No. Samples = 5
 Bags per sample = 2 large
 Backhoe bench location:
Bedrock not reached.

0.0 - 0.1m Brown topsoil
 0.1 - 2.0m Yellow grey silty clay
 2.0 - +4.7m Gravel. Clasts < 50cm.
 Subrounded in sandy silt
 matrix. Brown to yellow at
 the bottom.

 Bed-rock

Sample TDA 6-1 = 2.0 - 2.5m.
 6-2 = 2.5 - 3.0m.
 6-3 = 3.0 - 3.5m.
 6-4 = 3.5 - 4.0m.
 6-5 = 4.0 - 4.7m

d. TDA 8

Total Depth = 4.0m
 Water Depth = (3.8m) 0.2m
 No. samples = 5
 Bags per sample = 6
 (Backhoe bench location)

0.0 - 0.2m Brown topsoil
 0.2 - 4.0m Gravel. Clasts < 40cm.
 subrounded. Brown sandy
 clay matrix (yellow at bottom)
 Bed-rock weathered pelite.

Samples TDA 8-1 = 1.0 - 1.5m.
 8-2 = 1.5 - 2.0m.
 8-3 = 2.0 - 3.0m.
 8-4 = 3.0 - 3.5m.
 8-5 = 3.5 - 4.0m.

e. TDA 9

Total Depth = 4.08m
 Water Depth = (4.0m) 0.1m
 No. samples = 5
 Bags per sample = 6

0.0 - 0.2m Brown topsoil.
 0.2 - 4.1m Gravel. Clasts < 40cm. well
 sorted, subrounded in yellow
 brown sandy clay matrix.
 Bedrock weathered pelite

053

Backhoe bench location

Sample TDA 9-1 = 0.5 - 1.5 m
 9-2 = 1.5 - 2.5 m
 9-3 = 2.5 - 3.0 m
 9-4 = 3.0 - 3.5 m
 9-5 = 3.5 - 4.1 m

f TDA 10

Total Depth = 4.8 m.

Water Depth = (4.1 m) 0.7 m.

No samples = 6

Bags per sample = 6

Backhoe bench sampling

0.0 - 0.3 m. Brown topsoil

0.3 - 4.8 m. Gravel, Clasts < 40 cm, subrounded
in brown-yellow (bottom) sandy
silt matrix. Subrounded, well sorted Bed-rock weathered petite, rusty yellow

Sample TDA 10-1 = 1.5 - 2.5 m.
 10-2 = 2.5 - 3.0 m.
 10-3 = 3.0 - 3.5 m.
 10-4 = 3.5 - 4.0 m.
 10-5 = 4.0 - 4.5 m.
 10-6 = 4.4 - 4.9 m.

g TDA 12

Total Depth = 4.4 m

Water Depth = (4.1 m) 0.3 m

No samples = 6

Bags per sample = 6

Backhoe bench sampling.

0.0 - 0.2 m. Brown topsoil.

0.2 - 4.4 m. Gravel, Clasts < 40 cm, subrounded
well sorted (ie graded) in sandy
silt matrix (Yellow at bottom). Bed-rock rusty weathered petite

Sample TDA 12-1 = 0.4 - 1.9 m.
 12-2 = 1.9 - 2.4 m.
 12-3 = 2.4 - 2.9 m.

054

TDA 12-4 = 2.9 - 3.4 m.

12-5 = 3.4 - 3.9 m.

12-6 = 3.9 - 4.4 m.

h. TDA 14

Total Depth = 4.2 m

Water Depth = (4.0 m) 0.2 m

No. Samples = 5

Bags per sample = 2 large
Backhoe bench location.

0.0 - 0.2 m Brown topsoil.

0.2 - 1.1 m Grey brown silty clay

1.1 - 4.2 m Gravel < 40 cm clasts, well
sorted, subrounded in sandy clay
matrix (yellow at bottom).
grey pelite.
Bed-rockSample TDA 14-1 = 1.1 - 1.6 m.

14-2 = 1.6 - 2.2 m.

14-3 = 2.2 - 3.2 m.

14-4 = 3.2 - 3.7 m.

14-5 = 3.7 - 4.2 m.

i. TDA 16

Total Depth = 4.4 m

Water Depth = (3.7 m) 0.7 m

No. Samples = 5

Bags per sample = 2 large
Backhoe bench location.Bed-rock not reached.

0.0 - 0.2 m. Brown topsoil

0.2 - 4.4 m. Gravel. Clasts < 50 cm. Well
sorted, subrounded in a
sandy clay matrix.Sample TDA 16-1 = 0.2 - 0.7 m.

16-2 = 0.7 - 2.2 m.

16-3 = 2.2 - 2.7 m.

16-4 = 2.7 - 3.2 m.

16-5 = 3.2 - 3.7 m.

16-6 = 3.7 - 4.4 m.

j. TDA 17

Total Depth = +3.8m

Water Depth = (3.6m) 0.2m.

No. samples = 4

Bags per sample = 2 large.

Backhoe bench location.

Bedrock not reached

0.0 - 0.2 m Brown topsoil.

0.2 - +3.8m Gravel. Clasts < 30cm,
subrounded in brown sandy
silt matrix.Sample TDA 17-1 = 0.2 - 1.0m.

17-2 = 1.0 - 2.0m.

17-3 = 2.0 - 3.0m.

17-4 = 3.0 - 3.8m.

k. TDA 18

Total Depth = +4.0m.

Water Depth = (3.0m) 1.0m.

No. samples = 3.

Bags per sample = 2 large.

Backhoe bench location.

Bedrock not reached

0.0 - 0.2m. Brown topsoil.

0.2 - 1.3m. yellowgrey silty clay.

1.3 - +4.0m. Gravel. Clasts < 35cm, subrounded
sorted in brown silty matrix.Sample TDA 18-1 = 1.3 - 2.1m.

18-2 = 2.1 - 3.0m.

18-3 = 3.0 - 4.0m.

l. TDA 20

Total Depth = 3.8m.

Water Depth = (2.1m) 1.7m

No. samples = 4

Bags per sample = 2 large

Backhoe bench location.

0.0 - 0.2m. Brown topsoil.

0.2 - 0.5m. Brown silty clay with minor gravel.

0.5 - 3.8m. Gravel. Clasts < 30cm,
subrounded in fine sandy silt
matrix.

Bed-rock chips of pelite (fresh chips)

056

Sample TDA 20-1 = 0.5 - 1.2m.
 20-2 = 1.2 - 2.1m.
 20-3 = 2.1 - 2.8m.
 20-4 = 2.8 - 3.8m.

m. TDA. 22

Total Depth = 3.9m. 0.0 - 0.2m. Brown topsoil.
 Water Depth = (3.1m) 0.8m. 0.2 - 0.4m. Brown silty clay with minor gravel.
 No Samples = 4. 0.4 - 3.9m. Gravel. Clasts subrd < 30cm
 Bags per sample = 2 large. in silty matrix.
 Backhoe bench location. 
 Bed-rock weathered chips/fragments petite

Sample TDA 22-1 = 0.4 - 1.2m.
 22-2 = 1.2 - 2.0m.
 22-3 = 2.0 - 3.0m.
 22-4 = 3.0 - 3.9m.

n. TDA. 24.

Total Depth = 3.9m. 0.0 - 0.2m. Brown topsoil
 Water Depth = (3.0m) 0.9m. 0.2 - 0.5m. Brown silty clay with minor gravel
 No Samples = 3. 0.5 - 3.9m. Gravel. Clasts < 20cm, subround
 Bags per sample = 2 large. sorted in silty matrix.
 Backhoe bench location. 
 Bedrock very weathered in blue clay

Sample TDA 24-1 = 1.0 - 2.0m.
 24-2 = 2.0 - 3.0m.
 24-3 = 3.0 - 3.9m.

o. TDA 26

Total Depth = 3.8m. 0.0 - 0.2 Brown topsoil.
 Water Depth = (2.7m) 1.1m. 0.2 - 1.2 Brown organic silty clay

057

No. samples = 3 .

Bags per sample = 2 large .

Backhoe bench location .

1.2 - 3.8 m. Gravel . Clasts < 25 cm . Sorted
 subrounded in silty matrix .
 weathered clay with pelite
 fragments .

~~~~~  
 Bedrock

Sample TDA 26-1 = 1.4 - 2.1 m .

26-2 = 2.1 - 3.0 m .

26-3 = 3.0 - 3.8 m .

D. Mangana Line TMB

- \* Backhoe approximate sampling, except for TMB(1-3) (11-17)
- \* Holes 4-10 required water pumping, and exceeded 4.0m in depth, with a maximum depth of 5.0m.
- \* lot of felsic clots, especially associated with Majors Gully.

a. TMB.1

|                     |                                                                                  |
|---------------------|----------------------------------------------------------------------------------|
| Total Depth = 1.8m  | 0.0 - 0.2m Brown topsoil                                                         |
| Water Depth = 0     | 0.2 - 1.1m Yellow grey clay.                                                     |
| No. Samples = 1     | 1.1 - 1.8m Gravel. Clasts < 30cm, subrounded with red / yellow sandy clay matrix |
| Bags per sample = 4 | Bedrock very weathered pelite.                                                   |

Sample TMB 1-1 = 1.1 - 1.8 m.

b. TMB.2

|                     |                                                                   |
|---------------------|-------------------------------------------------------------------|
| Total Depth = 2.1m  | 0.0 - 0.2m Rich dark brown topsoil                                |
| Water Depth = 0     | 0.2 - 1.0m Brown silt with minor gravel lenses                    |
| No. samples = 2     | 1.0 - 2.1m Gravel. Clasts < 30cm in dark brown sandy silt matrix. |
| Bags per sample = 4 | Bed-rock Fresh, dips west 70-80°                                  |

Sample TMB 2-1 = 1.0 - 1.6 m.

2-2 = 1.6 - 2.1 m.

c. TMB.3

|                     |                                                                    |
|---------------------|--------------------------------------------------------------------|
| Total Depth = 2.7m  | 0.0 - 0.2m Rich dark topsoil                                       |
| Water Depth = 0.    | 0.2 - 1.4m Dark brown sandy clay. Minor gravel.                    |
| No. Samples = 3     | 1.4 - 2.7m Gravel. Clasts < 30cm in dark brown, sandy silt matrix. |
| Bags per sample = 4 | Bed-rock weathered pelitic clay.                                   |

Sample TMB 3-1 = 1.2 - 1.7 m.

TMB 3-2 = 1.7 - 2.2m .

3-3 = 2.2 - 2.7m .

d. TMB 4 (Junction with Majors Gully)

Total Depth = 4.0m

Water Depth = 0 .

No. Samples = 3

Bags per sample = 2 large

Bedrock reached

Backhoe bench location

0.0 - 0.2m Red brown topsoil

0.2 - 1.5m Brown silty clay with minor gravel

1.5 - 4.0m Gravel. Clasts < 30cm. subround  
in silty matrix.



Bed-rock - smooth river rounded psammitic  
bed-rock or large boulder (area = hole)

S<sub>1</sub> = N 30° W / 70 - 80° W .

Sample TMB 4-1 = 1.5 - 2.5m .

4-2 = 2.5 - 3.5m .

4-3 = 3.5 - 4.0m .

e. TMB 5 (Junction with Majors Gully)

Total Depth = 4.6m .

Water Depth = (3.9m) 0.7m .

No. Samples = 5 .

Bags per sample = 2 large .

Backhoe bench location

Water Pump Required.

0.0 - 0.2m Red brown topsoil .

0.2 - 4.6m Gravel. Clasts < 40cm, subround  
sorted in yellow (bottom) silty  
matrix



Bed-rock Very hard psammite, smooth  
bed-rock or large boulder. (area = hole)

Sample TMB 5-1 = 0.2 - 1.0m .

5-2 = 1.0 - 3.0m .

5-3 = 2.0 - 3.0m .

5-4 = 3.0 - 4.0m .

5-5 = 4.0 - 4.6m .

060

f. TMB. 6

Total Depth = +2.4m.

Water Depth = (1.2m) + 1.2.

No. Samples = 3.

Bags per sample = 2 large.

Water Pump insufficient.

Slumping.

Bed-rock not reached

due to water influx (near stream)

0.0 - 0.2m Brown topsoil.

0.2 - 2.4m Gravel. Clasts < 40cm.  
subrounded in brown silt  
matrixSample TMB 6-1 = 0.2 - 1.0m.

6-2 = 1.0 - 2.0m.

6-3 = 2.0 - 2.4m.

g. TMB. 7

Total Depth = +4.3m.

Water Depth = (2.3m) + 2.0.

No. Samples = 3

Bags per sample = 2 large

Backhoe bank location.

Water pump insufficient

Slumping.

Bed-rock not reached

0.0 - 0.2m. Brown topsoil

0.2 - 1.3m. Brown clay

1.3 - 4.3m. Gravel. Clasts < 50cm subround  
in clay cement & sandy clay  
matrixSample TMB 7-1 = 1.3 - 2.3 m.

7-2 = 2.3 - 3.3 m.

7-3 = 3.3 - 4.3 m.

h. TMB. 8

Total Depth = 4.6m.

Water Depth = (2.4m) 2.2m.

No. Samples = 4.

Bags per sample = 2 large.

0.0 - 0.2m. Red brown topsoil.

0.2 - 1.4m. Yellow clay.

1.4 - 4.6m. Gravel. Clasts < 40cm  
subrounded, well sorted in a

061

Backhoe bench location.  
 Water Pump required.  
 minor slumping

sandy clay matrix.



Bed-rock hard psammite.

Sample TMB 8-1 = 1.4 - 2.5 m.  
 8-2 = 2.5 - 3.5 m.  
 8-3 = 3.5 - 4.0 m.  
 8-4 = 4.0 - 4.6 m.

i. TMB 9

Total Depth = ~ 4.9 m.  
 Water Depth = (3.0m) 1.9 m.  
 No. samples = 4  
 Bags per sample = 2 large  
 Backhoe bench location  
 Water pump required  
Bed-rock? not reached, but  
hard bottom.

0.0 - 0.2 m Brown topsoil.

0.2 - 1.3 m Yellow brown clay.

1.3 - 4.9 m Gravel. Clasts < 40 cm. Graded  
 (sorted) subrounded in sandy  
 clay matrix. Yellow at bottom



Bed-rock?

Sample TMB 9-1 = 1.3 - 2.3 m.  
 9-2 = 2.3 - 3.3 m.  
 9-3 = 3.3 - 4.3 m.  
 9-4 = 4.3 - 4.9 m.

j. TMB 10

Total Depth = 4.9 m.  
 Water Depth = (2.7m) 2.2 m  
 No. samples = 5.  
 Bags per sample = 2 large.  
 Backhoe bench location.  
 Water pump required.  
Hard bottom - bed-rock?

0.0 - 0.2 m Brown topsoil.

0.2 - 4.9 m Gravel. Clasts < 30 cm, subround  
 sorted in sandy silt matrix.  
 (Brown top to yellow at bottom)



Bed-rock?

Sample TMB 10-1 = 0.4 - 1.4 m.  
 10-2 = 1.4 - 2.4 m.  
 10-3 = 2.4 - 3.4 m.  
 10-4 = 3.4 - 4.4 m.  
 10-5 = 4.4 - 4.9 m.

### K. TMB 11

|                                                         |                                                                                     |                                                                                  |
|---------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Total Depth = 4.3 m                                     | 0.0 - 0.2 m.                                                                        | light brown topsoil.                                                             |
| Water Depth = 0                                         | 0.2 - 1.9 m.                                                                        | yellow clay.                                                                     |
| No. Samples = 5                                         | 1.9 - 4.2 m.                                                                        | Gravel < 20 cm clasts<br>subrounded in rich red<br>brown medium sandy<br>matrix. |
| Bags per sample = 2 lots of 4 bags<br>3 lots of 6 bags. |                                                                                     |                                                                                  |
| Backhoe bench location                                  |  | weathered pelite.                                                                |
|                                                         | Bed-rock                                                                            |                                                                                  |

Sample TMB 11-1 = 1.9 - 2.3 m.  
 11-2 = 2.3 - 2.8 m.  
 11-3 = 2.8 - 3.3 m.  
 11-4 = 3.3 - 3.8 m.  
 11-5 = 3.8 - 4.3 m.

### L. TMB 12

|                            |                                                                                      |                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Total Depth = 3.2 m        | 0.0 - 0.2 m.                                                                         | light brown topsoil.                                                                                                               |
| Water Depth = 0            | 0.2 - 1.9 m.                                                                         | yellow grey clay.                                                                                                                  |
| No. Samples = 2            | 1.9 - 3.2 m.                                                                         | Gravel. Clasts < 50 cm, subround<br>sorted metabasite, pelite & as<br>in medium sandy clay matrix<br>irregular pelite (weathered). |
| Bags per sample = 2 large. |                                                                                      |                                                                                                                                    |
|                            |  |                                                                                                                                    |
|                            | Bed-rock                                                                             |                                                                                                                                    |

Sample TMB 12-1 = 2.2 - 2.7 m.  
 12-2 = 2.7 - 3.2 m.

m. TMB. 13

Total Depth = 3.2m

Water Depth = 0

No. Samples = 1

Bags per sample = 2 large.

0.0 - 0.2m. Brown topsoil

0.2 - 2.5m. Yellow clay

2.5 - 3.1m. Gravel. < 30cm subrounded  
pelite in sandy silt matrix.  
Bed-rockweathered pelite, irregular  
bottom. (scoured)Sample TMB 13-1 = 2.5 - 3.2mn. TMB. 14

Total Depth = 3.1m.

Water Depth = (2.0m) 1.1m.

No. Samples = 2.

Bags per sample = 2 large.

0.0 - 0.2m. Brown topsoil.

0.2 - 2.2m. Yellow grey clay.

2.2 - 3.1m. Gravel. Clasts < 30cm in brown  
yellow silty clay matrix.  
Bed-rock

pelitic metabasite

Sample TMB 14-1 = 2.2 - 2.7m.

14-2 = 2.7 - 3.1m.

o. TMB. 15

Total Depth = 3.6m

Water Depth = (2.0m) 2.5m

No. samples = 1

Bags per sample = 2 large

Water Pump.

0.0 - 0.2m. Brown topsoil.

0.2 - 2.5m. Brown yellow clay.

2.5 - 3.6m. Gravel. Clasts < 15cm. subrounded  
in brown silty matrix  
Bed-rock

pelitic metabasite

Sample TMB 15-1 = 2.5 - 3.6m.p. TMB. 16 (near tributary)

Total Depth = 3.6m.

Water Depth = (3.4m) ± 0.2m

No. Samples = 2.

Bags per sample = 2 large

0.0 - 0.2m. Brown topsoil

0.2 - 2.5m. Yellow brown silty clay with  
erratic large clasts (minor).2.5 - 3.6m. Gravel. Clasts < 20cm. Well  
sorted, subrounded. In

064


 Bed-rock dark yellow brown sandy clay matrix  
 fresh (unweathered) grey pelite.

Sample TMB 16-1 = 2.5 - 3.0 m.

16-2 = 3.0 - 3.6 m.

q. TMB. 17 (near tributary).

Total Depth = 4.1 m.

0.0 - 0.2 m. Brown topsoil.

Water Depth = (3.9 m) 0.2 m.

0.2 - 3.3 m. creamy yellow grey clay.

No. Samples = 2.

3.3 - 4.1 m. Gravel. clasts < 30 cm.

Bags per sample = 2 large.

well sorted subrounded in  
grey sandy clay matrix.


 Bed-rock v weathered / clay with relict pelite

Sample TMB. 17-1 = 3.3 - 3.7 m.

17-2 = 3.7 - 4.1 m.

E. Mangana Line TMC

- \* Backhoe approximate sampling, except for TMC 8 + 9.
- \* Holes TMC 4, 3, 2, 1 required water pumping.
- \* Backhoe benching to  $\leq 3.0\text{m}$  was necessary for TMC 1 to 6.
- \* Maximum Hole depth  $\sim +6.1\text{m}$ .
- \* Large clasts are removed from sample bags. (ie  $\geq 30\text{cm}$ )

a. TMC.1

|                                             |             |                                                                                                                |
|---------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------|
| Total Depth = + 5.6m.                       | 0.0 - 0.4m. | Dark brown topsoil.                                                                                            |
| Water Depth = (2.0m) + 3.6m.                | 0.4 - 5.6m. | Gravel. Clasts $< 1.0\text{m}$ . Clay matrix in top 2.0m, but sandy clay matrix otherwise; grey-yellow matrix. |
| No. Samples = 6.                            |             |                                                                                                                |
| Bags per sample = 2 large.                  |             |                                                                                                                |
| Backhoe benching = 1.5m                     |             |                                                                                                                |
| Slumping problems.                          |             |                                                                                                                |
| <u>Bed-rock - fractured large boulders?</u> | Bed-rock?   | fractured psammite.                                                                                            |

|                       |               |
|-----------------------|---------------|
| <u>Sample</u> TMC 1-1 | = 0.4 - 1.5m. |
| 1-2                   | = 1.5 - 2.0m. |
| 1-3                   | = 2.0 - 3.0m. |
| 1-4                   | = 3.0 - 4.0m. |
| 1-5                   | = 4.0 - 5.0m. |
| 1-6                   | = 5.0 - 5.6m. |

b. TMC.2

|                              |             |                                                                                                 |
|------------------------------|-------------|-------------------------------------------------------------------------------------------------|
| Total Depth = + 6.1m         | 0.0 - 0.2m. | Light brown topsoil.                                                                            |
| Water Depth = (3.0m) 3.1m    | 0.2 - 2.0m. | Brown silt with minor gravel                                                                    |
| No. Samples = 7.             | 2.0 - 4.0m. | Gravel. Clasts $< 50\text{cm}$ . some clay. Sub-angular clasts                                  |
| Bags per sample = 2 large.   | 4.0 - 5.0m. | Gravel. Clasts $< 60\text{cm}$ . Higher clay content. Subangular clast                          |
| Backhoe bench = 3.0m.        | 5.0 - 6.1m. | Gravel clasts $< 40\text{cm}$ . Subangular to small angular clasts. in yellow silty clay matrix |
| minor slumping               |             |                                                                                                 |
| <u>Bed-rock not reached.</u> |             |                                                                                                 |

|                       |   |              |                   |
|-----------------------|---|--------------|-------------------|
| <u>Sample TMC 2-1</u> | = | 0.2 - 1.0 m. |                   |
| 2-2                   | = | 1.0 - 2.0 m. | * large Quartz    |
| 2-3                   | = | 2.0 - 3.0 m. | clast < 50 cm     |
| 2-4                   | = | 3.0 - 4.0 m. | (lots Qtz clasts) |
| 2-5                   | = | 4.0 - 5.0 m. |                   |
| 2-6                   | = | 5.0 - 5.5 m. |                   |
| 2-7                   | = | 5.5 - 6.1 m. |                   |

c. TMC.3

Total Depth = 5.5 m.

Water Depth = (3.4 m) <sup>2.1 m</sup>

No. samples = 6.

Bags per sample = 2 large.

Backhoe bench = 1.4 m

Bed-rock - grey-black clay

0.0 - 0.2 m. Red brown topsoil

0.2 - 2.3 m. Gravel. &lt; 20 cm in yellow brown clay matrix.

2.3 - 2.9 m. Grey blue clay with gravel

2.9 - 5.5 m. Gravel. clasts &lt; 60 cm in medium sand matrix (yellow)



Grey-black clay. (Bed-rock?)

Sample TMC 3-1 = 0.3 - 1.3 m.

3-2 = 1.3 - 2.3 m.

3-3 = 2.3 - 3.3 m.

3-4 = 3.3 - 3.8 m.

3-5 = 3.8 - 4.5 m.

3-6 = 4.5 - 5.5 m.

d. TMC.4

Total Depth = 5.8 m.

Water Depth = (3.0 m) 2.8 m.

No. samples = 5.

Bags per sample = 2 large.

Backhoe bench = 1.6 m.

Bed-rock - clay with pelitic fragments. Relict schistosity.

0.0 - 0.3 m. Brown topsoil

0.3 - 4.0 m. Gravel. clasts &lt; 40 cm in medium sand matrix.

4.0 - 4.8 m. Gravel with high clay content

4.8 - 5.8 m. Gravel. clasts &lt; 50 cm in yellow sandy clay matrix



Grey clay with relict schist fragments.

26  
067Sample TMC 4-1 = 1.0-2.0m.

4-2 = 2.0-3.0m.

4-3 = 3.0-4.0m.

4-4 = 4.0-5.0m.

4-5 = 5.0-5.8m.

e. TMC. 5

Total Depth = + 4.9m.

Water Depth = 0?

No. samples = 5.

Bags per sample = 2 large.

Backhoe bench location.

Bed-rock hard bottom or  
large obstructing boulder.

0.0-0.2m. Brown topsoil.

0.2-4.9m. Gravel. Clasts  $\leq 100$ cm  
in yellow brown medium  
sand matrix.

Large boulder &amp; rock fragments

Sample TMC 5-1 = 0.5-1.3m.

5-2 = 1.3-2.3m.

5-3 = 2.3-3.3m.

5-4 = 3.3-4.3m.

5-5 = 4.3-4.9m.

f. TMC. 6

Total Depth = 4.5m

Water Depth =  $< 0.1$ m

No. samples = 4

Bags per sample = 2 large

Backhoe bench location.

0.0-0.2m. Brown topsoil.

0.2-2.1m. Brown grey clay.

2.1-4.5m. Gravel. Clasts  $< 30$ cm in  
yellow-brown sandy clay matrix.

Grey clay-homogeneous.

Sample TMC 6-1 = 2.1-2.8m.

6-2 = 2.8-3.4m.

6-3 = 3.4-4.0m.

6-4 = 4.0-4.6m.

068

g. TMC. 7

Total Depth = 3.6m.  
 Water Depth = 0.  
 No. Samples = 3.  
 Bags per sample = 2 large.  
 Backhoe bench location.

0.0 - 0.2m. Red brown topsoil  
 0.2 - 1.4m. Yellow grey clay  
 1.4 - 3.6m. Gravel. Clasts < 80cm in  
 medium sandy clay matrix.



Bed-rock weathered Dips ~ 50°S

Sample TMC. 7-1 = 1.4 - 2.5m.  
 7-2 = 2.5 - 3.1m.  
 7-3 = 3.1 - 3.6m.

h. TMC. 8

Total Depth = 3.6m.  
 Water Depth = 0.  
 No. Samples = 2.  
 Bags per sample = 2 large.  
 Backhoe bench location.

0.0 - 0.2m. Grey brown topsoil.  
 0.2 - 1.8m. Yellow grey clay with minor  
 gravel lense.  
 1.8 - 3.6m. Gravel. Clasts < 30cm  
 in muted yellow medium  
 sandy clay matrix.  
 fresh (non-weathered) grey  
 pelite.



Bedrock

Sample TMC 8-1 = 1.8 - 2.8m.  
 8-2 = 2.8 - 3.6m.

i. TMC. 9

Total Depth = 4.0m.  
 Water Depth = 0.  
 No. Samples = 2.  
 Bags per sample = 2 large.  
 Backhoe bench location.

0.0 - 0.2m Brown topsoil  
 0.2 - 2.8m Grey brown clay. Blue at base  
 2.8 - 4.0m Gravel. Clasts < 20cm in  
 medium <sup>grained</sup> sandy clay matrix



Bedrock

weathered pelite.

Sample TMC 9-1 = 2.8 - 3.4m.  
 9-2 = 3.4 - 4.0m.

F. Mangana, Grants Gully, Line TMD

\* lateral continuation of Line TMA.

a. TMD. 0 (zero)

Total Depth = + 3.0m

0.0 - + 3.0m Gravel. Clasts < 30cm  
in brown sandy matrix.

Water Depth = (0.6m) 2.4m

No. Samples = 1.

Bags per sample = 2 large.

Backhoe approx., sampling

Water Problem (On stream bed)

Slumping.

Bedrock not reachedSample TMD 0-1 = ~ 3.0mb. TMD. 1

Total Depth = 1.5m

0.0 - 0.3m. Dark brown topsoil.

Water Depth = 0

0.3 - 1.4m. Gravel < 40cm, in sandy  
silt matrix.

No. Samples = 2

Bags per sample = 2 large.

Bedrock - weathered pelite

 $S_1 = N17^\circ E / 61^\circ E$ Sample TMD 1-1 = 0.3 - 0.9m.

1-2 = 0.9 - 1.5m.

c. TMD. 2

Total Depth = 3.3m.

0.0 - 0.2m. Red brown topsoil.

Water Depth = (3.2m) 0.1m.

0.2 - 2.3m. Brown grey clay.

No. Samples = 2.

2.3 - 3.3m. Gravel. Clasts < 20cm  
in sandy silt matrix.

Bags per sample = 2 large.

Bedrock

Blue grey schist

 $S_1 = \text{---} / \text{dips East}$

Sample TMD 2-1 = 2.3 - 2.8m.  
2-2 = 2.8 - 3.3m.

d. TMD. 3

Total Depth = 3.2m.      0.0 - 0.2m. Brown topsoil.  
Water Depth = ?      0.2 - 2.0m. Yellow grey silty clay.  
No. Samples = 2      2.0 - 3.2m. Gravel. Clasts < 50cm.  
Bags per sample = 2 large.      Sorted, in sandy silt matrix.

Bedrock grey incipient cleavage / petlit  
S<sub>1</sub> = N 60° W / 75° E. (cf TMD 2)

Sample TMD 3-1 = 2.0 - 2.6m.  
3-2 = 2.6 - 3.2m.

e. TMD. 4

Total Depth = 4.3m.      0.0 - 0.2m. Brown topsoil.  
Water Depth = (2.9m) 1.1m      0.2 - 1.0m. Brown silty clay with minor gravel  
No. Samples = 3      1.0 - 4.3m Gravel. Clasts < 40cm;  
Bags per sample = 2 large.      Subangular to angular;  
Backhoe bench location.      sorted; in silty clay matrix

Bedrock very weathered clay petlit  
(relict cleavage)

Sample TMD 4-1 = 1.0 - 2.3m.  
4-2 = 2.3 - 3.3m.  
4-3 = 3.3 - 4.4m.

f. TMD. 5

Total Depth = 3.7m.      0.0 - 0.2m. Brown topsoil.  
Water Depth = (3.5m) 0.2m.      0.2 - 1.4m. Brown clay.  
No. Samples = 3      1.4 - 3.7m. Gravel. Clasts < 30cm.  
Bags per sample = 2 large.      in brown sandy silt matrix

Bedrock grey clay with relict petlit

071

\* schistosity is flat lying.

Sample TMD 5-1 = 1.4 - 2.1m.

5-2 = 2.1 - 2.9m.

5-3 = 2.9 - 3.8m.

g. TMD. 6

Total Depth = 1.7m.

Water Depth = 0

No. Samples = 0

0.0 - 0.2m. Brown topsoil.

0.2 - 1.7m Clay - Brown.



Bed-rock

Irregular psammite. Non-weathered

S<sub>1</sub> = N 25°W / 80°E.

Profile (Backhoe trench) Descriptions

F. Evergreen - Jones Line Mathiana Line TK

\* TK 1, 2, 4-8 have not been sampled. (water problems).

a. TK 3

\* 30m between 13+14 & 23+24 ; stream between 23+24 & 28+29

|                          |            |                                                                           |
|--------------------------|------------|---------------------------------------------------------------------------|
| Total Depth = 4.0 m?     | 0.0 - 0.2m | Brown topsoil                                                             |
| Water Depth = 2.8m       | 0.2 - 4.0m | Gravel. Clasts < 50cm in a brown sandy matrix (yellow matrix with depth). |
| No. Samples = 3          |            |                                                                           |
| Bags per sample = 4      |            |                                                                           |
| Backhoe approx. sampling |            |                                                                           |
| Water Pump required.     |            |                                                                           |
| Slumping problems        |            |                                                                           |



Hard bottom bedrock or large boulder

- Sample TK 3-1 = 2.5 - 3.0 m.
- 3-2 = 3.0 - 3.5 m.
- 3-3 = 3.5 - 4.0 m.

b. TK 9

|                              |            |                                            |
|------------------------------|------------|--------------------------------------------|
| Total Depth = +3.1 m.        | 0.0 - 0.4m | Dark brown topsoil.                        |
| Water Depth = 2.4 m.         | 0.4 - 0.8m | organic brown yellow clay.                 |
| No. Samples = 4              | 0.8 - +3.1 | Gravel in brown sandy matrix. Clast < 30cm |
| Bags per sample = 6, 4, 4, 4 |            |                                            |

(ie 6 at bottom sample)

Backhoe approx. sampling  
 Water Pump required  
 Slumping  
Bottom not reached

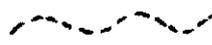
- Sample TK 9-1 = 0.8 - 1.8 m.
- 9-2 = 1.8 - 2.3 m.
- 9-3 = 2.3 - 2.6 m.
- 9-4 = 2.6 - 3.1 m.      6 bag sample.

073

TK. 10

Total Depth = +3.6m  
 Water Depth = 2.0m  
 No. samples = 4  
 Bags per sample = 6, 4, 4, 4  
 Backhoe approx., sampling.  
 Water pump required.  
 Slumping problems.  
 Bed-rock not reached

0.0 - 0.5m Yellow-brown topsoil.  
 0.5 - 1.1m Grey-yellow clay.  
 1.1 - 3.6m Gravel; clasts < 20cm in a sandy matrix (no clay). Micaceous. Granitoid clasts.



- Sample TK 10-1 = 1.1 - 1.8 m.
- 10-2 = 1.8 - 2.4 m.
- 10-3 = 2.4 - 3.0 m.
- 10-4 = 3.0 - 3.6 m.      6 bag sample

TK. 11

Total Depth = +4.4m  
 Water Depth = 2.4m  
 No. samples = 4  
 Bags per sample = 6, 6, 4, 4  
 Backhoe approx sampling  
 Backhoe bench location  
 Water Pump Required.  
 Slumping problems.  
 Bed-rock not reached

0.0 - 0.5m Red-brown topsoil.  
 0.5 - 1.7m Brown clay  
 1.7 - 4.4m Gravel. Clasts < 20cm in a brown silty matrix. Granitoid clasts. Very micaceous.



- Sample TK. 11-1 = 1.7 - 2.2 m.
- 11-2 = 2.2 - 2.8 m.
- 11-3 = 2.8 - 3.8 m.      6 bags per sample
- 11-4 = 3.8 - 4.4 m.      6 bags " " "

e. TK. 12 / 13

Total Depth = 4.1 m.

Water Depth = 2.7 m.

No. samples = 4

Bags per sample = 6, 4, 6, 4

Backhoe approx, sampling

Backhoe bench location.

Water pump required.

Slumping problem.

0.0 - 0.5 m Dark brown topsoil.

0.5 - 1.3 m Brown clay with minor lenses of gravel.

1.3 - 4.1 m Gravel. &lt; 20 cm



Bedrock / or large boulder.

- Sample TK 13-1 = 1.3 - 1.8 m.  
 13-2 = 1.8 - 2.8 m. 6 Bag sample.  
 13-3 = 2.8 - 3.5 m.  
 13-4 = 3.5 - 4.1 m. 6 Bag sample.

f. TK 14

Not sampled owing to risk of excavation of the Mathinna, water supply pipeline.

g. TK 15

Total Depth = 2.7 m.

Water Depth = 2.6 m

No. samples = 3

Bags per sample = 6, 4, 4

Water pump required.

0.0 - 0.3 m Brown topsoil

0.3 - 1.3 m Brown clay with minor gravel

1.3 - 2.7 m Gravel. Clasts &lt; 10 cm in brown silty clay matrix.



Bed-rock - weathered grey pelite

- Sample TK 15-1 = 1.2 - 1.5 m  
 15-2 = 1.6 - 2.1 m  
 15-3 = 2.1 - 2.8 m 6 Bag sample.

075

024076 34

b. TK. 16

Total Depth = 2.7m

Water Depth = 0

No. samples = 1

Bags per sample = 6

0.0 - 0.2m Brown topsoil

0.2 - 1.3m Brown-grey clay

1.3 - 2.1m Gravel &lt; 10cm in clay matrix.

~~~~~  
 very weathered bedrock pelite. Blue-grey clay with relict schistosity.

Sample TK 16-1 = 1.3 - 2.1 m.

i. TK. 17

Total Depth = 2.7m

Water Depth = 0

No. samples = 3

Bags per sample = 6, 4, 4

0.0 - 0.2m Brown topsoil.

0.2 - 0.9m Brown clay.

0.9 - 1.5m Gravel clasts < 5cm in brown silty clay matrix.

1.5 - 1.8m Brown-yellow clay.

1.8 - 2.2m sandy gravel

2.2 - 2.7m Gravel clasts < 15cm in sandy silt matrix.

~~~~~  
 Blue-grey clay - weathered bedrock.  
 Relict cleavage.

Sample TK 17-1 = 0.9 - 1.5m.

17-2 = 1.8 - 2.2m.

17-3 = 2.2 - 2.7m 6 Bag sample.

j. TK. 18

Total Depth = 3.2m

Water Depth = 2.9m

No. samples = 3.

Bags per sample = 6, 4, 4.

0.0 - 0.2m Brown topsoil

0.2 - 1.5m Brown clay.

1.5 - 3.2m Gravel &lt; 10cm clasts fragments

~~~~~  
 Blue grey clay - weathered fragmental bed-ro.

076

Sample TK 18-1 = 1.5-2.0m.

18-2 = 2.0-2.7m.

18-3 = 2.7-3.2m.

6 Bag sample.

K. TK 19

Total Depth = 2.0m

Water Depth = 0

No samples = 3

Bags per sample = 4

0.0-0.3m Brown topsoil.

0.3-0.4m sand with minor gravel.

0.4-2.0m Gravel. Clasts < 10cm,
sub-angular in silty matrixBed-rock weathered bronze-grey pelite.

Sample TK 19-1 = 0.4-0.9m.

19-2 = 0.9-1.6m.

19-3 = 1.6-2.1m.

L. TK 20

Total Depth = 2.3m

Water Depth = 0.

No. of samples = 0

0.0-0.2m Brown topsoil.

0.2-2.3m Grey clay with erratic quartzite
pebbles.weathered bedrock.M. TK 21

Total Depth = 2.25m

Water Depth = 0

No. Samples = 1

Bags per sample = 4

0.0-0.2m Brown topsoil

0.2-0.9m Gravel. Clasts < 5cm, sub-angular
in clay matrix.0.9-2.3m Clay. Blue-grey. Grades into
weathered bed-rock

Sample TK 21-1 = 0.4-1.0m.

077
n. TK 22

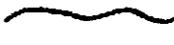
Total Depth = 2.0 m	0.0 - 0.3 m	Dark brown topsoil
Water Depth = 1.9 m	0.3 - 1.75 m	Yellow grey clay with minor gravel lenses.
No's = 1		
Bags per sample = 4		Bedrock very weathered grey pelite.

Sample TK 22-1 = random gravel pods & basal sample.

o. TK.23

Total Depth = 1.3 m	0.0 - 0.4 m	Brown topsoil.
Water Depth = 1.1 m	0.4 - 1.0 m	Brown grey clay. Very minor gravel
No's samples = 0		
		Bed-rock very weathered pelite.

p. TK.24

Total Depth = 2.05 m	0.0 - 0.4 m	Dark brown topsoil
Water Depth = 1.2 m	0.4 - 1.2 m	Clay. Yellow with minor basal gravel
No samples = 1		
Bags per sample = 4		Bedrock very weathered pelite - clay.
$S_1 = N 50^\circ W / 86^\circ E$		

Sample TK 24-1 = 0.9 - 1.2 m.

q. TK.25

Total Depth = 1.55 m.	0.0 - 0.35 m	Brown topsoil
Water Depth = 1.1 m	0.35 - 1.1 m	Very yellow clay
No samples = 1		
Bags per sample = 4		Bed-rock grey weathered pelite ~ clay.
$S_1 = N 50^\circ W / 85^\circ W$		

Sample TK.25-1 = 0.4 - 1.1 m.

078
r. TK. 26

Total Depth = 1.35 m

Water Depth = 0.3 m

No. samples = 2

Bags per sample = 4

0.0 - 0.1 m Brown topsoil.

0.1 - 0.3 m Yellow-grey clay.

0.3 - 1.35 m Gravelly clay with sub-angular and angular clasts < 5 cm.



bed-rock weathered pelite.

Sample TK 26-1 = 0.3 - 0.8 m.

26-2 = 0.8 - 1.35 m.

s. TK. 27

Total Depth = 1.6 m.

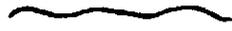
Water Depth = 1.5 m.

No. samples = 1.

Bags per sample = 4.

0.0 - 0.3 m. Brown topsoil

0.3 - 1.1 m. Gravelly silty clay. Higher silt content up the profile.



Bed-rock Blue-grey clay with relict cleavage

Sample TK 27-1 = 0.5 - 1.1 m.

t. TK 28

Total Depth = 1.7 m.

Water Depth = 1.4 m.

No. samples = 2

Bags per sample = 4

S₁ = N-S / 50° W

0.0 - 0.25 m. Brown topsoil.

0.25 - 0.8 m. Yellow-grey clay

0.8 - 1.6 m. Gravelly clay. Clasts < 10 cm



Bed-rock weathered pelite.

Sample TK 28-1 = 0.8 - 1.2 m.

28-2 = 1.2 - 1.6 m.

079

u. TK 29

Total Depth = 1.9 m

Water Depth = 0

No. Samples = 2

Bags per sample = 4

0.0-0.2m. Brown topsoil.

0.2-1.4m. Gravel. Clasts < 5cm in a yellow silty clay.



Bed-rock Grey clay with relict cleavage.

Sample TK 29-1 = 0.2 - 0.8 m.

29-2 = 0.8 - 1.4 m.

u. TK 30

Total Depth = 1.9 m

Water Depth = 0

No. Samples = 2

Bags per sample = 4

0.0-0.2m. Brown topsoil

0.2-1.15m Gravel in a creamy-yellow silty sand matrix. Upper 0.5m is wholly silty sand.



Bed-rock Blue grey clay with relict pelitic fragments / cleavage.

Sample TK .30-1 = 0.2 - 0.7m.

30-2 = 0.7 - 1.2m.

080

G. Black Horse Gully, Matunga, Line TAB.

* located between Lines TA and TB.

* located 300m south of Line TA.

* Only 11 holes were sampled, owing to failure to gain permission onto Landowner's (Mr L. Lee) property.

a. TAB. 1

Total Depth = 2.4m

Depth to Water = Nil

No. of samples = 0

0.0 - 0.1m Brown topsoil.

0.1 - 2.4m Yellow clay.



Bed-rock weathered pelite (grey-bronze)

b. TAB. 2

Total Depth = 1.4m.

Depth to water = Nil

No. samples = 0.

0.0 - 0.2m Brown topsoil.

0.2 - 1.4m Yellow clay.



Bed-rock weathered grey-bronze pelite.

c. TAB. 3

Total Depth = 1.6m.

Depth to Water = 1.2m.

No. samples = 2.

Bags per sample = 4.

0.0 - 0.3m Brown topsoil.

0.3 - 1.1m Brown silty sand.

1.1 - 1.6m Brown yellow clay.



Bed-rock weathered grey-bronze pelite.

Sample TAB 3-1 = 0.3 - 0.6 m

3-2 = 0.6 - 1.1 m

d. TAB. 4

Total Depth = 1.5m.

Depth to Water = Nil.

No. samples = 0

0.0 - 0.3m Brown topsoil.

0.3 - 1.5m Yellow clay.



Bed-rock weathered grey pelite.

e. TAB. 5

Total Depth = 1.3m.
Depth to Water = Nil.
No. Samples = 0

0.0 - 0.1m. Brown topsoil.
0.1 - 1.3m. Yellow clay.

Bed-rock weathered pelite.

f. TAB. 6

Total Depth = 2.5m.
Depth to Water = 1.7m.
No. samples = 0

0.0 - 0.2m Dark brown topsoil.
0.2 - 2.5m Yellow-blue gray mottled clay

Bedrock weathered pelite.

g. TAB. 7

Total Depth = 2.8m.
Depth to Water = 0.4m.
No. samples = 3
Bags per sample = 6, 4, 4
Water Pump required.
Backhoe approx., sampling

0.0 - 0.2m Brown topsoil.
0.2 - 1.45m Yellow grey mottled clay
1.45m - 1.9m Gravel. clasts < 10cm, sub-
angular in yellow grey mottled clay
1.9 - 2.8m Blue grey clay with relict pelite
fragments and quartz pebbles

weathered pelite

Sample TAB. 7-1 = 1.4 - 1.9m.
7-2 = 1.9 - 2.3m.
7-3 = 2.3 - 2.8m. 6 Bag sample

h. TAB. 8

Total Depth = 2.45m
Depth to Water = 0.4m
No. samples = 4
Bags per sample = 6, 4, 4
Water pump required.
Backhoe approx., sampling.

0.0 - 0.2m Brown topsoil.
0.2 - 0.8m Yellow-grey mottled clay
0.8 - 2.0m Gravel < 10cm in yellow
clay matrix.

Bed-rock weathered pelite.

Sample TAB 8-1 = 0.8 - 1.5m.

8-2 = 1.5 - 2.0m.

8-3 = 2.0 - 2.45m. 6 Bag Sample.

i. TAB. 9

Total Depth = 2.0m	0.0 - 0.2m	Brown topsoil.
Depth to Water = 1.1m	0.2 - 0.6m	Brown clay
No. samples = 2	0.6 - 1.5m	Gravel. Clasts < 10mm in brown silty clay matrix.
Bags per sample = 6, 4		Weathered pelite. Grey
Backhoe approx., sampling Water Pump.		Bed-rock

Sample TAB. 9-1 = 0.6 - 1.0m.

9-2 = 1.0 - 1.5m.

j. TAB. 10

Total Depth = 2.7m	0.0 - 0.3m	Brown topsoil
Depth to Water = Nil.	0.3 - 2.7m	Blue grey clay grades into weathered rock.
No. samples = 0		 Clay with relict pelitic rock fragments / cleavage

k. TAB. 11

Total Depth = 2.0m.	0.0 - 0.2m	Brown topsoil.
Depth to water = 1.7m.	0.2 - 1.5m	Brown clay.
No. samples = 2.	1.5 - 2.0m	Grey clay with minor gravel, grades into relict weathered rock.
Bags per sample = 4		 clay with relict rock fragments / cleavage.
Water Pump required		
Backhoe approx., sampling		

Sample TAB 11-1 = 1.5 - 2.0m.

11-2 = weathered rock.

083

H. Junction Sling Pot and Bowl Creek, Mathinna Line TS.a. T.S. 1

Total Depth = 2.8 m.	0.0 - 0.1 m	Brown topsoil.
Depth to Water = Nil.	0.1 - 1.1 m	Brown clay.
No. Samples = 3	1.1 - 2.8 m	Gravel. Clasts < 15cm in erratic rusty clay pods.
Bags per sample = 4.		very weathered pelite


Bed-rock

Sample T.S. 1-1 = 1.1 - 1.8 m.
 1-2 = 1.8 - 2.3 m.
 1-3 = 2.3 - 2.8 m.

b. T.S. 2

Total Depth = 3.3 m.	0.0 - 0.2 m	Brown topsoil
Depth to Water = Nil.	0.2 - 2.8 m	Yellow brown clay with minor gravel.
No. samples = 1	2.8 - 3.3 m	grey sand with minor gravel
Bags per sample = 4		


Bed-rock weathered greenschist.

Sample T.S. 2-1 = 2.8 - 3.5 m.

c. T.S. 3

Total Depth = 3.4 m.	0.0 - 0.2 m	Brown topsoil
Depth to Water = 2.9 m.	0.2 - 2.6 m	Brown clay. Grey basally.
No. samples = 1	2.6 - 3.4 m	Gravel in grey clay.
Bags per sample = 6		


weathered greenschist.

Sample T.S. 3-1 = 2.6 - 3.4 m.

d. TS. 4

Total Depth = 3.5m

Depth to Water = Nil

No. samples = 2

Bags per sample = 6, 4

0.0 - 0.3m Brown topsoil.

0.3 - 0.8m Yellow-grey clay.

0.8 - 1.6m Gravel. Clasts < 15cm in silty clay matrix.

1.6 - 3.5m Yellow clay. Basally grey.



Bed-rock weathered grey pelite.

Sample T.S. 4-1 = 0.8 - 1.6m.

4-2 = 3.0 - 3.5m. 6 Bag sample.

e. TS. 5

Total Depth = 3.2m.

Depth to Water = 2.9m.

No. samples = 3

Bags per sample = 6, 4, 4

Water Pump Required

0.0 - 0.3m Brown topsoil.

0.3 - 1.1m Yellow grey clay.

1.1 - 1.4m Gravelly clay. Clasts < 10cm.

1.4 - 1.7m Yellow grey clay.

1.7 - 2.0m Gravel. As above - less clay

2.0 - 2.3m Grey clay.

2.3 - 2.7m Dark grey clay

2.7 - 3.2m Gravel. Clasts < 15cm in

dark grey clay matrix.



Bed-rock fresh grey pelite.

Sample T.S. 5-1 = 1.1 - 1.4m.

5-2 = 1.7 - 2.0m.

5-3 = 2.7 - 3.2m. 6 Bag sample.

f. TS. 6

Total Depth = 2.4m.

Depth to Water = 1.4m.

No. samples = 2

Bags per sample = 4

0.0 - 0.3m Brown topsoil.

0.3 - 0.9m Brown grey clay.

0.9 - 2.0m Gravel. Clasts < 10cm in matrix.

085

Backhoe Approx., sampling 2.0 - 2.4m Grey clay with relict cleavage
clay - relict cleavage / rock fragments.

Sample TS 6-1 = 0.9 - 1.5 m.
6-2 = 1.5 - 2.0 m.

g. T.S. 7

Total Depth = 3.3 m.	0.0 - 0.2 m	Brown topsoil.
Depth to water = 2.9 m.	0.2 - 2.1 m	Yellow grey clay.
No. samples = 2	2.1 - 3.3 m	Gravel. clasts < 10cm in clay matrix.
Bags per sample = 6, 4.		
Water Pump Required	<u>Bed-rock</u>	weathered grey pelite.

Sample TS 7-1 = 2.1 - 2.8 m.
7-2 = 2.8 - 3.3 m. 6 Bag sample.

h. T.S. 8

Total Depth = 3.3 m.	0.0 - 0.15 m	Brown topsoil.
Depth to water = 0.3 m	0.15 - 1.6 m	Brown clay. Basally very sandy.
No. samples = 3	1.6 - 3.3 m	Gravel. clasts < 30cm in silty sand matrix.
Bags per sample = 6, 4, 4		
Water Pump required		
Slumping.	<u>Bed-rock</u>	weathered grey pelite.
Backhoe approx., sampling		

Sample TS 8-1 = 1.3 - 1.8 m.
8-2 = 1.8 - 2.8 m.
8-3 = 2.8 - 3.3 m. 6 Bag sample

i. T.S. 9

Total Depth = 3.0 m	0.0 - 0.3 m	Brown topsoil.
Depth to water = 2.0 m	0.3 - 2.0 m	Brown clay
No. samples = 1	2.0 - 3.0 m	Gravel. clasts < 25cm in
Bags per sample = 6		

Water Pump Required
Backhoe approx., sampling

silty sand matrix.
Bed-rock?

Sample TS.9-1 = 2.0 - 3.0m.

j. TS.10

Total Depth = 2.9m.	0.0 - 0.6m	Brown topsoil.
Depth to Water = nil	0.6 - 1.9m	Brown clay.
No. Samples = 2	1.9 - 2.9m	Gravel. Clasts < 20cm in brown silty clay matrix.
Bags per sample = 6, 4		Bed-rock weathered pelite

Sample T.S 10-1 = 1.9 - 2.4 m.

10-2 = 2.4 - 2.9 m.

k. TS.11

Total Depth = 2.6m	0.0 - 0.5m	Brown topsoil.
Depth to Water = Not measured	0.5 - 2.0m	Brown clay.
No. samples = 2	2.0 - 2.6m	Gravel. Clasts < 15cm in silty clay matrix.
Bags per sample = 6, 4		Bedrock weathered grey-bronze pelite
Water Pump required		
Backhoe approx., sampling.		

Sample TS 11-1 = 1.6 - 2.1 m.

11-2 2.1 - 2.6 m.

L. TS.12

Total Depth = 2.7m	0.0 - 0.4m	Brown topsoil.
Depth to Water = not recorded	0.4 - 1.2m	Brown clay.
No. samples = 1	1.2 - 2.1m	weathered rock - shattered pelite. (Tailings?)
Bags per sample = 6	2.1 - 2.7m	Gravel. Clasts < 10cm silty sand matrix
Water Pump required		
Backhoe approx., sampling.		

087

Sample TS. 12-1 = 2.1 - 2.7m

m. TS. 13

Total Depth = 3.7m

Depth to water = not recorded

No. samples = 2.

Bags per sample = 6, 4.

Water Pump Required.

Backhoe approx., sampling

0.0 - 0.4m Brown topsoil

0.4 - 1.6m Clay, and weathered rock
(testings?)1.6 - 1.9m Gravel < 10cm in clay
matrix.

1.9 - 2.9m Grey clay

2.9 - 3.7m Gravel < 15cm ghosts in
yellow clay matrix

Bed-rock

Sample TS. 13-1 = 1.6 - 2.9m

13-2 = 2.9 - 3.7m

6 Bag sample.

088

024089

APPENDIX B

ASSAY DATA FROM BACKHOE SAMPLING

Section A: Mangana.

089	Depth in trench (metres)	Sample weight (Kg)	Analytical Sample wt (gms)	Observed No grains (mm ³ equivalent)	Precise weight gold. (gms)	Assay result (ppm)	Assay Value (ppm)	Analyst
Gamma	2-2D	1.5 - 1.9	6.12	2 (-)	N.W			
	3-2D	2.1 - 3.0	6.2	30.0	I.	<0.3 F	I	M
	3-3D	3.0 - 3.8	5.4	30.0	5 (-)	I.	0.092	M
	4-1D	1.6 - 2.4	5.6	2 (0.3)				
	4-3D	2.9 - 3.6	7.1	20.3	4 (1.3)	0.00134	66.1	S
	5-3	2.8 - 3.9	6.6	2.5	0	0.00002	6.1	A
	5-3D	2.8 - 3.9	6.9	3 (-)	N.W			
	6-2	1.7 - 2.2	5.1	1 (0.2)	0.0005		0.098	P
	6-2D	1.7 - 2.2	7.1	1 (0.1)	N.W			
	8-2D	2.4 - 2.9	4.8	1 (0.2)	0.0004		0.083	P
	9-1D	1.8 - 2.4	6.5	3 (1.3)	0.0036		0.5538	P
	10-2	2.8 - 3.3	5.6	2.5	0	I	<0.05	A
	14-2D	1.7 - 2.2	4.6	1 (2.0)	0.0027		0.5869	P
	17-2	2.5 - 3.0	7.4	2.5	0	I	0.1	A
Gamma	1-1	1.1 - 1.8	10.0	1 (0.1)	<0.0001		<0.01	P
	4-2	2.5 - 3.5	24.0	2 (0.2)	N.W			
	4-3	3.5 -	17.0	28.1	0 (-)		2.32	S
	5-4D	3.0 - 4.0	21.5	1 (0.1)	<0.0001		<0.0046	P
	6-1	0.2 - 1.0	20.5	5 (0.4)	0.0007		0.034	P
	6-1D	0.2 - 1.0	22.0	17.5	1 (0.3)	N.W		
	6-2D	1.0 - 2.0	21.0	12.3	2 (0.3)	0.0004	23.0	S
	6-3	2.0 - 2.4	30.0	2 (0.3)	0.00061		0.02	P
	7-2	2.3 - 3.3	23.0	2 (0.5)	0.0004		0.017	P
	7-2D	2.3 - 3.3	24.0	1 (0.1)				
	7-3D	3.3 - 4.3	23.5	2 (0.5)	0.0023		0.098	P
	8-1D	1.4 - 2.5	18.0	4 (1.0)	<0.0005		<0.028	P
	8-4	4.0 - 4.6	26.5	10.7	1 (0.3)	I	9.3	S
	10-3	2.4 - 3.4	22.5	2 (0.5)	N.W			
	15-1D	2.5 - 3.6	11.0	1 (15.0)	N.W			

	Depth in trench (metres)	Sample weight (kg)	Analytical Sample wt (gms)	No. grains observed (mm ³ equivalent)	Precise weight gold. (gms)	Assay result (ppm)	Assay Value (ppm)	Analyst.
TMB 17-2	3.7-4.1	8.9	22.3	2 (2.0)	0.0032	144.0	0.36	S
17-2D	3.7-4.1	9.1		1 (0.2)	N.W			
TMC 1-1	0.4-1.5	21.0		1 (-)	N.W			
1-2	1.5-2.0	22.5		2 (-)	<0.0001	<	<0.004	P
1-2D	1.5-2.0	14.0		2 (0.6)	N.W			
1-3	2.0-3.0	26.0		2 (2.0)	N.W			
1-6	5.0-5.6	26.0	25.0	4 (1.8)	0.0025	92.4	0.09	S
2-6	5.0-5.5	23.0	28.8	1 (0.2)	0.00029	10.1	0.01	S
3-4	3.3-3.8	23.0		2 (-)	N.W			
3-4D	3.3-3.8	23.0		1 (0.4)	0.0008		6.035	P
3-6	4.5-5.6	27.5	14.2	0	I	0.04	I	S
4-3	3.0-4.0	19.0		2 (1.1)				
4-4	4.0-5.0	21.0		2 (0.3)	N.W			
4-4D	4.0-5.0	19.0		2 (0.3)				
4-5D	5.0-5.8	29.0		1 (0.2)				
5-3	2.3-3.3	23.0		1 (0.2)	<0.0005		<0.022	P
6-4	4.0-4.6	22.0	20.1	3 (5.0)	0.0061	303.0	0.28	S
8-1	1.8-2.8	16.0		1 (0.1)	N.W			
9-1	2.8-3.4	18.0		1				
9-2	3.4-4.0	14.0		1 (1.0)	N.W			
MD 2-1	2.3-2.8	16.0		1 (2.0)	N.W			
2-1D	2.3-2.8	15.3		1 (1.0)	0.0046		0.30	P
2-2	2.8-3.3	17.0	39.1	1	I	<0.01	I	S
2-2D	2.8-3.3	16.0		1 (1.0)	0.00404		0.253	P
3-2	2.6-3.2	19.0	31.2	2 (1.5)	I	<0.01	I	S
3-2D	2.6-3.2	16.0		2 (1.0)	0.00078		0.049	P
5-2D	2.1-2.9	15.0		2 (1.1)	0.00265		0.177	P

091	Depth in trench (metres)	Sample weight (kg)	Analytical sample wt (gms)	Observed No grams (unit ³ equivalent)	Precise weight gold. (gms)	Assay result (ppm)	Assay Value (ppm)	Analyst
TK 15-2D	1.6-2.1	10.3		2 (<2.0)	0.0033		0.32	P
15-3	2.1-2.8	10.75		5 (1.5)				
17-3	2.2-2.7	16.2		15 (2.0)	0.0027		0.167	P
17-3D	2.2-2.7	16.0		1 (1.0)	0.0024		0.152	P
18-3	2.7-3.2	21.75		8 (2.0)	0.0007		0.032	P
18-3D	2.7-3.2	20.6		12 (0.5)	0.0103		0.50	P
19-3	1.6-2.1	8.6		6 (1.0)	0.0008		0.093	P
19-3D	1.6-2.1	6.1		2 (0.6)	0.001		0.164	P
29-2D	0.8-1.4	8.55		2 (0.5)	<0.0005		0.058	P
TA 1-1	0.25-0.65	4.0	2.5	0	I	0.1	I	A
1-2	0.65-1.1	4.0	2.5	0	I	<0.05	I	A
3-1	0.6-1.1	7.0	2.5	0	0.00002	7.0	0.0025	A
4-1	0.7-1.3	5.1	2.5	0	I	0.8	0.00039	A
5-1D	0.6-1.1	4.03	15.59	18 (1.8)	0.00076	48.6 F	0.188	S
7-1D	1.0-1.5	4.9		1 (0.1)	N.W			
8-2	1.2-1.7	8.5	2.5	0	I	0.05	I	S
8-2D	1.2-1.7	6.33	13.4	2 (0.2)	0.00037	27.7	0.06	S
9-1	0.7-1.2	9.5	2.5	0	0.00005	720.0	0.0053	A
9-1D	0.7-1.2	7.0		7 (-)	N.W			
9-2D	1.2-1.7	8.1	30.0	0	0.00002	0.7 F	0.012	M
11-1	0.9-1.7	5.5	20.0	0	0.00005	2.43	0.0088	A
11-1D	0.9-1.7	5.3	30.0	0	0.00023	7.6 F	0.119	M
11-2	1.7-2.2	4.85	20.0	1 (0.1)	I	<0.01	I	A
11-2D	1.7-2.2	4.8	16.0	1 (0.1)	0.00037	23.5	0.08	S
11-3	2.2-2.7	4.6	20.0	0	I	0.2	I	A
11-3D	2.2-2.7	4.6	11.1	0	I	0.12	I	S
12-2D	1.4-1.9	4.3	30.1	0	I	0.4	0.013	M
12-3	1.9-2.4	4.1		1 (-)				
12-4	2.4-2.9	3.8	2.5	0	I	0.05	I	A

Section B: Black Horse Gully (cont.)

092

	Depth in trench (metres)	Sample weight (kg)	Analytical sample wt. (gm)	Observed No. grains (unit equivalent)	Precise weight gold. (gms)	Assay Result (ppm)	Assay Value (ppm)	Analyst
TA 12-4D	2.4 - 2.9	3.58		1 (0.1)				
13-2	1.5 - 2.0	4.45		1 (-)				
14-1	1.0 - 1.8	5.1	20.0	0	0.00008	4.25	0.018	A
14-1D	1.0 - 1.8	5.0	30.0	0	0.00006	1.9 F	0.033	M
14-2	1.8 - 2.4	4.6	20.0	0	I	<0.01	I	A
14-4	2.9 - 3.4	5.0	20.0	0	I	0.03	0.00012	A
15-1	1.7 - 2.2	5.1	2.5	0	0.00005	720.0	0.0098	A
15-1D	1.7 - 2.2	4.5	30.0	0	0.00005	1.7 F	0.035	M
15-2D	2.2 - 2.7	4.6		2 (0.3)				
15-4D	3.2 - 3.7	5.0	30.0	0	I	<0.3 F	I	M
16-1	1.0 - 1.5	4.7	20.0	0	I	0.01	I	A
17-1	1.0 - 1.6	4.8	20.0	0	I	0.18	0.00075	A
17-2	1.6 - 2.1	4.7	20.0	1 (-)	0.000013	0.63	0.0027	A
17-2D	1.6 - 2.1	4.75		2 (1.3)	N.W			
17-3	2.1 - 2.6	4.9		2 (-)				
23-1	0.7 - 1.4	3.85		1 (0.5)				
TAB 3-1D	0.3 - 0.6	8.3		2 (1.5)	N.W			
11-1	1.5 - 2.0	10.0		8 (1.5)	0.0088		0.880	P
11-1D	1.5 - 2.0	9.8		5 (1.0)	0.0103		1.051	P
TB 2-1	0.5 - 1.0	5.15		3 (1.0)	N.W			
2-1D	0.5 - 1.0	4.5		1 (0.2)	N.W			
3-2	1.2 - 1.7	2.7		1 (-)				
4-1	0.6 - 1.1	5.25	10.4	3 (0.5)	0.00022	21.4	0.04	S
4-2	1.1 - 1.6	5.6	24.9	0	0.00026	10.5	0.05	S
6-1	0.5 - 1.0	6.5		1 (0.3)				
8-2	1.0 - 1.5	5.8		1 (-)				
8-3	1.5 - 2.5	5.35		1 (-)				
9-1	0.5 - 1.0	4.7	20.0	0	I	0.6	0.0025	S
10-2	1.0 - 1.6	4.6	20.0	0	I	0.01	0.003	S

093

024094 5.

		Depth in trench (metres)	Sample Weight (kg)	Analytical sample wt (gms)	Observed No. grams (1mm ³ equivalent)	Precise weight gold. (gms)	Assay result (ppm)	Assay Value (ppm)	Analyst
TB	10-4	2.2-2.7	4.6		1 (0.2)	N.W			
	12-1	0.6-1.2	5.2	20.0	0	I	0.12	0.0006	S
	14-1D	0.9-1.6	5.9		1 (0.5)				
	15-1	0.7-1.2	4.3	30.0	2 (-)	0.00007	2.4 F	0.074	M
S	14-1		5.1		1 (0.1)	N.W			
	15-1		4.9		3 (1.2)	N.W			
	22-1		5.5		2 (0.2)	N.W			

Section C : Long Gully, Mathinna.

09A		Depth in trench (metres)	sample weight (Kg)	analytical sample wt. (gms)	Observed No grains (mm^3 equivalent)	Precise weight gold. (gms)	Assay result (ppm)	Assay Value (ppm)	Analyst
TK	3-3D	3.5-4.0	8.3		1 (-)				
	12-1	2.0-2.7	11.3		1 (0.2)				
	12-2	1.3-2.0	13.4		1 (0.2)	<0.0003		<0.022	P
	12-2D	1.3-2.0	13.9		2 (0.5)	<0.0005		<0.036	P
TAA	4-2	2.3-3.0	8.7		1 (-)				
	4-3	3.0-3.7	9.2	16.0	1 (0.1)	0.00039	24.6	0.04	S
	7-1	1.8-2.5	8.8	31.9	1 (0.2)	0.00097	30.5	0.10	S
	7-2	2.5-3.1	7.9	12.1	9 (0.9)	0.00214	176.6	0.27	S
	9-2	0.6-1.6	12.0		1 (0.1)				
TC	3-2	1.5-2.0	5.6	2.5	0	I	1.1	0.0005	A
	3-3	2.0-2.5	8.0		1 (-)				
	3-3D	2.0-2.5	6.03	25.8	1 (-)	0.00015	5.70	0.02	S
TD	4-3	2.2-2.7	7.0	2.5	1 (-)	0.00001	4.0	0.0014	A
	4-3D	2.2-2.7	4.0	30.0	0	0.00007	2.4 F	0.064	M
	10-2	1.9-2.4	4.95		1 (-)				
TE	4-1	0.6-1.3	4.3	2.5	1 (-)	I	1.7	0.00098	A
	6-1D	1.8-2.5	5.5		1 (0.1)	N.W			
	9-2	1.8-2.3	5.0		1 (-)				
	11-1	1.1-1.8	5.6		1 (-)				
	16-1	2.2-2.7	6.1	2.5	0	I	2.9	0.002	A
	16-1D	2.2-2.7	5.4		1 (0.1)	N.W			
	17-2	3.0-3.5	6.0	2.5	3 (-)	I	2.7	0.001	A
	17-2D	3.0-3.5	5.8	30.0	0	I	0.5 F	0.0088	M
TF	12-3	3.0-3.4	6.6	2.5	2 (-)	I	0.25	I	A
	12-3D	3.0-3.4	6.7	18.4	2 (1.0)	0.0007	38.1	0.10	S
TG	1-2	1.9-2.5	4.25		4 (-)				
	1-2D	1.9-2.5	5.2	51.1	7 (1.2)	0.00087	17.1 F	0.168	S
TH	1-2	1.6-2.1	4.1	30.8	0	I	0.93	<0.01	S
	1-3	2.1-2.6	5.5		2 (-)	N.W			

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	Depth in trench (metres)	Sample weight (kg)	Analytical sample wt (gms)	Observed No. grams (units equivalent)	Precise weight gold. (gms)	Assay result (ppm)	Assay value (ppm)	Notes
TH 1-3D	2.1 - 2.6	5.88		2 (-)				
2-2	2.6 - 3.1	6.25	24.6	2 (1.0)	0.0012	48.8	0.19	S
2-2D	2.6 - 3.1	5.0		4 (2.0)	N.W			
2-3	3.1 - 3.6	5.75		1 (0.1)	N.W			
TI 1-1	0.9 - 1.5	4.8	2.5	0	I	1.1	0.00057	A
1-1D	0.9 - 1.5	4.8	30.0	0	0.00021	6.9	0.184	M
TJ 1-2	1.9 - 2.3	6.1		1 (0.1)				
2-4	2.0 - 2.5	7.5		1 (0.1)				
3-2	1.5 - 2.2	6.5		1 (0.5)	N.W			
3-3	2.2 - 2.7	7.4	27.5	1 (0.2)	I	0.09	I	S
3-4	2.7 - 3.2	9.0	23.2	0	I	0.48	I	S

Section D: Other areas, Mathinna.

096

	Depth in trench (metres)	Sample weight (kg)	Analytical sample wt (gms)	Observed No grains (1mm ³ equivalent)	Precise weight gold (gms)	Assay result (ppm)	Assay value (ppm)	
TDA 2-8	3.8 - 4.8	20.0		1 (0.1)				
10-3	3.0 - 3.5	13.5		2 (-)	N.W			
10-5	4.0 - 4.5	13.6	26.5	3 (0.3)	0.0002	6.07	0.01	S
10-6	4.4 - 4.9	14.9		1 (-)	N.W			
12-1	0.4 - 1.9	13.4		1 (-)				
12-5	3.4 - 3.9	14.0		1 (0.1)	N.W			
12-6	3.9 - 4.4	14.6		2 (-)	N.W			
14-3	2.2 - 3.2	7.9		1 (0.1)				
14-5	3.7 - 4.2	14.9		3 (1.2)	0.0025		0.168	P
16-6	3.7 - 4.4	26.5		1 (0.3)				
24-10	1.0 - 2.0	14.0		1 (0.1)	<0.0001		<0.007	P
24-3	3.0 - 3.9	23.5		5 (0.8)	0.0023		0.098	P
TS 8-3	2.8 - 3.3	17.8		2 (0.3)	0.0004		0.022	P
TY 2-4	1.8 - 2.5	9.6		1 (0.2)	<0.0005		<0.052	P
2-5	2.5 - 3.0	14.1		3 (0.3)	0.0005		0.035	P
3-4	3.0 - 3.7	19.0		2 (0.7)	0.001		0.053	P
5-2	1.2 - 1.9	17.35		1 (0.5)	0.0008		0.046	P
6-1	1.8 - 2.2	15.5		1 (0.1)				
7-1	1.0 - 2.0	14.5		3 (2.0)	0.0047		0.324	P
7-2	2.0 - 2.5	9.0		3 (0.3)				
7-3	2.5 - 3.0	16.2		6 (0.8)				
7-4	3.0 - 3.5	8.9		1 (2.0)	0.0085		0.955	P

024098



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The Australian
Mineral Development
Laboratories

amdel

3/493/0 - AC 4780/80

NATA CERTIFICATE

20 May 1980

Remington Street, Frewville,
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Telex AA 82520

Please address all
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P.O. Box 114 Eastwood
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In reply quote:

Mr M Ahmad
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67 Wilson Street
BURNIE TAS 7320

REPORT AC 4780/80

YOUR REFERENCE: Application of 7 April 1980

IDENTIFICATION: 185 Samples panning concentrate
as listed

DATE RECEIVED: 14 April 1980

NOTE: Sample TA 15-4 is received
but not listed.
Samples TA 16-1, TG 1-2 are
listed but not received.

Enquiries quoting AC 4780 to the Manager please.

D.K. Rowley
Manager
Analytical Chemistry Division

St. Bowditch
for Norton Jackson
Managing Director

dam

Pilot Plant: Osman Place
Thebarton S.A.
Telephone 43 8053
Branch Laboratory: Perth



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TT	Sample No.	AU
1	TMA 1-1	<0.05
2	2-1	<0.05
3	2-2	<0.05
4	3-1	<0.05
5	3-2	<0.05
6	3-3	<0.05
7	4-1	<0.05
8	4-2	<0.05
9	4-3	<0.05
10	Std	
11	5-1	<0.05
12	5-2	<0.05
13	5-3	6.1
14	6-1	<0.05
15	6-2	<0.05
16	6-3 x	<0.05
17	7-1	<0.05
18	7-2	<0.05
19	TMA 8-1	<0.05
20	6-3 x	

TT	Sample No.	AU
1	TMA 8-2	<0.05
2	9-1	<0.05
3	9-2	<0.05
4	9-3	<0.05
5	Std	
6	10-1	<0.05
7	10-2	<0.05
8	10-3	<0.05
9	11-1	<0.05
10	11-2	<0.05
11	12-1	<0.05
12	12-2	<0.05
13	13-1	<0.05
14	13-2	<0.05
15	14-1	<0.05
16	14-2	<0.05
17	15-1 x	<0.05
18	15-2	<0.05
19	TMA 16-1	<0.05
20	15-1	

AMDEL ANALYTICAL SERVICE

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Results in ppm unless otherwise stated

BATCH NO. 3/

TT	Sample No.	Au
1	TMA 16-2	<0.05
2	17-1 *	<0.05
3	17-2	0.10
4	17-3	<0.05
5	18-1	<0.05
6	18-2	<0.05
7	18-3	<0.05
8	18-4	<0.05
9	19-1	<0.05
10	TMA 19-2	<0.05
11	Std	
12	TA 1-1	0.10
13	1-2	<0.05
14	2-1	<0.05
15	2-2	<0.05
16	3-1	7.0
17	3-2	<0.05
18	4-1	0.80
19	TA 5-1	<0.05
20	TMA 17-1 *	

AMDEL ANALYTICAL SERVICE

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Results in ppm unless otherwise stated

BATCH NO. 5/

TT	Sample No.	Au
1	TA 6-1	<0.05
2	7-1	<0.05
3	8-1	<0.05
4	8-2	0.05
5	9-1 *	>20
6	9-2	<0.05
7	10-1	<0.05
8	10-2	<0.05
9	10-3	<0.05
10	12-1	<0.05
11	12-2	<0.05
12	12-3	<0.05
13	12-4	0.05
14	13-1	<0.05
15	13-2	<0.05
16	13-3	<0.05
17	13-4	<0.05
18	TA 15-1	>20
19	Std	
20	13-1 *	

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AMDEL ANALYTICAL SERVICE

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Results in ppm unless otherwise stated

BATCH NO. 5/

TT	Sample No.			AU			
1	TA 15-2			<0.05			
2	15-3			<0.05			
3	15-4			<0.05	RECFNED	NOT	LISTED
4	16-1		LISTED	NOT	RECFNED		
5	16-2			<0.05			
6	Std						
7	18-1			<0.05			
8	18-2			<0.05			
9	19-1			<0.05			
10	20-1			<0.05			
11	20-2			<0.05			
12	20-3			<0.05			
13	21-1			<0.05			
14	21-2			<0.05			
15	22-1			<0.05			
16	23-1			<0.05			
17	23-2			<0.05			
18	24-1			<0.05			
19	TA 25-1			<0.05			
20	23-2	x					

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 4780/80

Results in ppm unless otherwise stated

BATCH NO. 6/

TT	Sample No.			AU			
1	TA 26-1			<0.05			
2	TB 3-1	x		<0.05			
3	3-2			<0.05			
4	7-1			<0.05			
5	7-2			<0.05			
6	7-3			<0.05			
7	8-1			<0.05			
8	8-2			<0.05			
9	8-3			<0.05			
10	11-1			<0.05			
11	Std						
12	12-3			<0.05			
13	13-1			<0.05			
14	13-2			<0.05			
15	14-1			<0.05			
16	15-1			<0.05			
17	TB 16-1			<0.05			
18	TC 2-1			<0.05			
19	22			<0.05			
20	TB 3-1						

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FORM 6

JOB 4780/80

AMDEL ANALYTICAL SERVICE
Results in ppm unless otherwise stated

BATCH NO. 7/8

TT	Sample No.	Au
1	T.C. 3-1	<0.05
2	3-2	1.1
3	3-3	<0.05
4	4-1	<0.05
5	5-1	<0.05
6	6-1	<0.05
7	7-1	<0.05
8	Std	
9	7-2	<0.05
10	8-1	<0.05
11	8-2	<0.05
12	T.C. 8-3	<0.05
13	T.D. 2-1	<0.05
14	3-1	<0.05
15	3-2	<0.05
16	3-3	<0.05
17	4-1	<0.05
18	4-2 x	<0.05
19	TD 4-3	4.0
20	TD 4-2 x	

FORM 6

JOB 4780/80

AMDEL ANALYTICAL SERVICE
Results in ppm unless otherwise stated

BATCH NO. 8/9

TT	Sample No.	Au
1	TD 5-1	<0.05
2	5-2	<0.05
3	Std	
4	7-1	<0.05
5	8-1	<0.05
6	9-1	<0.05
7	10-1	<0.05
8	10-2	<0.05
9	11-1	<0.05
10	11-2	<0.05
11	12-1	<0.05
12	TD 12-2	<0.05
13	TE H-1	<0.05
14	2-1	<0.05
15	4-1 x	1.7
16	5-1	<0.05
17	6-1	<0.05
18	7-1	<0.05
19	TE 7-2	<0.05
20	TE H-1 x	

024103

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TT	Sample No.	Flu
1	TF 8-1	<0.05
2	9-1	<0.05
3	9-2	<0.05
4	10-1	<0.05
5	10-2 x	<0.05
6	11-1	<0.05
7	12-1	<0.05
8	12-2	<0.05
9	13-1	<0.05
10	14-1	<0.05
11	15-1	<0.05
12	15-2	<0.05
13	16-1	2.9
14	16-2	<0.05
15	17-1	<0.05
16	Std	
17	TF 17-2	2.7
18	TF 8-1	<0.05
19	8-2	<0.05
20	TF 10-2 x	

AMDEL ANALYTICAL SERVICE

TT	Sample No.	Flu
1	TF 9-1	<0.05
2	9-2	<0.05
3	10-1	<0.05
4	10-2	<0.05
5	11-1	<0.05
6	11-2	<0.05
7	11-3	<0.05
8	Std	
9	12-1	<0.05
10	12-2	<0.05
11	TF 12-3	0.25
12	TG 1-1	<0.05
13	1-2	
14	2-1	<0.05
15	3-1	<0.05
16	TG 4-1	<0.05
17	TH 1-1	<0.05
18	TH 1-2 x	<0.05
19	TI 1-1	1.1
20	TH 1-2 x	

LISTED

NOT

RECEIVED

FORM 6 JOB# 470/20

103

024104

TT	Sample No.			Flu.			
1	S 11-1			<0.05			
2	12-1			<0.05			
3	20-1			<0.05			
4	21-1			<0.05			
5	22-1			<0.05			
6	S 22-2			<0.05			
7	Std						
8	S 12-1			<0.05			
9							
10	TG 2-2			<0.05			
11							
12							
13	CODE			C 3/1.			
14							
15							
16							
17							
18							
19							
20							



The Australian
Mineral Development
Laboratories

Flemington Street, Frewville,
South Australia 5063
Phone Adelaide 79 1662
Telex AA 82520

Please address all
correspondence to
P.O. Box 114 Eastwood
SA 5063
In reply quote:

104

amdel

024105

NATA CERTIFICATE

3/493/0 - AC 4006/80

22 May 1980

Masood Ahmad,
Tasminex N.L.,
P.O. Box 815
BURNIE, Tas. 7320

REPORT AC 4006/80

YOUR REFERENCE: Order No. 1536
Letter dated 2/3/80

IDENTIFICATION: As listed

DATE RECEIVED: 5 March 1980

Enquiries quoting AC 4006/80 to the Manager please.

D. K. Rowley,
Manager,
Analytical Chemistry Division.

D. Rowley
for Norton Jackson,
Managing Director.

jkw

Pilot Plant: Osman Place
Thebarton S.A.
Telephone 43 8053
Branch Laboratory: Perth



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SAMPLE MARK	WEIGHT (gms)	SAMPLE MARK	WEIGHT (gms)
TA-11-1 +10#	27	TA-16-3 -10#	196
TA-11-1 -10#	208	TA-17-1 +10#	4
TA-11-2 +10#	2	TA-17-1 -10#	143
TA-11-2 -10#	168	TA-17-2 +10#	12
TA-11-3 +10#	2	TA-17-2 -10#	244
TA-11-3 -10#	175	TA-17-3 +10#	26
TA-14-1 +10#	38	TA-17-3 -10#	172
TA-14-1 -10#	174	TA-17-3B +10#	10
TA-14-2 +10#	9	TA-17-3B-10#	195
TA-14-2 -10#	279	TA-17-3C +10#	96
TA-14-3A +10#	10	TA-17-3C -10#	128
TA-14-3A -10#	160	TB-9-1 +10#	31
TA-14-3B +10#	24	TB-9-1 -10#	128
TA-14-3B -10#	150	TB-9-2 +10#	14
TA-14-3C +10#	23	TB-9-2 -10#	136
TA-14-3C -10#	28	TB-9-3 +10#	10
TA-14-4A +10#	7	TB-9-3 -10#	168
TA-14-4A -10#	200	TB-10-1 +10#	11
TA-14-4B +10#	5	TB-10-1 -10#	136
TA-14-4B -10#	158	TB-10-2 +10#	31
TA-14-4C +10#	55	TB-10-2 -10#	170
TA-14-4C -10#	62	TB-12-1 +10#	29
TA-16-1 +10#	4	TB-12-1 -10#	242
TA-16-1 -10#	500	TB-12-2 +10#	37
TA-16-3 +10#	3	TB-12-2 -10#	158

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024107

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AC 4006/80

ANALYSIS
g/tonne

SAMPLE MARK	GOLD Au
TA-14-4A +10#	0.52
TA-14-4A -10#	0.005
TA-14-3A +10#	0.005
TA-14-3A -10#	0.005
TA-17-3A +10#	0.010
TA-17-3A -10#	0.005

Method K4/2

024108

TT	Sample No.	Ag	As.	Au
1	TA-11-1 +10 ⁴ x	<1	105	<0.01
2	TA-11-1 -10 ⁴	<1	45	2.43
3	TA-11-2 +10 ⁴	<1	40	<0.01
4	TA-11-2 -10 ⁴	<1	20	<0.01
5	TA-11-3 +10 ⁴	<1	45	0.20
6	TA-11-3 -10 ⁴	<1	<20	<0.01
7	TA-14-1 +10 ⁴	<1	35	0.01
8	TA-14-1 -10 ⁴	<1	<20	4.25
9	TA-14-2 +10 ⁴	<1	20	<0.01
10	TA-14-2 -10 ⁴	<1	<20	<0.01
11	TA-14-3A +10 ⁴	INSUFFICIENT	SAMPLE	-
12	TA-14-3A -10 ⁴	<1	<20	<0.01
13	TA-14-3B +10 ⁴	<1	<20	<0.01
14	TA-14-3B -10 ⁴	<1	<20	<0.01
15	STD			
16	TA-14-3C +10 ⁴	<1	<20	<0.01
17	TA-14-3C -10 ⁴	<1	<20	<0.01
18	TA-14-4A +10 ⁴	INSUFFICIENT	SAMPLE	-
19	TA-14-4A -10 ⁴	<1	<20	0.03
20	TA-11-1 +10 ⁴ x			

TT	Sample No.	Ag	As.	Au
1	TA-14-4B +10 ⁴ x	<1	<20	<0.01
2	TA-14-4B -10 ⁴	<1	<20	<0.01
3	TA-14-4C +10 ⁴	<1	<20	<0.01
4	TA-14-4C -10 ⁴	<1	<20	<0.01
5	TA-16-1 +10 ⁴	<1	715	<0.01
6	TA-16-1 -10 ⁴	<1	<20	0.01
7	TA-16-3 +10 ⁴	<1	40	<0.01
8	TA-16-3 -10 ⁴	<1	<20	<0.01
9	TA-17-1 +10 ⁴	<1	80	<0.01
10	TA-17-1 -10 ⁴	<1	<20	0.18
11	TA-17-2 +10 ⁴	<1	<20	<0.01
12	TA-17-2 -10 ⁴	<1	<20	0.63
13	TA-17-3 +10 ⁴	INSUFFICIENT	SAMPLE	-
14	TA-17-3 -10 ⁴	<1	<20	<0.01
15	TA-17-3B +10 ⁴	<1	<20	<0.01
16	TA-17-3B -10 ⁴	<1	<20	<0.01
17	TA-17-3C +10 ⁴	<1	<20	<0.01
18	TA-17-3C -10 ⁴	<1	<20	<0.01
19	STD			
20	TA-14-4B +10 ⁴ x			

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024109

T	Sample No.	Ag	As.	Au
1	1B-9-1 +10 [#]	<1	100	0.38
2	1B-9-1 -10 [#]	<1	70	0.22
3	1B-9-2 +10 [#]	<1	65	<0.01
4	STD			
5	1B-9-2 -10 [#]	<1	30	<0.01
6	1B-9-3 +10 [#]	<1	30	<0.01
7	1B-9-3 -10 [#]	<1	<20	<0.01
8	1B-10-1 +10 [#]	<1	<20	<0.01
9	1B-10-1 -10 [#]	<1	<20	<0.01
10	1B-10-2 +10 [#]	<1	<20	<0.01
11	1B-10-2 -10 [#]	<1	<20	0.01
12	1B-12-1 +10 [#]	<1	25	0.02
13	1B-12-1 -10 [#]	<1	20	0.10
14	1B-12-2 +10 [#]	<1	10	<0.01
15	1B-12-2 -10 [#] X	<1	<20	<0.01
16				
17				
18				
19				
20	1B-12-2 -10 [#] X			
	METHOD	C ₁	C ₂	C _{3/3}



DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:

Metallurgical Research	} 44 2431-2 (2 lines)
Laboratory	
Mines Inspection	
Explosives & Inflammable Liquids	

12th June 1980

Tasminex N.L.,
P.O. Box 815,
Burnie 7320
TASMANIA

c.c. A.B. Daly,
St. Marys 7215.

Reg. Nos. 801455-466

Dear Sir,

Please find below results of samples submitted to this laboratory on the 3rd June'80. E.L. 77/78.

<u>Reg. Nos.</u>	<u>Description</u>	<u>Au g/t</u>	<u>Weight. gms.</u>
801455	TA 9 - 2	0.7	139.1
456	TA 11 - 1	7.6	83.3
457	TA 12 - 2	0.4	136.2
458	TA 14 - 1	1.9	85.7
459	TA 15 - 1	1.7	92.8
460	TA 15 - 4	<0.3	71.0
461	TB 15 - 1	2.4	133.0
462	TD 4 - 3	2.4	107.0
463	TE 17 - 2	0.5	102.2
464	TI 1 - 1	6.9	127.7
465	TMA 3 - 2	<0.3	64.6
466	TMA 3 - 3	2.5	198.9

Yours faithfully,

H. K. Wellington
(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by... *L. M. Gray*\$60.00 Fee.

spectrometer services pty. ltd.

024111

NEWLANDS ROAD, COBURG, 3058
 Phone: 350 1766
 380 1300

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

The following report is the result of analytical work carried out on behalf of:—

- TASMINEX N.L.
- P.O. BOX 815
- BURNIE TAS 7320

OUR REF. C80/2159 BM

PURCHASE ORDER No. 1695

DATE 4th September 1980

ATTENTION : LABORATORY

SAMPLE	Au Recovered	Gms/Assayed	Au gms/MT
TLR - 1	.054mg	13.85	3.9
TAA 7 - 2	2.758mg	15.62	176.6
TAS - 1	.758mg	15.59	48.6
TLS - 1	.842mg	17.14	49.1
TGI - 2	.716mg	41.90	17.1

METHOD : BY FIRE ASSAY

The method used is accurate to \pm % of the amount present for the major constituents.

- Spectrographic Analysis
- Carbon double checked by Combustion
- Combustion Carbon only
- Combustion Sulphur
- Sample dried at 105°C before analysis

Elements checked by Chemical Analysis

Elements checked by Atomic Absorption Anal.

SPECTROMETER SERVICES PTY. LTD.



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BY..... *104*

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SPECTROGRAPHIC AND CHEMICAL ANALYSTS

The following report is the result of analytical work carried out on behalf of:-

- TASMINEX N.L.
- P.O. BOX 815
- BURNIE TAS. 7320

OUR REF. K80/200 BM

PURCHASE ORDER No. 1695

DATE 4th September 1980

ATTENTION : LABORATORY

SAMPLE	WT. OF SAMPLE RECEIVED	Au gms/MT
TMA 4 - 3	20.3g	66.1
TMB 4 - 3	28.1	2.32
TMB 6 - 2	17.5	23.0
TMB 8 - 4	10.7	9.3
TMB 17 - 2	22.3	144.
TMC 1 - 6	25.0	98.4
TMC 2 - 6	28.8	10.1
TMC 3 - 6	14.2	0.04
TMC 6 - 4	20.1	303
TMD 2 - 2	39.1	/0.01
TMD 3 - 2	31.2	/0.01
TDA 10 - 5	26.5	6.07
TAA 4 - 3	16.0	24.6
TAA 7 - 1	31.9	30.5
TA 8 - 2	13.4	27.7
TA 11 - 2	16.0	23.5

Continued next page ...2/...

The method used is accurate to \pm % of the amount present for the major constituents.

- Spectrographic Analysis
- Carbon double checked by Combustion
- Combustion Carbon only
- Combustion Sulphur
- Sample dried at 105°C before analysis

Elements checked by Chemical Analysis

Elements checked by Atomic Absorption Anal.

SPECTROMETER SERVICES PTY. LTD.



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BY.....

spectrometer services pty. ltd.

024113

NEWLANDS ROAD, COBURG, 3058
Phone: 350 1766
388 1308

SPECTROGRAPHIC AND CHEMICAL ANALYSTS

The following report is the result of analytical work carried out on behalf of:-

- TASMINEX N.L.
- P.O. BOX 813
- BURNIE TAS. 7320

OUR REF. K80/200 BM

PURCHASE ORDER No. 1695

DATE 4th September 1980

...2/...
ATTENTION : LABORATORY

SAMPLE	WT OF SAMPLE RECEIVED	Au gms/MT
TA 11 - 3	11.1	0.12
TB 4 - 1	10.4	21.4
TB 4 - 2	24.9	10.5
TC 3 - 3	25.8	5.70
TF 12 - 3	18.4	38.1
TH 1 - 2	30.8	0.93
TH 2 - 2	24.6	48.8
TJ 3 - 3	37.5	0.09
TJ 3 - 4	23.2	0.48

METHOD : Total sample was dissolved in Aqua Regia. Solution was evaporated to insipient dryness. Dissolved in Hcl and filtered. Gold was extracted into organic phase and estimated by Atomic Absorption.

The large samples were difficult to handle and there is a possibility that in the high values of gold not all of the gold was extracted for estimation since a geochemical procedure was used.

The method used is accurate to \pm % of the amount present for the major constituents.

- Spectrographic Analysis
- Carbon double checked by Combustion
- Combustion Carbon only
- Combustion Sulphur
- Sample dried at 105°C before analysis

Elements checked by Chemical Analysis

Elements checked by Atomic Absorption Anal.

SPECTROMETER SERVICES PTY. LTD.



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APPENDIX C

METALLURGICAL TESTS - MATHINNA TAILINGS

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 CYANIDE TESTING OF 3 SAMPLES AS REQUIRED BY TASMINEX N.L.

PRELIMINARY REPORT

Three 200 litre drums of sample (labelled Drum 1, 2 and 3) were augered for assay and preliminary cyanide testing.

HEAD ASSAYS

	By D. Wright	By Independent Assayer	Average Used In Calculations
Drum 1	1.50 g/t	1.50 g/t	1.50 g/t
Drum 2	3.0 g/t	3.17 g/t	3.08 g/t
Drum 3	1.66 g/t	1.66 g/t	1.66 g/t

As assays were in range expected, cyanide tests were commenced.

After slow drying, 500g samples were taken. Four barrell agitation tests were run. The tests were as follows:-

Drum 1	-	As received
Drum 1	-	Pulverised
Drum 2	-	As received
Drum 3	-	As received

Additions to 500g Samples

limil	-	1g
water	-	1000 c.c.
NaCN	-	1g
Carbon	-	205g

PROCEDURE:-

Samples were agitated with, water for one hour. Initial pH was then taken. 1g of limil was then added to all samples and agitation continued for one hour, pH was again measured and Drum 3 required a further 1g of limil. Cyanide was added and after a further two hours of agitating pH and NaCN concentration were measured.

Agitation was continued for a further 22 hours before measuring pH NaCN and taking 80ml of pregnant solution for assay. Carbon (2.5g) was added at this stage and agitation continued for eight hours. Carbon was recovered by screening and dried for assay.

CYANIDE TEST RESULTS:-

024116

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	pH Measurement				NaCN %	
	As Received	After Limil	After NaCN	Final	After 3hrs%	Final
1	7.9	11.4	11.4	10.8	0.096	0.086
1	7.9	11.0	10.8	10.6	0.090	0.083
2	7.4	10.6	10.4	10.1	0.075	0.050
3	6.3	8.5* /10.3	10.1	9.6	0.066	0.063

* Required an extra lg of limil

ASSAY RESULTS:-

SAMPLE	PREGNANT SOLUTION			CARBON ASSAYS	
	Solution Assay g/m ³	Equivalent g/t of ore	Gold Recovery	Actual* gold recovered	Recovery %
1	0.50	1.0 g/t	67%	0.90 g/t	60
1	0.75	1.5 g/t	100%	1.375 g/t	91.7
2	1.25	2.5 g/t	81.2%	2.49 g/t	80.8
3	0.625	1.25 g/t	75.0%	0.725g/t	43.7**

* Adjusted for solution removed to assay and tritrate.

** This sample contained a trace of oil or kerosene which is detrimental to carbon recovery of gold.

DISCUSSION:-

Cyanide and lime consumptions were relatively low. Drum 3 giving highest lime consumption of approximately 4 kilo per tonne to maintain a pH of 10.

Drum 2 had highest NaCN consumption of approximately 1 kilo/tonne.

Recovery of gold to solution was between 67 and 100%. It should be emphasised that recoveries in excess of 100% are indicated when there is more gold present in the cyanide test sample than is indicated by head assay. This occurs particularly with "spotty" and coarse ores.

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Carbon recoveries are a direct measurement of gold actually recovered and as such are a very reliable minimum. Hence, it can be assumed that for the samples tested, recoveries will not be below the values indicated.

Recoveries were from 43.7% to 91.7% the low recovery from Drum 3 was probably due to the oil present in the drum. Normally, carbon recoveries would be very near to that of solution recoveries. In fact, gold extraction to carbon can be greater than to solution as removal of gold by the carbon allows more to be dissolved. This occurs where dissolving and absorption take place simultaneously and is explained by gold equilibrium considerations.

Grinding of Drum 1 could improve recovery by as much as 33% but added cost would have to be carefully considered. Also, the equipment required to cyanide the ground material would probably be more complex.

More test work can be done on Drums 1, 2 and 3 but, considering earlier cyanide testing done by Tasmanian Department of Mines R778 a question of how representative the sample 1 is of the whole heap has arisen. Results in 1948 (R201) at 67% recovery are in line with this report. Sample variation may explain differences in recoveries but this is unlikely. In report R778, the highest recovery of 43.2% was on the lowest grade material and highest grade material only gave 31.2% recovery.

Cyanide testing on samples from various parts of the dump maybe appropriate at this stage. Such testing on perhaps 6 samples would help establish whether or not reasonable recoveries can be maintained across the dump.

The copies of papers attached to this report outline briefly a cheap and quick method of gold extraction from certain ores.

Drum 1 would most likely fall into this range of ore sand and perhaps Drum 3 could be pretreated to allow similar treatment. Special evaluation tests determine the suitability of various ores to such extraction.

Report signed by: DAVID WRIGHT
20th July, 1980.

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CYANIDE TESTING OF FOUR SAMPLES AS SUPPLIED BY TASMINEX N.L.

Four samples received in August and a repeat test of Drum 1 previously supplied were sampled and assayed.

HEAD ASSAYS

<u>SAMPLE</u>	<u>ASSAY</u>	<u>PREVIOUS ASSAY</u>
TSA	1.7 g/t	-
TSB	1.5 g/t	-
TSC	1.8 g/t	-
TSD	2.0 g/t	-
DRUM 1	1.7 g/t	1.50 g/t

As assays were in range expected cyanide tests were commenced.

PROCEDURE :

After slow drying 500g samples were taken. Five barrel agitation tests were run.

Additions to 500g Samples :

Limil	-	1g
Water	-	1000cc
NaCN	-	1g
Carbon	-	2.5g

Samples were agitated for 30 minutes and pH measured. 1g of limil was added and agitated for 30 minutes before measuring pH again. 1g of NaCN was added and agitation continued for a further 5 hours when NaCN concentration and pH were measured. Agitation was continued for a further 19 hours giving a total of 25 hours. NaCN concentration and pH were again measured and a 80cc pregnant solution sample was taken for assay. Carbon was added and agitation continued for a further 7 hours. Carbon was recovered by screening and dried for assay.

CYANIDE TEST RESULTS :

<u>SAMPLES</u>	<u>pH MEASUREMENT</u>				<u>NaCN %</u>		
	*						
	30min.	6hrs.	25hrs.	33hrs.	6hrs.	26hrs.	33hrs.
TSA	10.7	10.3	10.0	10.0	0.10	0.075	0.07
TSB	9.3	9.4	9.3	9.2	0.05	0.035	0.03
TSC	9.9	9.8	9.6	9.5	0.07	0.04	0.04
TSD	10.4	10.1	9.8	9.8	0.08	0.06	0.05
DRUM 1	11.3	11.3	10.8	10.6	0.10	0.095	0.095

* Limil had been added

ASSAY RESULTS :

<u>SAMPLES</u>	<u>PREGNANT SOLUTION</u>			<u>CARBON ASSAYS</u>	
	SOLUTION ASSAY g/m ³	EQUIVALENT g/t ORE	% RECOVERY	*ACTUAL g/t GOLD RECOVERED	RECOVERY %
TSA	0.375	0.75	44.1	0.52 g/t	30.6
TSB	0.375	0.75	50.0	0.70	46.7
TSC	0.375	0.75	41.7	0.68	37.8
TSD	0.25	0.50	25.0	0.55	28.0
DRUM 1	0.50	1.00	58.8	0.78	45.9

DISCUSSION :

Lime consumptions were relatively low being similar to the previous samples. Cyanide consumptions were higher than previous samples. Maximum consumption is approximately 1.5 kilogram/tonne. Lime and cyanide consumptions for Drum 1 were very similar to the previous test.

Recovery of gold to solution ranged from 25% to 58.8% and averaged 0.75 g/t extraction. Drum 1 gave similar recoveries to previous test but the slightly higher head grade (1.7 g/t compared to 1.5 g/t) gave lower percentage recoveries. However, recovery to solution was still 1.0 g/t.

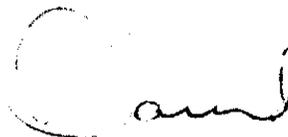
Recoveries to carbon were somewhat lower but they represent an accurate minimum recovery as the actual gold extracted is measured instead of relying on an assay of a solution sample.

From the tests so far conducted on Drum 1, TSA, TSB, TSC, and TSD, it would be reasonable to expect an average extraction of between 0.69 and 0.75 g/t for the area of dump represented by these samples.

The difference in treatment results of these five samples illustrates the necessity to conduct as many tests as possible on various samples within the one dump. Earlier tests done by the Tasmanian Department of Mines should still be considered.

Suggested further tests on these samples are as follows :

1. Evaluation of suitability to heap leaching.
2. Evaluation of increasing recovery by grinding.



David Wright



14th October, 1980.

APPENDIX D

FINENESS OF GOLD

024122

121



Laboratory, 287 Wellington Street
Launceston, Tas. 7250

CERTIFICATE OF ANALYSIS

10th October 1980

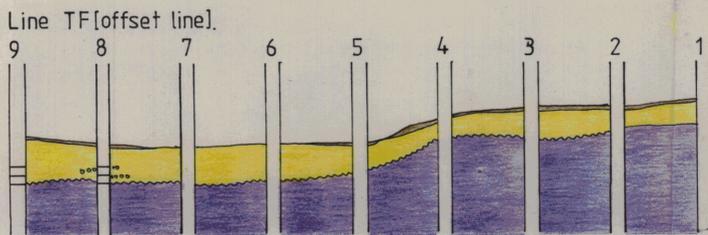
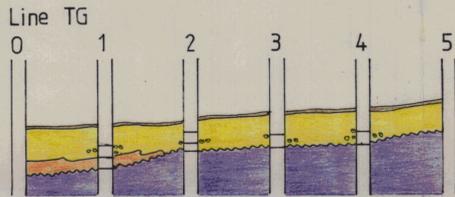
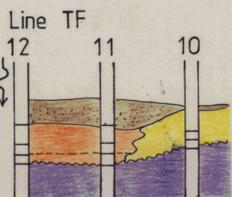
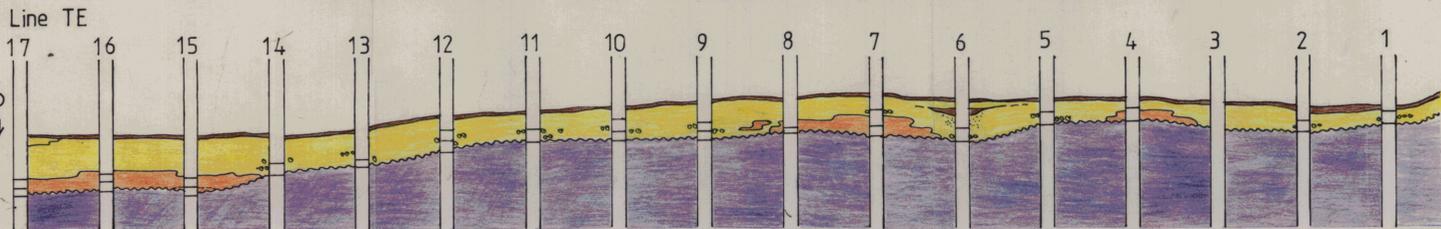
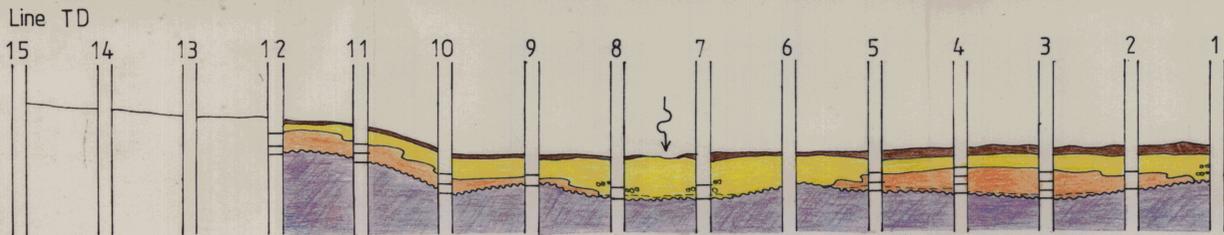
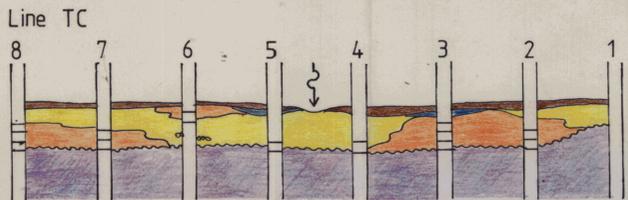
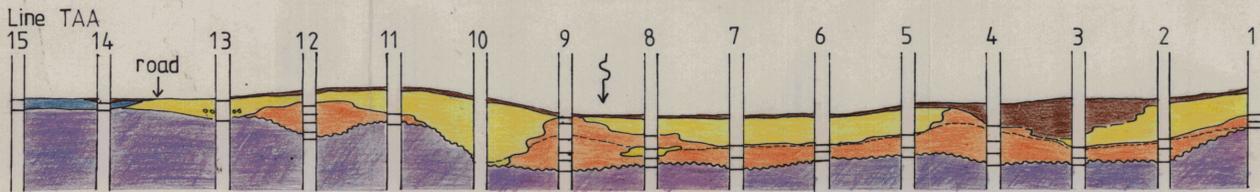
To Tasminex N.L. (Mr. Adrian Daly)

P.O. Box 815 Burnie 7320

The sample of Pan Conc. received
from you on the 3rd October 1980
and stated to be from Mathinna - Mangana ^{has} been
examined, with the following results:—

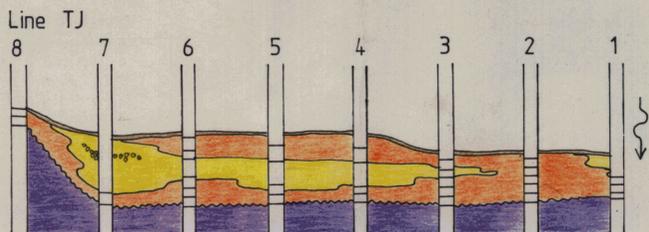
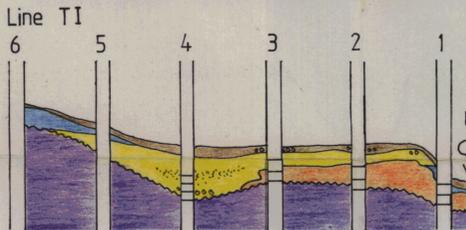
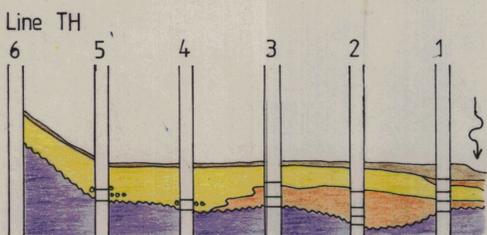
Registered Number	Description	Au Fineness
0.10.80 802415	T M D 2-1	940
802416	T H 2 - 2D	877
802417	T A B - 11 - 1D	910
802418	T K - 18 - 3D	874
802419	T Y - 7 - 4D	911
802420	T M A - 8 - 2D	876
Analyses by <i>M. Pickering</i>		
Fee \$30.00		
Due to small size of samples normal fire assay procedure was not used.		
		<i>[Signature]</i> Chief Chemist and Metallurgist

PROFILES, ALLUVIAL DEPOSITS, LONG GULLY, MATHINNA.
TASMINEX NL. E.L. 17/78



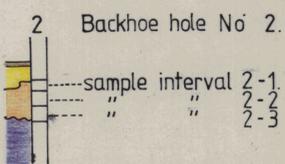
KEY

- Topsoil
- Mine tailings / Burried soil
- Clay, silty clay with minor gravels. Sand (dotted).
- Gravels usually in a silty clay matrix.
- Bed-rock: Mathinna Beds pelite, psammite, quartzite.
- Present stream course.
- Water-table. (varies with seasonal & diurnal differences.)

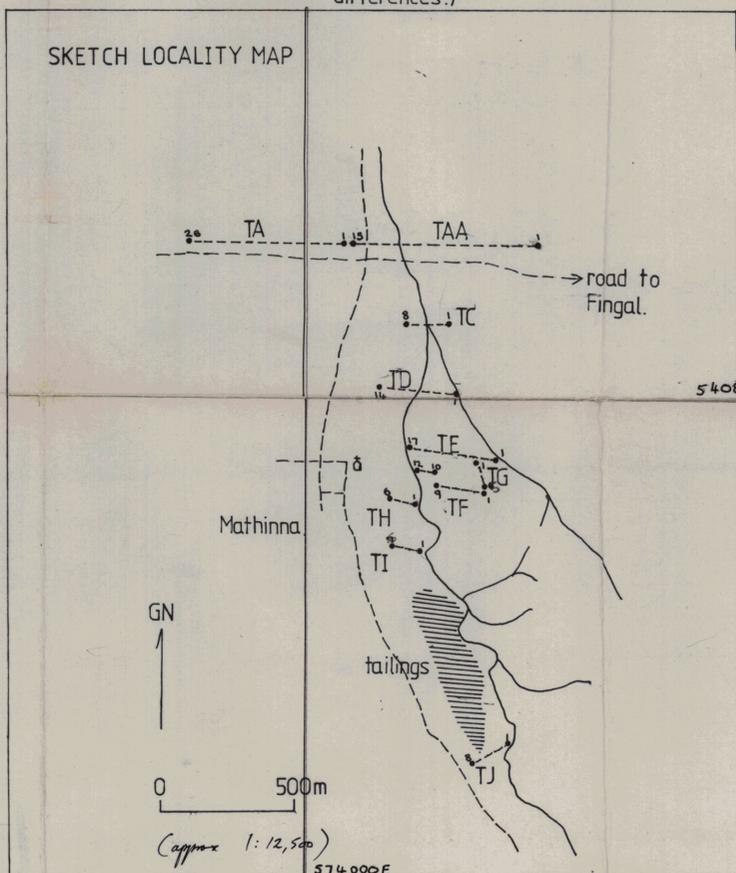


SCALE.

- a. Horizontal scale:
25mm = 25metres. (= the distance between backhoe trench holes.)
- b. Vertical scale:
5mm = 1 metre.
V.E. (vertical exaggeration) = 5.



SKETCH LOCALITY MAP

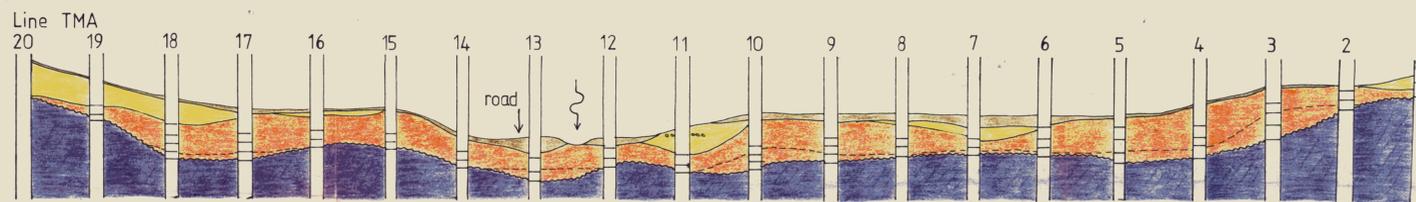
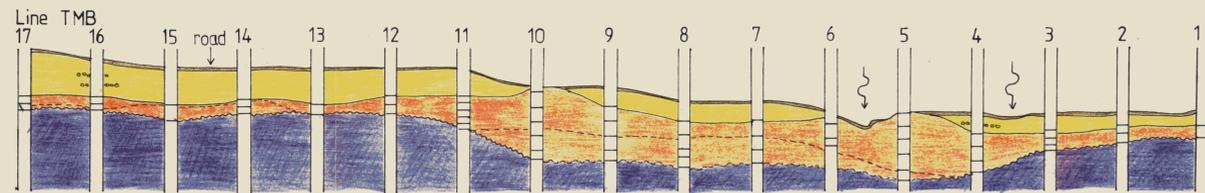
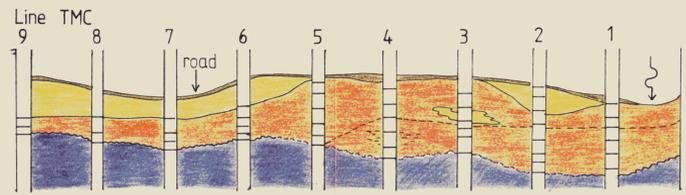


024123

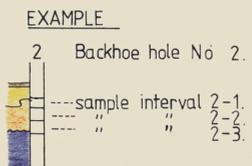
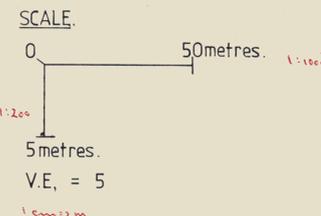
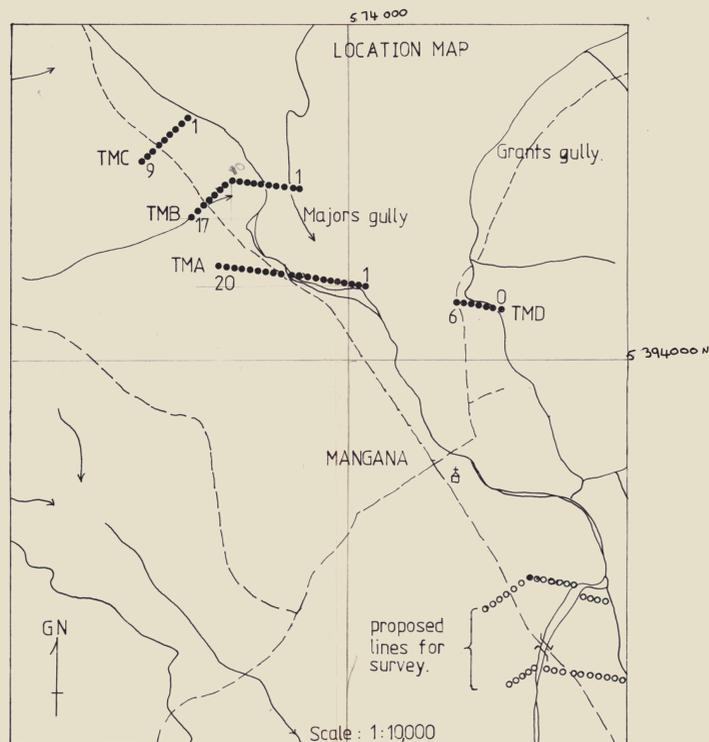
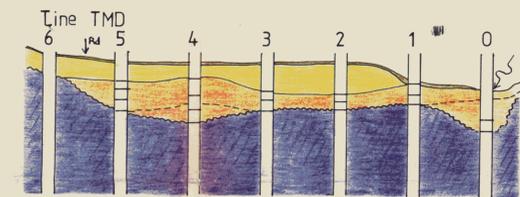
80-1502

Plan 1.

PROFILES, ALLUVIAL DEPOSITS, MANGANA.
TASMINEX N.L. EL 17/78

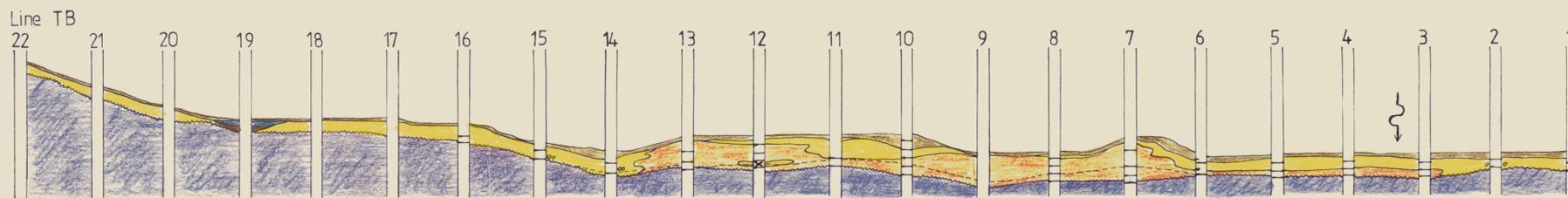
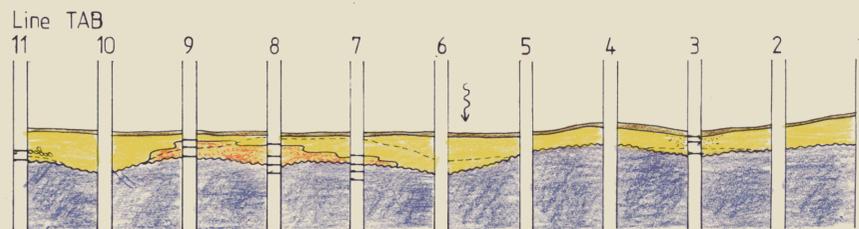
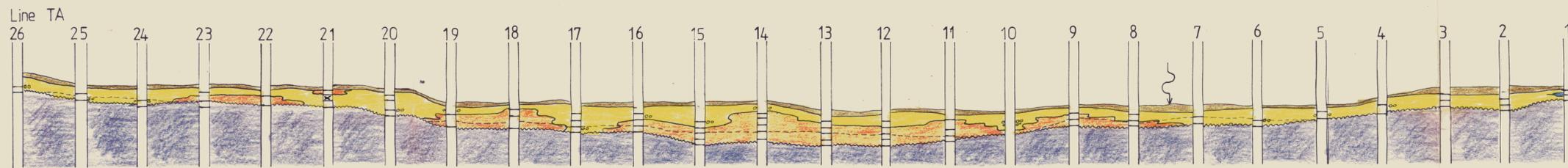
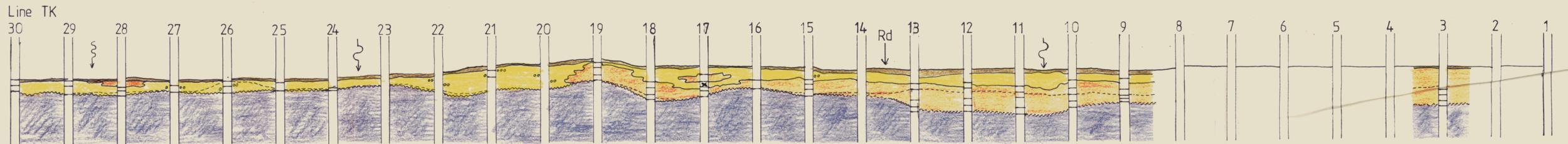
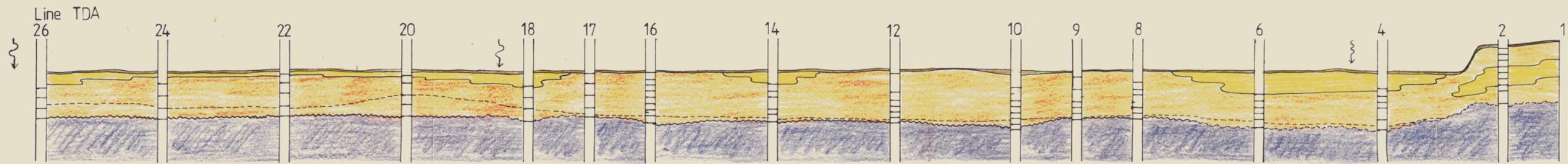


- KEY**
- Topsoil.
 - Mine tailings / Burried soil.
 - Clay, silty clay with minor gravels (circles). Sand (dotted).
 - Gravels usually in a silty clay matrix.
 - Bed-rock Mathinna Beds pelite, psammite, quartzite.
 - Present stream course.
 - Water-table (varies with seasonal & diurnal differences).



PROFILES, ALLUVIAL DEPOSITS, BLACKHORSE GULLY, MATHINNA.

TASMINEX NL E.L 17/78

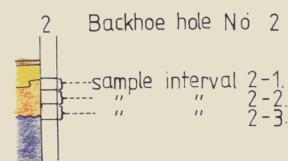


KEY

- Topsoil.
- Mine tailings / Burried soil.
- Clay, silty clay with minor gravels (circles). Sand (dotted).
- Gravels usually in a silty clay matrix.
- Bed-rock Mathinna Beds pelite, psammite, quartzite.
- Present stream course.
- Water-table (varies with seasonal & diurnal differences.)

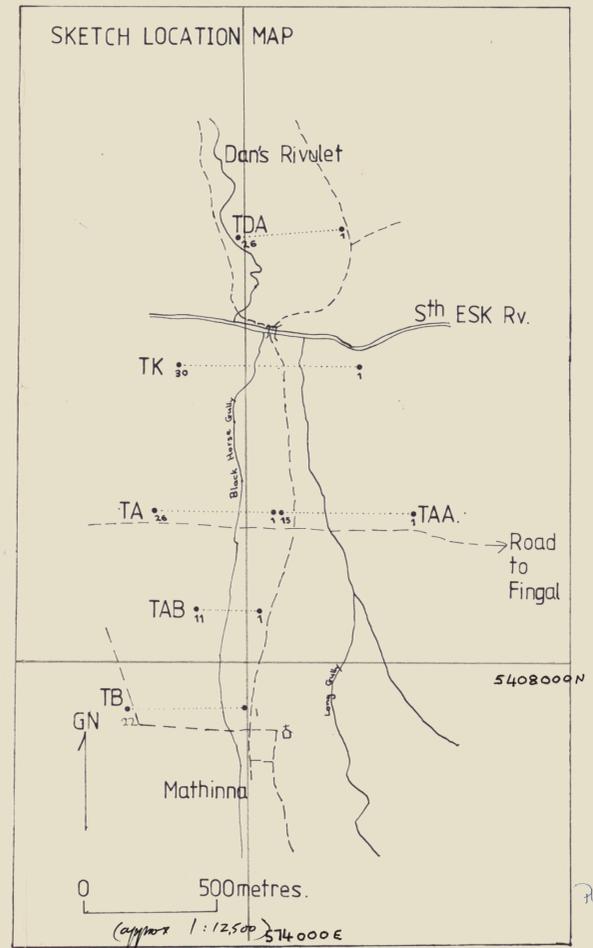
SCALE

- a. Horizontal scale:
25mm = 25metres (= the distance between backhoe trench holes.)
- b. Vertical scale:
5mm = 1 metre.
V.E. (vertical exaggeration) = 5.



Example

5 cm



024125

124

Plan. 3.

80-1502