GOLD FIELDS EXPLORATION PTY. LIMITED

520001

RIF

E.L. 9/66 - PART 1

HENTY AREA, TASMANIA

PROGRESS REPORT, 1986/87

By: A.J. Cartwright
Geologist

July, 1987

Circulation: Gold Fields Exploration (2)
Little River Goldfields (1)
Mines Department (1)

GFEL Report No. T/87/9

AMG REFERENCE POINTS ADDED

GOLD FIELDS EXPLORATION PTY. LIMITED

SUMMARY

This report covers the 1986-87 exploration undertaken on EL9/66, Part 1, the northwestern block of the Tyndall area in Western Tasmania. Apart from the completion of one drill hole at White Spur, all of the work completed on this block this year has been at the Henty Prospect, where a significant gold mineralised system occurs. Total expenditure for the 11 month period to the end of May 1987 on the Henty Prospect, was $423,819.

A major drilling programme has been underway almost continuously at the Henty Prospect, testing the gold mineralised system to the north, at depth and in two close-spaced patterns around previously obtained intersections. This programme is in progress at present and is not expected to finish until December, 1987. The results obtained to date have been variable; out of the eleven holes (3915.9m) drilled, three intersected significant gold mineralisation. These are:

HP12	552.0-555.7	3.3m (horizontal width) at	22.0g/t Au

and wedge hole,

HP12A	550.1-553.0	2.6m (horizontal width) at	21.9g/t Au
HP17	157.8-159.4	1.4m (horizontal width) at	13.9g/t Au
HP19	280.1-284.1	3.6m (horizontal width) at	9.9g/t Au

Other exploration programmes carried out during 1986-87 included drilling the northern I.P. anomaly (H.P.10) with poor results and excavating a new costean next to the old "massive sulphide costean". The costeaning exposed the gold mineralised zone and confirmed the patchy, variable nature of the gold distribution throughout the mineralisation.

Renewal of a 15 sq. km. section of E.L.9/66 over the Henty Prospect has been applied for, and, at present, is being considered by the Tasmanian Mines Department. If successful, it is anticipated that the current drilling programme will continue on until completion, at the end of the year.

GOLD FIELDS EXPLORATION PTY. LIMITED

520003

CONTENTS

GOLD FIELDS EXPLORATION PTY. LIMITED

520004

LIST OF FIGURES

LIST OF TABLES

APPENDICES

Appendix 1 Expenditure 1986-87

Appendix 2 Diamond Drill Holes HP10-HP21, Logs and Assays

Appendix 3 Petrographic Descriptions of the Mineralised Zones in HP12 and HP17, by CMS.

Appendix 4 Metallurgical Testwork on HP12 by Warman International Ltd.

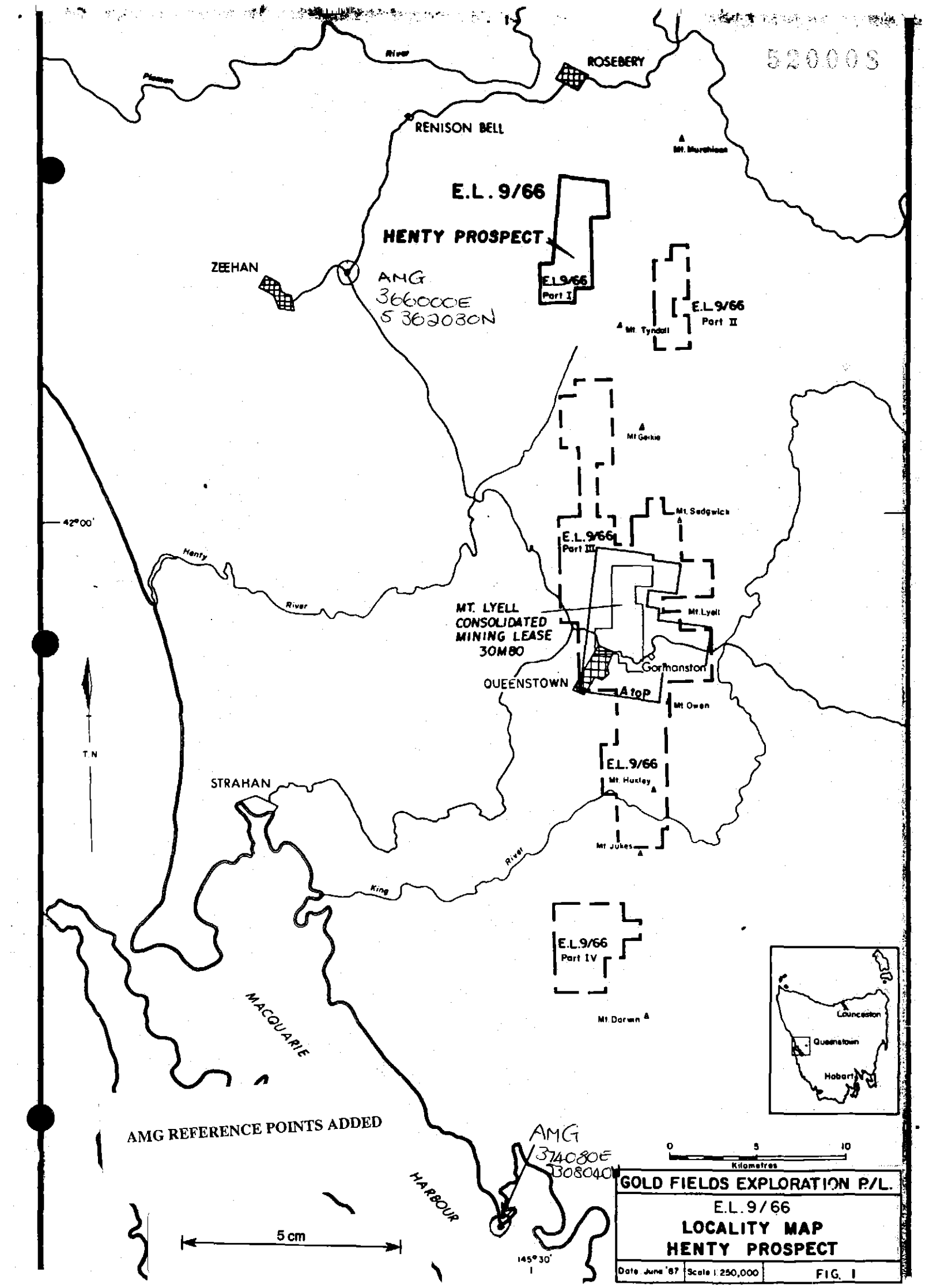
1. INTRODUCTION

The Henty Prospect is situated in the north western block (Part 1) of E.L.9/66 (Figure 1). This 18 km² block covers steep, forested slopes and glaciated valleys, ranging in altitude from 500m to 1100m ASL. The Henty Prospect lies alongside the Henty River, occupying the valley between Mt. Read and the Gooseneck (Figure 2).

The geology of the area is dominated by the Henty Fault, a fundamental structural break that extends for at least 60 km (Corbett, 1986) through Western Tasmania. The Fault strikes NNE, has a deformation zone up to 1 km wide (Corbett, 1986) and, in the licence area, separates older Central Sequence Volcanics in the west from younger Tyndall Group Volcanics in the east. At the Henty Prospect, an auriferous-sulphide-siliceous zone, ranging in thickness from several metres to several tens of metres, lies on the immediate footwall of the Henty Fault, within a coarse-medium grained volcaniclastic sequence of the Tyndall Group Volcanics. This auriferous zone has been extensively explored by diamond drilling since 1984.

Since the completion of the 1985/86 Annual Report, a major, almost continuous drilling programme has been underway at the Henty Prospect (producing 3915.9m in the last 11 months). In addition a small costean exposing some gold mineralisation was dug near the old "massive sulphide" costean. HP10 (373.6m), which was in progress at the time of writing of last year's report, was completed several kilometres to north of the Henty mineralised zone. Three further holes, one shallow (HP11, 237.0m) and two deep, with wedges, (HP12-12A, HP13-13A totalling 1433.0m) were drilled by the end of February, 1987.

In March 1987, a major programme of diamond drilling began (Roberts, 1987i) and is currently in progress. This programme involves drilling 22 holes, totalling 6,500m, testing the mineralised system along strike to the north and south, down-dip and in several close spaced infill patterns around previously obtained encouraging gold intersections. A number of holes in this programme, which is anticipated to finish by December 1987, have now been completed logged and assayed (HP14-21, totalling 1872.3m). Two more holes have been completed but have not been assayed

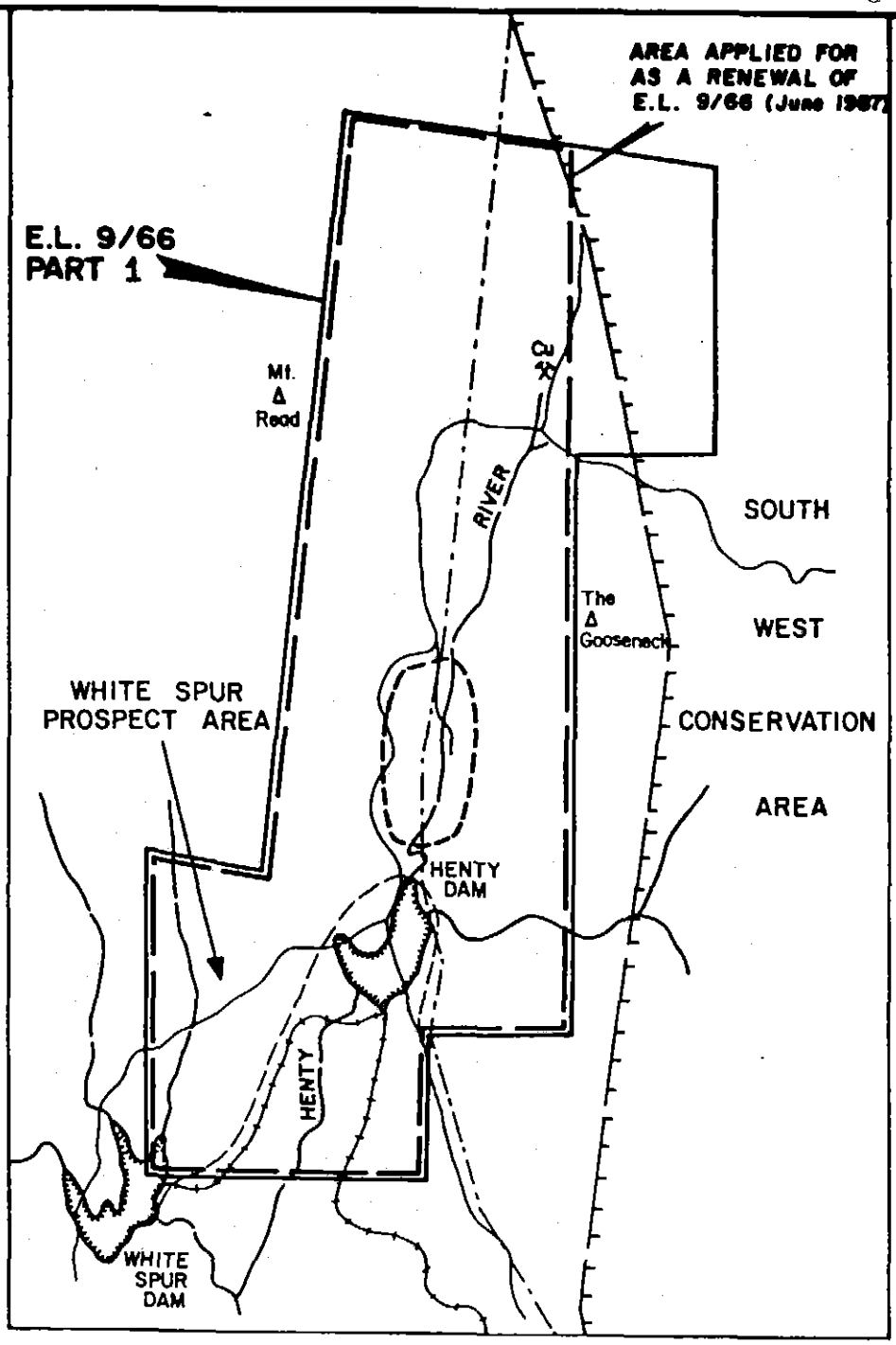

520008
ROSEBERY
RENISON BELL
Mt. Murchison
E.L. 9/66
HENTY PROSPECT
ZEEHAN
AMG
366000E
5362030N
E.L.9/66
Part I
E.L.9/66
Part II
Mt. Tyndall
Mt Gerkie
Mt. Sedgwick
42°00'
E.L.9/66
Part III
Henty
River
MT. LYELL
CONSOLIDATED
MINING LEASE
30M80
Mt. Lyell
Gormanston
QUEENSTOWN
A to P
Mt Owen
T.N
E.L.9/66
Mt. Huxley
STRAHAN
Mt Jukes
King
River
E.L.9/66
Part IV
Mt Darwen
MACQUARIE
HARBOUR
AMG REFERENCE POINTS ADDED
AMG
374080E
5308040N
145°30'
5 cm
Launceston
Queenstown
Hobart
0
5
10
Kilometres
GOLD FIELDS EXPLORATION P/L.
E.L. 9/66
LOCALITY MAP
HENTY PROSPECT
Date June '67
Scale 1:250,000
FIG. 1

or logged (HP22, 23) and two further holes are in progress at the time of writing this report (HP24, 25). A limited amount of preliminary metallurgical testwork has been carried out on some of the better intersections.

In June 1987, an application was made to the Mines Department for the renewal of a 15 km² E.L. covering the Henty Prospect (Roberts, 1987ii). This application (the area is shown on Figure 2) is currently under consideration.

Exploration at the White Spur Prospect (Figure 2) which lies within EL9/66 Part 1, comprised the drilling of one hole 360m deep, and a subsequent down hole EM survey. A report on the results of this and other work completed on EL9/66 Parts 2, 3 and 4 is given in FitzGerald (1987).

Construction of the Henty-Anthony Hydro-Electric Development Project began in 1985 and is now well underway. Access to the Henty and White Spur Dam sites via a firstclass partially sealed road has greatly assisted access to the Henty Prospect. Also, since writing last years Annual Report, the H.E.C. have begun construction of their proposed transmission line, by clear-felling a 40m wide strip along the proposed route of the new line. The H.E.C. will continue to be active in the Henty area until the completion of their scheme, in 1988. A plan illustrating the major elements of the Project in the area is shown as Figure 2.



LEGEND

- EXISTING ROADS
- NEW ROADS
- HENTY PROSPECT : AREA COVERING RECENT DRILLING ACTIVITY
- CANALS
- OLD WORKINGS
- NEW TRANSMISSION LINE
- S.W. CONSERVATION AREA BOUNDARY (AND EXISTING TRANSMISSION LINE)
- H.E.C. DEVELOPMENTS : LAKE AND DAM

5 cm

GOLD FIELDS EXPLORATION PTY. LIMITED

E.L. 9/66 PART 1

HENTY - ANTHONY H.E.C. DEVELOPMENTS

DRAWN BY : T.C.
DRAFTSMAN: T.G.D.S
DATE June '87
REVISIONS :
FILE NO

SCALE 1:50000 500 0 1000 Metres

FIG. 2

A 12548

2. LAND TENURE

E.L.9/66, the original licence covering the Henty Prospect, was granted in 1966. Over the next ten years, three further licences were granted in the Queenstown area; these were all amalgamated into one licence (EL9/66) in 1978. In 1983, the licence was reduced from 637 km² to 446 km² and in 1984 it was further reduced to the 124 km² currently held by RGC. As shown in Figure 1, the licence consists of four parts, the northwestermost one covering the Henty Prospect.

In 1976, E.L.9/66 became the subject of a Joint Venture Agreement with Getty Oil Development Ltd. In January 1985, Getty Oil ceased contributing to the Joint Venture and began diluting its interest. Later that year, Little River Goldfields N.L. acquired this interest in E.L.9/66 from Getty Oil and subsequently began contributing in July 1986. At present, equities in E.L.9/66 are:

RGC	64.7 %
LRG	35.3 %

Under the current E.L. tenure conditions, the licence (E.L.9/66) is due to be completely relinquished by 5th August, 1987. However a 15 km² area, covering most of E.L.9/66 Part 1, has been applied for renewal beyond this date. This application, the subject of a separate report, (Roberts, 1987ii) has already been submitted to the Mines Department and is presently under consideration.

3. EXPENDITURE

Expenditure on the Henty Prospect in the eleven months to the end of May 1987 amounted to $423,819. A total of $602,299 was spent on the entire Tyndall Licence (E.L.9/66 all parts) over the same period.

Expenditure details for the Henty Prospect are listed in Appendix 1. For details of expenditure on other parts of the licence, see FitzGerald (1987).

4. PREVIOUS EXPLORATION

A full, detailed description of the exploration history of the Henty Prospect is given in Cartwright (1986). Rather than repeat this, a brief summary of the exploration history is recorded below.

Exploration in the vicinity of the Henty Prospect began in 1968-69 when a bulldozed road into the area was established. This area was thought to be prospective for Mt. Lyell-type copper and base metal-massive sulphide deposits and a series of grids were cut, soil sampled and geophysically surveyed to pursue these targets between 1968-69 and 1973-74. Also, during this period, a small copper working was found to the north of the Prospect in 1972, and in 1973-74, a small costean exposed semi-massive sulphides at the Henty Prospect itself. Six diamond drill holes (HFZ1-6) were also completed in 1973-74, with one hole (HFZ6) intersecting a small massive sulphide lens.

Little further work was undertaken between 1974 and 1982, apart from several small geophysical surveys and the drilling of two further holes (HFZ7 and 8) south of the Prospect. In 1982-83, three holes (HFZ9-11) were completed near the old HFZ6 intersection. These holes failed to find significant base metal mineralisation, but did find a second, weakly base metal mineralised horizon. In 1983-84, a further hole (HFZ12) was drilled south of and deeper than the previous drilling, testing both mineralised zones with disappointing results. At the same time a re-assay for gold of a weakly base metal mineralisation zone in one of the original holes (HFZ5) produced very encouraging results and led to a major exploration effort to find economic gold mineralisation at the Henty Prospect.

In 1984-85 and last year (1985-86), exploration consisted of re-assaying of old drill core, several large bedrock sampling programmes, detailed and regional geological mapping, VLF-EM and dipole-dipole IP surveys and several large, diamond drilling programmes (HP1 to HP9) totalling 3355m. The results from these exploration programmes have confirmed the high prospectivity of the Henty, and led to the work completed this year (1986-87).

5. WORK COMPLETED AND RESULTS, 1986-87

A number of exploration recommendations were made in the 1985-86 Annual Report (Cartwright, 1986) and these were as follows:

(i) Continuation of drilling at the Henty Prospect; specifically one shallow hole to the north and two deep holes, with wedges (1500m total).

(ii) Preliminary metallurgical testwork of significantly gold mineralised intersections.

(iii) Exposure of the mineralised zone by costeaning over the HP9 intersection.

(iv) A detailed study of the mineralisation at the Henty Prospect using the available drill intersections.

(v) Additional diamond drilling (additional to (i) above) if sufficiently encouraging results were obtained (1000m budgetted).

Of these recommendations, the diamond drilling (i.e. (i) above) was completed, and, because encouraging results were obtained, the programme was significantly enlarged (to 6,500m) as per the proposals of Roberts (1987i) which cover the period from February to December, 1987. Also completed were the metallurgical work and the costean excavation although the latter was relocated over the HFZ5 intersection as the surface terrain over HP9 appears far more difficult to access. The study of the Henty mineralisation has been temporarily delayed by the increased level of drilling. Details of the work completed on the costean and the results of the completed drill holes are described in the following sections.

5.1 Costeaning

During September, 1986 a narrow costean was excavated across the postulated position of the Henty mineralised zone, on Line 49N of the Henty Grid. A bedrock geochemical anomaly consisting of elevated gold and base metal values was found on this line (FitzGerald and Pease, 1985), approximately 10m east of the old 1973 costean, which exposed a semi-massive sulphide lens. The new costean,

approximately 55m long, 1.5m wide and 1-2m deep (shown in Figure 3) was geologically mapped at 1:100 and the mineralised zone was sampled at 0.5m intervals and assayed.

The geology of the costean consists of a sequence of volcaniclastics from the Tyndall Group Volcanics grading eastwards into Newton Creek Sandstone (Figure 3). The latter unit is characterised by white, coarse, siliceous conglomerates and green, interbedded, fine grained shales, and is exposed in the easternmost 4-5m of the costean. The rest of the exposure is all Tyndall Group, with volcaniclastics of varying grain sizes from fine, gritty, fissile shales to coarse conglomeratic breccias.

Alteration in the Tyndall Group rocks increases from unaltered in the east, at the contact with the Newton Creek Sandstone, through weakly altered to strongly altered and mineralised near the old 1973 costean. Of most interest is the exposure of this mineralised sequence, which is generally altered to a sericite-pyrite-silica assemblage. The silica altered volcaniclastics form hard resistant lenses which are irregular and difficult to trace for any distance along strike. These siliceous pods and lenses are hosted by strongly sericitic and pyritic, fissile and foliated volcaniclastics. This assemblage is, in places, overprinted by a strong silicification-quartz veining event, usually with accessory coarse blebs and irregular veinlets of base metal sulphides (particularly chalcopyrite) and pyrite. All the outcrops are fresh, with only very thin (0.1m maximum) weathered surfaces developed (removed during excavation).

The mineralised section of the costean was channel sampled at 0.5m intervals using cold chisels and hammers. Approximately 1-2kg of material was taken for each sample, along the foot of the northern and southern walls of the trench (see Figure 3 for sample locations and assay results). The mineralisation was found to be gold anomalous on both sides, however it is difficult to correlate the individual 0.5m sample-assays, just as it is difficult to correlate the detailed geology/alteration across the two walls. The northern wall has a zone of 5.5m in length at 0.40g/t Au, with a high of 0.5m at 2.07g/t Au, and the southern wall has 6.0m at 1.12g/t Au with a high of 0.5m

at 7.30g/t Au. All of the other elements assayed for are anomalous throughout this zone (Figure 3).

5.2 Drilling

Eleven diamond drill holes (HP10 to 21) were completed between June 1986 and May 1987 for a total of 3915.9m. Since the completion of HP21, two holes, HP22 and HP23 have been drilled but are yet to be logged and assayed, and a further two holes, HP24 and HP25, are currently in progress. Drill hole HP10, which was in progress at the time of writing last years Annual Report, was targetted approximately 3km north of the Henty mineralised zone on an anomaly found in the 1985-86 dipole-dipole IP survey. This hole, and the subsequent hole, HP11 (back at the Henty Prospect proper), were drilled using the Longyear 38 rig of East Coast Drilling. The two deep, down-dip holes and their wedges, HP12-13A, were drilled using the Longyear 44 rig of Diamond Drilling Tas.

The decision to accelerate the drilling activity at Henty in February, 1987, resulted in both of the above rigs drilling together from early March. The Longyear 44 rig has completed holes HP16, 19 and 21 and the Longyear 38 rig has completed holes HP14, 15, 17, 18 and 20 since then. Both rigs are still drilling at the Henty Prospect.

All of the holes were survyed at regular intervals using an Eastman single shot camera and their collar positions were surveyed by Renison Ltd. The holes were logged and photographed, and sections of the core in the mineralised zone were split and assayed. Petrographic examinations by CMS were made from some of the intersections. Also, the HP12 intersection was sent to Warman Ltd. for preliminary metallurgical testwork. All the hole details are shown in Table 1 below. Full logs, profiles and assays are given in Appendix 2, petrographic descriptions in Appendix 3 and the metallurgical report in Appendix 4. The drill hole locations are shown in Figure 4.

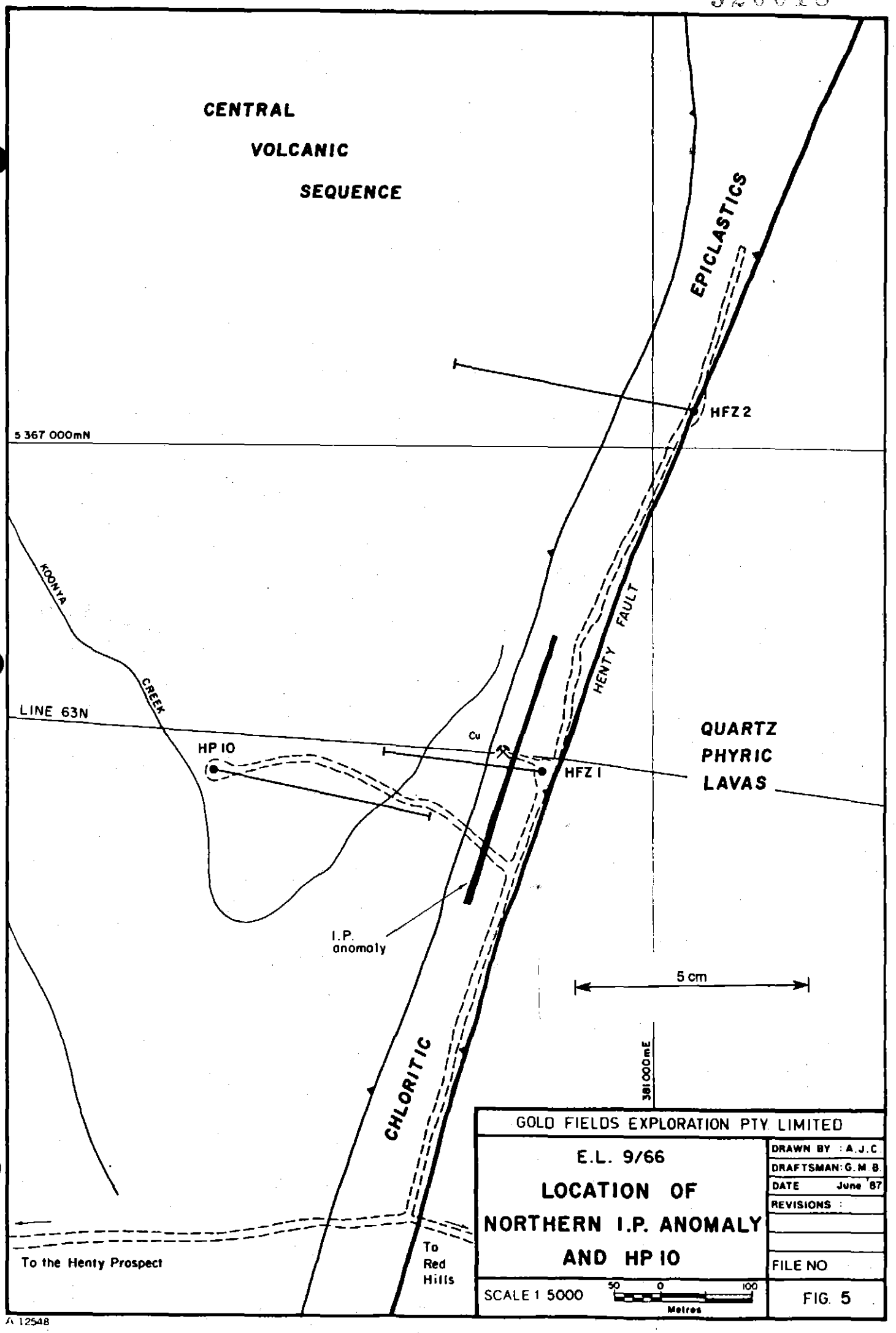
Hole No.	Collar Co-ordinates mN	mE	Collar RL* m	Dip °	Bearing (AMG)	Length m
HP10	5 366658-9	380570.6	708.1	-56	100	373.6
HP11	5 364469.9	380150.2	2605.9	-56	100	237.0
HP12	5 363985.3	379781.1	2644.4	-69	099	594.0
					(HP12A	85.0)
HP13	5 364143.0	379727.8	2643.4	-60	082	609.0
					(HP13A	146.0)
HP14	5 364252.3	380114.7	2606.1	-58	090	158.7
HP15	5 364249.6	380142.2	2611.9	-49	090	109.4
HP16	5 364557.2	380086.9	2607.3	-59	090	398.0
HP17	5 364300.8	380101.3	2595.6	-59	090	205.8
HP18	5 364245.0	380089.8	2598.8	-63	090	196.0
HP19	5 364152.7	379961.5	2589.8	-59	090	320.0
HP20	5 364359.7	380136.3	2610.9	-59	100	169.0
HP21	5 364128.1	379971.0	2586.0	-60	106	315.4

Table 1. Henty Diamond Drilling completed 1986-87.
*2000m has been added to all R.L.'s at the Henty Prospect.

5.2.1 Northern Drilling

Drill hole HP10 was designed to test anomalous dipole-dipole I.P. values from the 1985-86 survey (Cartwright, 1986), in an area approximately 3km north of the Henty Prospect. These anomalies (near Line 63N on the Henty Grid) occur next to the old copper workings (see Figure 2), tested earlier in the life of the licence by the first hole drilled at the Henty, HFZ1. The results of the HFZ1 drill hole were disappointing as were the results of re-assaying the core for gold in 1984-85 (FitzGerald and Pease, 1985). However, it was felt that the IP anomalies could be produced by deep auriferous pyritic mineralisation lying beneath the HFZ1 drill hole. Also, a weak, coincident bedrock geochemical anomaly occurs on Line 63N.

H.P.10 was drilled in an easterly direction (HFZ1 was drilled west) from the Central Volcanic Sequence through a series of chloritic epiclastics, into the Quartz Porphyry Lava (Figure


CENTRAL
VOLCANIC
SEQUENCE
EPICLASTICS
HFZ 2
5 367 000mN
KOONYA
CREEK
LINE 63N
HP 10
Cu
HFZ 1
HENTY FAULT
QUARTZ
PHYRIC
LAVAS
I.P.
anomaly
5 cm
381 000mE
CHLORITIC
To the Henty Prospect
To
Red
Hills
GOLD FIELDS EXPLORATION PTY LIMITED
E.L. 9/66
LOCATION OF
NORTHERN I.P. ANOMALY
AND HP 10
DRAWN BY : A.J.C.
DRAFTSMAN: G.M.B.
DATE June '87
REVISIONS :
FILE NO
SCALE 1 5000
50 0 100
Metres
FIG. 5

A 12548

5). The hole was designed to intersect the prospective unit, the chloritic epiclastics, approximately 100m beneath HFZ1. At 101.2m the hole passed through a small fault into the chloritic epiclastics. This unit is 220m wide (downhole) and is generally weakly pyritic. Gold and base metal values in this unit are low, the best intersection obtained being 4.0m of 0.43% and 0.027g/t Au between 286.4m and 290.4m. A 4.5m wide Henty Fault occurs on the footwall of th epiclastics, in contact with the quartz phyric lavas, which are moderately altered. The hole failed to intersect any significant auriferous mineralisation and therefore the potential of this northern section of the Henty Fault system has been reduced.

5.2.2 Henty Prospect Drilling

Drill holes HP11, HP12-12A and HP13-13A were completed in a drilling programme recommended in the 1985-86 Annual Report (Cartwright, 1986). HP11 intersected a moderately strongly mineralised volcaniclastic breccia at 2475mRL 20m horizontally from the Henty Fault footwall, and included a 0.8m thick (horizontally) brecciated, siliceous vein. This vein contained 1.67g/t Au on initial assay but a close examination of the split core left in the tray revealed a pinhead-sized speck of gold. A subsequent re-assay by screen-fire at Comlabs in Adelaide produced a grade of 3.77g/t Au. This HP11 result extended the known mineralisation approximately 100m further to the north and to shallower levels than the HP6 intersection (see Figures 6-8, longitudinal projections of the mineralised zone).

The HP12 and HP13 drill holes were designed to intersect the mineralised zone at depth (2200mRL - see Figures 6-8). HP12 was drilled beneath HP1 and HP13 was targetted 200m north of HP12. Both holes encountered mineralised volcaniclastic sequences cut by silicified-carbonate-sulphide vein systems. The vein in HP12 also contained purple fluorite and produced a very encouraging assay of 3.3m (horizontal) at 22.0g/t Au.

A wedged hole, HP12A also hit this gold mineralised vein, with an assay of 2.6m (horizontal) at 21.9g/t Au. The vein in HP13 has an unusual relatively thick 8.7m (horizontal) carbonate sequence on its footwall, and is as strongly developed as the vein in H.P.12. However it is only weakly gold mineralised, assaying at 2.4m (horizontal) at 1.14g/t Au. HP13A produced a similar result to its parent hole.

The gold mineralisation in HP12 was examined petrographically by CMS, who found that the gold is visibly linked with the base metal sulphide phases rather than pyrite, and that it ranges in size from 2μ to about 70μ (Appendix 3). On receipt of the CMS report, the remainder of the unsplit HP12 mineralised intersection was sent to Warman International Ltd. who metallurgically tested the core and found the following encouraging results (see Appenix 4 for details):

(i) A total recovery of approximately 90%, including around 30% by gravity and 60% by leaching (cyanidation).

(ii) Gold recovery in the cyanidation phase was relatively rapid and reagent consumptions were low.

One sample (T3843) was found to have a significantly lower grade (0.8g/t Au) by Warman than its original assay (30.3g/t) had indicated, and this is thought to be because a 20cm section of core from this sample was sent to CMS between the two assays. This piece of core was a highly siliceous, network quartz veined rock, that contained several coarse, visible gold grains.

The encouraging results of the drilling programme reported above, led to a proposal (Roberts, 1987i) for a greatly expanded drilling programme in 1987. This proposal involved the completion (by December, 1987) of 22 drill holes, totalling 6,500m, to test the mineralised system along strike to the north and south, down-dip and in several close-spaced infill patterns around previously obtained "economic" gold intersections. Drill holes HP14, HP15, HP17, HP18 and HP20 were all drilled

as part of a 50m square pattern around the HP9 (1.3m horizontal at 25.8g/t Au) intersection (Figure 7). HP14, HP15 and HP18 all encountered weakly-moderately mineralised coarse volcaniclastic sequences either hard up against the Henty Fault footwall or within the Fault itself. Minor silicified zones and narrow quartz veins also occur in the mineralised zones. Gold assaying from the mineralised zones in these holes produced disappointing results; the best assays obtained being:

HP14: 2.1m (horizontal) at 2.17g/t Au
HP15: 1.1m (horizontal) at 6.06g/t Au
HP18: 0.8m (horizontal) at 1.28g/t Au

The two other holes completed in this pattern, HP17 and HP20, also intersected weakly-moderately mineralised zones. However both holes obtained thin (1.6m-2.2m wide) massive pyrite bands on the footwall of these mineralised zones, around 20m horizontally away from the Henty Fault. These massive pyrite bands have a gangue of quartz and abundant carbonate, and contain minor base metal sulphides. Although the two intersections are very similar in appearance, the HP17 intersection contains significant gold (1.4 horizontal at 13.85g/t Au) white HP20 is relatively gold poor (1.6m horizontal) at 1.65g/t Au). Samples of the intervals from these two holes have been sent to CMS for comparative petrography to try to see why one intersection should be good and the other poor. At the time of writing this report, only the HP17 results had been received. They revealed that gold is present as fine grained (1-30μ) particles associated with fine blebs of chalcopyrite, within the massive pyrite (Appendix 3).

Drill hole HP16 was designed to test for northern extensions (around 100m north of HP11) of the mineralised zone at the 2400mRL. A sequence identical to that hosting the mineralised zone to the south was found in the footwall of the Henty Fault, but this was very weakly mineralised. Gold assays through this section were all below detection and it appears that the mineralised zone is effectively absent. H.P.16 continued

drilling past the host sequence until another fault (probably the Great Lyell Fault) was found at 2300mRL. This fault separates Tyndall Group volcaniclastics (hanging wall) from quartz phyric lavas and intrusives (also Tyndall Group) - which are altered. No significant gold mineralisation or assay results were recorded from this fault or lava sequence, however minor base metal sulphides were observed within the fault.

Two drill holes, HP19 and HP21, have been completed in the 50m square pattern around the HP4 intersection which obtained 1.8m (horizontal) at 23.9g/t Au and deeper in the hole 3.6m (horizontal) at 9.9g/t Au (see Figure 7). Both holes cut wide, strongly mineralised systems, starting from the Henty Fault footwall. Pyrite and base metal sulphides are strongly developed, and both intersections resemble the HP4-4A intersections. Of the two recently drilled holes, HP19 has the visibly stronger mineralised zone and this also shows in the gold assays of the two holes. The best assays are:

HP19: 3.6m (horizontal) at 9.95g/t Au
HP21: 1.0m (horizontal) at 1.45g/t Au

A summary of all the drilling results is given in Table 2 (at a 0.5g/t Au cut off) and Table 3 (at a grade thickness cut off of 8g/t-metres with a minimum grade of 4g/t Au). A series of longitudinals showing the positions of all the holes in the gold mineralised zone is shown on Figures 6 - 8.

Hole No.	Interval (m) From	To	Horizontal Width (m)	Fire Assay Au (g/t)
HFZ 5	125.0	130.9	5.5	7.8
HFZ 6	114.6	115.2	0.5	2.0
	129.5	132.6	2.6	0.6
HFZ 9	261.9	262.9	1.0	1.4
HFZ10	208.9	209.6	0.6	7.2
	240.6	243.6	2.7	2.6
HFZ12	451.5	457.8	4.5	0.6
HP1	299.0	300.0	1.0	0.7
	309.0	310.0	1.0	1.0
	312.0	313.0	1.0	1.1
	326.0	328.0	1.9	2.6
	329.0	330.0	1.0	1.4
HP2	459.0	461.0	2.1	4.3
	519.0	520.0	1.0	0.5
HP4	228.0	229.0	0.9	0.7
	232.0	234.0	1.8	0.8
	235.0	238.0	2.7	17.6
	246.0	248.0	1.8	1.3
	249.0	250.0	0.9	1.4
	256.0	262.0	5.5	7.7
HP4A	234.0	236.0	1.8	10.2
	246.0	247.0	0.9	1.8
	248.0	250.0	1.8	1.1
	255.0	257.0	1.8	0.9
	258.0	262.0	3.6	3.4
HP5A	250.4	251.4	0.9	0.6
HP6	273.8	276.8	2.6	4.2
	277.8	278.8	0.9	0.9
HP7	364.0	365.0	0.8	1.8
	371.0	376.0	3.8	1.9
	406.0	408.0	1.5	0.8
HP8	105.2	106.2	1.0	2.2
HP9	128.0	131.0	2.0	17.6
HP11	161.9	162.9	0.8	3.8
	173.3	173.8	0.4	0.8

Hole No.	Interval From	To	Horizontal Width (m)	Fire Assay Au (g/t)
HP12	551.0	555.7	4.2	17.6
	558.5	560.3	1.6	0.5
	561.2	563.7	2.2	1.2
	575.0	576.0	0.9	0.6
HP12A	550.1	554.3	3.7	16.1
	556.3	557.3	0.9	0.5
	559.3	561.3	1.8	2.2
	562.3	563,3	0.9	0.6
	574.0	575.0	0.9	1.2
HP13	585.0	586.8	1.5	1.7
HP13A	584.3	585.3	0.8	0.7
	586.3	587.3	0.8	1.8
HP14	119.6	121.2	1.4	0.7
	125.0	126.0	0.9	1.2
	127.7	128.6	0.8	1.5
	129.2	130.2	0.9	3.9
HP15	71.8	74.0	2.1	0.9
	76.1	76.6	0.5	1.2
	85.3	86.4	1.1	6.1
	90.3	91.0	0.7	0.6
HP17	154.7	155.7	0.9	2.3
	157.8	159.4	1.4	13.9
HP18	145.6	146.6	0.8	1.0
	148.6	149.8	1.0	1.0
	151.8	152.8	0.8	1.3
HP19	264.6	265.6	0.9	2.5
	270.6	271.6	0.9	1.5
	280.1	285.1	4.5	8.5
	286.1	289.1	2.7	1.1
HP20	140.0	141.0	0.7	1.9
	142.0	143.0	0.7	1.2
	143.7	145.9	1.6	1.7
HP21	245.3	246.3	0.9	0.7
	276.6	277.6	0.9	0.6
	253.3	254.3	0.9	0.6
	259.3	260.3	1.0	1.5
	275.6	276.6	0.9	0.6
	305.0	307.0	1.7	0.8

Table 2 Drilling results from completed holes at the Henty Prospect, using a 0.5 g/t Au cut off

Hole No.	Interval From	Interval To	Horizontal Width (m)	Fire Assay Au (g/t)
HFZ 5	125.0	129.6	4.3	10.0
HP 2	459.0	461.0	2.1	4.3
HP 4	235.0	237.0	1.8	23.9
	256.0	260.0	3.6	9.9
HP 4A	234.0	236.0	1.8	10.2
	258.0	260.0	1.8	4.5
HP 6	273.8	276.8	2.6	4.2
HP 9	128.0	130.0	1.3	25.8
HP 12	552.0	555.7	3.3	22.0
HP 12A	550.1	553.0	2.6	21.9
HP 17	157.8	159.4	1.4	13.9
HP 19	280.1	284.1	3.6	9.9

Table 3 Drilling results from completed holes at the Henty Prospect, using an 8g/t-metres grade-width cut off and a minimum grade of 4g/t Au.

6. CONCLUSIONS

The 1986-87 exploration programmes at the Henty Prospect comprised two main parts; costeaning and diamond drilling. The costeaning undertaken was to expose the mineralisation at the Henty Prospect so that an appreciation of detailed geology of this mineralised zone could obtained. The drilling was designed firstly to test extensions of the known mineralisation, in particular to the north and down dip, and secondly to begin infill drilling at shallow levels to improve definition of the extent and grade of the mineralised zone.

The results of the costeaning highlighted the already suspected patchy and semi-continuous nature of the gold mineralisation at the Henty. The variance in geology, grades and thicknesses from one side of the costean to other, only 1.5-2.0m apart, showed how drill holes and wedged holes can also be different in geology, grades and thicknesses. A feature of the mineralisation exposed in the costean, is the lensoid nature of the higher grade siliceous-sulphidic sections. The costean also exposed Newton Creek Sandstone in an area of poor and non-existent outcrop. The contact between Newton Creek Sandstone and Tyndall Group was thought to occur further to the east (Cartwright, 1986) near the summit of The Gooseneck, but with this definite contact exposed at the end of the costean, the Tyndall Group is obviously a thinner sequence than previously thought.

The results of the drilling programme completed to date are mixed. Three holes (HP12-12A, HP17, HP19) out of a total of eleven drilled at the Henty Prospect produced good gold intersections. The rest of the holes (except HP16) all intersected the mineralised zone, but failed to obtain encouraging gold grades. Of the drill holes to test extensions of the mineralisation, HP11, HP12-12A and HP13-13A were all successful, particularly HP12-12A which produced the best gold intersection recorded at the Henty. HP16 failed to intersect any significant mineralisation and may well have found the northern limit (at that particular RL) of the mineralised system. Also, the fault encountered deeper in the hole, is probably the Great Lyell Fault and this could possibly add another constraint to the extension of the mineralisation to the north at depth. A degree of geological continuity within the mineralised zone has been achieved from several of the holes from the 50m pattern drilling. However,

despite the geological similarities of these intersections, the gold grades obtained were good from some and poor from others. The reasons for this are poorly known at this stage, but, with continued close-spaced drilling and petrographic work, the grade variations may become understood. The results of the preliminary metallurgical testwork on the HP12 core were most encouraging and further testwork is planned (Roberts, 1987i) for the other good intersections.

E.L.9/66 is due to be relinquished in August, 1987. It is felt that the Henty Prospect offers potential for a major gold discovery and consequently an application for a renewal of E.L.9/66 over the Henty Prospect has been made (Roberts, 1987ii). The remainder of the licence will be relinquished (FitzGerald, 1987).

No recommendations for future work at the Henty Prospect are made in this report, as the drilling programme proposed by Roberts (1987i) is currently in progress and is not envisaged to be completed before December, 1987.

7. REFERENCES

CARTWRIGHT, A.J., 1986: E.L.9/66-Part 1, Tyndall Area, Tasmania. Annual Report, 1985/86. Unpublished GFEL Report No. T/86/5 June 1986.

CORBETT, K.D., 1986: The geological setting of mineralisation in the Mt. Read Volcanics. In the Mt. Read Volcanics and Associated Ore Deposits, A Symposium, Nov. 1986 pp1-10.

FITZGERALD, F.G., 1987: E.L.9/66, Tyndall Area, Tasmania. Relinquishment Report, June 1987. Unpublished GFEL Report No. T/87/7 June 1987.

FITZGERALD, F.G., and PEASE, C.F.D., 1985: E.L.9/66 Tyndall Area. Annual Report 1984-85. Unpublished GFEL Report No. T/85/4 July 1985.

ROBERTS, P.A., 1987i: E.L.9/66 Tyndall Area. Proposed Work Programs and Budgets; Jan.-June 1986-87, July-Dec. 1987-88. Unpublished GFEL Report, Feb., 1987.

ROBERTS, P.A., 1987ii: Submission to the Tasmanian Mines Department. E.L.9/66 Tyndall Area, Application for Renewal of E.L.9/66 over Henty Gold Project Area. Unpublished GFEL Report No. T/87/5, June 1987.

GOLD FIELDS EXPLORATION PTY. LIMITED

APPENDIX 1

EXPENDITURE 1986-87

GOLD FIELDS EXPLORATION PTY. LIMITED

520029

HENTY PROSPECT

EXPENDITURE FOR 11 MONTHS TO END OF MAY, 1987

	$
Salaries, Wages and On Costs	64,058
Travel and Accomodation	1,678
Consultants and Contractors	36,453
Assaying	12,694
Drilling	267,530
Stores	2,460
Vehicles/Plant	7,862
Tenement Costs	462
Computing	1,095
Field Office Costs	3,205
Administration Charges	26,322
TOTAL	$423,819

APPENDIX 2

DIAMOND DRILL HOLES HP10-21,

LOGS AND ASSAYS

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

520031

HOLE NO. : HP 10
STATE : TASMANIA

PROJECT	TYNDALL
DESIGNED BY	A.J. Cartwright
LOGGED BY	A.J. Cartwright
COMMENCED	16.5.86
COMPLETED	1.7.86

PURPOSE

To test a dipole-dipole IP anomaly for sulphidic gold mineralisation beneath HFZ1.

LOG SUMMARY

GENERAL COMMENTS

HP10 encountered 101.2m of unaltered hanging wall volcaniclastics before intersecting a sequence of sulphidic, fine grained epiclastics. At 323.2m the Henty Fault occurs and at 333.7m the hole passed into quartz-phyric volcanics.

ASSAY SUMMARY

INTERVAL														COMMENTS
From	To													

LOCATION

NORTHING	5 366 659
EASTING	380 571
R.L.	708.1
GRID	AMG
LENGTH	373.6m

HOLE CONDITION

SIZE	
Hole Size	Depth
HQ	0.0-39.0
NQ	39.0-373.6

SIGNIFICANT CORE LOSS INTERVALS		
From	To	% Lost

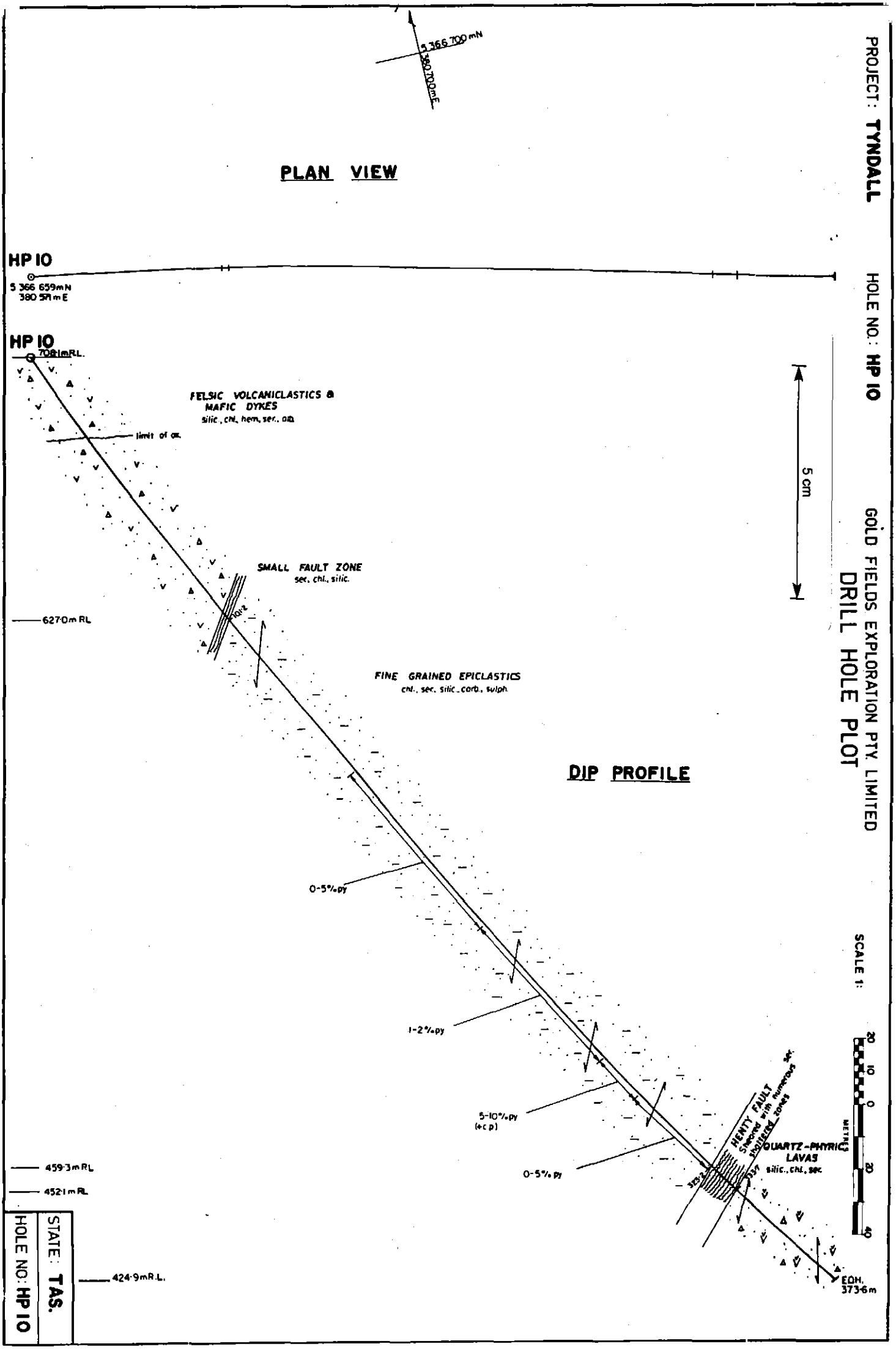
POOR GROUND CONDITION ZONES		
From	To	Condition
323.2	333.7	Henty Fault. Sheared and
		shattered rock fragments and
		unconsolidated clays.

HOLE CONDITIONS AFTER COMPLETION

Hole is open, but unlined. All casing has been removed.

SURVEY DATA (Note Bearing type must be same as Project Grid Type)

SURVEY			INTERVAL			VERTICAL		HORIZONTAL		SURVEY			INTERVAL			VERTICAL		HORIZONTAL	
Depth	Bearing	Dip	From	To	Distance	D.Sin.Dip	R.L.	D.Cos.Dip	Prog.Total	Depth	Bearing	Dip	From	To	Distance	D.Sin.Dip	R.L.	D.Cos.Dip	Prog.Total
0.0	100	56.0	0.0	25.0	25.0	20.7	687.4	14.0	14.0										
50.0	100	53.0	25.0	74.5	49.5	39.5	647.9	29.8	43.8										
99.0	101	51.5	74.5	124.5	50.0	39.1	608.8	31.1	74.9										
150.0	103	51.0	124.5	175.0	50.5	39.2	569.6	31.8	106.7										
200.0	104	50.0	175.0	225.0	50.0	38.3	531.3	32.1	138.8										
250.0	104	48.5	225.0	275.0	50.0	37.4	493.9	33.1	172.0										
300.0	104	45.5	275.0	325.0	50.0	35.7	438.2	35.0	207.0										
350.0	104	43.5	325.0	361.5	36.5	25.1	433.1	26.5	233.5										
373.0	104	42.5	361.5	373.6	12.1	8.2	424.9	8.9	242.4										


5 366 700 mN
380 700 mE
PLAN VIEW
HP 10
5 366 659mN
380 591 mE
HP 10
708.1mRL.
FELSIC VOLCANICLASTICS &
MAFIC DYKES
silic., chl., hem., ser., cab.
limit of ox.
5 cm
SMALL FAULT ZONE
sec., chl., silic.
627.0m RL
FINE GRAINED EPICLASTICS
chl., sec., silic., carb., sulph.
DIP PROFILE
0-5%py
1-2%py
5-10%py
(+c p)
0-5% py
HEMITY FAULT
Sheared with numerous
ISOLATED ZONES
QUARTZ-PHYRIC
LAVAS
silic., chl., sec
459.3m RL
452.1m RL
424.9mR.L.
EOH.
373.6m
PROJECT: TYNDALL
HOLE NO.: HP 10
GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL HOLE PLOT
SCALE 1:
METRES
20
10
0
20
40
STATE: TAS.
HOLE NO: HP 10

520039

520033

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: TYNDALL HOLE NUMBER: HP 10 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				
0.0	101.2			FELSIC VOLCANICLASTICS AND MAFIC DYKES METAMORPHOSED TO A LOW GRADE QUARTZ-CHLORITE-HEMATITE-ALBITE ASSEMBLAGE. UNALTERED EXCEPT FOR A FEW SERICITIC FRACTURE ZONES. FAULT CONTACTED WITH THE UNIT BELOW.				
101.2	323.2			DARK GREEN STRONGLY FOLIATED EPICLASTICS, VERY FINE GRAINED AND LAMINATED. ALTERED TO CHLORITE AND STRONGLY QUARTZ-CARBONATE VEINED. PYRITE IS COMMON THROUGHOUT.				
323.2	333.7			HENTY FAULT. MYLONITIC WITH STRONGLY DEVELOPED SERICITIC CRUSH ZONES CONSISTING OF ROCK FRAGMENTS AND SOFT CLAYS.				
333.7	373.6			QUARTZ PHYRIC VOLCANICS. PREDOMINANTLY LAVAS AUTO-BRECCIATED WITH MINOR VOLCANICLASTICS. OVERALL VERY WEAKLY ALTERED WITH SMALL SILICIFIED ZONES.				
				DETAILED LOG				
				0.0 - 101.2 PINK-GREEN FELSIC VOLCANICLASTICS CUT BY THIN MAFIC DYKES. UNALTERED.				
0.0	32.0	30.0	94	Green-brown moderately strongly weathered fine grained volcani-clastics. Highly fractured with abundant limonitic coatings.				
(0.0-5.5, 3.5m recovered)				The core is also pale pink-grey incolour where more felsic volcanics occur. The rock is metamorphosed to a chlorite-albite-quartz-hematite assemblage, with quartz veins commonly developed. At 24.0 the core becomes less fractured and slightly less weathered. Large patches of unfractured and unweathered rock occur between crumbly limonitic zones.				

520034

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: TYNDALL HOLE NUMBER: HP 10 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
32.0	101.2	69.2	100	Pink-greenfelsic gritty volcaniclastics (pyroclastics) - massive, metamorphosed as above and cut by thin, mafic, fine grained dykes. Unweathered and weakly fractured. Metamorphic quartz veins are common in the felsic unit. Below 50.0, the mafic dykes become abundant. Generally they are 1-5m thick. This unit is unaltered overall. The small, angular white fragments are feldspar and quartz crystals. At 87.0, the core becomes slightly sericitic with thin, wispy veinlets of pale brown sericite being developed. At 90.0, veins of magnetite occur (metamorphic veins) with minor weak, disseminated pyrite. The sericite increases to 97.0 where the core turns bright red and is strongly sericitic. At 98.2m it becomes bleached and soft, and a small (10 cm) pug zone is developed at 98.7m. At 99.2 the core becomes grey-green again, but is still sericitic. The rock is strongly fractured throughout. At 101.0 20 cm of intense fracturing and quartz veining occurs.				
				101.2 - 323.2 LAMINATED FINE-GRAINED EPICLASTICS. FOLIATED AND HIGHLY CHLORITIC. SULPHIDIC IN PLACES.				
101.2	223.1	121.9	100	Dark green, chloritic, fine grained volcaniclastics. Sheared and foliated at 45° CA, in sharp contact with the fault sequence above. The unit is strongly fractured and contains numerous irregular quartz-carbonate veins. Minor zones of pale pink fine grained rock also occur. Overall the unit is only weakly altered. At 125.4, the rock is highly fractured, with the core being shattered into small pieces. Many of the fractures are pyritic. This strong fractured zone ends at 134.2, however the rock is still fairly strongly fractured and veined. The veining is irregular; networks are developed and thick vein-breccia zones are also common. Pale green sericitc, very fine grained sediment lenses often occur. Below 142.0, the core is strongly fractured again, down to 147.2. Beneath this zone, between 148.0 and 151.0, the core is strongly silicified (and hematitic - creating a pink colour) and sericitic in places with several metamorphic (thick) quartz-chlorite veins developed. Within the zone, at 149.5 a 20 cm pug/cla...				

520035

GOLD FIELDS EXPLORATION PTY. LIMITED

DEV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP 10

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA (ppm)												
From	To	m	%		Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi		
				Large irregular lenses of carbonate (some pink coloured) are common	T3766	161·0	162·0	100	<0·008	<0·5	2	30	10	115	<10		
				throughout this sequence (carbonates also occur as wispy veinlets	7		163·0		0·017	"	1	10	5	120	"		
				- with quartz).	8		164·0		<0·008	"	"	35	10	"	"		
				Below 161.0, the core is fractured, strongly chloritic and contains	9		165·0		"	"	<1	10	5	145	"		
				disseminated pyrite, 5% by vol. Also, deep red hematite coats	T3770		166·0		"	"	"	5	<5	130	"		
				many of the fracture surfaces. This ends at 169.0.	1		167·0		"	"	1	10	20	115	"		
				The core is only weakly fractured beneath this zone, but remains	2		168·0		"	"	2	20	10	135	"		
				pyritic with small stringers and coarse disseminations up to 5% by	3		169·0		0·817	"	3	80	5	120	"		
				vol. The chlorite-carbonate-quartz alteration/metamorphism is													
				still developed. The sulphide contact is very variable, but generally	T3774	171·0	172·0	100	<0·008	"	1	35	5	125	"		
				low, around 0-1% by vol. Where the quartz-carbonate veining													
				is developed, halos of pink silicification surround the vein networks.	5	174·0	175·0		"	"	3	85	"	80	"		
				In places the epiclastics are medium grained with small fragments													
				of darker green chloritic lithics.	6	177·0	178·0		"	"	2	10	10	95	"		
				Betwen 217.0 and 220.0 the pyrite content increases to 5% by													
				vol. Also, below 217.0, the rock becomes an alternating sequence	7	180·0	181·0		"	"	1	15	5	110	"		
				of lamianted (weakly) very fine grained sediments with coarser													
				grittier sequences. This grades into the unit below.	8	183·0	184·0		"	"	"	10	"	75	"		
223.1	277.4	54.3	100	Laiminated dark/pale green very fine grained epiclastics. Altered	9	186·0	187·0		"	"	"	"	"	140	"		
				and veined as above, with fine disseminated pyrite. Overall, the													
				rock is slightly more sericitic and foliated than above. The sericite	T3780	189·0	190·0		"	"	2	30	<5	"	"		
				occurs as wispy veinlets. Pink hematitic quartz-carbonate brecciated,													
				thick veins are developed irregularly. Sulphides are 1-2% and the	1	192·0	193·0		"	"	1	45	"	145	"		
				foliation is at 47° CA. The unit is weakly fractured.													
				At 233.2, a 1.3m zone of intensely chloritic-strongly fractured	2	195·0	196·0		"	"	2	55	"	95	"		
				rock occurs.													
				Between 236.5 and 240.0, large coarse grained splashes and lenses	3	198·0	199·0		"	"	2	60	5	120	10		
				of pyrite occur.													
				Small, thin clayey-puggy fracture zones are present below this	4	201·0	202·0		"	"	1	45	"	125	<10		
				zone.													
				Between 247.5 and 248.6 the core is strongly fractured with two	5	204·0	205·0		0·090	"	<1	10	<5	90	"		
				separate 10-20 cm clayey pug-fault zones developed. (These appear													
				to be post-alteration/metamorphism structures).	6	207·0	208·0		0·025	0·5	1	5	10	140	"		
				Below 250.0, patches of coarse grained epiclastics begin to reappear.													
				Between 265.0 and 268.0, splashes of cahlcopyrite accompany the	7	210·0	211·0		<0·008	<0·5	<1	10	<5	160	"		

520036

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP 10

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (ppm) Au	Ag	As	Cu	Pb	Zn	Bi
				pyrite. Total sulphides are still only 5% by vol., however. Chalcopyrite	T3788	213·0	214·0	100	0·008	<0·5	1	5	<5	170	<10
				is also present as very small scattered grains beneath this zone.											
				Sericite is also more abundant (slightly) throught the chalcopyrite-	T3789	216·0	217·0	100	0·017	"	"	10	"	185	"
				bearing zone, down to the end of this unit.	T3790		218·0		<0·008	"	"	30	10	140	"
					1		219·0		"	"	"	10	<5	110	"
277.4	292.4	15.0	100	Laminated dark/medium green very fine grained epiclastics, very	3	219·0	220·0		"	"	2	20	"	"	"
				similar to above except more sericitic and sulphidic. Veining,											
				foliation and fracturing are all the same as above, however coarse,	T3794	222·0	223·0	100	"	"	<1	5	"	115	"
				pyritic (+ minor chalcopyrite) blebby bands occur, parallel to foliation											
				at 55°CA. This sulphide development is patchy, up to 10% by vol.	5	225·0	226·0		"	"	1	<5	"	60	"
				The quartz-carbonate veining (with which most of the sulphide											
				is associated) is stronger in this zone and is also developed parallel	6	228·0	229·0		0·008	"	12	15	5	190	"
				to foliation. Both thick metamorphic quartz-hematite veins and											
				thin clayey fractured seams are present. Coarse pyrite-chalcopyrite	7	231·0	232·0		0·025	"	20	10	"	245	"
				splashes are developed with quartz at 288.0, 287.2, 289.9, 290.2,											
				291.0 and 292.0.	8	234·0	235·0		0·008	"	7	5	"	200	"
292.4	323.2	30.8	100	A return to weakly sulphidic epiclastics. Laminated and fine	T3799	236·0	237·0	100	"	"	16	10	"	220	"
				grained as before, except that the sulphide content is lower, around	T2848		238·0		0·017	"	38	20	20	"	"
				1-2% by vol. Veined, fractured and altered as in previous units.	9		239·0		"	"	34	55	15	235	"
				Foliation is at 60°CA. In places the sulphide content is higher, up	T2850	239·0	240·0		0·025	"	15	12	"	240	"
				to 5%. This sequence is much less intensely veined than the											
				previous unit.	T2851	242·0	243·0	100	<0·008	"	2	20	10	165	"
				The core becomes sericitic (dark green) and fractured (fissile											
				fractures) below 311.0. The fractures are closely spaced and sub-parallel	2	245·0	246·0		"	"	3	25	5	240	"
				to the laminations. Only a few rare quartz veins now cut the											
				sequence. The sulphides are as above.	3	248·0	249·0		"	"	11	30	25	175	"
				Below 319.0 the rock is highly fractured and shattered, to the											
				end of the unit.	4	251·0	252·0		"	"	10	35	30	315	"
				323.2 - 333.7 HENTY FAULT. WEAKLY DEVELOPED MYLONITE	5	253·0	254·0		"	"	16	15	40	285	"
				AND NUMEROUS, SERICITIC, THICK, PUGGY-											
				CRUSH ZONES.	6	256·0	297·0		0·008	"	20	25	20	240	"
323.2	323.8	0.6	100	Pale green highly sericitic, sheared, soft fine grained volcaniclastics	7	259·0	260·0		<0·008	"	12	15	<5	165	"
				containing several pug zones of completely shattered rock and clay.											

520037

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP 10 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (ppm) Au	Ag	As	Cu	Pb	Zn	Bi
				In places the clays are bright green, possibly batcheloritic. This unit	T2858	262·0	263·0	100	0·017	<0·5	21	30	5	195	<10
				is mylonitic with pale green/white bands.											
					T2860	265·0	266·0	100	"	"	32	2350	30	225	"
323.8	327.4	3.6	100	Pink highly sheared, fractured and sericitic fine grained volcanics.	1		267·0		0·008	"	22	1150	15	205	"
				More competent than the previous unit, but still sheared and fractured,	2		268·0		0·017	"	"	1100	"	225	"
				Unsulphidic.	3		269·0		<0·008	"	16	110	5	205	"
					4		270·0		"	"	19	45	15	200	"
327.4	333.7	6.3	100	Pale pink-grey highly sheared, soft, banded (light and dark) mylonitic	5		271·0		"	"	"	135	10	185	"
				volcanics. Quartzose segregations occur as in the unit before	6		272·0		"	"	18	95	"	200	"
				last. The core is highly sericitic and many puggy zones occur (up	7		273·0		"	"	15	145	"	190	"
				to 0.5m wide). These consist of completely shattered, rounded	8		274·0		"	"	14	65	5	210	"
				rock fragments in an unconsolidated clay matrix.	9		275·0		0·008	"	24	45	10	180	"
				From 330.5 to 333.5, a continuous pug zone occurs. The last	T2871		276·0		"	"	35	170	"	210	"
				0.2m of this unit (333.5-333.7) is a very fine grained grey, soft	2		277·4		<0·008	"	18	25	"	225	"
				mud. There is a sharp contact with the unit below.	3		278·4		0·350	"	13	260	"	230	"
					4		279·4		<0·008	"	1	15	"	235	"
				333.7 - 373.6 QUARTZ PHYRIC FINE GRAINED LAVAS, AUTO-	5		280·4		"	"	2	30	5	210	"
				BRECCIATED WITH MINOR VOLCANICLASTICS.	6		281·4		"	"	11	40	15	235	"
				SILICIFIED IN PLACES.	7		282·4		0·025	"	22	120	10	255	"
					8		283·4		0·008	"	8	25	"	225	"
333.7	341.0	7.3	100	Pale grey, hard, strongly silicified volcanics. This unit is particularly	9		284·4		0·050	"	26	"	"	200	"
				silicified over the upper 2.0m, obscuring any original textural	T2880		285·4		0·008	"	8	45	<5	"	"
				features. Below this it appears to be a quartz-phyric rock. The	2		286·4		0·017	"	13	335	5	260	"
				silicification is mass-flooding, veins are rare. The core is	3		287·4		"	"	110	3500	20	230	"
				moderately fractured and is weakly foliated at 60°CA.	4		288·4		0·032	"	170	4350	40	225	"
					5		289·4		0·017	"	14	2950	10	240	"
341.0	373.6	32.6	100	Weakly silicified and sericitic quartz phyric volcanics. Auto-brecciated	6		290·4		0·025	"	7	6450	"	265	"
				and crudely banded in places. Still silicified although not as intensely.	7		291·4		<0·008	"	3	130	5	270	"
				In places very fine sulphides are present (0-1% by vol.). This unit is	8	291·4	292·4		0·008	"	8	590	10	255	"
				weakly fractured, veins are rare and foliation occurs where the											
				unit is banded. It appears to be a mixture of lavas (predominantly)	T2889	294·0	295·0	100	<0·008	"	1	730	15	315	"
				and pyroclastic/epiclastic sequences. The former are more silicified											
				while the latter are commonly chloritic. The lavas are strongly	T2890	297·0	298·0		"	"	"	100	"	295	"
				quartz phyric.											
				At 362.0, foliation in the volcaniclastics is 45°CA.	1	300·0	301·0		"	"	"	5	"	270	"
				END OF HOLE 373.6m											

520038

GOLD FIELDS EXPLORATION PTY. LIMITED

OLD. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.10 Page: 6

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (ppm) Au	Ag	As	Cu	Pb	Zn	Bi
					T2892	303·0	304·0	100	0·008	<0·5	5	15	<5	170	<10
					3	306·0	307·0		0·025	"	19	10	"	155	"
					5	309·0	310·0		<0·008	"	12	105	5	170	"
					6	312·0	313·0		"	"	5	10	<5	190	"
					7	316·0	317·0		0·017	"	3	420	5	155	"
					8	318·0	319·0		0·008	"	2	20	"	150	"
					9	321·0	322·0		<0·008	"	"	5	<5	140	"
					T2900	324·0	325·0		"	"	4	"	"	30	"
					T3801	328·0	329·0		0·023	"	3	"	"	55	"
					2	331·0	332·0		0·008	"	15	140	15	115	10
					3	334·0	335·0		"	"	22	755	35	65	<10
					4	337·0	338·0		0·017	"	5	30	20	100	"
					5	340·0	341·0		<0·008	"	6	15	10	75	"
					6	343·0	344·0		"	"	17	"	100	290	"

520039

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO.	HP.11
STATE	TASMANIA

PROJECT	TYNDALL
DESIGNED BY	A.J. Cartwright
LOGGED BY	A.J. Cartwright
COMMENCED	9. 9.86
COMPLETED	6.10.86

PURPOSE

To test for a northerly extension of the mineralisation encountered in HP.9

LOG SUMMARY

GENERAL COMMENTS

After passing the Henty Fault footwall at 132.5m, 22.2m of unmineralised but altered breccia was intersected. This gradually turned into the mineralised zone at 154.7, which was strongly sulphidic. A small gold grain was visible in the split core, but unfortunately the corresponding assay was low.

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Length(m)	Au	Ag	As	Cu	Pb	Zn	Bi	- all p.p.m.				COMMENTS
154.9	156.9	2.0	0.27	4.8	30	4913	63	68	17					
160.9	169.3	8.4	0.40	2.7	28	379	450	247	6					
INCLUDING														
161.9	162.9	1.0	1.67	3.5	15	395	785	65	13					
173.3	174.3	1.0	0.57	2.8	282	1220	73	35	13					

LOCATION

NORTHING	5364470
EASTING	380150
RL	605.4
GRID	A.M.G.
LENGTH	237.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HQ	0.0-186.8
NQ	186.8-237.0

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
3.0	16.5	64

POOR GROUND CONDITION ZONES From	To	Condition
99.2	132.5	Henty Fault. A zone of unconsolidated puggy clays and fractured, sericitic rock. Also banded, soft mylonitic sequences.

HOLE CONDITIONS AFTER COMPLETION

All casing recovered from hole.
The hole is open with about 2.0m of HW left at the collar to keep it open.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total	SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	100	56.0	0.0	20.0	20.0	16.6	589.3	11.2	11.2										
40.0	102	56.0	20.0	60.0	40.0	33.2	556.1	22.4	33.6										
80.0	098	53.5	60.0	100.0	40.0	32.1	524.0	23.8	57.3										
120.0	098	53.0	100.0	138.5	38.5	30.8	493.2	23.2	80.5										
157.0	097	51.5	138.5	178.5	40.0	31.3	461.9	24.9	105.4										
200.0	097	51.0	178.5	218.0	39.5	30.7	431.2	24.9	130.3										
236.0	098	51.0	218.0	237.0	19.0	14.8	416.4	12.0	142.3										

520040

PROJECT: **TYNDALL** HOLE NO.: **HP 11**

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

SCALE 1: 20 10 0 20 40 METRES

5 cm

PLAN VIEW

5 364 470mN
380 150mE

605·9m R.L.

Limit of ox

LITHIC FELSIC VOLCANICLASTICS CUT BY THIN MAFIC DYKES
silic, alb, chl, hem, ser,

5 364 400N
380 300E

HENTY FAULT

MYLONITIC ZONE
ser, foliated kink banded

SHATTERED ZONE
ser, Unconsolidated

WEAKLY MINERALISED VOLCANICLASTIC BRECCIA
ser, silic, chl, carb, hem,

MINERALISED COARSE VOLCANICLASTIC BRECCIA
sulph, ser, silic, hem, carb, irregular quartz veining

SILICIFIED COARSE VOLCANICLASTIC BRECCIA
silk, chl, hem, ser, Unfoliated

160·9 - 169·3 : 8·4m
@ 0·40 g/t Au
2·7g/t Ag

173·3 - 174·3 : 1·0m
@ 0·57 g/t Au
2·8 g/t Ag
0·12% Cu

1-3% py

10% py (+cp)

5% py

0-1% py

E.O.H. 237·0m

DIP PROFILE

524·9m R.L. (FAULT H.W.)

498·6m R.L. (FAULT F.W.)

481·1m R.L. (Sulp. Alt. Zone H.W.)
480·9m R.L. (Sig. Au Zone H.W.)

465·8m R.L. (Sig. Au Zone F.W.)
462·8m R.L. (Sulp. Alt. Zone F.W.)

416·4m R.L. (E.O.H.)

STATE: **TAS.**

HOLE NO: **HP 11**

520041

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P. 11 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PGI
0.0	99.2	84.9	86	PINK-GREEN FELSIC VOLCANICLASTICS CUT BY NUMEROUS THIN MAFIC DYKES. METAMORPHOSED TO QUARTZ-HEMATITE-CHLORITE-ALBITE-SERICITE. FRACTURED AND FOLIATED.		0.0	16.5	HNWT
						16.5	99.2	HWUW
99.2	132.5	31.3	94	HENTY FAULT. AN UPPER (HANGING WALL) MYLONITE ZONE CONSISTING OF STRONGLY SHEARED SERICITIC CLAY BANDS OVERLIES A CRUSHED ZONE OF HIGHLY ALTERED SERICITIC ROCK FRAGMENTS AND PUGGY CLAY SEAMS.		99.2	120.3	FTMY
						120.3	132.5	FTCS
132.5	154.7	22.2	100	WEAKLY MINERALIZED, STRONGLY ALTERED, COARSE VOLCANICLASTIC BRECCIA COMPRISING ANGULAR SILICEOUS FRAGMENTS IN A CHLORITIC-SERICITIC-PYRITIC MATRIX. UNFRACTURED AND WELL FOLIATED.		132.5	154.7	FWAS
154.7	178.0	23.3	100	MINERALISED ZONE. STRONGLY SULPHIDIC AND ALTERED VOLCANICLASTIC BRECCIA. SILICIFICATION IS WELL DEVELOPED AND BASE METAL SULPHIDES ARE PRESENT. FOLIATED AND FRACTURED.		154.7	178.0	FWMZ
178.0	237.0	59.0	100	HIGHLY SILICIFIED, UNMINERALISED COARSE VOLCANICLASTIC BRECCIA AND GRIT. STRONGLY QUARTZ VEINED AND FRACTURED. UNFOLIATED.		178.0	237.0	FWSL
				DETAILED LOG				
				0.0 - 99.2 FELSIC VOLCANICLASTICS WITH NUMEROUS, THIN MAFIC DYKES. WEAKLY ALTERED.				
0.0	3.0			Tricone, no core recovered.				
3.0	16.5	4.8	36	Pale brown, strongly weathered rock, broken down into soft fragments and abundant limonitic clays. Strongly fractured and bleached volcanics with dark brown limonitic coating many fractures.				

520042

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P. 11 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
16.5	99.2	80.1	97	Pale pink-green felsic volcaniclastics. Fractured with clayey zones developed but generally only weakly weathered. Foliated at around 45°CA. A medium-fine grained volcanic (16.5 to30.4, 11.3m recovered) unit with white grit-size fragments throughout. Metamorphosed to chlorite-albite-hematite-sericite. At 21.4, a dark green, very fine grained mafic volcanic unit cuts the sequence described above. This rock is strongly chloritic and contains many quartz and carbonate veins. This is 4.0m thick. Another such mafic dyke occurs at 28.7. In places strong sericitic crush zones are developed. This dyke is 2.7m thick. Below this depth, thin (up to 2.0m) mafics regularly cut the felsic volcaniclastic sequence. These all have sharp contacts with no sign of thermal or tectonic effects. The volcaniclastics also contain strongly fractured zones, with the rock being crushed to pebble-sized angular fragments and clayey flakes. Between 41.0 and 47.0, the core is particularly fractured. Below this the rock is quite red, with increased hematite. Quartz-chlorite-hematite metamorphic veins irregularly cut the volcaniclastics. Foliation is still at 45°CA. At 76.0, minor lenses of pale green fine grained epiclastics occur. These are banded and lensoid. At 94.0 the foliation is at 50°CA.				
				99.2 - 132.5 HENTY FAULT. A MYLONITIC ZONE AND A CRUSHED ZONE OCCUR.				
99.2	120.3	19.7	93	Pale cream-green, strongly foliated clay. A mylonite consisting of clay layers and strongly sericitised rock. The origin lithologies were the volcaniclastics described above. The unit is fractured and many soft crush zones are present. (99.2-106.8,6.2m recovered) Between 101.6 and 104.3 the core is predominantly soft				

520043

GOLD FIELDS EXPLORATION PTY. LIMITED

ULV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.11 Page: 3

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA			
From	To	m	%		Sample No.	From	To	Rec. %
				puggy clay with only minor sericitic rock. The puggy clays				
				are unfoliated. Several more puggy zones (only 0.1-0.5m				
				thick) also occur below this zone.				
				The foliation developed in the mylonite is itself strongly				
				deformed, with kink-banded strongly developed. Also bright				
				green batcherlorite and quartz-calcite veining occur below				
				109.0m.				
				At 113.0, another rubbly unconsolidated zone occurs. A				
				small quartz-pyrite vein - fractured into many small pieces				
				occur near the end of this zone which is 1.5m thick.				
				The quartz-chlorite-calcite veins are also irregularly				
				kink-banded. Thin, pale-green wispy sericite veinlets				
				occur distinctively throughout the mylonite.				
				At 116.8 a major soft puggy mylonite zone occurs. Many				
				crumbly fractured zones also occur in this zone down to				
				120.3. Both dark and light green coloured clays are present.				
120.3	122.4	2.0	95	This unit contains angular, hard rock fragments in a puggy				
				clay matrix. Green-pink grey in colour and strongly sericitic.				
				This unit is gradational both above and below.				
122.4	130.2	7.4	95	Strongly to intensely fractured pink-green volcaniclastics.				
				Harder, pink quartz-sericitic rock fragments (up to 20cm				
				long) are separated by green soft, sericitic clays bands				
				and puggy zones. Dark green-black shaley clay bands occur				
				as do completely shattered zones of clay and rock chips.				
				Also, fractured silicified zones and kink-banding are present				
				in the more competent volcaniclastics.				
130.2	132.5	2.2	95	A particularly strongly fractured and puggy version of				
				the unit above. This zone is strongly sericitic and				
				unconsolidated. The last 10cm consists of black fine				
				puggy clays in an abrupt contact with the unit below.				

520044

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.11 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				132.5 - 154.7 COARSE GRAINED VOLCANICLASTIC BRECCIA. WEAKLY MINERALISED (PYRITE) AND STRONGLY ALTERED AND FOLIATED.				
132.5	137.7	5.2	100	Pale green-pink, strongly foliated, sericitic volcaniclastics. The same original rock type as in the fault sequence above with siliceous-sericitic, pink-red lenses of fine grained volcaniclastics separated by strongly foliated, dark green softer sericitic bands. The foliation runs at about 45°CA. Overall, the unit is strongly sericitic. Between 135.0 and 137.4 the core is highly silicified. It is still sericitic, with wispy veinlets cutting the rock. This is overprinted by strong silicification.				
137.7	154.7	17.0	100	Pink-green-grey, foliated gritty volcaniclastics. This unit contains rounded quartz grains, pink, elongate, silicified rock fragments and minor fragments of sulphide. The matrix is strongly foliated pale green sericite and chlorite. Many silicified patches also occur randomly throughout the sequence. Wispy sericitic veinlets parallel the foliation and a few coarse, red, silicified rock fragments are present. The sulphide contact is irregular but generally lies between 1 and 3% by volume. The foliation is at 45°CA and the core is unfractured. Overall it is weakly altered. With depth, the volcaniclastics become coarser grained, turning into a coarse volcaniclastic breccia, with fragments up to 15cm across. Below 148.0, calcite veining begins to become common, and the wispy sericite veinlets are rarer. Disseminated pyrite runs at 1-2% by volume. Both calcite and pyrite increase further with depth, grading into the unit below.				
				154.7 - 178.0 MINERALISED ZONE . STRONGLY SULPHIDIC, ALTERED AND SILICIFIED VOLCANICLASTIC BRECCIA.				

520045

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: TYNDALL HOLE NUMBER: H.P.11 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (ppm) Sample No	From	To	Rec %	Au	Ag	As	Cu	Pb	Zn	Bi
154.7	156.9	2.2	100	Strongly altered and mineralised volcaniclastic breccia.	T3807	153·9	154·9	100	0·040	<0·5	14	20	5	45	5
				Basically the same lithology as all units on the footwall	8		155·9	"	0·117	1·5	34	425	20	40	8
				of the Fault, but here they are strongly silicifed (white-	T3809	155·9	156·9	"	0·417	8·0	28	9400	105	95	26
				pale grey). Also thin, wispy, pale green sericitic veinlets											
				parallel foliation at 35°CA. The original brecciated texture											
				is preserved through this alteration which produced a sulphide-											
				chlorite-sericite-silica phase in the matrix. Overall											
				the sulphide content is around 10% by vol. occuring as											
				both fine disseminations and coarser blebs, with associated											
				chalcopyrite. Minor calcite veining occurs.											
				At 155.2, a 0.3m fine grained quartz vein with minor sericite											
				veinlets, occurs.											
				At 155.9, a 1.0m thick zone of very strong silicification											
				occurs. This is accompanied by coarse grained chalcopyrite,											
				up to 2% by volume. A sharp contact with the unit below.											
156.9	161.9	5.0	100	Pink-greenish grey, strongly silicified volcanicalstic	T3811	156·9	157·9	100	0·067	0·5	26	245	15	25	10
				breccia. The clasts of siliceous volcanics vary from pale	2		158·9	"	0·192	5·5	27	30	20	20	"
				grey to red in colour due to hematite. The clasts are	3		159·9	"	0·025	<0·5	20	10	15	30	7
				both lensoid with foliation and rounded. The matrix is	4		160·9	"	"	"	13	90	5	35	5
				chlorite-sericite-sulphide, with sulphides accounting for	T3815	160·9	161·9	"	0·133	1·5	25	65	45	120	4
				around 5-10% of the core by vol. Wispy green-brown sericite											
				veinlets parallel foliation at 40°CA and rare quartz-carbonate											
				veins (irregular) occur. All the sulphides are fine grained											
				and no base metal sulphides are apparent.											
				At 157.4, a 0.2m fractured and quartz re-sealed quartz											
				veing/silicified rock zone occurs.											
				At 161.4, a 0.2m fractured zone occurs. This is strongly											
				sericitic and is fractured into small angular-pebble sized											
				fragments.											
161.9	162.9	1.0	100	Pale grey-cream intensely silicified volcanics and quartz	T3816	161·9	162·9	100	1·670	3·5	15	395	785	65	13
				veins. This unit is a large silicified zone-quartz vein.											
				Relict textures are obscured by massive silica flooding											
				and veining, in fact the zone is probably a completely											

520046

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.11 Page: 6

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				quartz-filled void. Accessory sulphides consisting of pyrite, galena and chalcopyrite (and possibly tetrahedrite) occurs as small infillings and irregular veinlets. Overall, the sulphide content is low, and 2% by vol. Later quartz veins, around 2-3mm thick, run irregularly down the core axis. These cut the previous silicification and are themselves offset by small faults. In one of these veins, at 162.4 a small gold grain occurs, around 1mm in diameter.										
162.9	169.3	6.4	100	A return to the strongly altered and mineralized cream-grey and pink-greenish-grey volcaniclastic breccias as before. Some of the clasts are large, up to 10cm across. The alteration features are also the same, with sericite-quartz-hematite-sulphides-calcite assemblage developed. Overall in this unit, the sulphide content is 10% by volume.	T3817	162.9	163.9	100	0.342	3.0	21	165	515	380	5
					8		164.9	"	0.267	4.5	28	155	1125	685	4
					9		165.5	"	0.392	4.0	32	410	1575	970	6
					20		166.4	"	0.300	2.0	17	260	110	65	4
					1		167.3	"	0.217	1.5	57	1650	150	95	3
					2		168.3	"	0.125	1.0	19	100	35	50	6
				Between 162.9 and 163.9, pale green wispy sericite pervade the rock which contain abundant disseminated pyrite in places.	T3823	168.3	169.3	"	0.117	"	39	340	100	45	5
				At 165.5, a 0.1m puggy, soft crush zone occurs.											
				Between 166.4 and 167.3, a grey strongly silicified zone occurs. This contains coarse blebs of chalcopyrite.											
				At 168.6, a 0.3m thick carbonate vein occurs. This is pale grey in colour with wispy green sericitic and quartz veins sub-parallel to the vein margins, at 45°CA.											
169.3	178.0	8.7	100	Pink-grey volcaniclastic breccia. Extremely coarse and very clast-rich in places, with many of the clasts elongated by foliation at 45°CA. Pink-red hematite stains virtually all clasts. This unit is highly silicified with only minor sericite. Pyrite is the sulphide phase, common in the matrix and generally around 5% by volume. Irregular quartz veins and veinlets cut the sequence at various angles. The rock is weakly fractured.	T3824	169.3	170.3	100	0.075	<0.5	40	30	40	30	4
					5		171.3	"	0.008	"	11	25	10	25	"
					6		172.3	"	<0.008	"	6	15	5	40	2
					7		173.3	"	0.058	"	42	130	15	30	6
					8		173.8	"	0.767	4.5	470	790	280	45	15
					9		174.3	"	0.367	1.0	93	1650	75	45	10
					1		174.8	"	0.133	"	37	250	70	25	8
					2		175.3	"	"	<0.5	32	260	40	30	"
				At 173.5, two massive, very fine grained pyrite lenses, both 2-3cm thick, occur at 45°CA, parallel to foliation.	T3833	175.3	175.8	"	0.067	"	20	20	20	"	5

520047

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.11 Page: 7

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				At 174.3, similar massive fine pyrite occurs as irregular veins around 0.5cm thick. At 175.5, a fractured zone occurs. This is strongly sericitic in places, but still consists of silicified rock fragments. It ends at 177.3, but the core is still moderately fractured below this.				
				178.0 - 237.0 HIGHLY SILICIFIED AND VEINED, COARSE VOLCANICLASTIC BRECCIA. UNMINERALISED.				
178.0	212.4	34.4	100	Pink-grey volcaniclastic breccia. Identical to the unit above except this sequence is very low in sulphides (less than 1% by volume). The breccia is extremely coarse and clast-rich. Also, strong silicification is widespread. Thin network quartz veinlets and thicker irregular quartz veins all cut the core at varying angles. Minor chlorite-sericite alteration is also present. The clasts are large pink-red, siliceous felsic volcanic (lava) fragments; angular to subrounded. The unit is unfoliated and moderately fractured. The matrix of the breccia is very fine grained and chloritic (some fine grit-sized fragments occur in the matrix), producing a dark green colour. The silicification is pervasive at a low level but increases in patches, around 0.5m wide, to become intense, replacing all the original rock. Rare fine sulphides (pyrite) occur in the matrix. At 205.0, the brecciated texture is obscured - silicification is widespread through a fine grained unit, original textures are difficult to see. The rock is a pale green-cream colour, grading into the unit below.				
212.4	237.0	27.6	100	Pale green-pink-cream grey silicified, fine grained gritty volcaniclastics. This unit is altered and silicified like the unit above but the original rock appears to be a finer grained sequence. Quartz veining is well developed as above but generally there is more sericite pervasively				

520048

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.11 Page: 8

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au (309)	Au Chk (309)	Au1 (FA S1)	Au2 (FA S1)	Au (FA S4)
				developed with the silica and in places the core is well									
				fractured. Rare, fine grained sulphides are present.									
				Some quartz veins are metamorphic:- coarse quartz blades									
				with coarse chlorite grains growing across the vein trend.									
				Between 225.0 and 228.0, thin (0.3m) lenses of coarse,									
				chloritic, unsilicified grit occur.									
				At 235.0, a 2.0m zone of weakly foliated coarse, chloritic									
				unsilicified grit occurs again.									
									GOLD ASSAY DATA (ppm)				
									ANALABS		COMLABS		
				END OF HOLE 237.0m.			REPEATS :		Au	Au Chk	Au1	Au2	Au
							METHOD :		309	309	FA S1	FA S1	FA S4
					T3808	154·9	155·9	100	0·117		0·11		
					9		156·9		0·417		0·30	0·38	
					11		157·9		0·047		<0·01		
				ANALABS :	2		158·9		0·192		0·13		
				309 = Fire assay with AAS finish	3		159·9		0·025		<0·01		
					4		160·9		0·025		<0·01		
				COMLABS :	5		161·9		0·133		0·06		
				FA S1 = Fire assay with AAS finish	6		162·9		1·670	1·600			3·77
				FA S4 = Screen fire assay	7		163·9		0·342		0·22	0·20	
					8		164·9		0·267		0·18	0·14	
				N.B. All Comlabs FA S1 results show a distinct negative bias.	9		165·5		0·392		0·29		
					20		166·4		0·300		0·16		
					T3821	166·4	167·3		0·217		0·13		
					T3828	173·3	173·8	100	0·767		0·60	0·75	
					T3829	173·8	174·3		0·367		0·29		

520049(

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO. : HP12
STATE : TASMANIA

PROJECT	TYNDALL
DESIGNED BY	A.J. Cartwright
LOGGED BY	A.J. Cartwright
COMMENCED	12.9.86
COMPLETED	18.11.86

PURPOSE

TO TEST FOR DEEP (200M R.L.) MINERALISATION BENEATH H.F.Z.5 AND H.P.1.

LOG SUMMARY / GENERAL COMMENTS

A weakly mineralised sequence occurs immediately below the Henty Fault, and this gradually increases into a strongly mineralised unit. At the centre of the mineralised zone is a 3.7m (downhole) wide quartz-carbonate-sericite vein which carries visible gold. The zone also contains abundant base-metal sulphides. A significant gold mineralised interval is summarised by the assays recorded below. A series of step-faced bits were used drilling HP12 between 300.0 and 416.0, in order to raise the dip of the hole to intersect the mineralised zone around the 200m R.L. (see the dip profile).

ASSAY SUMMARY (all ppm)

INTERVAL From	INTERVAL To	Au	Ag	As	Cu	Pb	Zn	Bi						COMMENTS
547.4	565.5 (18.1)	4.9	7.0	60.5	1529	8774	2184	14.8						
including :														
552.0	555.7 (3.7)	22.0	10.7	11.8	2143	6973	4884	20.0						

LOCATION

NORTHING	5363985mN
EASTING	379781mE
R.L.	2644.4m
GRID	AMG
LENGTH	594.0m

HOLE CONDITION

SIZE	
Hole Size	Depth
HW	0.0- 42.0
HQ	42.0- 594.0

SIGNIFICANT CORE LOSS INTERVALS		
From	To	% Lost
18.0	52.0	38

POOR GROUND CONDITION ZONES		
From	To	Condition
466.2	507.2	Henty Fault. Strongly sheared
		and fractured semi-consolidated
		clays and rock fragments.

HOLE CONDITIONS AFTER COMPLETION

HP12 was plugged and cemented at 531.0m to enable a wedge to be placed at 527.0m. HP12-1 was drilled off HP12 at 529.0m. HP12-12A is open from 0.0m to 440.0m, with cut HQ casing left in the hole from 440.0m to 511.0m.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total	SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	099	69.0	0.0	15.5	15.5	14.5	2629.9	5.6	5.6	505.0	099	47.5	485.0	513.0	28.0	20.6	2190.8	18.9	227.2
31.0	100	71.0	15.5	43.0	27.5	26.0	2603.9	9.0	14.5	521.0	098	46.5	513.0	547.5	34.5	25.0	2165.8	23.7	251.0
55.0	102	71.0	43.0	70.0	27.0	25.5	2578.4	8.8	23.3	574.0	099	44.0	547.5	583.0	35.5	24.7	2141.2	25.5	276.5
85.0	101	71.0	70.0	113.5	43.5	41.1	2537.3	14.2	37.5	592.0	100	43.0	583.0	594.0	11.0	7.5	2133.7	8.0	284.5
142.0	101	70.0	113.5	181.0	67.5	63.4	2473.8	23.1	60.5										
220.0	099	69.0	181.0	245.5	64.5	60.2	2413.6	23.1	83.7										
271.0	099	68.0	245.5	297.5	52.0	48.2	2365.4	19.5	103.1										
324.0	100	65.0	297.5	333.0	35.5	32.2	2333.2	15.0	118.1										
342.0	099	62.0	333.0	359.0	26.0	23.0	2310.3	12.2	130.4										
376.0	099	56.0	359.0	392.5	33.5	27.8	2282.5	18.7	149.1										
409.0	099	52.0	392.5	437.0	44.5	35.1	2247.4	27.4	176.5										
465.0	099	48.5	437.0	485.0	48.0	35.9	2211.5	31.8	208.3										

PROJECT: TYNDALL HOLE NO: HP 12 & 12A GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

PLAN VIEW

379 900mE
5 364 000mN

HP 12 — HP 12 A

5 363 985 mN
379 781 mE

644·5m R.L.

Limit of ox

FELSIC LAVAS & VOLCANICLASTICS
CUT BY THIN MAFIC DYKES
alb., hem., chl., silic., ser.

200m

400m

DIP PROFILE

WEAKLY MINERALISED FINE GRAINED VOLCANICLASTICS

CARBONATE VEIN

QUARTZ - SERICITE VEIN

STRONGLY MINERALISED COARSE VOLCANICLASTICS

1-2% py

VEIN COMPLEX

5-10% py

STRONGLY ALTERED COARSE VOLCANICLASTIC BRECCIA

10% py + cp + gn + sl

25% cp + gn + s/l py

10% py (+ cp)

HP 12A

HP 12
E.O.H.

SCALE 1:500.

WEAKLY MINERALISED FINE GRAINED VOLCANICLASTICS
chl., ser., carb., sulph.

STRONGLY MINERALISED COARSE VOLCANICLASTICS
silic., ser., carb., sulph.

STRONGLY ALTERED COARSE VOLCANICLASTIC BRECCIA
silic., chl., ser., carb., sulph.

MYLONITIC ZONE

CRUSHED ZONE

HENTY FAULT

133·7 m R.L.

121·1 m R.L.

HP 12
E.O.H. 594·0m

HP 12 A
E.O.H. 614·0m

HP 12A
550·1 - 553·0m
2·9m @ 21·9 g/t Au
167 g/t Ag
0·37% Cu
0·37% Pb
0·21% Zn

HP 12
552·0 - 555·7m
3·7m @ 22·0 g/t Au
10·7 g/t Ag
0·21% Cu
0·70% Pb
0·49% Zn

SCALE 1:

5 cm

METRES

STATE: TAS
HOLE NO: HP 12 HP 12A

520051

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP.12 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PG 1
0.0	466.2	452.2	97	PINK-GREEN, FELSIC-LITHIC VOLCANICLASTICS, WITH MINOR,		0.0	52.0	HWWT
				COARSE GRITTY AND FINE GRAINED EPICLASTIC LENSES.		52.0	466.2	HWW
				THIS SEQUENCE IS CUT BY NUMEROUS, THIN MAFIC DYKES				
				AND IS METAMORPHOSED TO A QUARTZ-CHLORITE-ALBITE-				
				HEMATITE ASSEMBLAGE.				
466.2	507.2	38.3	93	HENTY FAULT. STRONGLY SHEARED AND FRACTURED, SEMI-		466.2	470.2	FFCS
				CONSOLIDATED CLAY AND ROCK FRAGMENTS UNDERLY		470.2	498.3	FFMY
				A WHITE-GREEN SERICITIC MYLONITE. ORIGINALLY A STRONGLY		498.3	507.2	FFCS
				ALTERED VOLCANICLASTIC.				
507.2	542.2	35.0	100	FINE GRAINED VOLCANICLASTICS. STRONGLY ALTERED TO		507.2	542.2	FWAS
				CHLORITE-SERICITE-SILICA, WITH MINOR, FINE, DISSEMINATED				
				PYRITE.				
542.2	565.5	23.3	100	MINERALISED ZONE. COARSE VOLCANICLASTICS, STRONGLY		542.2	552.0	FWMZ
				ALTERED TO A SERICITE-SILICA-SULPHIDE-CARBONATE ASSEM-		552.0	555.7	FWVN
				BLAGE. THE ZONE IS SPLIT BY A 3.7M WIDE QUARTZ-SERICITE-		555.7	565.5	FWMZ
				CARBONATE, GOLD-BEARING VEIN COMPLEX, WITH PYRITE				
				STRONGLY DEVELOPED ABOVE AND BASE-METAL SULPHIDES				
				BELOW.				
565.5	594.0	28.5	100	COARSE VOLCANICLASTIC BRECCIA. STRONGLY ALTERED		565.5	594.0	FWAS
				TO A SILICA-CARBONATE-SULPHIDE ASSEMBLAGE. PYRITE				
				IS ABUNDANT.				
				DETAILED LOG.				
				0.0-466.2 PINK-GREEN FELSIC VOLCANICLASTICS CUT BY				
				NUMEROUS, THIN MAFIC DYKES.				
0.0	18.0			Tricone, no core recovered.				

520052

GOLD FIELDS EXPLORATION PTY. LIMITED

ULV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP.12 Page: 2

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA			
From	To	m	%		Sample No.	From	To	Rec. %
18.0	52.0	21.0	62	Deep brown, strongly weathered lithic, felsic volcaniclastics. The first 40m of this unit is a particularly strongly weathered mafic dyke. In places (31.0-32.0m) this is weathered to brown mud and soil, with little rock remaining. Overall the unit is strongly limonitic and fractured.				
52.0	171.0	119.0	100	Felsic volcaniclastics, pink-green in colour with numerous small, white-pink lithic fragments. This sequence is cut by a series of green, fine grained mafic dykes, up to 5.0m wide. This unit is strongly fractured and wea kly limonitic at first, then with depth becomes weakly fractured and unweathered. A few narrow metamorphic quartz-chlorite (coarse) veins cut the core along with more abundant, thin quartz veins. Overall, alteration is very weak with a quartz-albite-hematite-chlorite metamorphic assemblage developed. Both the volcaniclastics and the dykes are massive, structureless sequences. A weak foliation is developed at 50°CA throughout. At 87.8, a 0.5m thick quartz (metamorphic) vein occurs. Between 110.4 and 116.0, the core is pale brown-green and strongly sericitic. It is also strongly fractured over the lower 3.0m, around a 2 cm thick fault clay pug zone at 114.6m. This is the most prominent fracture zone present, although other zones (usually only 0.5-1.0m thick) do occur quite regularly. In places the rock is pale red with pervasive hematite-silica developed, e.g. 130.0-146.0m. The rock is otherwise pink with green patches - aligned with the foliation at 35°CA at 155.0m.				
171.0	222.4	51.4	100	Abundant dark green mafic dykes with minor pink-green volcaniclastics. In this unit the fine grained mafic dykes are far more common than the host volcaniclastics. In general, the dykes are 2.0-5.0m thick, every 2.0-3.0m. A particularly thick dyke (13.0m) occurs at 171.0m. The dykes and volcaniclastics are very weakly altered, are weakly fractured with minor zones of strong fracturing, and are moderately quartz veined. The mafic dykes however are strongly carbonate veined, particularly in the upper part of this unit. Thick metamorphic veins also occur. In places the volcaniclastics are sericitic with wispy				

520053

GOLD FIELDS EXPLORATION PTY. LIMITED

ULV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP.12 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				brown sericite veinlets developed parallel to foliation (at 30°CA at 200m).				
				At 206.5 a 1.8m thick strongly sericitic intensely fractured zone				
				occurs, primarily in a mafic dyke. The centre of the fault zone				
				contains a patch of fine unconsolidated sericitic clays.				
				Most (nearly all) of the dyke contacts follow the foliation, i.e.				
				at 30°CA in this unit (nearly all the dyke contacts in the other				
				units also follow the prevailing foliation).				
222.4	466.2	243.8	100	Pink-green coarse grained lithic felsic volcaniclastics with minor				
				dark green fine grained mafic dykes. Back to the usual situation				
				of mafic dykes (0.2-2.0m thick) every 5.0-10.0m. The unit is again				
				weakly altered, weakly fractured and foliated. A quartz-chlorite-albite-				
				hematite (carbonate) metamorphic assemblage is developed and				
				a few thick quartz-chlorite-hematite metamorphic veins occur. Also				
				some sheared-fractured zones occur - not strongly developed.				
				Minor lenses of very fine grained (green) sediments occur.				
				Larger, strongly developed fracture zones occur at 272.9m (1.0m thick)				
				and 285.3m (1.0m thick). The former occurs in a mafic dyke,				
				and contains a thin (2 cm) fault gouge.				
				Between 306.5 and 313.2, the core is fractured into small, blocky				
				and rubbly pieces. Only minor clay zones and clay-coated fractures				
				are present.				
				At 341.0, a seam, 0.5m wide, of unconsolidated, fine clay occurs.				
				Between 350.0 adn 363.0, mafic dykes are thicker and more frequent,				
				accompanied by increased fracturing.				
				Betwen 375.0 and 387.0, the core is also strongly fractured and				
				is moderately sericitic with thin (0.1m wide) crushed zones developed.				
				At 394.5, a 3.5m zone of increased hematite alteration/metamorphism				
				has turned to rock into a bright red colour.				
				At 464.0, the core becomes strongly fractured, pale pink-green				
				in colour and sericitic. This last for the final 2.2m of this unit.				
				Thin clay seams cut the rock.				
				466.2-507.2 HENTY FAULT. STRONGLY SHEARED GREEN-WHITE				
				MYLONITES AND CLAYEY FRACTURED ZONES.				

520054

GOLD FIELDS EXPLORATION PTY. LIMITED

ULV. PRESS

PROJECT: TYNDALL **DRILL CORE LOG AND ASSAY DATA** HOLE NUMBER: HP.12 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
466.2	470.2	3.6	90	Intensely fractured pale red-brown-green coloured volcaniclastics.
				In most places the rock is unconsolidated and rubbly with a few
				clay zones developed. A fractured-shattered zone with un-oriented
				structures.
470.2	489.0	17.9	95	Pale green/white mylonite. Thin (2-3mm) bands of white and green
				clays form a soft rock unit that is only moderately fractured.
				Numerous thin (10 cm) fractured clay seams and rare, thin (1-10cm)
				quartz veins occur. The banding runs approximately 49°CA, and
				is strongly deformed in many places; kink banded and chevron folded.
				At 472.0 a 20 cm thick, brown clay pug occurs.
489.0	498.3	8.8	95	Pink-brown strongly sericitic volcaniclastics. These are moderately
				to very strongly fractured, altered rocks. They are weakly foliated
				at 50°CA.
498.3	507.2	8.0	90	Strongly to intensely fractured pale grey-green, strongly altered
				volcaniclastics. These rocks are altered to sericite and contain
				several silicified zones. Crumbly clay seams are common.
				The lower 0.6m of this fault zone consists of semi-consolidated
				grey clays and rock fragments, in sharp contact with the unit below.
				507.2-542.2 WEAKLY MINERALISED, ALTERED, FINE-GRAINED
				VOLCANICLASTICS.
507.2	542.2	35.0	100	Fine grained volcaniclastics. This sequence is red over the upper
				4.0m then becomes an alternating pink/green succession. Very
				fine pyrite occurs in this sericite rock, as do several silicified
				zones. Overall sulphide content is low, around 1% by volume.
				Carbonate and chlorite alteration becomes stronger with depth.
				The rock is weakly fractured and foliated (at 48°CA). The pyrite
				content and grain size increase with depth. Also with depth, lenses
				of coarser sediments become abundant, grading into the unit below.
				542.2-552.0 STRONGLY MINERALISED AND ALTERED COARSE
				VOLCANICLASTICS.

ASSAY DATA Sample No	From	To	Rec. %

520055

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP.12 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au*	Ag	As	Cu	Pb	Zn	Bi	F	W	Tl
									ASSAY DATA (all ppm)									
542.2	550.3	8.1	100	Pale pink-grey coarse volcaniclastic. Moderately sulphidic with	T3900	542·4	543·4	100	0·067	0·5	15	45	20	85	<10			
				abundant fine grained pyrite (up to 10% by volume) disseminated	T8001		544·4	"	0·040	<0·5	8	160	15	80	"			
				throughout the fine grained sericitic matrix. Large pale pink siliceous	T3834	544·4	545·4	100	0·108	0·5	15	105	45	60	10			
				fragments occur up to 5cm across. The unit is strongly foliated	5		546·4	"	0·025	0·5	8	30	35	40	10			
				at 48°CA.	6		547·4	"	0·024	1·5	38	80	50	40	20			
				The core is relatively unfractured except for a few, thin (5cm)	7		548·4	"	0·100	<0·5	19	55	55	60	<10			
				sericitic shattered zones. Also thin (10cm) zones of strong silicification	8		549·4	"	0·092	"	13	30	35	60	"			
				are present. These contain white crypto-crystalline quartz and	9		550·3	"	0·150	"	22	145	55	60	"			
				a slightly increased level of pyrite.	T3841		551·0	"	0·175	"	15	190	70	180	20			
					2	551·0	552·0	"	1·500	3·0	24	405	285	70	10			
550.3	552.0	1.7	100	This unit is similar to the on e above except that it contains more														
				sulphides (disseminated pyrite) and is less foliated. Coarse silicified														
				clasts are common and the core is weakly fractured. The foliation														
				runs at 43°CA. An abrupt contact occurs with the vein below.														
				It is also fractured.														
				552.0-555.7 VEIN COMPLEX. A QUARTZ-CARBONATE-SERICITE														
				VEIN WITH MINOR BASE-METAL SULPHIDES, PYRITE														
				AND GOLD.														
552.0	553.4	1.4	100	Carbonate-quartz-sericite vein. Pale grey white massive carbonate	T3843	552·0	552·7	100	30·33	9·5	10	345	1400	50	40	1400	10	< 0·5
				cut by many white irregular carbonate veins. In many places the	4		553·4	"	31·21	11·5	4	470	750	50	20	"	<10	"
				carbonate appears to be replacing/altering the volcanics. Minor	5		554·3	"	5·54	9·0	4	5100	1950	50	20	2400	20	"
				quartz (white), sericite (pale yellow-green) and sulphides cut the	6		555·0	"	35·84	21·0	24	3500	29500	22000	20	27900	2·5	"
				sequence.	T3847	555·0	555·7	"	11·75	3·0	19	465	2700	3650	<10	20700	4·5	1·0
				At 552.5, a few distinctive red (hematitic) siliceous fragments														
				are brecciated by thin carbonate veinlets.	Also:				Cr	Co	Ge	Se	Pd	Sn	Sb	Ba	Hg	Ni
				Between 552.7 and 552.8, thin veinlets of quartz and carbonates								(all p.p.m.)						
				run approximately parallel to CA. Several coarse grains of gold are	T3843				70	10	<3	8	0·001	10	0·8	45	0·050	5
				visible, associated with minor sulphides amongst these veinlets.	4				140	5	"	<3	"	<3	1·0	30	0·055	"
					5				250	-	"	"	<0·001	7	0·8	130	0·035	"
553.4	555.7	2.3	100	Quartz-sericite vein. The carbonate vein above gives way abruptly	6				180	15	—	<0·1	0·002	10	2·0	50	2·090	"
				to a quartz-sericite vein. The vein consists of yellow-green streaky	T3847				250	10	—	4·0	<0·001	7	1·4	130	0·285	"
				sericite veinlets running at high CA angles through a cryptocrystalline														
				quartz matrix. Thin quartz and minor carbonate veinlets occur		and	Te and	Pt	were	<1·0 ppm and		<0·008 ppm		respectively for all		5 samples.		
				at random directions throughout the vein. Also thick quartz-pyrite-														

* All gold assays are Analabs Fire Assay with an AAS finish, except T3843-7,

520056

GOLD FIELDS EXPLORATION PTY. LIMITED

DLV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP.12 Page: 6

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				chalcopyrite-fluorite veins (10-30cm) cut the vein at around 45°CA,											
				at 554.0, 554.4 and 555.2.											
				At 555.5 the lower 0.2m of this unit is a fault clay-pug zone.											
				It consists of strongly sulphidic, dark grey, unconsolidated clays											
				and tiny rock fragments.											
				This marks the lower contact of the vein complex at 60°CA.											
				555.7-565.5 STRONGLY ALTERED AND MINERALISED COARSE											
				VOLCANICLASTICS WITH ABUNDANT BASE-METAL											
				SULPHIDES.											
555.7	561.9	6.2	100	Coarse gained, variably mineralised volcaniclastics. This unit consists											
				of coarse volcaniclastics containing large, elongate pink-white											
				silicified fragments in a fine grained, dark grey pyritic matrix.											
				This sequence is cut by very thin pale green sericitic veinlets, thick											
				and thin irregular quartz and carbonate veins, silicified zones and											
				small fractures that offset clasts and zones several millimetres.	T3848	555·7	556·9	100	0·184	3·0	44	425	1450	2000	10
				Overall the unit is strongly altered and mineralised with rare fracturing	9		557·7	"	0·084	2·0	23	275	1450	2450	20
				and a well developed foliation at 55°CA. Pyrite content is around 10%.	T3851		558·5	"	0·204	3·0	47	625	2700	2150	<10
				From 557.5 to the end of this unit (4.4m) small, coarse grained aggregates	2		559·4	"	0·508	15·5	87	2600	8550	765	30
				of base metal sulphides are common. Total sulphide content is	3		560·3	"	0·571	19·0	39	4250	8700	635	40
				10%, pyrite 5%.	4		561·2	"	0·367	7·0	52	2450	15500	2700	<10
					5		561·9	"	0·583	4·5	69	1000	8250	1250	10
561.9	565.5	3.6	100	This unit develops rapidly from the coarse disseminations of base	6		562·8	"	0·721	15·5	110	3700	52500	4800	<10
				metal sulphides above, into semi-massive sulphides. The contact	7		563·7	"	2·045	16·0	290	4550	43500	6400	30
				is gradational but rapid. Coarse streaks of pyrite, galena, sphalerite	8		564·6	"	0·308	7·0	220	1100	6150	345	20
				and lesser chalcopyrite occur. Overall sulphide content is around	T3859	564·6	565·5	"	0·200	2·0	100	300	320	65	30
				25%. The core is weakly fractured and weakly foliated at 55°CA.											
				The sequence is not strongly silicified or sericitic, but is cut by											
				anastamosing carbonate veins. Small offset fractures (as in the											
				unit above) and coarse volcaniclastic textures are visible. The											
				lower contact is also gradational with the sulphide content dropping											
				off rapidly into the unit below.											
				565.5-594.0 COARSE VOLCANICLASTIC BRECCIA, STRONGLY											
				ALTERED AND STRONGLY PYRITIC.	T3860	565·5	566·5	100	0·025	<0·5	23	100	50	50	10

520057

GOLD FIELDS EXPLORATION PTY. LIMITED

ULV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP.12 Page: 7

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
565.5	594.0	28.5	100	Pink-dark grey coarse volcaniclastics with lenses of fine grained epiclastics. In places the coarse volcaniclastics are thick breccias with clasts up to 20-30cm across. A basic metamorphism/alteration consisting of siliceous-hematitic fragments in a sericitic-chloritic matrix is overprinted by a strong silica-carbonate-sulphide alteration in places. Pyrite is abundant as very fine disseminations throughout the chloritic matrix, but also occurs as coarser aggregates, with chalcopyrite in the silicified zones. In patches, the sulphide content is up to 20% by volume but overall is 5-10% in the unit. The rock is weakly fractured and veined with a moderately developed foliation at 43°CA. A particularly strong sulphide development occurs between 585.0 and 590.0. Below this, the core is strongly silicified but weakly sulphidic to 594.0m. END OF HOLE 594.0M

ASSAY DATA (all ppm)

Sample No	From	To	Rec %	Au	Ag	As	Cu	Pb	Zn	Bi
T8002	566.5	567.0	100	<0.008	<0.5	3	15	5	30	<10
3		569.0	"	"	"	2	"	10	45	"
4		569.0	"	"	"	26	35	5	40	"
5		570.0	"	"	"	17	20	10	"	"
6		571.0	"	"	"	3	10	"	"	"
7		572.0	"	0.017	"	14	25	20	55	"
8		573.0	"	0.040	"	42	65	145	155	"
9		574.0	"	"	"	23	40	70	70	"
T8010		575.0	"	0.032	"	21	110	115	165	"
1		576.0	"	0.587	6.0	75	2300	3400	3500	"
2		577.0	"	0.300	11.0	33	2600	6480	280	"
3		578.0	"	0.075	<0.5	20	30	20	30	"
4		579.0	"	0.067	"	9	45	40	60	"
5		580.0	"	0.017	"	10	35	10	50	"
6		581.0	"	<0.008	"	11	25	5	70	"
7		582.0	"	0.008	"	10	"	"	65	"
8		583.0	"	0.017	"	4	30	"	70	"
9		584.0	"	0.008	"	6	35	<5	30	"
T8020		585.0	"	0.032	"	17	55	5	35	"
1		586.0	"	0.075	2.0	46	65	110	95	"
2		587.0	"	0.067	0.5	42	60	55	40	"
3		588.0	"	0.058	"	38	65	45	30	"
T8025		589.0	"	0.050	<0.5	42	20	40	30	"
6		590.0	"	0.040	0.5	38	15	10	20	"
7		591.0	"	0.017	<0.5	7	25	"	30	"
8		592.0	"	<0.008	"	19	70	5	25	"
9		593.0	"	0.008	"	11	125	10	30	"
T8030	593.0	594.0	"	<0.008	"	2	115	10	"	"

520053

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP12

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				ANALABS:
				309 = Fire assay with AAS finish.
				310 = " " " gravimetric finish.

GOLD ASSAY DATA (all p.p.m.)

Sample No.	From	To	Rec. %	ANALABS Au	Au Chk	Au (2)	Au (3)
		REPEATS:		Au	Au Chk	Au (2)	Au (3)
		METHOD:		309	310	309	310
T3842	551·0	552·0	100	1·210			1·50
3		552·7	"	30·83	27·83		32·83
4		553·4	"	26·67	31·83		30·58
5		554·3	"	5·67	5·07		6·00
6		555·0	"	34·17	35·50		36·17
7		555·7	"	12·83	11·33		12·17
8		556·9	"	0·192		0·175	
9		557·7	"	0·100		0·067	
50	STD B65	= 1·7 g/t		1·670			
1	557·7	558·5	"	0·175		0·233	
2		559·4	"	0·483		0·533	
3		560·3	"	0·683		0·458	
4		561·2	"	0·400		0·333	
5		561·9	"	0·583		0·583	
6		562·8	"	0·675		0·767	
T3857	562·8	563·7	"	1·920		2·170	

520059

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE No. : HP 12
STATE : TAS.

REPORT CMS 87/1/17

Henty Prospect Samples (FROM H.P.12)

Thirteen polished thin sections and offcuts were received for petrographic and mineragraphic study. Stain tests for carbonate species and for K-feldspar were carried out on the offcuts where necessary.

T 5872 551·9 – 552·0

The original rock was a pyritic chert with lenses and bands of impure, argillaceous chert grading into more argillic material. The rock was subsequently fractured and sheared; fracturing occurred in the more competent pure chert, and shearing was concentrated in the more argillic portions, which, as a result, are now schistose.

The present rock consists of fractured, calcite-veined masses of microcrystalline quartz, and lensoid masses of argillaceous chert with associated schistose hydromuscovite (representing recrystallized clastic clays). There are patches of coarser quartz which are thought to represent disrupted ?diagenetic quartz veins.

The calcite veins are stressed and disrupted in places, suggesting a further stress episode postdating veining.

Pyrite occurs as small crystals haphazardly scattered through the rock, and also as small parallel stringers in the more argillaceous chert; some is related to the shear-planes and is probably re-mobilised pyrite.

The main sulphides are pyrite and chalcopyrite, and there are traces of associated galena; pyrite occurs as small, often euhedral crystals seldom > 100 μ, and chalcopyrite as irregular grains. There is an unusual association of chalcopyrite and galena impregnating an irregular (?detrital) patch of leucoxene. All three sulphides occur within chert areas as well as in shears.

T 5873 552·1 – 552·2

The original lithology was more argillaceous and less cherty than T 5872; thus, the present rock is much more schistose and micaceous, and much of the calcite occurs intergrown with the schistose zones.

The more resistant, pure chert, composed of microcrystalline quartz, occurs as elongate masses with crosscutting, fracture-filling calcite veins, in a mass of fine white mica (?hydromuscovite) and calcite; there are small parallel lenses of argillaceous chert, and fragments of coarser quartz. Irregular patches of coarsely crystalline, deformed calcite are probably disrupted veins.

Although pyrite is sprinkled through the chert as small single crystals, there is a marked concentration of pyrite in the areas showing the most intensive shearing, and this pyrite may be re-mobilised or introduced (or both).

Pyrite is the dominant sulphide, generally as stringers of small euhedral crystals, with associated and intergrown/included traces of chalcopyrite, galena, and sphalerite, all very fine-grained.

T 5874 552·4 – 552·5

This is a chert breccia, consisting mainly of calcite with widely-spaced fragments of a reddish hematitic chert ("jasper").

The irregular, angular chert fragments consist of microcrystalline quartz pigmented with fine hematite, usually as thin parallel bands separated by non-pigmented chert. The chert is bleached around its margins and adjacent to crosscutting calcite veinlets. The breccia matrix is composed of coarse, stressed calcite criss-crossed by finer, granular, recrystallized calcite. There are streaks of micaceous, quartzose material, probably representing stretched and deformed argillaceous chert; most of the pyrite is associated with these contorted streaks.

Pyrite is the major sulphide, as euhedral crystals up to 300 μ across, but mostly 10-50 μ. Minor chalcopyrite occurs, and there are traces of fine galena and sphalerite. No gold was detected.

T 5875 552·6 – 552·7

This is an extensively fractured and calcite-veined chert, with conspicuous sulphides which were apparently introduced after brecciation, but before the calcite veining.

The chert itself is fairly uniform and featureless, consisting of microcrystalline quartz with recrystallized clay flakes (illite and ?colourless/pale chlorite). There are subparallel, vein-like zones of coarser, recrystallized, stressed quartz with associated sulphides, and numerous random veins and veinlets of calcite, some of which cut the quartz-sulphide zones; the calcite is also stressed and deformed. Very fine pyrite occurs throughout the chert and is responsible for the grey colour.

The opaque minerals are pyrite, chalcopyrite, galena, and very conspicuous gold - very probably representing the bulk of the value for the intersection. Chalcopyrite and galena are abundant as patches up to 500 μ across, often as simple intergrowths, sometimes as accretions around pyrite, which is generally euhedral.

Gold, thought to be of high fineness judging by its colour, occurs in a variety of ways: a) as discrete, irregularly shaped particles from 3 μ to 50 μ, in gangue (both in chert and in calcite), b) as composites with, or inclusions in, galena or chalcopyrite, very rarely in pyrite; here the gold particles range from 5 μ to 150 μ. Sometimes there are small gold particles attached to the surfaces of pyrite crystals, and overall textural relationships suggest that pyrite was the earliest sulphide to form, followed by the other sulphides and gold;

A 23507

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

HOLE No. :	HP12
STATE :	TAS

where gold occurs as apparent inclusions in pyrite, this is due to gold being deposited in "holes" in the pyrite crystals.

There are minor traces of sphalerite, and of an unidentified sulphosalt(?) as inclusions in galena.

T 5876 553·0 - 553·1

This is a brecciated, calcite-veined chert; sulphides are quite scarce.

The rock is composed of massive, cloudy, microcrystalline quartz in which distinctive features are absent; there is a sprinkling of small pyrite crystals. There are patches and veins of coarser, diagenetically recrystallized quartz. Shear zones traverse the rock, with finely granular, recrystalline calcite and streaks of (hydro-)muscovite; there are occasional more substantial lenses of fine, schistose sericite representing argillic layers in the original rock; these tend to contain most of the pyrite in the rock. There are patches and veins of stressed, coarse, platy calcite crystals, each rimmed with clear, recrystallized calcite.

The scattered sulphides are small grains of pyrite, chalcopyrite and galena; no gold was seen.

T 5877 Potash stain test negative. 553·4 - 553·5

This is a sericitic chert, containing very little carbonate and only a trace of fine sulphides.

The major component is microcrystalline quartz, with subparallel wisps, streaks and lenses of fine matted sericite flakes which are commonly associated with coarser quartz. There are scattered small poikiloblastic calcite crystals which appear to be of diagenetic formation, but may be younger. Isolated calcite veinlets traverse the rock. Leucoxenised ?magnetite grains are seen.

Textures and grainsizes are variable, and the rock has a preferred fabric, due partly to the sericite bodies, partly to lensoid and banded development of differing textures and grainsizes; these are thought to be essentially depositional in origin.

There are traces of fine pyrite, chalcopyrite and galena. Gold was seen as irregular, discrete grains 15-25 μ in chert or quartz-sericite.

T 5878 Potash stain test negative. 553·6 - 553·7

This sericitic chert is closely similar to the previous rock and needs no separate description; however, a discussion of its origin is appropriate. Certain aspects of the rock suggest a possible volcanic origin, i.e. a lava or tuff of broadly rhyolitic composition.

For instance, some of the coarser quartz might be regarded as phenocrysts, and sericite aggregates could be interpreted as feldspar or feldspathic glass schlieren, and these possibilities were kept in mind when examining this rock. There is no real textural evidence to support a pyroclastic or crystal-fragment/phenocryst derivation. There are traces of leucoxene, a common accessory in chemical sediments; these are pseudomorphs after ?magnetite.

Whilst there was no evidence of a direct volcanic origin, the sediment may well have been exhalative/volcanogenic; the sericite aggregates would tend to support this.

The same reasoning may be applied to T 5877 and T 5879 (below). Traces of sulphides present as very small grains include pyrite, chalcopyrite and galena.

T 5879 Potash stain test negative. 554·0 - 554·1

This is a mineralised argillaceous chert with a distinct lensoid fabric accentuated by mild shearing.

The rock is composed of a series of small parallel lenses of microcrystalline quartz with minor fine sericite (recrystallized clay); each lens has an envelope of matted-parallel sericite flakes, accentuating the fabric. There are patches of coarser quartz as stressed, interlocking grains representing recrystallized material; some may be disrupted diagenetic veins (which form from pre-existing chert in any case).

There are sporadic calcite patches and veins. Sulphides are associated with patches and replacive veins of unstressed quartz and calcite; thus, the sulphides postdate the shearing responsible for the mildly schistose fabric.

The major sulphides are chalcopyrite and pyrite, with subordinate galena. Chalcopyrite forms networks and individual patches up to several millimetres across, and galena patches are up to 500 μ; the two minerals are closely associated, with galena inclusions in chalcopyrite. Pyrite forms euhedral crystals, with galena inclusions and veinlets (microfracture fillings).

T 5880 554·5 - 554·6

This is a sheared, mineralised sericitic chert, and is quite similar to T 5879; shearing and recrystallization were more extensive, and there is evidence of at least two, possibly three, tectonic events.

The original rock was an argillaceous chert, extensively veined by diagenetic quartz. The clays now consist of schistose sericite, and much of the fine quartz is recrystallized, though there are lenses of microcrystalline quartz with sericite envelopes.

Sulphides are scattered right through the rock, but are preferentially associated with subparallel shears; they also occur as vein-like (?replacive) masses with coarse quartz, calcite, and hydromuscovite.

GOLD FIELDS EXPLORATION PTY. LIMITED
CMS 87/1/17
DRILL CORE RECORD

520061

CMS 87/1/17
HOLE No.: HP12
STATE : TAS

Younger calcite veins cut all other components and are accompanied by pale fluorite and sphalerite; these veinlets are slightly displaced by younger, weak shears. Fluorite also occurs as small patches elsewhere in the rock.

The major sulphide is sphalerite, as pale patches with dark rims, and with minute chalcopyrite inclusions. Chalcopyrite and galena are also common, as irregular patches; all range from 20 μ to 1 mm or more. Pyrite is less conspicuous, as crystals embedded in other sulphides in shears.

Gold is relatively abundant, as small grains (< 2 μ to about 70 μ), generally discrete (i.e. not associated with sulphides), embedded in quartz or sericite; a few grains occur as inclusions (up to 30 μ) in sphalerite.

T 5881 554·7 – 554·8

This was originally an argillaceous chert, but is extensively modified by shearing, recrystallization, and substantial fluorite veining, which occurs in two generations.

There are lenses and irregular patches of microcrystalline to medium-grained quartz representing the original chert, and streaks of sericite concentrated in thin shears. Large, subparallel masses of pale fluorite have penetrated the rock and now comprise about 30 % of its volume. A later generation of dark purple fluorite, with coarse calcite, occurs in breccia zones containing chert fragments, cutting all other components. Sulphides are sparse and haphazardly distributed, but predate the youngest fluorite veins.

Sulphides comprise fine galena, chalcopyrite and occasional sphalerite. Gold is relatively common (over 120 grains were counted in the section), as irregular grains ranging from 2 μ to 50 μ - many grains are < 20 μ, generally in groups of 5-40 grains, with distribution broadly related to that of the sulphides, but seldom directly (texturally) associated with them, i.e. related to, and embedded in, gangue.

T 5882 554·9 – 555·0

This is a sheared sericitic chert; it is more quartzose and less recrystallized than the previous intersections.

The major component is microcrystalline quartz, massive in places but lensoid or almost nodular in others, accentuated by wisps and streaks of matted-parallel hydromuscovite (coarse, well-crystallized sericite). There appear to be two sets of shears; the earlier ones contain deformed calcite and hydromuscovite, and later ones carry most of the sulphides, with associated random hydromuscovite flakes (i.e. not orientated by shearing). Elsewhere in the rock (not in this section) the calcitic veins contain purple fluorite. Fragmented veinlets of fluorite alone also occur.

Sulphides are plentiful in zones (see above) and comprise expanses of coarse sphalerite, unusually pale chalcopyrite, associated minor galena and small euhedral pyrite crystals. Elsewhere, sulphides are scarce. No gold was detected.

T 5883 555·3 – 555·4

This is a brecciated chert with extensive veining by sericite (yellow) and fluorite (purple); there are traces only of sulphides.

The rock consists dominantly of microcrystalline quartz with small wisps of fine sericite representing primary clays; there are also larger irregular or lensoid bodies of fine sericite, possibly formed diagenetically, sometimes with associated coarser quartz.

Irregular veins of fine sericite form a network throughout the rock; the sericite is generally orientated. Fluorite is associated with some of these veins, but also occur separately as veins and patches. Thin shears traverse the rock, and are younger.

Sulphides are very scarce and comprise small pyrite crystals and shreds of spongy ?galena. Leucoxenised opaques (?magnetite or ilmenite) are relatively conspicuous and appear euhedral.

T 5884 555·6 – 555·7

This is a quartz-sericite schist breccia, with conspicuous fine pyrite throughout. The original rock is believed to have been a pyritic, cherty argillite, representing an argillaceous facies of the preceding cherts.

The rock consists of angular fragments of varying shapes depending on their quartz content; the sericitic fragments are small and tend to be folded or plastically deformed, and the quartzose/cherty fragments are larger and more angular. The sericitic fragments are strongly schistose, and large mica flakes (hydromuscovite) have formed; they also contain virtually all the sulphides. Leucoxenised opaques are present.

The rock was mildly metamorphosed to a schist prior to brecciation.

Pyrite is the dominant sulphide, generally occurring as small, well-formed crystals; larger crystals sometimes have porous textures and indications of colloform or framboidal origin. Galena is the only other conspicuous sulphide, as irregular crystals up to 500 μ, and also as fine intergrowths with pyrite. The sulphides may well be essentially syngenetic, possibly exhalative-volcanogenic in origin, and the rock may represent a distal, chemical sedimentary facies of a volcanic event.

Summary

1. The rocks were essentially chemical sediments, with possible exhalative, volcanism-related origin; the frequent occurrence (widespread rather than abundant) of leucoxenised oxide opaques, as euhedral, embayed or fragmentary pseudomorphs, as well as fine dispersed leucoxene, suggests a possible link with, say, andesitic/basaltic volcanics. Thus, the rocks could be regarded as sub-economic variants of volcanogenic sulphide deposits. If this is the case, the lateral extent of the mineralisation could be significant, and though these rocks would not be economic as sulphide deposits, their precious metal potential may be enhanced.

continued over

2. The gold is broadly linked with the base metal sulphides (i.e. chalcopyrite, galena, sphalerite) rather than with pyrite (this could be subject to modification), which appear to predate the calcite and fluorite veining and may represent re-mobilised syngenetic material (e.g. the sphalerite is very pale); by inference, the gold may also be syngenetic, with later mobilisation. Tectonic overprinting and veining have obscured or confused the paragenesis.

   Thus it could be argued that all the rock components, including sulphide and gold but excluding calcite and fluorite, are indigenous to the host rocks.

3. Metallurgical problems would centre around the liberation of the finer gold, and the presence of acid-consuming calcite. Of course, in cyanidation, calcite can be beneficial in maintaining a high pH.

   There are no cyanocides in this fresh material, though any oxidised ore would very probably contain cyanide consumers.

   Since much of the gold occurs independently of the sulphides, there is no advantage in producing a flotation concentrate to recover the gold; gravity concentration would be better.

H.W. Fander, M. Sc.

520063

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO. : HP 12A
STATE : TAS

ULV. PRESS

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	"
COMMENCED	18-11-86
COMPLETED	5-12-86

PURPOSE

TO OBTAIN AN ADDITIONAL SAMPLE OF THE MINERALISATION ENCOUNTERED IN H.P.12.

LOG SUMMARY / GENERAL COMMENTS

After passing through a pyritic mineralised zone, HP12A cut the mineralised vein complex observed in HP12, between 550.1m and 553.6m. This is underlain by a zone of semi-massive, base-metal sulphides. Significant assays are shown below and a dip profile of HP12A is shown together with the HP12 profile in the HP12 log.

ASSAY SUMMARY (all ppm)

INTERVAL From	INTERVAL To	(m)	Au	Ag	As	Cu	Pb	Zn	Bi					COMMENTS
544.0	563.3	19.3	3.9	9.5	83.5	1210	8926	2507	17.1					PGL
Including:														529.0 – 544.0 FWAS
550.1	553.0	2.9	21.9	16.9	10.8	1522	4388	2112	16.6					544.0 – 551.0 FWMZ
														551.0 – 553.6 FWVN
														553.6 – 563.3 FWMZ
														563.3 – 614.0 FWSL

LOCATION

NORTHING	5363 985
EASTING	379 781
R.L.	644.4
GRID	AMG
LENGTH	85.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
NQ	529.0-614.0

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost

POOR GROUND CONDITION ZONES From	To	Condition

HOLE CONDITIONS AFTER COMPLETION

SEE THE H.P.12 LOG

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
FROM H.P.12				529.0			179.3		238.1
533.0	101	45.0	529.0	541.5	12.5	8.8	170.5	8.8	246.9
550.0	102	44.0	541.5	581.5	40.0	27.8	142.7	28.8	275.7
613.0	102	41.5	581.5	614.0	32.5	21.5	121.1	24.3	300.0

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total

520064

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP12A

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au*	Ag	As	Cu	Pb	Zn	Bi
									ASSAY DATA (all ppm)						
				529.0 - 544.0 WEAKLY MINERALISED, ALTERED, FINE GRAINED	T3861	529·0	530·0	100	<0·008	<0·5	6	15	85	110	20
				VOLCANICLASTICS.	2		531·0	"	"	"	5	10	35	105	10
					3		532·0	"	"	"	"	20	<5	100	"
529.0	544.0	15.0	100	Fine grained volcaniclastics becoming coarser with depth. The sequence	4		533·0	"	"	"	4	10	35	70	"
				is metamorphosed to chlorite - hematite and is altered to sericite-pyrite.	5		534·0	"	"	"	10	"	20	65	<10
				It is moderately foliated at 48°CA and is unfractured. Sub-rounded	6		535·0	"	"	"	18	"	"	75	10
				elongate, coarse pink siliceous-hematitic clasts become more abundant	7		536·0	"	"	"	30	35	94	60	"
				with depth. Thin, wispy quartz and sericite veinlets occur irregularly	T3868		537·0	"	"	"	15	15	40	45	"
				throughout this unit. Overall, the pyrite content is low, around 2% by	T3899		538·0	"	0·008	"	12	50	30	130	<10
				volume. Local increases to 5-10% occur in a few small (20cm) silicified	T3869		539·0	"	0·017	"	15	15	"	70	"
				zones. Generally the sulphide content increases with depth. This unit	70		540·0	"	0·032	"	18	20	50	75	20
				grades into the ore below.	1		541·0	"	0·050	"	49	25	60	130	<10
					2		542·0	"	0·067	"	58	225	45	75	20
				544.0-563.3 STRONGLY MINERALISED AND ALTERED COARSE	T3873		543·0	"	0·117	0·5	25	70	55	50	10
				VOLCANICLASTICS CONTAINING ABUNDANT BASE-METAL SULPHIDES,	T3874	543·0	544·0	"	0·040	<0·5	12	155	30	40	<10
				CUT BY A QUARTZ-CARBONATE-SERICITE-SULPHIDE VEIN COMPLEX.											
544.0	550.1	6.1	100	Pale pink-greenish grey coarse volcaniclastics. Moderately sulphidic											
				with abundant fine grained disseminated pyrite up to 10% by volume.											
				Large pink siliceous-hematitic sub-angular clasts occur in a fine grained											
				pale coloured sericitic matrix. The core is strongly silicified in places	T3876	544·0	545·0	100	0·125	<0·5	32	225	30	35	<10
				(in thin 10cm wide zones). The rock is moderately fractured with several	7		546·0	"	0·175	"	55	80	50	45	10
				highly fractured sericitic zones, and is well foliated at 44°CA. An	8		547·0	"	0·083	"	20	35	40	75	<10
				irregular contact occurs with the vein system below.	9		548·0	"	0·167	"	36	70	45	55	10
					80		549·0	"	0·200	"	41	185	425	995	"
550.1	551.0	0.9	100	Carbonate-quartz vein. Pale grey-white massive carbonate cut by later,	1		550·1	"	0·325	0·5	31	170	135	100	20
				white irregular carbonate veins, and thinner rare quartz veinlets. Minor	2		551·0	"	45·33	35·5	18	665	1550	55	"
				pale green sericite and fine grained sulphides also occur. At 550-5, a	T3883		552·0	"	9·00	5·0	5	115	330	25	10
				few distinctive red (hematitic) silceous fragments are brecciated by	T3885		553·0	"	13·80	12·0	10	3700	11000	6050	20
				carbonate veins.	T3886	553·0	553·6	"	3·000	2·5	6	180	2650	1700	"
551.0	553.6	2.6	100	Quartz-sericite vein. The carbonate vein above gives way abruptly to a											
				quartz-sericite vein consisting of yellow-green streaky sericite veinlets											
				running through a cryptic crystalline quartz matrix.											

* All assays are Analabs Method 309, except nos T3882,3,5 which are 310.

520065

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP12A

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				Thin quartz and minor carbonate veinlets also occur randomly through the											
				vein.											
				Thick quartz-pyrite-chalcopyrite-fluorite veins (10-30cm thick) cut the											
				vein at 45°CA (approx.) between 552-7 and 553.3.											
				A thin (5-10cm) sericitic, sheared fracture zone occurs on the lower											
				contact of the vein at 553.6.											
553.6	559.3	5.7	100	Coarse grained variably but strongly mineralised volcaniclastics. This	T3887	553.6	554.3	100	3.330	2.0	19	415	820	2700	10
				unit consists of coarse volcaniclastics with white elongate siliceous	8		555.3	"	0.200	6.0	71	515	2350	3250	"
				fragments in a fine grained, dark grey pyritic matrix. The sequence is	9		556.3	"	0.100	3.0	58	565	3050	3550	<10
				cut by thin, wispy, pervasive, pale green sericite veinlets and quartz	90		557.3	"	0.525	10.0	92	1900	5600	2350	30
				veins. Overall pyritic content is around 10-15% by volume. Base metal	1		558.3	"	0.267	14.5	62	2350	28000	13000	20
				sulphides are present and become more abundant with depth. The unit is	2		559.3	"	0.117	4.0	52	1250	7450	1350	"
				strongly altered and unfractured, with a well developed foliation at	3		560.3	"	2.920	22.5	170	4450	51000	11000	"
				55°CA. At 557.3, a 20cm zone of silica - basemetal sulphide occurs.	4		561.3	"	1.420	21.0	180	4100	54500	3100	30
					5		562.3	"	0.350	6.0	90	525	2550	110	<10
559.3	563.3	4.0	100	This unit develops from the ore above into a base metal sulphide-rich	6		563.3	"	0.608	44.0	570	2100	2150	325	80
				unit. Semi-massive intergrowths of chalcopyrite, galena, sphalerite and	7		564.3	"	0.032	<0.5	20	65	35	55	10
				pyrite occur in a quartz-carbonate matrix. The original coarse volcanic-	T3898		565.3	"	<0.008	"	16	10	80	60	<10
				lastic texture (as above) is also visible through the subsequent alteration	T8032		566.0	"	0.008	1.0	19	60	35	55	"
				and mineralisation. The overall sulphide content is around 25% and the	3		567.0	"	<0.008	<0.5	51	25	30	50	"
				core is weakly fractured. The unit is weakly foliated at 55°CA, and thin,	4		568.0	"	"	"	79	20	"	45	"
				irregular carbonate veins cut the sequence.	5		569.0	"	"	0.5	18	10	15	50	"
				At 563.1, the lower 20cm of this unit consists massive fine grained	6		570.0	"	0.025	"	62	25	35	75	"
				pyrite. An abrupt 52°CA contact occurs with the unit below.	7		571.0	"	0.032	1.0	67	30	65	90	"
					8		572.0	"	"	<0.5	47	25	85	70	"
				563.3-614.0 COARSE VOLCANICLASTICS WITH MINOR EPICLASTICS	9		573.0	"	0.050	"	40	60	165	210	"
				AND AUTOBRECCIATED LAVAS MINERALISED IN PLACES AND	T8040		574.0	"	0.067	0.5	44	130	125	100	"
				STRONGLY SILICIFIED.	1		575.0	"	1.220	22.0	61	11500	26000	3050	"
					T8043		576.0	"	0.258	0.5	34	1900	1500	200	10
563.3	589.0	25.7	100	Pink-grey coarse volcaniclastics with lenses of fine grained epiclastics.	4		577.0	"	0.040	<0.5	19	20	20	85	<10
				In places the coarse volcaniclastics are thick breccias with clasts up to	5		578.0	"	0.008	"	17	10	"	50	"
				20-30cm across. The fine grained matrix is a mixture of sericite, quartz	6		579.0	"	<0.008	"	14	15	15	95	"
				chlorite, carbonate and sulphides. Cutting the sequence are thin irregular	7		580.0	"	0.008	"	14	5	"	65	"
				quartz and sericite veinlets with thicker white-carbonate veins also	8		581.0	"	<0.008	"	4	10	5	45	"
					9		582.0	"	0.017	"	14	"	10	35	"

520066

GOLD FIELDS EXPLORATION PTY. LIMITED

ULV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP12A

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				developed. The core is moderately foliated at 43°CA and is weakly
				fractured. Minor, weak silicifed zones are found (around 20-30cm wide)
				and patches of strong sulphides also occur (particularly chalcopyrite).
				The overall sulphide content is 5-10% by volume.
589.0	614.0	25.0	100	Pale grey-pink volcaniclastics, strongly silicified. This unit is a very
				coarse breccia - in places an autobrecciated lava. The large pink-white
				fragments occur in a dark chlorite matrix and the sequence is overprinted
				by strong silification. Sulphides (pyrite) are not well developed, being
				confined to the matrix as very fine disseminations. Overall the pyrite
				content is around 1-4% by volume. The core is weakly fractured and
				foliated.
				END OF HOLE 614.0.

ASSAY DATA (all ppm)

Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
T8050	582·0	583·0	100	0·050	<0·5	25	30	25	30	10
1		584·0	"	0·083	"	48	40	40	40	<10
2		585·0	"	0·058	"	67	30	20	30	"
3		586·0	"	0·032	"	45	"	25	25	"
4		587·0	"	0·058	"	43	25	20	"	10
5		588·0	"	0·050	"	39	"	25	30	<10
6		589·0	"	0·040	"	36	40	15	25	10
7		590·0	"	0·008	"	13	30	<5	20	<10
T8058	590·0	591·0	"	"	"	9	55	"	"	"

GOLD ASSAY DATA (all p.p.m.)

				ANALABS Au	AuChk		Au 1	Au2	Au
		REPEATS :							
		METHOD :		309	310		FAS 1	FAS 1	FAS 4
T3882	550·1	551·0	100	46·67	45·33				30·8
3		552·0	"	10·17	9·00				9·77
4	STD B65 = 1·7 g/t			1·67					
5	552·0	553·0	"	12·83	13·80				14·1
6		553·6	"	3·000			2·9		
T3887	553·6	554·3	"	3·330			2·7	2·7	

ANALABS:

309 = Fire assay with AAS finish.

310 = " " " gravimetric finish.

COMLABS:

FAS 1 = Fire assay with AAS finish.

FAS 4 = Screen fire assay.

N.B. All Comlabs results show negative bias.

520067

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO. : HP13
STATE : TASMANIA

ULV. PRESS

PROJECT	TYNDALL
DESIGNED BY	AJC
LOGGED BY	AJC
COMMENCED	8.12.86
COMPLETED	16. 2.87

PURPOSE

To test for deep (2200m R.L) mineralisation along strike from H.P.12 and beneath H.P.4.

LOG SUMMARY	The Henty Fault footwall in this hole is irregular and several pug zones persist well into the mineralisation. This occurs immediately on the Fault footwall and is characterised by a vein sequence, initially similar to that in HP12, but with a large carbonate section on the footwall side. Generally the sulphide content is poorly developed in comparison with HP12.
GENERAL COMMENTS	

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width (m)	Au	Ag	As	Cu	Pb	Zn	Bi	-all ppm				COMMENTS
584·0	586·8	2·8	1·14	4·7	14·6	229	1664	1277	6·4					
including :														
585·9	586·8	0·9	2·75	5·5	20	395	3350	3100	<10					

LOCATION

NORTHING	5364 143.0
EASTING	379 727.8
R.L.	2643.4
GRID	AMG
LENGTH	609.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0- 6.0
HQ	6.0-608.3

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
508.0	555.0	10

POOR GROUND CONDITION ZONES From	To	Condition
0.0	60.4	Weathered volcanics
508.0	568.0	Henty Fault lithologies. Strongly sheared and in places highly shattered soft rock and clay.

HOLE CONDITIONS AFTER COMPLETION

H.P.13 is back-filled with gravel and cement from the bottom up to 496m, where a wooden plug and casing wedge were placed. H.P.13A wedged off H.P.13 in NQ at 490m. An initial attempt at wedging was made at 505m, however this was unsuccessful and a bullnose bit and snapped drill rod remain in the hole at this depth. All casing (and casing wedge) have been removed from the hole.

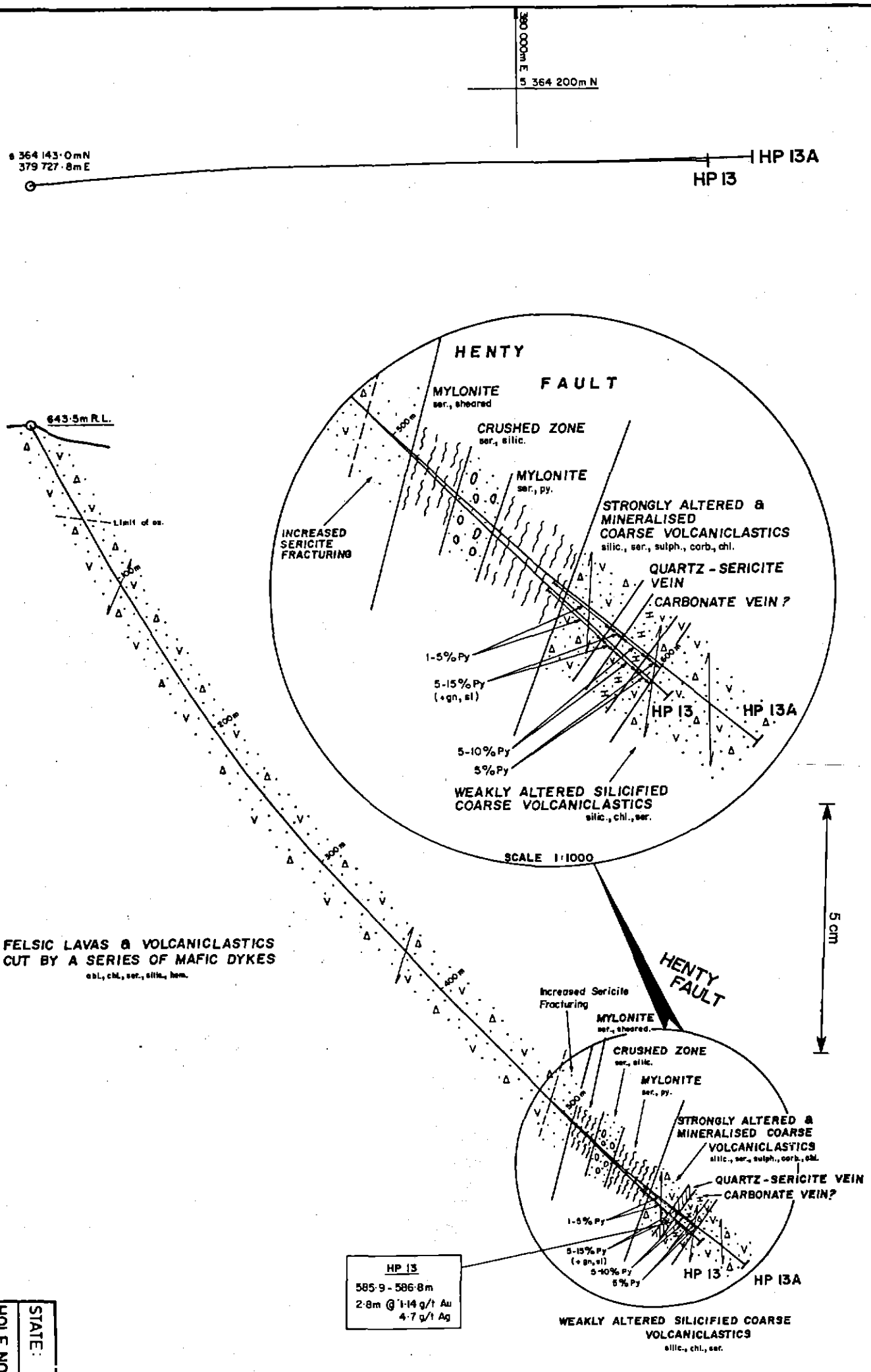
SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	082	60.0	0.0	14.0	14.0	12.1	2631.3	7.0	7.0
28.0	084.5	59.0	14.0	47.0	33.0	28.3	2603.0	17.0	24.0
66.0	085	59.0	47.0	92.0	45.0	38.6	2564.4	23.2	47.2
118.0	085.5	58.0	92.0	139.0	47.0	39.9	2524.5	24.9	72.1
160.0	085	57.5	139.0	176.0	37.0	31.2	2493.3	19.9	92.0
192.0	086.5	55.5	176.0	202.5	26.5	21.8	2471.5	15.0	107.0
213.0	087	54.0	202.5	234.0	31.5	25.5	2446.0	18.5	125.5
255.0	088.5	51.5	234.0	270.0	36.0	28.2	2417.8	22.4	147.9
285.0	089	49.5	270.0	289.5	19.5	14.8	2403.0	12.7	160.6
294.0	088	49.0	289.5	312.0	22.5	17.0	2386.0	14.8	175.4
330.0	089	48.0	312.0	351.0	39.0	29.0	2357.0	26.1	201.5
372.0	089	47.5	351.0	397.5	46.5	34.3	2322.7	31.4	232.9

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
423.0	089	47.0	397.5	446.5	49.0	35.8	2286.9	33.4	266.3
470.0	090	46.5	446.5	486.5	40.0	29.0	2257.9	27.5	293.8
503.0	089	45.5	486.5	528.0	41.5	29.6	2228.3	29.1	322.9
553.0	089	44.0	528.0	580.0	52.0	36.1	2192.2	37.4	360.3
607.0	090	43.0	580.0	608.3	28.3	19.3	2172.9	20.7	381.0

PROJECT: TYNDALL HOLE NO: HP 13 & 13A GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT



STATE: TAS.
HOLE NO: HP 13
HP 13A

520069

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PGI
0.0	508.0	501.0	99	ALTERNATING PINK FELSIC LAVAS AND GREEN MAFIC-INTERMEDIATE VOLCANICLASTICS. THE LAVAS ARE AUTOBRECCIATED IN MANY PLACES. THIS SEQUENCE IS CUT BY THIN FINE GRAINED MAFIC DYKES AND IS METAMORPHOSED TO A QUARTZ-CHLORITE-ALBITE-HEMATITE-SERICITE ASSEMBLAGE. STRONGLY FRACTURED IN PLACES.		0.0	30.0	HWWT
						30.0	508.0	HWUW
508.0	568.0	55.3	92	HENTY FAULT. MYLONITIC VOLCANICS, STRONGLY SHEARED AND SERICITIC CUT BY A CRUSHED ZONE OF STRONGLY SHATTERED ROCK AND CLAY. THE FOOTWALL PART OF THE FAULT IS SULPHIDIC.		508.0	539.4	FFMY
						539.4	555.0	FFCS
						555.0	568.0	FFMY
568.0	601.6	43.6	100	MINERALISED ZONE. VARIABLY BUT GENERALLY WEAKLY PYRITIC COARSE VOLCANICLASTICS BRECCIAS ARE ALTERED TO A QUARTZ-SERICITE-PYRITE-CHLORITE ASSEMBLAGE AND ARE CUT BY A 14.8m WIDE VEIN COMPLEX. THE LATTER CONSISTS OF A THINNER QUARTZ-SERICITE-SULPHIDE VEIN ON THE HANGING WALL SIDE, AND A THICKER CARBONATE-ALTERED VOLCANICLASTIC SEQUENCE ON THE FOOTWALL SIDE.		568.0	583.2	FWAW
						583.2	598.0	FWVN
						548.0	601.6	FWMZ
601.6	609.0	7.4	100	COARSE VOLCANICLASTIC BRECCIAS. WEAKLY ALTERED AND SILICIFIED.		601.6	609.0	FWSL
				DETAILED LOG				
				0.0-508.0 FELSIC LAVAS, VOLCANICLASTICS AND MAFIC DYKES. UNALTERED AND STRONGLY FRACTURED IN PLACES.				
0.0	6.0	6.0		Tricone, no core recovered.				
6.0	60.4	53.4	98	Dark green fine grained mafic, volcanics with very minor coarse grained felsic lavas. The mafic volcanics consist of dykes and medium grained volcaniclastics and the felsic rocks are pink coloured with white feldspathic phenocrysts. The unit is weakly weathered over the top 30.0m, and is				

520070

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				overall weakly fractured.				
60.4	508.0	447.6	100	An alternating sequence of pink felsic lavas and volcaniclastics, and fine grained, green mafic dykes and volcaniclastics. The felsic volcanics predominate, with mafic volcanics around 2-3m thick every 10-20m. The mafic rocks are cut by irregular white quartz (metamorphic) veins. The felsic volcanics range from lavas, through autobrecciated lavas to coarse volcanic breccias. Overall this unit is weakly fractured, with the majority of fracure zones found in the mafic sequences. Sericitic clay seams up to 20cm wide occur. The rock is incipiently foliated at 55°CA. A few blocky fracture zones (up to 1m) occur in the felsic volcanics, which are also strongly hematitic (bright red) in places. At 189.0, a 7.0m wide mafic dyke occurs. This is much wider than the normal dyke size. Below 240.0 white quartz (metamorphic) veins become more common, irregularly cutting the core. Also fracturing increases slightly. These veins form small tension gashes at 302.0m. At 379.0, lenses of fine grained, pale green epiclastics occur. These are strongly foliated at 60°CA and moderately sericitic. Below 384.0, mafic volcanics begin to dominate, with only minor, thin (1.0-2.0m) patches of pink felsic volcanics occuring. Between 400.0 and 412.0, this sequence is strongly fractured into small angular blocks and gravel sized pieces. The mafic-rich sequence ends at 4260m, where pink-green felsic volcanics become abundant. Below 490.0m, the core becomes more fractured overall, with several well developed shatter zones (up to 1.0m wide). Also, quartz veins and sericite alteration increase towards the fault below. The felsic volcanics become more hematitic (pink).				
				508.0-568.0 HENTY FAULT. A MYLONITIC VOLCANIC SEQUENCE IS SEPARATED BY A ZONE OF STRONGLY SHATTERED ROCK.				
508.0	525.4	15.4	89	Pale pink intensely foliated and sheared mylonitic volcanics. The sequences above have been strongly faulted and now consist of soft claystone and shattered rock. The foliation runs at 57°CA. Small-scale faults and				

520071

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				kink bands disrupt the strong cleavage developed,and several small puggy unconsolidated zones (up to 20cm) occur.
525.4	539.4	12.6	90	Pale green-grey foliated, sheared and shattered, faulted volcanics. Strongly sericitic mylonite as above, except pale green in colour. The cleavage is not as strongly developed, and small veinlets of quartz are common. Within this unit are pale grey, intensely silicified zones, with small breccias and stockworks. These are hard and have been shattered completely, with a zone of completely shattered rock chips between 528.0 and 528.1. They are un-sulphidic.
539.4	555.0	14.3	92	Pale pink/green mylonite. This appears to be a mixture of the two previous units, without the silicified zones. However, it is more shattered, with numerous crushed zones and thin (2-3cm) puggy shears cutting through the soft rock. Irregularly foliated.
555.0	563.3	8.3	100	Pale pink intensely foliated and sheared mylonitic volcanics. The intense foliation runs at 42°CA, and the core is weakly quartz veined. A few thin puggy zones, around 2-3cm thick also occur, parallel to foliation. The last 0.5m of this unit is very weakly pyritic.
563.3	568.0	4.7	100	Grey-pink, strongly foliated, pyritic, mylonitic volcanics. This unit is the same as above, except it contains variable fine grained disseminated pyrite, averaging 3-5% by vol. The unit contains crenulated cleavage and thin puggy zones as in the previous mylonitic units, but is generally only very weakly fractured. The foliation runs at 50°CA. The core is altered to quartz-chlorite-pyrite-sericite, and is strong in places.
				568.0-601.6 VARIABLY MINERALISED COARSE VOLCANICLASTICS CUT BY A VEIN SEQUENCE INCLUDING A THICK CARBONATE.
568.0	583.2	15.2	100	The mylonitic sequences above gradually give way to strongly foliated, altered volcanics in this unit. Pink-grey coarse volcaniclastics containing elongate siliceous fragments up to 1-2cm in size, in a fine grained sericite-pyrite matrix. Sericite also commonly forms thin, parallel

Sample No	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				ASSAY DATA (ppm)						
T8123	563·0	564·0	100	0·010	<0·5	10	10	<5	20	
4		565·0	"	"	"	"	"	"	"	
5		566·0	"	<0·008	"	13	"	"	15	
6		567·0	"	"	"	15	"	"	20	
7		568·0	"	"	"	8	"	"	30	
8		569·0	"	"	"	4	"	"	"	
9		570·0	"	"	"	"	"	"	145	
T8131		571·0	"	"	"	"	5	"	150	
2		572·0	"	"	"	5	15	"	85	
3		573·0	"	"	"	4	10	"	35	
4		574·0	"	"	"	11	"	"	25	
5		575·0	"	"	"	8	5	"	50	
6		576·0	"	"	"	9	10	"	60	
7		577·0	"	"	"	"	"	"	45	
8		578·0	"	"	"	8	"	"	110	
T8140	578·0	579·0	"	"	"	7	"	"	95	

520072

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (ppm) Au	Ag	As	Cu	Pb	Zn	Bi
				fracture/foliation fillings. Overall the unit is weakly altered, pyrite forms	T8141	579.0	580.0	100	<0.008	<0.5	10	20	<5	55	
				around 1-5% by volume and the foliation runs at 54°CA.	2		581.0	"	"	"	9	15	"	"	
					3		582.0	"	"	"	7	"	"	150	
583.2	587.5	4.4	100	Quartz-sericite vein complex. Pale grey-white massive silica, cut by thin	T8059		583.0	"	0.008	<0.5	7	25	10	140	<10
				pale green sericite veinlets and later white, irregular quartz-carbonate	60		584.0	"	0.025	0.5	16	"	20	55	"
				veinlets. Small wispy, disseminations of base metal sulphides (galena and	1		585.0	"	0.233	1.0	4	110	70	30	"
				sphalenite) are also present. Strongly sericitic, highly fractured and	2		585.9	"	0.550	8.0	21	195	1750	840	20
				shattered zones (up to 20cm wide) also occur. Overall the unit is	3		586.8	"	2.750	5.5	20	395	3350	3100	<10
				well fractured and has a sulphide content around 10-15% by volume. The	4		587.6	"	0.067	1.0	13	90	135	205	"
				first 0.4m of this vein complex is highly silicified coarse volcaniclastics.	5		588.6	"	0.025	<0.5	38	35	330	130	"
				The last 1.0m of the unit is also silicified coarse volcaniclastics.	6		589.6	"	"	"	43	60	220	65	"
				The boundaries of the vein are sharp. (The 'true' vein sequence lies between	7		590.6	"	0.108	"	"	815	890	95	"
				583.6 and 586.6).	8		591.6	"	0.025	"	18	50	45	65	"
					9		592.6	"	0.058	"	49	70	300	150	"
587.6	598.0	10.4	100	White-grey massive carbonate-altered volcaniclastics sequence. Intergrown	70		593.6	"	0.032	"	8	310	505	260	"
				very fine grained carbonate with minor sulphides and strongly altered	2		594.6	"	0.025	"	10	215	415	180	"
				volcaniclastics. The carbonates are white and grey with darker green	3		595.6	"	0.142	0.5	13	840	1050	290	"
				sericitic streaks running at 60°CA in a weak foliation, and minor sulphides,	4		596.6	"	0.050	2.5	43	1400	875	395	"
				mainly pyrite associated with the sericite. The altered volcaniclastics	5		597.5	"	0.058	0.5	64	145	190	190	"
				are strongly quartz-sericitic and are relatively abundant in sulphides	6		598.0	"	0.450	49.0	930	1050	2600	1700	20
				(including base metals). Later carbonate veins irregularly cut the entire	7		598.6	"	0.058	0.5	21	335	110	80	10
				sequence. Strongly hematitic (jasperoid) red siliceous volcanic fragments	8		599.6	"	0.175	<0.5	39	665	190	145	<10
				(often strongly veined) - around 10-20cm thick are developed at the	80		600.6	"	0.117	0.5	82	380	95	95	"
				following depths; 588.8, 593.5, 594.5 and 596.1. At 594.8, green	1		601.6	"	"	"	81	125	75	180	"
				batchelorite is developed in the carbonates. Below 595.6, pods (1-2cm wide)	T8082	601.6	602.6	"	0.017	"	8	60	5	100	"
				of semi massive pyrite become common, developing into bands (2-3cm wide)											
				of semi-massive pyrite between 597.5 and 598.0. This marks the lower											
				edge of this sequence which is probably a vein complex. Overall the unit											
				is weakly-unfractured and contains 5-10% sulphides.											
598.0	601.6	3.6	100	Grey volcaniclastics. Very coarse grained and strongly altered. This unit											
				consists of coarse, rounded silicified fragments in a fine pyrite-chlorite-											
				sericite matrix. Overall the unit is weakly fractured and contains around											
				5-10% pyrite. It is weakly foliated at 60°CA.											

520073

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				601.6-609.0 WEAKLY ALTERED, SILICIFIED, COARSE VOLCANICLASTICS
601.6	609.0	7.4	100	Grey-green-pink weakly altered, silicified, coarse volcaniclastics. Subrounded, coarse silicified fragments occur in a fine chlorite-sericite-silica matrix. Sulphides are absent and the sequence is only very weakly veined. The core is unfractured and weakly foliated.
				END OF HOLE 609.0m

ASSAY DATA

Sample No.	From	To	Rec. %	GOLD ASSAY DATA (ppm) ANALABS Au	COMLABS Au1	COMLABS Au2
		REPEATS :				
		METHOD :		309	FAS1	FAS1
T8060	583.0	584.0	100	0.025	<0.01	
1		585.0		0.233	0.08	0.12
2		585.9		0.550	0.37	
3		586.8		2.750	2.1	2.05
T8064	586.8	587.6		0.067	0.03	
T8076	597.5	598.0	100	0.450	0.40	

ANALABS 309 AND COMLABS FAS1 = Fire assay with AAS finish.

N.B. All Comlabs results show distinct negative bias.

520074

GOLD FIELDS EXPLORATION PTY LIMITED

DRILL CORE RECORD

HOLE NO.:	H.P.13A
STATE	: TASMANIA

DLV. PRESS

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	A.J. CARTWRIGHT
COMMENCED	17.2.87
COMPLETED	10.3.87

PURPOSE

To obtain an additional intersection of the mineralisation cut in HP13.

LOG SUMMARY	A similar sequence to that encountered in H.P.13 was intersected. Significant assays are recorded below.
GENERAL COMMENTS	

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width (m)	Au	Ag	As	Cu	Pb	Zn	Bi	-all ppm				COMMENTS
583.3	587.2	3.9	0.67	3.0	18	203	754	493	<10					
	including													
586.3	587.2	0.9	1.81	3.0	41	185	155	265	<10					

LOCATION

NORTHING	5364143
EASTING	379728
R.L.	2643.4
GRID	AMG
LENGTH	145.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
NQ	490.0-635.0

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
507.2	567.0	13

POOR GROUND CONDITION ZONES From	To	Condition
507.2	567.0	Soft mylonitic rock, strongly sheared and fractured to clays and rock fragments in places. (Henty Fault).

HOLE CONDITIONS AFTER COMPLETION

See the H.P.13 log for details.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog Total	SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog Total
FROM	H.P.13			490.0			2255.5		296.1										
502.0	088	44.0	490.0	550.0	60.0	41.7	2213.8	43.2	339.3										
598.0	089	39.0	550.0	635.0	85.0	53.5	2160.3	66.1	405.4										

520075

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13A

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PGI
490.0	507.2	17.2	100	FELSIC LAVAS AND MEDIUM GRAINED VOLCANICLASTICS CUT BY A SERIES OF MAFIC DYKES.		490·0	507·2	HWIaV
507.2	567.0	52.0	87	HENTY FAULT. A SEQUENCE OF STRONGLY FOLIATED AND SHEARED MYLONITIC VOLCANICS IS SEPARATED BY A CENTRAL ZONE OF INTENSE FRACTURING AND SHATTERING. MINOR ZONES OF SILICIFICATION OCCUR AND SULPHIDES ARE PRESENT AT THE END OF THE FAULT.		507·2	538·0	FFMY
						538·0	554·5	FFCS
						554·5	567·0	FFMY
567.0	601.8	34.3	99	VARIABLY BUT GENERALLY WEAKLY MINERALISED COARSE VOLCANICLASTICS CUT BY A 13.7m WIDE QUARTZ-CARBONATE VEIN COMPLEX.		567·0	583·3	FVMZ
						583·3	597·0	FVVN
						597·0	601·8	FVAV
601.8	635.0	33.2	100	COARSE VOLCANICLASTIC BRECCIAS. WEAKLY ALTERED AND SILICIFIED.		601·8	635·0	FVSL
				DETAILED LOG				
				490.0-507.2 FELSIC LAVAS AND VOLCANICLASTICS CUT BY THIN MAFIC DYKES.				
490.0	507.2	17.2	100	Pink-green felsic lavas and volcaniclastics cut by 1-3m thick mafic dykes. Metamorphosed to quartz-albite-chlorite-hematite-sericite, with numerous quartz veins. Overall the core is weakly-unaltered and strongly fractured in places. The rock is moderately foliated at 45°CA.				
				507.2-567.0 HENTY FAULT. MYLONITIC SERICITIC VOLCANICS WITH A CENTRAL HIGHLY SHATTERED ZONE.				
507.2	524.7	14.9	85	Pale pink mylonitised volcanics. Strongly sheared and sericitic with many clayey crushed zones developed. Weakly quartz veined and strongly fractured overall. Pale green and white sericitic shears cut the soft sericitic rock at 50°CA. Minor kink banding also occurs.				

520076

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13A Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
524.7	538.0	12.8	96	Green-grey foliated, sheared and highly shattered volcaniclastics with several silicified zones. Pale green mylonitic volcanics as above contain thin (0.3-0.5m) silicified zones:- pale grey, brecciated, quartz, stockwork and unsulphidic. The shearing is strongly kink banded.											
538.0	554.5	14.2	86	Pale pink-green mylonitised volcanics. This unit does not contain the strongly silicified zones described above, but does have a few weakly silicified patches. The rock in this sequence is strongly shattered with many puggy zones. Particularly well developed puggy-shattered rock clay zones occur between 540.2-540.7 and 545.0-553.0											
554.5	567.0	10.1	81	Pale pink-grey-green mylonitic volcanics. Strongly sheared and foliated, sericitised volcanics with thin veinlets of sericit e developed as parallel fracture fillings. The unit is moderately-strongly altered, moderately fractured and contains several thin puggy zones. The foliation runs at 43° CA and it becomes pyritic below 564.0, increasing with depth to be around 2-3% by vol. at the end of unit.											
				567.0-601.8 MINERALISED COARSE GRAINED VOLCANICLASTICS CUT BY A THICK, COMPLEX QUARTZ-CARBONATE VEIN.	T8144	567.0	568.0	97	0.010	<0.5	8	5	15	25	<10
					5		569.0	"	0.030	"	"	10	25	95	"
					6		570.0	"	0.010	"	15	5	20	140	10
567.0	583.3	15.8	97	Pink-grey, strongly sheared and foliated pyritic volcaniclastics. The core is moderately fractured and altered with abundant pale green sericite veinlets. Fine grained disseminated pyrite, around 5-10% by vol. occurs in the matrix of this moderately coarse grained rock. The strong foliation runs at 51°CA. Pink siliceous clasts up to 2cm across occur (elongated) in a fine chlorite-sericite matrix. Several small sericitic fractured zones (0.1m wide) also occur, along with narrow (0.1-0.2m wide) silicified zones. The core is relatively unveined.	7		571.0	"	0.020	"	16	<5	25	100	<10
					8		572.0	"	<0.008	"	"	"	15	30	"
					9		573.0	"	0.050	"	24	"	25	25	"
					51		574.0	"	0.010	"	22	"	30	35	"
					2		578.0	"	0.020	"	18	"	25	40	"
					3		576.0	"	"	"	"	5	20	65	"
					4		577.0	"	"	"	22	"	15	75	"
					5		578.0	"	<0.008	"	23	<5	30	90	10
					6		579.0	"	0.010	"	12	15	25	75	<10
583.3	587.2	3.9	100	Pale green-white quartz sericite vein. A moderately to strongly fractured vein complex consisting of fine grained massive silica cut by numerous pale green sericitic veinlets, and a few carbonate veins. Several small (0.2m wide) crushed zones occur: these contain strongly sericitic clay	7		580.0	"	"	"	"	5	"	35	40
					8		581.0	"	0.030	"	14	"	30	115	<10
					9		582.0	"	0.020	"	10	20	20	160	"
					T8161	582.0	583.3	"	0.075	"	8	45	30	80	10

520077

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.13A

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
									ASSAY DATA (all ppm)						
				rock fragments. The rock is unfoliated.	T8162	583·3	584·3	100	0·130	2·0	7	130	530	635	<10
				Wispy base-metal sulphides (particularly galena and sphalerite) occur in	3		585·3	"	0·690	5·0	10	305	1800	745	"
				the vein down to 585.0m, below which the vein is strongly pyritic with	4		586·3	"	0·180	2·0	17	190	470	305	20
				minor fine grained base metal sulphides. The overall sulphide content of	T8165	586·3	587·2	"	1·805	3·0	41	185	155	265	<10
				this unit is 5-10% by volume. The vein complex contains many large											
				sections of very strongly altered (quartz-sericite-sulphide) volcanics. This											
				unit has abrupt (but fractured) contacts.											
587.2	597.0	9.8	100	White-grey massive carbonate-altered volcaniclastic sequence. Lenses of	T8166	587·2	588·0	100	0·030	<0·5	85	15	190	75	<10
				white, very fine grained carbonate with minor sulphides are intergrown	7		589·0	"	0·090	1·0	51	360	285	"	10
				with dark green-grey, strongly altered (chlorite-sericite-sulphides) coarse	8		590·0	"	"	<0·5	33	320	175	95	"
				volcaniclastics. The rock is weakly-moderately foliated at 62°CA, it is	9		591·0	"	0·070	1·0	36	100	305	180	20
				weakly fractured and the overall sulphide content is around 10% by vol.	70		592·0	"	0·030	<0·5	17	345	200	130	10
				Late carbonate veins irregularly cut the sequence, particularly between	1		593·0	"	0·095	1·0	28	150	285	100	20
				594.0 and 596.0. (Several thin - 0.1m wide-puggy/clayey zones also occur	3		594·0	"	0·040	"	34	145	395	160	"
				at these depths).	4		595·0	"	0·050	<0·5	"	240	230	120	<10
				Base metal sulphides are found throughout the unit, but are not abundant.	5		596·0	"	0·080	1·0	47	870	405	195	30
				Bright red jasperoid brecciated fragments are found at 587.6, 587.9 and	6		597·0	"	0·140	<0·5	41	285	85	95	<10
				594.5, and at 593.0, green batchelorite is seen in the carbonate.	T8177	597·0	598·0	"	<0·008	"	12	55	15	105	20
				From 596.0 to 597.0, the core is nearly all altered volcaniclastics with											
				minor carbonate, and is strongly sulphidic with strongly disseminated to											
				semi-massive pyrite.											
										GOLD ASSAY DATA (ppm)					
597.0	601.8	4.8	100	Dark green grey volcaniclastics. Coarse grained and weakly altered						ANALABS		COMLABS			
				with minor disseminated pyrite in patches. Total sulphides are 1-2% by			REPEATS:			Au	Au Ck	Au 1	Au 2		
				volume. The core is moderately to strongly fractured. Chlorite is			METHOD:			309	309	FAS1	FAS2		
				particularly abundant.											
					T8161	582·0	583·3	100		0·110	0·040	<0·01			
				601.8-635.0 UNMINERALISED, SILICIFIED COARSE VOLCANICLASTICS	2		584·3			0·130		0·06			
					3		585·3			0·690		0·60			
601.8	635.0	33.2	100	Dark grey-pink coarse volcaniclastics. These rocks are weakly altered	4		586·3			0·180		0·09			
				but strongly silicified. The core is unfractured and very weakly foliated	T8065	586·3	587·2			1·790	1·820	1·63	1·15		
				at 52°CA. Coarse, pink silicified lava fragments occur in a fine											
				grained chloritic, green matrix. In patches this sequence is silicified											
				strongly with a pale pink silica overprint. The unit is unsulphidic.											
				END OF HOLE 635.0m											

ANALABS 309 AND COMLABS FAS1 = Fire assay with AAS finish. N.B. All Comlabs results show distinct negative bias

520073

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO.	HP14
STATE	TASMANIA

DLV. PRESS

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	A.J. CARTWRIGHT
COMMENCED	23.2.87
COMPLETED	6.3.87

PURPOSE

To test the Henty mineralised zone in a 50m square drill pattern around the HP9 intersection.

LOG SUMMARY / GENERAL COMMENTS

The mineralised zone encountered in this hole begins 1.5m inside the Henty Fault. A wide zone of pyritic mineralisation (36.5m) is cut by several quartz veins and silicified zones. Alteration on the footwall side of the zone is very weak and shales from the Newton Creek Sandstone were found approximately 10m (downhole) away from the mineralisation.

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width (m)	Au	Ag	As	Cu	Pb	Zn	Bi	-all ppm				COMMENTS
118.6	130.2	11.6	0.79	1.7	21	595	29	62	<10					
	including													
127.7	130.2	2.5	2.17	1.7	18	773	25	80	12					

LOCATION

NORTHING	5364252.3
EASTING	380114.7
R.L.	2606.1
GRID	AMG
LENGTH	158.7

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0-1.5
HQ	1.5-158.7

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
104.5	107.1	19

POOR GROUND CONDITION ZONES From	To	Condition
88.0	108.6	Henty Fault. Completely shattered and fractured clays and rock fragments.

HOLE CONDITIONS AFTER COMPLETION

Hole is open, with all casing removed.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	090	58.5	0.0	15.0	15.0	12.8	2593.3	7.8	7.8
30.0	090	57.0	15.0	45.0	30.0	25.2	2568.2	16.3	24.2
60.0	088	53.5	45.0	75.0	30.0	24.1	2544.1	17.8	42.0
90.0	087	52.5	75.0	105.0	30.0	23.8	2520.3	18.3	60.3
120.0	087	52.5	105.0	135.0	30.0	23.8	2496.5	18.3	78.5
150.0	087	52.0	135.0	158.7	23.7	18.7	2477.8	14.6	93.1

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total

PROJECT: **TYNDALL** HOLE NO.: **HP 14**

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

SCALE 1: 1000 — 80 40 0 20 40 METRES

5 cm

PLAN VIEW

s 364 252·3mN
380 114·7mE

DIP PROFILE

2606·1m R.L.

FELSIC VOLCANICLASTICS AND LAVAS CUT BY MAFIC DYKES
sil., ser., alb., chl., hem.

Limit of ox.

increased fracturing sericite

HENTY FAULT
ser., frac.

Mylonite Zone

Crushed Zone

MINERALISED COARSE VOLCANICLASTICS
sil., ser., chl., sulph.

127·7 – 130·2m
2·5m @ 2·17 g/t Au
1·7 g/t Ag
0·08 % Cu

UNMINERALISED COARSE BRECCIO-VOLCANICLASTICS
sil., ser., chl.

NEWTON CREEK SANDSTONE
chl., shales, epiclastics.

s 364 200mN

380 300mE

2517·0m R.L. (FFW)

2477·8m R.L. (EOH)

5-10% py

EOH 158·7m

10-15 % py (+cp)

5-10% py

2-3% py

STATE: **TAS.**

HOLE NO: **HP14**

520080

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP14 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PG 1
0.0	88.0	86.4	98	FELSIC LAVAS AND VOLCANICLASTICS CUT BY THIN MAFIC DYKES.		0.0	48.3	HWLT
						48.3	88.0	HWLM
88.0	108.6	20.1	98	HENTY FAULT. SERICITIC VOLCANICLASTICS IN A STRONGLY FOLIATED MYLONITE ZONE UNDERLAIN BY A STRONGLY FRACTURED CRUSH ZONE. THE LATTER ALSO CONTAINS MINERALISED VOLCANICLASTICS.		88.0	104.5	FTMY
						104.5	107.1	FTCS
						107.1	108.6	FTMZ
108.6	146.8	37.9	99	STRONGLY ALTERED AND MINERALISED COARSE VOLCANICLASTICS. SEVERAL THICK QUARTZ VEINS AND SILICIFIED ZONES CUT THIS SEQUENCE.		108.6	146.8	FWMZ
146.8	156.2	10.4	100	UNMINERALISED, UNALTERED, COARSE VOLCANICLASTIC BRECCIO-CONGLOMERATE. SILICIFIED IN PLACES.		146.8	156.2	FWUN
156.2	158.7	2.5	100	NEWTON CREEK SANDSTONE. PREDOMINANTLY CHLORITIC SHALES AND EPICLASTICS.		156.2	158.7	FWNS
				DETAILED LOG				
				0.0-88.0 FELSIC LAVAS AND VOLCANICLASTICS CUT BY THIN MAFIC DYKES.				
0.0	1.5			Tricone, no core recovered.				
1.5	48.3	45.2	97	Strongly weathered felsic lavas and volcaniclastics. Pale pink-green (slightly bleached) in colour with abundant tan/brown limonitic fractures. At shallow depths the core is completely weathered to deep brown limonite. Overall the rock is moderately fractured and unaltered. The volcani-clastics are weakly foliated at 45°AC and the volcanic sequence is cut by thin mafic dykes.				
48.3	88.0	39.7	100	Green-pink felsic lavas and volcaniclastics cut by thin green mafic dykes. This sequence is metamorphosed to a quartz-chlorite-hematite				

520031

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP14 Page: 2

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA			
From	To	m	%		Sample No.	From	To	Rec. %
				assemblage and is weakly sericitic in places. Limonitic coatings on fracture surfaces occur weakly weakly throughout the unit to a depth of 82.0m. The core is weakly foliated at 45°CA and is moderately to strongly fractured. Mafic dykes are thin (0.5-1.0m) and are not frequent (every 5-10m).				
				Between 60.0 and 72.0, a highly fractured zone occurs. This contains a couple of puggy zones (10cm) in otherwise cleanly fractured rock.				
				A highly fractured and moderately sericitic mafic dyke occurs between 80.2-80.6.				
				Generally, below 80.2 to the end of this unit, the rock is more fractured and sericitic than above, with many small crumbly zones developed.				
				88.0-108.6 HENTY FAULT. A MYLONITIC ZONE AND A CRUSHED ZONE OF ATERED AND MINERALISED VOLCANICLASTICS.				
88.0	104.5	16.5	100	Pale red-green mylonitic volcanics. The original lithogies are as above with medium grained volcaniclastics and mafic dykes now strongly sheared, sericitic and fractured. Crenualations are developed in the cleavage which runs around 40°CA. Several thin (0.2-0.3m) completely crushed zones occur within this unit.				
				At 92.7, a 2.0m thick mafic dykes occurs, relatively undeformed apart from fracturing and irregular quartz veining. Small quartz veins occur throughout the mylonite.				
				With depth the fracturing and sericite increase in the mylonite, grading into the underlying crushed zone.				
				At 104.3, a completely fractured black shale 0.4m thick, spans the the contact between the mylonite and the crushed zone.				
104.5	107.1	2.1	81	Completely shattered and fractured pale green/grey rock fragments, clays and puggy zones. This unit is intensely sericitised and it is difficult to recognise the original rock types, although black shales do appear to be present. The larger pieces of rock are strongly silicified (up to 5cm in diameter). The unit is unconsolidated and grades into the one below.				
107.1	108.6	1.5	100	Mineralised crushed zone. Unconsolidated and semi-consolidated rock				

520082

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP14

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (all p.p.m.) Au	Ag	As	Cu	Pb	Zn	Bi
				fragments and clays as above. Grey-green in color with thin bands (10cm) of silicified rock containing irregular quartz veinlets, thin bands (10cm) of sheared, fractured, sericitic clay and rock fragments in otherwise intact rock, over the lower 0.6m of this unit. The upper 0.9m is compacted, unconsolidated rock fragments up to 5cm across (silicified) in a clay matrix. Fine grained pyrite, 5-10% by volume is scattered throughout the sequence.										
				108.6-146.8 MINERALISED COARSE VOLCANICLASTICS CUT BY A SERIES OF QUARTZ VEINS.	T8201	107.1	108.0	100	0.050	1.0	47	80	175	155	<10
					2		108.6	"	<0.008	<0.5	17	20	30	70	10
108.6	127.7	19.1	100	Grey, mineralised volcaniclastics. Medium to coarse grained volcaniclastics, strongly altered to a sericite-pyrite-quartz assemblage. The core is moderately fractured and only weakly foliated in a few places (at 30°CA). Minor irregular quartz veinlets cut the core at varying angles. Silicified zones up to 1.0m wide occur through the sequence and these are usually slightly more sulphidic than the remainder of the core (10-15% from 5-10% by vol.). A few fine splashes of base metal sulphides, particularly chalcopyrite often accompany the silicification, otherwise pyrite occurs as very fine grained disseminations in the volcaniclastic matrix. Sheared sericitic (dark green) fractures occur, and fracturing overall decreases from moderately fractured to poorly fractured below 115.0. At 118.2, a 20cm thick solid quartz vein/lens occurs. It is barren. At 119.6, a 2.4m wide zone of strong silica-pale green sericite-sulphide intergrowths occurs. This zone also contains 1-2% chalcopyrite and traces of bright green batchelorite. The zone has a weakly developed brecciated texture, is weakly foliated and moderately fractured. It has abrupt, fractured contacts. Batchelorite also occurs below this zone in the volcaniclastic which appear to become more pyritic with depth (to 15%).	3		109.6	"	"	"	18	"	25	"	<10
					4		110.6	"	"	"	16	"	20	130	"
					5		111.6	"	"	"	17	15	"	165	10
					6		112.6	"	0.130	6.5	28	20	25	95	<10
					7		113.6	"	0.110	5.5	25	"	"	60	"
					8		114.6	"	0.010	<0.5	39	"	35	65	"
					10		115.6	"	0.020	"	33	"	25	"	"
					1		116.6	"	0.010	"	18	"	"	60	"
					2		117.6	"	0.050	0.5	20	30	20	50	"
					3		118.6	"	0.170	4.5	21	50	30	45	20
					4		119.6	"	0.470	3.5	35	1400	50	60	10
					5		120.4	"	0.660	4.0	15	600	30	40	<10
					6		121.2	"	0.730	"	30	2000	"	50	10
					7		122.0	"	0.480	1.0	9	1350	20	45	<10
					8		123.0	"	0.090	"	20	40	25	40	"
					9		124.0	"	0.050	"	"	20	30	80	"
					20		125.0	"	0.110	"	18	"	20	50	"
					1		126.0	"	1.230	"	23	475	35	60	10
					2		127.0	"	0.190	0.5	27	80	30	55	40
					T8223	127.0	127.7	"	0.230	1.0	23	70	25	50	"
127.7	133.6	5.6	95	Silicified-sericitised coarse grained volcaniclastics. Pale green white/grey coarse volcaniclastics are strongly altered to a silica-sericite assemblage, being particularly strongly silicified in many places. The core is weakly											

520083

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP14 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all p.p.m.) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				pyritic with around 5% pyrite disseminated throughout. The core is	T8224	127·7	128·6	95	1·540	3·5	14	665	20	80	20
				moderately-weakly fractured and weakly foliated at 40°CA.	6		129·2	"	0·260	<0·5	11	390	25	120	<10
				Small (0.1-0.3m) massive quartz veins with traces of sulphides and	7		130·2	"	3·880	1·0	26	1100	30	55	10
				sericite occur at 127.8, 128.0 and 128.3.	8		131·2	"	<0·008	<0·5	13	15	15	70	20
				At 128.6, a 0.6m wide quartz vein occurs. This also has traces of	9		132·2	"	"	"	14	"	35	60	<10
				sulphides and is cut by many later quartz veinlets.	T8230	132·2	133·2	"	"	"	"	"	20	90	"
				Two strongly fractured zones occur (both are 0.2m wide) at 129.1 and											
				130.1.											
133.6	139.1	5.5	100	Pale grey sericitic, coarse volcaniclastics. Coarse siliceous sub-rounded											
				fragments up to 2-3cm across occur poorly sorted in a fine sericite-pyrite											
				matrix. The core is weakly-moderately fractured and weakly foliated at											
				45°CA. Narrow, soft, sericitic fractures and crush zones also occur.											
				Overall the unit is strongly altered and pyrite is about 10% by vol. A											
				few weakly developed silicified zones (10-20cm wide) are present, as are	T8231	133·2	134·2	100	0·090	1·0	16	20	15	70	<10
				rare quartz veinlets. An abrupt fractured contact occurs with the vein	2		135·2	"	0·030	<0·5	27	"	25	105	"
				below.	3		136·2	"	0·060	1·0	20	"	"	80	"
					4		137·2	"	0·040	<0·5	18	"	60	230	"
139.1	143.6	4.5	100	Quartz vein-silicified volcaniclastic complex. An intergrown sequence of	5		138·2	"	"	"	14	15	20	65	"
				massive fine grained silica-sericite-sulphides and strongly quartz-sericite	6		139·1	"	0·050	0·5	19	20	"	60	"
				altered volca iclastics occurs. The unit is white-pale grey in colour and	7		140·1	"	<0·008	<0·5	10	15	10	45	"
				is moderately fractured. Vein material predominates with altered	8		141·1	"	0·030	"	15	20	25	80	"
				volcaniclastics lenses around 0.1-0.3m wide. The vein sections contain	9		142·1	"	<0·008	"	11	40	10	55	10
				small pieces of very strongly silicified volcaniclastics, often in a breccia	40		143·1	"	"	"	12	115	"	50	<10
				texture. Irregular, later, quartz veinlets cross cut the veins. Sulphides	1		143·6	"	"	"	13	70	30	95	"
				are strongly developed in patches and the overall content is 5-10%.	2		144·6	"	"	"	9	165	10	145	"
					3		145·6	"	"	"	11	540	20	180	"
143.6	146.8	3.2	100	Weakly mineralised strongly sericitic pale grey coarse volcaniclastics.	4		146·6	"	"	"	8	270	15	105	"
				Moderately-strongly fractured and strongly altered with abundant pervasive	T8245	146·6	147·6	"	"	"	7	80	10	70	10
				sericite and a weakly developed silicification.											
				The unit contains irregular quartz and sulphide veinlets.											
				Overall sulphide content is low; 2-3%.											
				16.8-156.2 UNMINERALISED, UNALTERED COARSE VOLCANICLASTIC											
				BRECCIO-CONGLOMERATE.											

520084

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP14 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
146.8	148.8	2.0	100	Strongly silicified coarse volcaniclastics. This unit contains large siliceous fragments, sub-rounded up to 4-5cm across, in a gritty matrix. It is pale grey in color and is unaltered except for an overprint of silicification. No sulphides occur. The core is unfractured and incipiently foliated. It grades into the unit below (the silicification decreases with depth).
148.8	156.2	8.4	100	Pink-grey coarse volcaniclastics. Large siliceous fragments rarely occur in a gritty conglomeratic unit. The sequence is unaltered apart from a few narrow (0.1-0.2m wide) silicified zones. The core is unfractured, unfoliated and weakly quartz veined. This gritty unit becomes gradually coarser with depth and at 153.5 is a very coarse breccio-conglomerate with pink-red clasts up to 10cm across. This unit has a sharp fractured contact with the ore below.
				156.2-158.7 NEWTON CREEK SANDSTONE. CHLORITIC SHALES AND EPICLASTICS.
156.2	158.7	2.5	100	Grey-green fine grained shaley epiclastics. Moderately fractured chloritic shales, fissile in places. The core is weakly veined with narrow irregular quartz veinlets.
				END OF HOLE 158.7m

ASSAY DATA

Sample No	From	To	Rec. %	GOLD ASSAY DATA (ppm) ANALABS Au	ANALABS Au Chk	ANALABS Au	COMLABS Au 1	COMLABS Au 2
		REPEATS :		Au	Au Chk	Au	Au 1	Au 2
		METHOD :		309	309	310	FAS 1	FAS 2
T8221	125.0	126.0	100	1.230			1.04	
T8224	127.7	128.6	95	1.540			1.55	
6		129.2	"	0.250			0.15	
T8227	129.2	130.2	"	3.870	3.710	3.880	3.0	2.45

ANALABS 309 AND COMLABS FAS1 = Fire assay with AAS finish

ANALABS 310 = Fire assay with gravimetric finish

N.B. All Comlabs results show distinct negative bias.

520085

HOLE NO. : H.P.15
STATE : TASMANIA

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

ULV. PRESS

PROJECT	HENTY
DESIGNED BY	A.J. Cartwright
LOGGED BY	P.A. Roberts
COMMENCED	10/3/87
COMPLETED	15/3/87

PURPOSE

To test Henty mineralized zone in 50m square drill pattern around the HP9 intersection.

LOG SUMMARY

0 - 68.1m Hanging wall volcaniclastics, lavas and mafic dykes.
68.1 - 71.8m Henty Fault - mylonitic schistosity.
71.8 - 76.6m Henty Fault - mineralized crush zone
76.6 - 91.0m Mineralized volcaniclastics.
91.0 -109.4m Unmineralized volcaniclastics.

GENERAL COMMENTS

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Metres	Au	Ag	As	Cu	Pb	Zn	Bi					COMMENTS
71.8	91.0m	19.2m	0.55	1.8										
including:														
71.8	73.0m	1.2m	1.23	15.0	170	770	875	90	40					
76.1	76.6m	0.5m	1.16	10.0	110	570	825	920	60					Only 25% recovered
85.3	86.4m	1.1m	6.06	1.0	17	1550	250	310	30					

LOCATION

NORTHING	5364249.6
EASTING	380142.2
R.L.	2611.9
GRID	AMG
LENGTH	109.4

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0-2m
HQ	2-109.4m

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
2.0m	15.6m	23
49.9m	51.3m	43
55.6m	58.9m	27
67.0m	70.8m	47
71.8m	73.0m	75

POOR GROUND CONDITION ZONES From	To	Condition

HOLE CONDITIONS AFTER COMPLETION

Open. HW casing all removed.

SURVEY DATA (Note Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog. Total
0.0	090	49.0	0.0	15.0	15.0	11.3	2600.6	9.8	9.8
30.0	091	48.5	15.0	45.0	30.0	22.5	2578.1	19.9	29.7
60.0	090	46.5	45.0	75.0	30.0	21.8	2556.3	20.7	50.4
90.0	090	45.0	75.0	99.5	24.5	17.3	2539.0	17.3	67.7
109.0	089	44.5	99.5	109.4	9.9	6.9	2532.1	7.1	74.8

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog. Total

520086

PROJECT: **TYNDALL** HOLE NO.: **HP 15**

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

SCALE 1: 1000 — 20 10 0 20 40 METRES

5 cm

s 364 249·6mN
380 142·2mE

PLAN VIEW

2611·9m R.L.

FELSIC VOLCANICLASTICS AND LAVAS CUT BY MAFIC DYKES
sil., chl., hem., alb.

HENTY FAULT
ser., froc., py.

Limit of ox.

Mylonite Zone

Crushed Zone

SILICEOUS VEIN

MINERALISED COARSE VOLCANICLASTICS
ser., sil., sulph. (carb.)

WEAKLY ALTERED COARSE VOLCANICLASTICS
sil., ser., chl.

EOH 109·4m

5-20 % py

10% py (+cp)

1-2% py

DIP PROFILE

s 364 200mN

380 300mE

85·3 – 86·4m
1·1m @ 6·06g/t Au
1·00g/t Ag
0·16 % Cu

2555m R.L. (FFW)

2532·1m R.L. (EOH)

STATE: **TAS.**

HOLE NO: **HP 15**

520036

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: HENTY

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.15 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARIZED LOG	PGL			
0.0	2.0	0	0	NO CORE	-			
2.0	58.9	51.6	91	WEATHERED VOLCANICLASTICS AND FELSIC LAVAS INTRUDED BY MAFIC DYKES	HWWT			
58.9	68.1	8.7	95	UNWEATHERED VOLCANICLASTICS, INTRUDED BY MAFIC DYKES	HWUW			
68.1	73.0	2.7	55	HENTY FAULT - ZONE OF MYLONITIC SCHISTOSITY	FTMY			
73.0	76.6	3.4	94	HENTY FAULT - MINERALIZED CRUSH ZONE	FTMZ			
76.6	78.3	1.7	100	SILICEOUS VEIN(?)	FWVN			
78.3	91.0	12.7	100	VARIABLY PYRITIC COARSE GRAINED VOLCANICLASTICS	FWMZ			
91.0	109.4	18.4	100	WEAKLY ALTERED COARSE GRAINED VOLCANICLASTICS	FWAW			
				DETAILED LOG				
0.0	2.0	0	0	NO CORE				
2.0	58.9	51.6	91	WEATHERED VOLCANICLASTICS AND FELSIC LAVAS INTRUDED BY MAFIC DYKES				
				Yellow-brown, pale pink and green-grey. Weathered. 70% volcaniclastics, medium to coarse grained, pink lava fragments 1mm-5cm and minor dark green fine grained fragments, all set in a grey-green foliated matrix; fragments (particularly smaller ones) severely flattened and elongated; 15% mafic dykes(?) yellow-brown, fine grained, featureless, generally unfoliated, ranging up to 3m wide (thicker dykes at 4.8-6.3m, 8.7-10.9m, 26.6-27.7m and 42.3-43.5m); 15% lavas, pale pink, mottled with grey-green, weakly foliated, locally autobrecciated - all gradations to coarse grained volcaniclastic. Limonite staining on numerous joints, rare quartz veinlets, variously orientated.				

520088

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: HENTY

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.15 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				Foliation CA's: 22m 50°, 26m 45°, 32m 20°, 43.5m 40° 52m 40°.											
				Fracture Density : High											
				Broken throughout, larger zones of intense breakage at 13.0-15.8m,											
				55.0-58.9m.											
				Interval ends in extremely badly broken, fissile, dark green											
				volcaniclastic.											
58.9	68.1	8.7	95	UNWEATHERED VOLCANICLASTICS, INTRUDED BY MAFIC DYKE.											
				Dark grey-green. Medium grained volcaniclastic, similar to volcaniclastic											
				above but unweathered from 58.9 to 65.8m, then fine grained, unweathered,											
				dark green mafic dyke(?) from 65.8 to 68.1m; the two lithologies are											
				separated by a 5cm pug zone associated with 0.4m core loss.											
				Numerous impersistent carbonate veinlets and rare quartz veinlets.											
				Foliation CA's: Average ~45°.											
				Fracture Density: Moderate to high.											
				Badly broken 65.3-67.7m.											
68.1	73.0m	2.7	55	HENTY FAULT - ZONE OF MYLONITIC SCHISTOSITY											
				Greenish white. Extremely strongly foliated, sericite-rich rock.											
				Foliation locally kinked by later folding event. The lower most 1.2m											
				(71.8-73.0m) comprises completely broken schistose material with minor											
				fragments of siliceous, weakly pyritic clasts; the latter probably represent											
				part of the mineralized crush zone which has been mixed with schistose											
				material when emptying the core barrel.											
				Foliation CA's: 60-70°											
				Fracture Density: High.											
				Extremely badly broken 68.1-68.8m, 69.4-70.2m, 71.1-71.4m and 71.8-73.0m.											
				Extensive core loss, notably at 71.8-73.0m (0.9m lost).											
					T8178	71.8	73.0	25	1.230	15.0	170	770	875	90	40
73.0	76.6	3.4	94	HENTY FAULT - MINERALIZED CRUSH ZONE	T8179	73.0	74.0	100	0.500	9.0	150	570	555	735	60
					T8180	74.0	74.9	100	0.030	1.0	9	25	60	35	<10
				Grey. Tectonic breccia. Subrounded siliceous, pyritic clasts 1mm to 3cm	T8181	74.9	75.6	100	0.020	<0.5	12	100	60	160	10

520089

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: HENTY

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.15 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				set in a sericite - pyrite matrix. Includes an interval of fractured, weakly	T8182	75.6	76.1	90	0.040	<0.5	24	110	115	1150	<10
				pyritic, strongly siliceous vein(?) material at 74.9-76.1m; the latter	T8183	76.1	76.6	80	1.160	10.0	110	570	825	920	60
				locally contains pink jaspery patches and at 75.5m is crudely banded											
				(banding to c.a. = 20°) and has a lower contact angle of 45°.											
				Sulfides: Semi-massive pyrite in pyritic breccia and 1-2% pyrite along											
				fractures in siliceous vein(?) material; pyrite content particularly high											
				with massive pyrite clasts at 74.3-74.9m.											
				Criss-crossing network of thin quartz ± pyrite veinlets within siliceous											
				vein(?).											
				Foliation CA's: Poorly defined, 45-60°.											
				Fracture Density: Alternates between moderate (5-15cm core pieces) to											
				extremely badly broken with some pug development.											
				Examples of the latter are found at 74.2-74.3m, 74.4-74.5m, 75.0-76.5m.											
76.6	78.3	1.7	100	SILICEOUS VEIN(?)	T8184	76.6	77.4	100	0.010	<0.5	8	95	170	435	20
					T8186	77.4	78.3	100	<0.008	<0.5	10	150	70	150	10
				White to pale grey. Extremely siliceous vein(?) or possibly zone of intense											
				silicification. Upper contact ~60° to c.a. and lower contact also at ~ 60°											
				to c.a.											
				Sulfides: 1-2 pyrite in thin veinlets.											
				Criss-crossed with randomly oriented white fractures, lesser siliceous											
				and minor pyritic veinlets.											
				Fracture Density: Moderate.											
78.3	91.0	12.7	100	VARIABLY PYRITIC COARSE GRAINED VOLCANICLASTICS	T8187	78.3	79.3	100	0.020	<0.5	13	50	40	95	<10
					T8188		80.3	100	0.030	<0.5	13	20	40	90	<10
				Grey and pinkish grey. Comprises pyritic and relatively non-pyritic sections	T8189		81.3	100	0.040	<0.5	13	25	45	105	<10
				Pyritic zones at 78.3-86.4m, 87.3-88.2m and 89.4-91.0m and consist of	T8190		82.3	100	0.200	<0.5	20	485	90	70	10
				siliceous fragments (1mm to >2cm) set in a sheared, pyritic, sericitic and/	T8191		83.3	100	0.080	<0.5	30	860	115	135	20
				or siliceous matrix. Non-pyritic zones at 86.4-87.3m and 88.2-89.3m are	T8192		84.3	100	0.030	<0.5	11	25	80	320	<10
				pink-grey and comprise siliceous pink fragments set in a grey-green	T8194		85.3	100	0.020	<0.5	9	40	50	240	<10
				siliceous, foliated matrix.	T8195		86.4	100	6.06	1.0	17	1550	250	310	30
				Trace green "batchelorite" noted in 3cm wide sericitic band at 89.5m and	T8196		87.3	100	0.030	<0.5	8	25	60	200	<10
				in siliceous band 81.6-81.8m.	T8197		88.2	100	0.170	<0.5	16	50	150	240	<10
				Sulfides: In pyritic sections, 5-20% pyrite (average 10%), traces of	T8198		89.3	100	0.040	<0.5	7	25	140	305	20

520090

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: HENTY

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.15 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				chalcopyrite at 82.2-82.6m, 85.3-85.5m, 85.8-86.0m, 89.8-90.0m and
				90.8-91.0m, generally associated with large siliceous clasts or lenses; in
				non-pyritic sections 0-1% pyrite.
				Minor criss-crossing of siliceous veinlets, particularly in less mineralized
				sections, rare carbonate veinlets.
				Foliation CA's: 40-45°
				Fracture Density: Moderate.
91.0	109.4	18.4	100	WEAKLY ALTERED COARSE GRAINED VOLCANICLASTIC
				Extremely poorly sorted volcaniclastic comprising pinkish and grey fine
				grained fragments (the former are largely lava/ex-lava whereas the
				latter appear to be a fine grained volcaniclastic) which range up to the
				core width and wider (so that it is unclear whether some intervals are
				"beds" or fragments) and which are set in a sand to grit size siliceous
				matrix. Weakly foliated. Grades up to a volcanic breccia.
				Generally fairly hard and unaltered but softer and weakly sericitized
				100.9-102.3m, 103.5-106.7m and silicified and weakly pyritic 94.6-95.0m.
				Sulfides: <1% pyrite in sparse euhedra, 20% pyrite between 94.8-95.0m.
				Criss-crossing siliceous veinlets, sericite veinlets and rare veins (≤1cm)
				in weakly sericitized zones. Chlorite veined zone at 107.4-107.7m
				Several pyrite-calcite veins ≤1cm thick at 95.9m.
				Foliation CA's: 40-45°.
				Fracture Density: Moderate.
				END OF HOLE 109.4m.
				ANALABS 309 AND COMLABS FAS1 = Fire assay with AAS finish
				ANALABS 310 = Fire assay with gravimetric finish
				N.B. All Comlabs results show distinct negative bias.

ASSAY DATA Sample No	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
T8199	89.3	90.3	100	0.225	<0.5	41	220	1350	1300	20
T8200	90.3	91.0	100	0.630	<0.5	41	1800	210	75	20
T8178	71.8	73.0	25	1.290	1.170		1.07			
T8183	76.1	76.6	80	1.190	1.130		1.00			
T8195	85.3	86.4	100	4.770	5.570	6.06	4.6	4.16		

GOLD ASSAY DATA (ppm)

REPEATS: / METHOD:	ANALABS Au	ANALABS Au Chk	ANALABS Au	COMLABS Au1	COMLABS Au2
	309	309	310	FAS1	FAS2

520091

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO. :	H.P.16
STATE	: TASMANIA

DLV. PRESS

PROJECT	TYNDALL
DESIGNED BY	A.J.CARTWRIGHT
LOGGED BY	P.A. ROBERTS
COMMENCED	13.3.87
COMPLETED	6.4.87

PURPOSE

To test for northern extensions to the Henty gold mineralized zone at approx. 2400mRL.

LOG SUMMARY

GENERAL COMMENTS

0.0-210.0m HANGING WALL VOLCANICLASTICS AND MAFIC DYKES
-239.9m HENTY FAULT
-243.0m SILICEOUS VEIN
-270.4m SHEARED, PARTLY WEAKLY MINERALIZED AND SILICIFIED VOLCANICLASTICS
-377.3m WEAKLY ALTERED TO UNALTERED COARSE GRAINED VOLCANICLASTICS TO VOLCANIC BRECCIA
-379.9m ?GREAT LYELL FAULT - SERICITIC BROKEN ZONE, MINOR Pb/Zn
-398.0m SERICITIZED QUARTZ PORPHRY

ASSAY SUMMARY

INTERVAL From	INTERVAL To	(m)	Au	Ag	COMMENTS
233.0	270.4m	37.4	<0.008	<0.5	

LOCATION

NORTHING	5364557.2
EASTING	380086.9
R.L.	2607.3
GRID	AMG
LENGTH	398.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0-3.0m
HQ	3.0-398.0m

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
3.0	53.0m	47
161.0	162.7m	69
188.3	192.3	43

POOR GROUND CONDITION ZONES From	To	Condition
0.0	53.7m	Weathered hanging wall volcanics
211.9	215.9m	Henty Fault
234.0	236.9m	
236.9	260.3m	Sericitic fractures throughout
377.3	379.9m	?Great Lyell Fault

HOLE CONDITIONS AFTER COMPLETION

All casing/rods removed

SURVEY DATA (Note Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	090	59.0	0.0	17.5	17.5	15.0	2592.3	9.0	9.0
35.0	091	60.0	17.5	50.0	32.5	28.1	2564.2	16.3	25.3
65.0	092	60.0	50.0	95.0	45.0	39.0	2525.2	22.5	47.8
125.0	094	56.0	95.0	144.0	49.0	40.6	2484.6	27.4	75.2
163.0	092	54.0	144.0	188.5	44.5	36.0	2448.6	26.2	101.3
214.0	091	52.5	188.5	235.5	47.0	37.3	2411.3	28.6	129.9
257.0	092	52.5	235.5	281.0	45.5	36.1	2375.2	27.7	157.6
305.0	091	51.0	281.0	326.0	45.0	35.0	2340.2	28.3	185.9
347.0	091	49.0	326.0	371.5	45.5	34.3	2305.9	29.9	215.8
396.0	090	45.0	371.5	398.0	26.5	18.7	2287.1	18.7	234.5

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total

PROJECT: TYNDALL HOLE NO: HP 16

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

s364 557·2mN
380 086·9mE

PLAN VIEW

2607·3m R.L.

s364 500mN
380 200mE

Limit of ox.

MEDIUM GRAINED FELSIC VOLCANICLASTICS INTRUDED BY MAFIC DYKES
silic., hem., chl., alb., carb., ser.

100

5 cm

HENTY FAULT
silic., ser., froc., shearing

Mylonite Zone

Crushed Zone

200m

WEAKLY MINERALISED, SHEARED SILICIFIED, COARSE VOLCANICLASTICS
silic., ser., py.

2411·3mR.L. (FFW)

SCALE 1:1000

METRES 20 10 0 20 40

WEAKLY ALTERED COARSE GRAINED VOLCANICLASTIC BRECCIA
silic., ser., chl.

300m

1-5 % py

QUARTZ PHYRIC VOLCANICLASTIC BRECCIA
silic., ser.

GREAT LYELL FAULT?
silic., ser., sulph.

QUARTZ PORPHYRY
silic., ser.

EOH 398·0m

0-1% sl. py + gn

DIP PROFILE

2287·1mR.L. (EOH)

STATE: TAS.
HOLE NO: HP16

520093

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 1

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA														
From	To	m	%		Sample No.	From	To	Rec. %											
				SUMMARIZED LOG	PGL														
0.0	3.0	0	0	NO CORE	-														
3.0	55.9	29.6	53	WEATHERED MEDIUM GRAINED VOLCANICLASTICS INTRUDED BY MAFIC DYKES	HWWT														
55.9	210.0	150.3	98	UNWEATHERED MEDIUM GRAINED VOLCANICLASTICS WITH MINOR MAFIC DYKES	HWUW														
210.0	234.0	23.8	99	HENTY FAULT - ZONE OF MYLONITIC SCHISTOSITY	FTMY														
234.0	236.9	2.6	90	HENTY FAULT ZONE - MIXED CRUSH ZONE AND ZONE OF MYLONITIC SCHISTOSITY	FTCS														
236.9	243.0	5.6	92	SILICEOUS VEIN OR ZONE OF SILICIFICATION	FWVN														
243.0	248.1	5.1	100	SHEARED, SILICIFIED ?VOLCANICLASTICS	FWSL														
248.1	254.9	6.7	99	WEAKLY MINERALIZED, SHEARED COARSE GRAINED VOLCANICLASTICS	FWAW														
254.9	258.0	3.1	100	STRONGLY SHEARED SILICEOUS VEIN OR ZONE OF SILICIFICATION	FWVN														
258.0	260.3	2.3	100	MINERALIZED, SILICIFIED ?SHEARED VOLCANICLASTICS	FWMZ														
260.3	270.4	10.1	100	WEAKLY MINERALIZED SHEARED COARSE GRAINED VOLCANICLASTICS	FWAW														
270.4	313.7	43.3	100	COARSE GRAINED VOLCANICLASTICS TO VOLCANIC BRECCIA	FWAW														
313.7	318.7	5.0	100	SERICITIZED, FOLIATED AND SHEARED ?MEDIUM GRAINED VOLCANICLASTICS	FWAS														
318.7	334.0	15.3	100	COARSE GRAINED VOLCANICLASTICS TO VOLCANIC BRECCIA	FWAW														

520094

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
334.0	337.1	3.1	100	WEAKLY MINERALIZED AND ALTERED COARSE GRAINED VOLCANICLASTICS	FWAW			
337.1	377.3	40.2	100	COARSE GRAINED QUARTZ PHYRIC VOLCANICLASTICS TO VOLCANIC BRECCIA	FW UN			
377.3	379.9	2.6	100	BADLY BROKEN ZONE MARKING TRANSITION BETWEEN VOLCANICLASTICS AND QUARTZ PORPHYRY- GREAT LYELL FAULT?	GTLF			
379.9	398.0	18.1	100	SERICITIZED QUARTZ PORPHYRY.	FWQP			
				DETAILED LOG				
0.0	3.0	0	0	NO CORE				
3.0	55.9	29.6	53	WEATHERED VOLCANICLASTICS MEDIUM GRAINED VOLCANICLASTICS INTRUDED BY MAFIC DYKES				
				Pale brown, mottled with grey-green increasingly downhole. Weathered. 75% volcaniclastics, pale brown mottled with grey-green sand/minor silt, grain size with rare larger felsic lava clasts (<2cm), foliated; 25% mafic dykes(?), yellow-orange-brown (darker cf volcaniclastics), massive, featureless, fine grained.				
				BCA(?): 40° at 55.3m.				
				Foliation CA's: 40-45°				
				Fracture Density: Very high 0-33.5m, moderate 33.5-51.0m, very high beyond that. Very badly broken at 3.8-11.0m, 11.4-13.0m, 13.9-29.4m, 30.0-32.0m, 32.5-33.0m, 49.6-50.0m, 51.0-53.7m, associated with 23.3m of core loss.				
				Lower Contact: Gradational.				
55.9	210.0	150.3	98	UNWEATHERED MEDIUM GRAINED VOLCANICLASTICS WITH MINOR MAFIC DYKES				
				Grey-green, dark green, pinkish brown and pinkish green. 85% volcani-				

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No	From	To	Rec. %
				clastics, grey-green, pinkish brown to green, ranging in grain size,coarser material with clasts averaging 2mm, rarely exceeding 1cm (pink lava clasts), in a sand size matrix, finer material a tuffaceous fine sandstone to coarse siltstone, all strongly foliated; 15% dark green mafic dykes(?), massive, fine grained,generally weakly foliated, including numerous randomly oriented carbonate veins/veinlets, thicker examples at 68.4-71.4m, 88.8-90.3m, 126.9-128.2m, 131-132.0m, 133.6-140.4m, 146.0-149.6m, 153.9-155.0m and 187.8-189.4m, contacts commonly near parallel foliation - sills(?), some may be lavas(?) and more foliated examples may be mafic tuffs.				
				Minor quartz veinlet development in volcaniclastics, partly randomly oriented and partly parallel to foliation, also thicker metamorphegenic quartz±chlorite±feldspar veins, notably at 75.2-75.7m, 170.2-170.5m, 191.4-192.7m.				
				BCA: 122.7m 45° (parallel foliation).				
				Foliation CA's: 64m 45°, 80m 40-45°, 100m 40-45° (locally kinked), 117m 50-60°, 129m 45° (locally kinked), 142m 45°, 171m 50°, 185m 55° (locally kinked), 204m 45°.				
				Fracture Density: Generally moderate to low, but increasingly broken towards end. Notably badly broken zones at 93.7-96.5m (sericite development), 118.7-121.4m (well foliated tuffs), 133.6-134.0m, 155.0-156.1m, 160.6-163.5m (sericite development).				
				Lower Contact: Very gradational, marked by gradually increasing intensity of foliation.				
210.0	234.0	23.8	99	HENTY FAULT - ZONE OF MYLONITIC SCHISTOSITY				
				Pale greenish-white and grey green. Comprises two relatively bleached zones at 210.0-218.7m and 231.8-234.0m both of which consist of "typical looking" strongly sheared and kinked Henty Fault material; in between the two zones consists of grey green strongly sheared fine grained materia (ex-fine grained tuffaceous epiclastic?) that may be equivalent to chloritic interfault sequence further to the north.				
				"Batchelorite" noted at 211.3-212.0m, 215.7-215.9m 233.5m.				
				Strongly sericitized, particularly in pale sections.				
				Sulfides: Traces of pyrite in several thin veins at 233.3m.				

520096

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				Veining: Partly dismembered quartz±carbonate veinlets and veins are common (ranging up to 20mm thick), particularly in darker coloured section in the middle.											
				Foliation CA's: Variable, 10-60°, averaging~50°.											
				Fracture Density: High in upper pale coloured section, moderate to high in the rest. Extremely badly broken 211.9-212.3m, 214.3-215.9m (including minor crush zone material). Thin puggy zones (≤ 5cm) at 212.0m, 227.2m, 228.1m and 228.6m.											
				Lower Contact: Irregular at 50° to c.a.	T8353	233.0	234.0	100	<0.008	<0.5	13	15	25	100	<10
234.0	236.9	2.6	90	HENTY FAULT ZONE - MIXED CRUSH ZONE AND ZONE OF MYLONITIC SCHISTOSITY											
				Grey, pale yellow-green, green grey. Comprises approx. 30% crush zone material which consists of pale grey to white siliceous fragments ± trace sulfides set in a soft puggy, sericitic matrix, and approx. 70% mylonitic schistose material which is pale yellow-green and sericite -rich.	T8354	234.0	235.0	100	<0.008	<0.5	18	10	20	45	<10
					T8355		236.0	90	<0.008	0.5	9	10	5	50	10
					T8356		236.9	89	<0.008	<0.5	24	80	25	65	10
				Foliation CA's: Variable 25-60°											
				Fracture Density: Moderate to high. Badly broken below 236.0m, 0.3m of core loss.											
236.9	243.0	5.6	92	SILICEOUS VEIN OR ZONE OF SILICIFICATION											
				Pale grey to white. Comprises fine grained silica cut by numerous sericitic	T8357	236.9	238.0	100	<0.008	0.5	9	10	20	40	<10
				fractures and with patchy traces of sulfides - both pyrite and base metal	T8358		239.0	100	<0.008	<0.5	6	15	35	155	10
				sulfides in thin wispy veinlets. Frequency of sericite veinlets particularly	T8359		240.0	100	<0.008	0.5	5	10	65	75	<10
				high at 236.9-237.9m, 238.5-238.8m, 240.0-240.5m and 241.2-241.4m, where	T8360		241.0	70	<0.008	<0.5	6	10	40	105	10
				core is particularly badly broken. Crush zone-type material probably	T8361		242.0	80	<0.008	<0.5	6	5	50	130	10
				included within latter zones (e.g. at 237.1m).	T8362		243.0	100	<0.008	<0.5	9	10	55	90	<10
				Metamorphic "bucky" white quartz vein at 242.1-242.4m, cut by numerous criss-crossing white fractures.											
				Foliation CA's: Variable 40-60°											
				Fracture Density: Badly broken throughout and locally puggy, core loss of 0.3m at 240.0-240.5m.											
				Lower Contact: at 30° to c.a.											

520097

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
243.0	248.1	5.1	100	SHEARED, SILICIFIED ?VOLCANICLASTICS											
				Pink-grey, green-grey. Comprises silicified volcaniclastic(?) material	T8364	243.0	244.0	100	<0.008	<0.5	8	10	600	60	<10
				(original grain size unclear) cut by numerous soft sericitic fractures	T8365		245.0	100	<0.008	<0.5	13	10	185	50	<10
				oriented roughly parallel to one another (forming foliation).	T8366		246.0	100	<0.008	<0.5	12	5	40	40	<10
					T8367		247.0	100	<0.008	<0.5	7	15	20	50	<10
				Sulfides: Largely unmineralized, traces of pyrite and base	T8368		248.0	100	<0.008	<0.5	8	20	30	55	<10
				metal(?) sulfides in irregular quartz veinlets.											
				Veining: Criss-crossing siliceous veinlets top 1m, rare carbonate											
				veinlets.											
				Foliation CA's: Variable 30-60°											
				Fracture Density: Moderate to high.											
				Lower Contact: Gradational.											
248.1	254.9	6.7	99	WEAKLY MINERALIZED, SHEARED COARSE GRAINED VOLCANICLASTICS											
				Green-grey. Similar to above but more sericitic and containing minor	T8369	248.0	249.0	100	<0.008	<0.5	11	155	385	520	<10
				(<1%) disseminated sulfides - pyrite and base metal sulfides, the latter	T8370		250.0	90	<0.008	<0.5	7	85	465	465	<10
				notably at 249.5-249.8m. Minor, variably oriented, siliceous veinlets.	T8371		251.0	100	<0.008	<0.5	6	10	70	55	<10
				Foliation CA's: Too badly broken to measure, however some contortion	T8372		252.0	100	<0.008	<0.5	15	5	45	40	<10
				evident.	T8374		253.0	100	<0.008	<0.5	10	435	15	40	<10
				Fracture Density: Moderate to high.	T8375		254.0	100	<0.008	<0.5	17	120	15	35	<10
					T8376		254.9	100	<0.008	<0.5	23	20	15	35	<10
254.9	258.0	3.1	100	STRONGLY SHEARED SILICEOUS VEIN OR ZONE OF SILICIFICATION											
				Grey, yellow-green grey. Fine grained grey silica, cut by increasing	T8377	254.9	255.5	100	<0.008	<0.5	21	70	30	65	<10
				number of sericitic fractures down-hole, until siliceous material becomes	T8378		256.5	100	<0.008	<0.5	10	375	20	45	<10
				subordinate to sericite at end of intersection. Locally some (later)	T8379		258.0	100	<0.008	<0.5	6	105	15	35	<10
				translucent grey quartz cross-cutting and brecciating earlier white quartz											
				e.g. at 255.4m.											
				Sulfides: <1% comprising disseminated pyrite and very fine											
				grained base metal sulfides(?).											
				Veining: Sericitic fracturing (which may = foliation) varies from											
				20-80° to c.a.											
				Fracture Density: Moderate to high. Some puggy material at 255.3m.											

520098

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 6

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
258.0	260.3	2.3	100	MINERALIZED, SILICIFIED ?SHEARED VOLCANICLASTICS											
				Grey. Strongly foliated (sheared?), includes occasional rounded clasts	T8380	258.0	259.0	100	<0.008	<0.5	15	15	20	30	10
				1-2cm, strongly silicified and cut by numerous sericitic fractures (forming	T8381		260.0	100	0.010	<0.5	12	130	15	45	<10
				foliation). Original grain size not apparent.	T8382		261.0	100	0.010	<0.5	11	25	15	40	<10
				Sulfides: Ranging up to~5% disseminated pyrite.											
				Foliation CA's: 30-45°											
				Lower Contact: Gradational.											
260.3	270.4	10.1	100	WEAKLY MINERALIZED SHEARED COARSE GRAINED VOLCANICLASTICS											
				Grey. At beginning of interval similar to previous intersection except	T8384	261.0	262.0	100	<0.008	<0.5	12	10	15	40	<10
				with gradationally decreasing pyrite content i.e. strongly silicified and	T8385		263.0	100	<0.008	<0.5	7	10	15	35	10
				cut by numerous sericitic fractures. Gradually, down the hole, the	T8386		264.0	100	<0.008	<0.5	6	105	10	35	<10
				volcaniclastic texture becomes apparent so that, towards the end,	T8387		265.0	100	<0.008	<0.5	6	185	15	45	<10
				sheared siliceous clasts (1-10cm) become visible, also cut by sericitic	T8388		266.0	100	<0.008	<0.5	8	205	15	60	<10
				fractures. "Batchelorite" noted lowest 2m.	T8389		267.0	100	<0.008	<0.5	11	140	15	80	<10
				Sulfides: Disseminated fine grained pyrite (up to 3% decreasing	T8390		268.0	100	<0.008	<0.5	8	55	15	55	<10
				to trace sulfides towards end of interval.	T8391		269.0	100	<0.008	<0.5	8	40	10	75	<10
				Veining: Minor quartz veinlets and some siliceous patches which	T8392		270.4	100	<0.008	<0.5	9	10	15	70	<10
				may be thicker veins.											
				Foliation CA's: 30-40°.											
				Fracture Density: Moderate.											
				Lower Contacts: Abrupt.											
270.4	313.7	43.3	100	COARSE GRAINED VOLCANICLASTICS TO VOLCANIC BRECCIA											
				Grey, pink, grey-brown. Comprises either sheared coarse grained											
				volcaniclastic in which pink and grey siliceous fragments (0.1cm to >core											
				width) set in a grey, sericitic matrix or siliceous pink/grey sections											
				interbanded with lesser grey, slightly sericitic volcaniclastics; in the latter											
				case, the siliceous sections are probably very large fragments (≤2m)											
				however some examples may be silicified layers (?lava).											
				Narrow irregular altered (sericitic) patches carrying disseminated spots											
				of distinctive green "batchelorite" are seen at 284.2, 293.2-293.7m,											
				294.7-294.8m, 296.6-296.7m, 297.4-298.3m, 300.1-300.3m, 301.7-302.2m.											

520099

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 7

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				Sulfides: Rare disseminations of fine grained pyrite in sericitic matrix notably top 10m.											
				Veining: Variously oriented quartz veined ≤ 1cm thick, some with clear contacts and some with diffuse "metamorphic-looking" margins.											
				Foliation CA's: 35-45°, foliation/shearing better developed in weakly sericitic sections.											
				Fracture Density: Mostly moderate. Extremely badly broken zones at 283.1-283.3m, 284.0-284.3m, 303.0-303.7m, 306.0-306.4m.											
313.7	318.7	5.0	100	SERICITIZED, FOLIATED AND SHEARED ?MEDIUM GRAINED VOLANICLASTICS.											
				Grey-green. So strongly sheared that grain size unclear. Most obvious fragments are angular quartz (2-3mm), which are largely pieces of dismembered quartz veins. Includes minor siliceous patches (?fragments) ≤20cm. Locally includes spots and small indistinct patches of "batchelorite".	T8709	313.7	314.7	100	<0.008	<0.5	18	10	10	90	1
					8710		315.7	100	<0.008	<0.5	17	10	<5	125	<1
					8711		316.7	100	0.010	<0.5	11	985	15	205	<1
					8712		317.7	100	<0.008	<0.5	14	150	5	210	<1
				Sulfides: Rare small grains of pyrite.	8713		318.7	100	<0.008	<0.5	17	35	15	105	6
				Veining: Variously oriented quartz veins (<1cm), occasionally with minor carbonate (e.g. 316.5m).											
				Foliation CA's: 40°.											
				Fracture Density: Mostly moderate.											
318.7	334.0	15.3	100	COARSE GRAINED VOLCANICLASTICS TO VOLCANIC BRECCIA.											
				Very similar to 270.4-313.7m, includes "batchelorite"-bearing zones at 323.4-324.0m and 325.9-326.4m.											
				Foliation CA's: 40-45°											
				Fracture Density: Moderate, except 328.6-334.0m, where badly broken on sericitic fractures, which are rarely puggy (pug zones ≤1cm thick).											
334.0	337.1	3.1	100	WEAKLY MINERALIZED AND ALTERED COARSE GRAINED VOLCANICLASTICS											
				Grey. Sheared volcaniclastics similar to above but sericitized and carrying											

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 8

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi	Sn	W
				variable but weak disseminated pyrite mineralization (<5%). Increasingly	T8715	334.0	335.0	100	0.040	0.5	18	10	10	75	2		
				pyritic with depth.	8716		336.0	100	<0.008	0.5	4	10	<5	50	5		
				Foliation CA's: 45-55°	8717		337.0	100	<0.008	<0.5	7	5	15	90	<1		
				Fracture Density: Moderate to high, few breaks on sericitic, slightly puggy	8718		337.9	100	<0.008	<0.5	4	10	<5	70	<1		
				fractures.													
337.1	377.3	40.2	100	COARSE GRAINED QUARTZ PHYRIC VOLCANICLASTICS TO VOLCANIC BRECCIA													
				Grey, pink. Comprises siliceous, quartz-phyric pink and grey lava fragments ranging from 1mm to 10cm set in a grey matrix which is also sometimes quartz phyric. Some quartz phenocrysts rounded and white and some euhedral and nearly clear. Locally also feldspar (sericitized) - phyric e.g. 360.8-361.3m. Sericitization increases towards lower contact. Veined throughout by variously orientated quartz±feldspar±carbonate veins ±(rare) pyrite 1mm to 3cm thick. One metamorphic quartz-chlorite vein at 341.8-342.7m, upper + lower contact angles 45° and 80° to c.a., respectively.												
				Foliation CA's: Indistinct, 40-65°.	T8719	375.0	376.0	100	<0.008	<0.5	5	25	45	70	<1		
				Fracture Density: Low. Broken 342.4-342.6m, 1cm pug zone at 342.75m.	8720		377.0	100	<0.008	<0.5	3	10	10	75	<1		
377.3	379.9	2.6	100	BADLY BROKEN ZONE MARKING TRANSITION BETWEEN VOLCANICLASTICS AND QUARTZ PORPHYRY - GREAT LYELL FAULT?													
				Greenish-grey. Comprises coarse grained volcaniclastic down to	T8721	377.0	378.0	100	<0.008	14.0	110	1150	165	505	1	4	<10
				approximately 379m and apparently quartz porphyry below that point.	8722		379.0	100	<0.008	<0.5	9	70	570	2550	2	<3	<10
				No clear contact can be seen. Matrix sericitized throughout. All quartz	8723		380.0	100	<0.008	1.0	8	65	2125	10500	7	<3	<10
				phyric.													
				Note: There appears to be a 3 to 5m wide halo of quite strong sericitiza-													
				tion above and below this intersection which may reflect the movement													
				of hydrothermal fluids along this structure.													
				Sulfides: Minor (<1%) coarse grained galena and pale sphalerite													
				in strongly sericitized and puggy zones - late													
				?Devonian veining.													
				Badly broken throughout on sericitic, locally puggy fractures (no core loss).													

520101

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H.P.16 Page: 9

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
379.9	398.0	18.1	100	SERICITIZED QUARTZ PORPHYRY											
					T8724	380.0	381.0	100	<0.008	<0.5	6	10	50	120	1
				Greenish grey and pale yellow-green-grey. Porphyry is fairly featureless	8726		382.0	100	<0.008	<0.5	3	10	95	110	4
				down to 385m, where it comprises abundant anhedral to subhedral clear	8727		383.0	100	<0.008	<0.5	2	10	15	95	2
				quartz phenocrysts set in a uniform grey-green sericitized groundmass	8728		384.0	100	<0.008	<0.5	3	25	15	150	1
				with minor irregular veins of quartz and/or carbonate. Below 385m, the	8729		385.0	100	<0.008	<0.5	2	10	25	95	3
				porphyry is intensely fractured with most fractures healed by quartz	8730		386.0	100	<0.008	<0.5	2	10	35	90	<1
				(±sericite) veinlets. The latter very rarely contain base metal sulfides.	8731		387.0	100	<0.008	<0.5	3	20	35	75	1
				Sericitization increases lower most 0.6m where associated with irregular	8732		388.0	100	<0.008	<0.5	2	10	20	95	2
				quartz veinlets carrying minor chalcopyrite.	8733		389.0	100	<0.008	<0.5	1	20	25	110	2
				Some thicker quartz veins ≤3cm at 25-40° to c.a.	8734		390.0	100	<0.008	<0.5	1	20	20	205	<1
				Fracture Density: Low; generally competent core.	8735		391.0	100	<0.008	<0.5	1	5	40	90	<1
					8737		392.0	100	<0.008	<0.5	1	10	10	55	2
				END OF HOLE	8738		393.0	100	<0.008	<0.5	3	30	50	270	<1
					8739		394.0	100	<0.008	<0.5	3	30	30	50	2
					8740		395.0	100	<0.008	<0.5	4	35	15	105	1
					8741		396.0	100	<0.008	<0.5	5	45	15	50	3
					8742		397.0	100	<0.008	<0.5	10	155	35	100	2
					8743		398.0	100	<0.008	<0.5	18	490	140	240	1

520102

HOLE NO.	HP17
STATE	TASMANIA

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

ULV. PRESS

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	A.J. CARTWRIGHT
COMMENCED	16.3.87
COMPLETED	30.3.87

PURPOSE

To test the Henty mineralised zone in a 50m square drill pattern around the HP9 intersection.

LOG SUMMARY

GENERAL COMMENTS

A strongly pyritic volcaniclastic sequence was encountered, 1.2m from the Henty Fault footwall. This sequence contained several thin silicified zones, a thin (0.8m) quartz-carbonate vein and a thin (1.6m) massive pyrite zone on the footwall side. Significant assays are recorded below.

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width(m)	Au	Ag	As	Cu	Pb	Zn	Bi	-all ppm				COMMENTS
157.8	159.4	1.6	13.85	99.5	1500	4113	5863	348	705					

LOCATION

NORTHING	5364300.8
EASTING	380101.3
R.L.	2595.6
GRID	AMG
LENGTH	205.8

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0-3.0
HQ	3.0-205.8

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
129.7	133.7	12

POOR GROUND CONDITION ZONES From	To	Condition
105.0	138.7	Henty Fault. Strongly sheared and shattered, sericitic rock and unconsolidated clays.

HOLE CONDITIONS AFTER COMPLETION

All casing removed from hole which now open with a plastic collar-maker. Hole is making water.

SURVEY DATA (Note Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog. Total
0.0	090	59.0	0.0	15.0	15.0	12.9	2582.7	7.7	7.7
30.0	089	57.0	15.0	45.0	30.0	25.2	2557.6	16.3	24.1
60.0	089	57.0	45.0	75.0	30.0	25.2	2532.4	16.3	40.4
90.0	090	54.5	75.0	105.0	30.0	24.4	2508.0	17.4	57.8
120.0	090	53.5	105.0	135.0	30.0	24.1	2483.9	17.8	75.7
150.0	091	52.0	135.0	165.0	30.0	23.6	2460.2	18.5	94.1
180.0	091	50.0	165.0	193.0	28.0	21.4	2438.8	18.0	112.1
206.0	092	49.0	193.0	205.8	12.8	9.7	2429.1	8.4	130.5

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog. Total

520103

PROJECT: **TYNDALL** HOLE NO.: **HP 17**

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

SCALE 1: 1000

5 cm

s364 300·8mN
380 101·3mE

PLAN VIEW

DIP PROFILE

2595·6 m R.L.

FELSIC VOLCANICLASTICS AND LAVAS CUT BY THIN MAFIC DYKES
sil., hem., chl., ser.

Limit of m.

increased sericite fracturing

HENTY FAULT
ser., fract.

100m

Mylonite Zone

Crushed Zone

Mylonite Zone

UNMINERALISED VOLCANICLASTICS
sil., ser., chl.

MINERALISED COARSE VOLCANICLASTICS
sil., ser., chl., sulph.

157·8 – 159·4m
1·6m @ 13·85g/t Au
100 g/t Ag
0·42% Cu
0·59% Pb

UNMINERALISED, SILICIFIED COARSE VOLCANICLASTICS AND EPICLASTICS
sil., ser., chl.

s364 200mN

380 000 mE

2481·0 m R.L. (FFW)

10-15% py (+cp)

2429·1 m R.L. (EOH)

2-3% py

EOH 205·8m

25% py
massive & semi-massive pyrite (+cp+gn+sl)

STATE: **TAS.**

HOLE NO: **HP 17**

520104

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP17 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PGI
0.0	105.0	102.0	97	FELSIC VOLVANICLASTICS AND LAVAS CUT BY A SERIES OF THIN		0·0	44·5	HWWT
				MAFIC DYKES. STRONGLY WEATHERED AND STRONGLY FRACTURED.		44·5	105·0	HWWJ
105.0	138.7	32.0	95	HENTY FAULT. TWO MYLONITIC VOLCANICLASTIC SEQUENCES		105·0	127·9	FYMY
				ARE SEPARATED BY A CRUSHED ZONE OF UNCONSOLIDATED		127·9	133·7	FYCS
				SERICITIC ROCK FRAGMENTS AND CLAYS.		133·7	138·7	FYMY
138.7	139.9	1.2	100	UNMINERALISED, STRONGLY ALTERED, VOLCANICLASTICS. THE		138·7	139·9	FWAS
				UNIT IS MODERATELY SILICIFIED.				
139.9	159.4	19.5	100	STRONGLY MINERALISED AND ALTERED COARSE VOLCANICLASTICS				
				WITH SEVERAL THIN SILICIFIED ZONES, A THIN QUARTZ-CARBONATE		139·9	159·4	FWMZ
				VEIN AND A THIN MASSIVE PYRITE LENS.				
159.4	205.8	46.4	100	MODERATELY TO WEAKLY ALTERED, UNMINERALISED COARSE		159·4	181·0	FWSL
				VOLCANICLASTICS WITH MINOR FINE GRAINED EPICLASTICS, A		181·0	205·8	FWAN
				THICK METAMORPHIC QUARTZ VEIN AND SILICIFIED ZONE ALSO				
				OCCUR.				
				DETAILED LOG				
				0.0-105.0 FELSIC VOLCANICLASTICS AND LAVAS CUT BY A SERIES				
				OF MAFIC DYKES.				
0.0		3.0		Tricone, no core recovered.				
3.0	44.5	41.1	97	Variably but generally strongly weathered coarse volcaniclastics containing				
				white lithic/crystal fragments and auto-brecciated felsic lavas. This				
				sequence is cut by several thin mafic dykes. The core is strongly				
				weathered in patches to limonitic clays - completely broken and soft				
				over 3-4m. Generally the rock is moderately-strongly fractured and very				
				weakly foliated at 55°CA.				

520105

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP17

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
44.5	80.4	35.9	100	Incipiently-weakly weathered brown-green volcaniclastics. This unit is the same as above except that the limonite is restricted to joint surfaces. The core is strogly fractured. The rock is a medium grained volcaniclastic with small pink lithic fragments. Autobrecciated felsic lavas also occur throughout the unit. Mafic dykes are common, around 5-10m apart and 1-2m wide.				
80.4	105.0	25.0	98	Dark grey-pink felsic lavas and volcaniclastics. Hard and unweathered, but strongly fractured and in places, strongly sericitic. The core is foliated at 55°CA (weakly) and several thick irregular metamorphic quartz-chlorite veins occur. Mafic dykes are present as above. At 91.8, the rock becomes significantly more sericitic and fractured, increasing in intensity towards the fault below. Numerous sericitic crushed zones occur and the core is a pale pink red colour.				
				105.0-138.7 HENTY FAULT. A MYLONITIC VOLCANICLASTIC SEQUENCE SEPARATED BY A WELL DEVELOPED CRUSHED ZONE.				
105.0	129.7	23.6	96	Pale pink-green intensely sericitic and sheared mylonitic volcaniclastics and mafic dykes. The unit is strongly fractured with many soft, crumbly sericitic zones. The cleavage/foliation developed in the mylonite is crenulated and kink folded. The rock is weakly irregularly veined with white quartz and sericite. The foliation runs at 60°CA.				
129.7	133.7	3.5	88	Pale grey-green crushed zone. The core is unconsolidated and completely fractured clays and sericitic rock fragments. Weakly developed puggy zones are present also. At 133.0, a 0.4m wide black shale occurs; this is completely shattered and sheared. At 133.5, bright-green batchelorite occurs in the sericitic rock.				
133.7	138.7	4.9	98	Pink-green-grey mylonitic volcanics. Strongly sheared and foliated but moderately fractured, this rock is strongly sericitic and contains many irregular sericite and quartz veins and veinlets. Small (0.1-0.2m) sericitic fractured zones are also present. The foliation/cleavage is deformed by later kink foliating.				

520106

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP17

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				At 138.5, the lower 0.2m of this unit is strongly fractured into a crumbly sericite-clay-rock zone.											
				138.7-139.9 UNMINERALISED, STRONGLY ALTERED VOLCANICLASTICS											
138.7	139.9	1.2	100	Pale green-grey, strongly quartz-sericite altered volcaniclastics. This unit is weakly pyritic (around 1% by vol.), is only weakly fractured and is weakly foliated at 45°CA. The rock is silicified and cut by numerous pale green sericitic veinlets, sub-parallel to the foliation, and many fine quartz veinlets.											
				139.9-156.5 STRONGLY MINERALISED AND ALTERED COARSE VOLCANICLASTICS.	T8327	138.0	139.0	100	<0.008	<0.5	9	20	20	85	3
					8		140.0	"	"	"	7	60	10	20	<1
139.9	156.5	16.7	100	Pale green-grey, strongly altered and sulphidic, coarse volcaniclastics. A coarse grained sequence with white silicified, subrounded fragments from 2-3mm up to 3-4cm in size, in a quartz-sericite-sulphide matrix. The unit is unfractured and where particularly sericitic, is foliated at 45°CA. Pale green sericite veinlets run parallel to the foliation and are strongly developed in patches. Small (0.2-0.3m wide) silicified zones occur; these often contain thin, irregular quartz and carbonate veinlets. Pyrite is present as fine grained disseminations with a few coarse blebs of chalcopyrite. The overall sulphide content is around 10%. Small clayey fractures are present throughout the unit although they are minor. Also, small offset joints occur, generally with offsets less than 1cm. Carbonate veins are common throughout the unit.	9		141.0	"	0.180	15.0	14	460	5	35	4
					30		142.0	"	0.030	<0.5	10	55	"	"	2
					1		143.0	"	0.150	"	14	690	10	30	7
					2		144.0	"	0.010	"	16	80	5	"	4
					3		145.0	"	0.290	4.0	11	15	<5	15	<1
					4		146.0	"	0.030	1.5	16	"	"	"	2
					5		147.0	"	0.070	1.0	11	"	5	10	3
					6		148.0	"	<0.008	0.5	8	20	"	25	2
					8		149.0	"	"	<0.5	6	15	10	60	<1
					9		150.0	"	"	"	6	"	<5	55	"
					40		151.0	"	"	"	11	10	"	50	"
					1		151.8	"	"	"	9	"	10	70	2
				At 151.0, the core is strongly fractured over a silicified zone for the next 0.8m.	2		152.8	"	"	1.0	10	"	15	35	"
					3		153.7	"	"	<0.5	5	30	5	20	<1
				At 153.7, the rock becomes dark grey in colour, a result of increased (patchy) fine pyrite in the matrix. This lasts till 156.5, at the end of the unit. Overall the pyrite content is 15% but in places is semi-massive. A sharp fractured contact at 62°CA with the vein below.	4		154.7	"	0.260	4.5	12	140	190	55	50
					5		155.7	"	2.280	1.0	20	180	305	100	7
					T8346	155.7	156.5	"	0.070	<0.5	21	480	35	85	1
156.5	157.3	0.8	100	White-grey, fine grained quartz-carbonate vein. Predominantly crypto-crystalline quartz with later quartz and carbonate veinlets irregularly	T8348	156.5	157.3	"	0.070	<0.5	24	520	40	70	3

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP17 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				cutting through. The vein also contains minor lenses and elongate bands of strongly altered, sulphidic volcaniclastics. A few patches with pale green sericitic streaks occur and the core is unfractured and unfoliated. At 157.2, a small (2cm wide) clast of red, brecciated jasper occurs. The overall sulphide content is around 5%.											
157.3	157.8	0.5	100	Strongly mineralised and altered coarse volcaniclastics. This unit consists of large white silicified fragments in a dark grey sericite-pyrite-carbonate matrix. It is unfractured and foliated at 55°CA. The sulphide content of the unit is high, around 25% in volume. This sequence has a 60°CA contact with the vein above and a similar contact with the massive sulphide below.	T8349	157·3	157·8	100	0·150	0·5	50	105	50	60	9
157.8	159.4	1.6	100	Massive fine grained pyrite-minor carbonate. Structureless, solid, brass-coloured pyrite with small white wisps and lenses of carbonate. At 159.0, the lower 0.4m of this unit is intergrown massive pyrite and strongly pyritic volcaniclastics (as in the previous unit).	T8350	157·8	158·6	100	20·62	187	1700	4875	7600	165	810
					T8351	158·6	159·4	"	7·08	42	1300	3350	4125	530	600
				159.4-206.8 MODERATELY TO WEAKLY ALTERED COARSE VOLCANICLASTICS WITH MINOR EPICLASTICS.											
159.4	174.2	14.6	100	Grey-pink-green coarse volcaniclastics. Generally moderately altered and weakly pyritic (around 3-2%). The core is strongly silicified over the top 0.7m of the unit. A coarse volcaniclastic breccia with elongate clasts - silicified, in an altered fine matrix of sericite-pyrite and silica. The core is irregularly foliated with several small-scale faults off-setting the foliation. In general, the foliation runs around 43°CA. The core is weakly fractured, with several thin (0.2-0.3m) green, sericitic fractured zones. Some lava clasts are extremely large (up to 10-20cm across) in this unit which is poorly sorted. Several irregular, thin quartz veinlets occur throughout the unit. Between 170.0 and the end of this unit, several thin (0.2m), strongly developed silicified zones occur.	T8352	159·4	160·4	100	0·070	1·0	18	115	440	250	5
174.2	181.0	6.8	100	Pale grey-green silicified volcaniclastics. A strong siliceous overprint is											

520108

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP17

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				developed throughout this unit, which appears to have originally been a coarse volcaniclastic breccia. The silica alteration is accompanied by minor pale green sericite and the core is weakly-moderately fractured with several 0.1m-0.4m thick, crumbly fractured, sericitic zones. A few rare sulphides also occur, up to 1% by vol. This zone has sharp, fractured contacts, with 10cm of fine disseminated sulphides developed on the downhole side.
181.0	205.8	24.8	100	Dark grey-green-pink moderately altered volcaniclastics. Coarse poorly sorted breccias as before, with numerous, large, pink siliceous clasts in a pyrite-sericite-silica matrix. With increasing depth away from the silicified unit above, the pyrite content decreases (from around 5% to >1%), as does the overall grade of alteration. In places a moderately strong silica overprint is developed (usually around 0.3m wide) and the core in general is very weakly fractured and foliated. At 184.6, a 0.5m, white-pink massive silica vein (metamorphic) occurs. At 186.3, a similar vein 5.2m wide, occurs. This consists mainly of massive, white quartz with minor patches of unaltered volcaniclastics. Below 197.0, fine grained epiclastics, pale pink-brown in colour become abundant with only minor lenses of coarse breccias. These are also very weakly altered and fractured. They are well foliated at 42°CA.
				END OF HOLE 205.8m
				ANALABS 309 AND COMLABS FAS1 = Fire assay with AAS finish
				ANALABS 310 = Fire assay with gravimetric finish
				COMLABS FAS4 AND KML = Screen fire assay
				N.B. All Comlabs FAS1 results show distinct negative bias.

ASSAY DATA Sample No	From	To	Rec. %	GOLD ASSAY DATA (ppm) ANALABS Au	ANALABS Au Chk	ANALABS Au	ANALABS Au Chk	COMLABS Au1	COMLABS Au	KML* Au
		REPEATS:		Au	Au Chk	Au	Au Chk	Au1	Au	Au
		METHOD:		309	309	310	310	FAS1	FAS4	
T8345	154.7	155.7	100	2.000	2.550			2.3		2.63
T8350	157.8	158.6	"	22.600	21.970	22.600	18.630		22.7	21.9
T8351	158.6	159.4	"	1.830	4.890	8.520	5.630		7.93	7.74

* Kalgoorlie Metallurgical Laboratories

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

HOLE No. :	HP17
STATE :	TAS

REPORT CMS 87/6/3

Six samples of mineralised drill core from the Henty area were received for mineralogical examination, with emphasis on the nature and distribution of contained gold. Two polished sections were prepared from each sample and examined in reflected and oblique incident light. Attached semi- to detailed descriptions summarise the microscopic data.

Summary

The majority of samples (T 8819 - T 8823 inclusive) consist of banded, fine-grained, semi- to near-massive pyrite aggregates with a carbonate-qaurtz gangue assemblage and interspersed carbonate-quartz veins and discontinuous veinlets. Sample T 8824 represents a breccia composite of pyritic pelite and relatively siliceous vein components.

Massive pyrite aggregates exhibit a rather consistent accessory sulphide assemblage of chalcopyrite with subordinate galena, relatively minor sphalerite and traces of tetrahedrite-tennantite. This is generally supplemented by bismuthinite with locally associated bismuth, partly as corroded relics. Accessory phases, in general, are of pyrite-intergranular to pyrite-included habit, as simple blebs, irregular films and simple composites. Rare, extremely fine-grained arsenopyrite appears in the pyrite-intergranular sulphide blebs.

The tetrahedrite-tennantite phase is tentatively classified as tetrahedrite on the basis of optical characteristics and may represent a locus of Ag in the absence of optically specific silver phases. It is noted, however, that observed levels of arsenopyrite are notably insufficient to account for the As assay data, suggesting the presence of arsenical pyrite and/or a more complex sulphosalt assemblage than evident in this suite of samples. Analyses for Sb may be instructive.

Veins are variably sulphide-mineralised with sphalerite-galena-chalcopyrite-rich assemblages, and are distinctly base metal sulphidic in comparison with the "massive" pyrite aggregates. Veins are mildly stressed in common with the pyritic host rock.

Gold was detected in five of the six samples examined (i.e. in ten of the twelve sections), typically in amounts consistent with the Au assay data. Habit is very uniform and may be summarised as pyrite-intergranular to (relatively minor) pyrite-included. In detail, there is a strong, but not invariable association between gold and chalcopyrite, with approximately half of the gold particles observed in composite with pyrite-intergranular chalcopyrite blebs. In that the pyrite-intergranular sulphides occur partly as composites, there is a loose association between gold and, for example, galena and tetrahedrite, but in detail gold was not observed as inclusions in these phases. Similarly, there is no apparent association between gold and bismuth or bismuthinite in terms of microscale distributional features.

There is a marked, almost total, concentration of gold in the massive pyrite aggregates, with minor traces only detected in veins, and then in a single section (58105A/sample T 8819). Locally, gold exhibits a vein-distal, banded distribution possibly consistent with partial remobilisation into the veins which may thus prove significant elsewhere in the deposit.

Gold may be classified as "micron-sized", with observed particle sizing in the 1 - 30 μ range and with overall modes of 5-10 μ. That is, the gold is fine but particulate and should exhibit free-milling characteristics albeit at fine grinds. The strictly pyrite-included or "locked" finer particles, however, represent a potential leach-refractory component.

Bulk sulphide flotation represents a potential upgrading route. Differential flotation (e.g. of chalcopyrite) would not appear viable in that a substantial proportion of gold would report to pyritic tails.

Observed gold is generally pale in colour, varying from yellow to creamy yellow-white, consistent with a variable alloyed Ag content (i.e. variable fineness). The disparity between Au and Ag assay data indicates the bulk of silver is represented by tetrahedrite-tennantite and/or, to this stage undetected, silver sulphosalts or sulphides.

D. Cowan, B. Sc.

A 22507

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE No.:	HP17
STATE :	TAS

REPORT CMS 87/6/3

Mineragraphic Descriptions

T 8819

(157.90 – 157.88)

(P.S. 58105A, B)
Exhibits semi- to near-massive, fine-grained (20-300 μ, mode 50-60 μ) pyrite in weakly banded quartz-gangued aggregates veined by a carbonate-quartz/minor sulphide assemblage.

The "massive" pyrite aggregates are weakly but variably microfractured to locally granulated. Associated sulphides comprise accessory chalcopyrite, subordinate galena, and traces of tetrahedrite (with rare micro-inclusions of arsenopyrite) and sphalerite with a marked pyrite-intergranular habit as discontinuous irregular films and cuspate blebs typically sized < 50 μ and frequently < 20 μ.

The vein-hosted sulphide assemblage is similar, but with relatively conspicuous chalcopyrite, sphalerite and subordinate galena in overall near-equal proportions with fine-grained pyrite. Vein-sulphides are erratically distributed, with locallsed concentrations in thin intersecting films and occasionally in stylolites. Veins are semi-planar to irregular, with variable attitudes to banding in the pyritic host rock, range to 1.5 cm in width, are crudely banded in terms of quartz distribution, and reflect mild stress effects.

Observed gold is distinctly concentrated in the massive pyrite aggregates. Approximately fifty particles were detected, with a marked concentration in section 58105B. Modal sizing is about 5 μ in a range of 1-2μ to a maximum observed of 30 μ. Habit is pyrite-intergranular to rarely pyrite-included and grain shapes closely analogous to those of the minor pyrite-intergranular sulphides (i.e. cuspate irregular to subequant blebs, discontinuous microfilms). Observed colour is pale (creamy yellow to creamy-white) and subtly variable, suggesting a variable alloyed silver content.

Rarely, gold particles occur as composites with pyrite-intergranular sulphide blebs, notably of chalcopyrite.

Traces of bismuth, occasionally composite with bismuthinite, were noted. Distribution is analogous to that of gold, as is the sizing, although overall bismuth is relatively coarse-grained, with a mode of 15-20 μ. Bismuth and gold were not observed in contact. Both gold and bismuth exhibit a semi-banded distribution, with concentrations a few millimetres from vein walls, particularly in section 58105B.

Two micron-sized gold particles were noted as inclusions in a vein-hosted sphalerite bleb in section 58105A.

T 8820

(157.95 – 158.10)

(P.S. 58106A, B)
Exhibits semi- to near-massive pyrite aggregates closely analogous to those in T 8819, but relatively uneven-grained, including microcrystalline aggregates and sporadic coarse euhedra (to 750 μ). Modal overall sizing is in the 30-50 μ range. Accessory sulphides comprise relatively conspicuous chalcopyrite, minor bismuthinite, sphalerite and galena, and traces of tetrahedrite with a pyrite-intergranular distribution and a minor pyrite-included (typically chalcopyrite) mode.

Gangue consists of medium-grained carbonate with subordinate to minor quartz. Minor lensoid zones, of millimetric proportions, of coarse-grained vein-carbonate carry a sparse chalcopyrite-sphalerite-rich disseminated sulphide assemblage.

Approximately forty gold particles were detected, with an essentially equal incidence between the two sections examined. Habit is pyrite-intergranular (approximately 70 %) to pyrite-included (approximately 30 %). Approximately 25 % of gold particles are in composite with pyrite-intergranular or included sulphide blebs, almost invariably chalcopyrite, but rarely bismuthinite. Observed (gold particle) sizing and shape variations are closely analogous to those noted in T 8819, with a mean diameter of 5 μ in a range of 1 to 35 μ. Colour is a relatively uniform creamy yellow.

In contrast to T 8819, bismuth was not observed, probably a reflection of complete replacement by bismuthinite, and arsenopyrite is absent from the two sectioned surfaces examined.

T 8821

(158.20 – 158.30)

(P.S. 58107A, B)
Exhibits relatively massive, fine-grained carbonate-quartz-gangued pyrite aggregates, banded on a millimetric scale, with a mean grainsize of 30 μ. Accessories comprise semi-pervasive pyrite-intergranular blebs and films of chalcopyrite, relatively conspicuous tetrahedrite (in ovoid blebs to 60 μ diameter, distinctly concentrated in section 58107A), and relatively quite inconspicuous traces of galena, bismuthinite and sphalerite. Extremely rare arsenopyrite is present as micro-inclusions in chalcopyrite.

Tetrahedrite, where relatively coarse, exhibits a faint colour-zoning (bluish to faintly purplish brown-grey), and micro-inclusions of galena.

This sample appears relatively gold-deficient in comparison with T 8819 and T 8820. Approximately fifteen particles were observed, with a marked concentration in section 58107A. Sizing ranges from 2 μ to 15x25 μ, with a mode of 8-10 μ. The bulk of particles were noted in association with pyrite-intergranular chalcopyrite, as single grains and loose clusters. There is a minor pyrite-locked gold component, with included particles relatively fine (2-6 μ). Colour is uniformly pale yellow.

A 23507

520111

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE No. :	HP17
STATE :	TAS

T 8822 (158.40 – 158.50)

(P.S. 58108A, B)
Exhibits fine-grained to microcrystalline, near-massive pyrite aggregates, quartz-carbonate-gangued, and relatively crudely banded. Accessory chalcopyrite is more or less ubiquitous with a typical pyrite-intergranular habit, and is relatively concentrated in section 58108B. Relatively minor tetrahedrite, sphalerite, galena and bismuthinite, with occasional corroded relics of bismuth as micro-inclusions, complete the accessory assemblage.

Gold is present as very thinly dispersed, pyrite-intergranular particles, typically enclosed, or partly enclosed, in blebs of chalcopyrite. Sizing is closely analogous to that noted in T 8821. Colour is uniformly pale yellow.

T 8823 (158.67 – 158.83)

(P.S. 58109A, B)
This sample consists largely of uneven-grained, semi- to near-massive, banded, carbonate-quartz-gangued pyrite aggregates with sporadic lensoid veins to a few millimetres in width of carbonate and quartz with subordinate pyrite. Pyrite aggregates are relatively micro-fractured, with sporadic discordant carbonate-healed fractures carrying granulated pyrite as mechanical inclusions.

A typical chalcopyrite-dominated accessory sulphide assemblage is present, with traces of bismuthinite, locally including corroded microscopic relics of bismuth, and relatively minor traces of galena, tetrahedrite and sphalerite. Microtextural relationships are typical, with accessories intergranular to the uneven-grained pyrite.

Gold is relatively sparse, with ten particles only detected in the two sections examined. Colour is uniformly pale yellow and sizing ranges from 2 μ to an observed maximum of 10x20 μ and a mode of 3-5 μ. Distribution is typical, with a marked association with pyrite-intergranular chalcopyrite blebs ranging to 50 μ diameter, but typically < 30 μ. Rarely, gold occurs in association with chalcopyrite-bismuthinite composites.

T 8824 (159.28 – 159.37)

(P.S. 58110A, B)
This rock may be categorised as a breccia comprising millimetric to centimetric clasts of variably pyritic, quartzose-sericitic, weakly carbonaceous pelitic sediment with interspersed clasrs and veins of quartz with disseminated carbonate rhombs and clusters and sporadic sulphide aggregates. The vein-quartz(-carbonate-sulphide) component is microfractured and, as noted, locally appears as clasts, reflecting multistage deformation effects.

Pelite clasts exhibit disseminated to locally semi-massive pyrite with accessory proportions of chalcopyrite, galena and sphalerite. Relatively massive pyrite aggregates are texturally similar to the banded massive pyrite in associated samples, but tend to be variously chalcopyrite- or galena-rich in terms of accessory sulphide.

Vein-quartz-hosted sulphide aggregates range to a few millimetres diameter and are typically sphalerite-galena composites with fine disseminations of chalcopyrite and pyrite, or, in marginal areas, chalcopyrite with included fine pyrite.

Rare microscopic tetrahedrite blebs occur associated with pyrite-intergranular chalcopyrite and galena in the relatively massive pelite-hosted pyrite aggregates, which exhibit variable micro-fracturing and granulation effects.

Close examination of the two polished sections revealed no detectable gold, bismuth, or bismuthinite.

D. Cowan, B. Sc.

520112

HOLE NO.	H.P.18
STATE	TASMANIA

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	A.J. CARTWRIGHT
COMMENCED	1.4.87
COMPLETED	29.4.87

PURPOSE

To test the Henty mineralised zone in a 50m square drill pattern around the HP9 intersection.

LOG SUMMARY

The mineralised zone was encountered at 142.4m, 7.4m within the Henty Fault.
A brecciated quartz vein, 2.4m wide was found towards the base of the mineralised zone, between 158.6m and 161.0m.
Significant assays are recorded below.

GENERAL COMMENTS

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width(m)	Au	Ag	As	Cu	Pb	Zn	Bi	- all ppm				COMMENTS
142.6	152.8	10.2	0.46	1.9	20	291	50	108	5					
including														
151.8	152.8	1.0	1.28	1.5	18	650	15	150	3					

LOCATION

NORTHING	5364245.0
EASTING	380089.8
R.L.	2598.8
GRID	AMG
LENGTH	196.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0- 2.0
HQ	2.0-166.0
NQ	166.0-196.0

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
2.0	28.8	37
85.3	140.4	11

POOR GROUND CONDITION ZONES From	To	Condition
2.0	28.8	Strongly weathered Hanging Wall
85.3	113.0	Strongly fractured Hanging Wall
113.0	149.8	Henty Fault. Strongly fractured and shattered clayey rock and mylonite.

HOLE CONDITIONS AFTER COMPLETION

Hole open, with all casing removed, except for 17.5m of HQ casing, between 148.5m and 166.0m. This casing was cleanly cut at 148.5m, below which it is stuck. Hole marker in place.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total	SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	090	63.0	0.0	15.0	15.0	13.4	2585.4	6.8	6.8										
30.0	089	63.0	15.0	45.0	30.0	26.7	2558.7	13.6	20.4										
60.0	089	61.0	45.0	75.0	30.0	26.2	2532.5	14.5	34.9										
90.0	088	59.5	75.0	105.0	30.0	25.8	2506.7	15.2	50.1										
120.0	088	58.0	105.0	135.0	30.0	25.4	2481.2	15.9	66.0										
150.0	088	57.0	135.0	165.0	30.0	25.2	2456.0	16.3	82.4										
180.0	088	56.0	165.0	196.0	31.0	25.7	2430.3	17.3	99.7										

520113

PROJECT: **TYNDALL** HOLE NO.: **HP 18**

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

SCALE 1:1000 20 10 0 20 40 METRES

5 cm

PLAN VIEW

s364 245·0mN
380 089·8mE

DIP PROFILE

2598·8m R.L.

Limit of ox.

FELSIC VOLCANICLASTICS AND LAVAS CUT BY THIN MAFIC DYKES
silic., chl., hem., alb., ser.

s364 200mN
380 200mE

Increased ser., fracturing

HENTY FAULT

MYLONITE ZONE ser., silic.

CRUSHED ZONE ser., sil., sulph., frac.

100m

151·8 – 152·8m
1·0m @ 1·28g/t Au
1·5 g/t Ag

MINERALISED COARSE VOLCANICLASTICS
ser., silic., py., chl.

Brecciated quartz vein

WEAKLY ALTERED COARSE VOLCANICLASTICS AND EPICLASTICS
chl., silic., ser.

2468·3m R.L. (FFW)

2430·3m R.L. (EOH)

5-10%py

10-15%py

EOH 196·0m

STATE: **TAS.**

HOLE NO: **HP 18**

520114

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP18 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				PG1
2.0	113.0	97.7	100	FELSIC VOLCANICLASTICS AND LAVAS. PINK-GREEN IN COLOUR, METAMORPHOSED TO A QUARTZ-ALBITE-HEMATITE-CHLORITE ASSEMBLAGE AND CUT BY CHLORITIC MAFIC DYKES. WEATHERED AND STRONGLY FRACTURED IN PLACES.		0·0	28·8	HWWT
						28·8	113·0	HWMW
113.0	142.4	26.4	90	HENTY FAULT. MYLONITIC FELSIC VOLCANICS AND STRONGLY FRACTURED, SHATTERED AND SERICITIC FELSIC VOLCANICS.		113·0	136·1	FTMY
						136·1	142·4	FTCS
142.4	149.8	7.4	100	HENTY FAULT. PYRITIC VOLCANICLASTICS DISRUPTED BY THE FAULT. STRONGLY SHEARED, SHATTERED AND ALTERED.		142·4	149·8	FTMZ
149.8	162.4	22.6	100	MINERALISED VOLCANICLASTICS. STRONGLY SULPHIDIC COARSE VOLCANICLASTICS CUT BY A QUARTZ VEIN 2.4m WIDE.		149·8	158·6	FWMZ
						158·6	161·0	FWVN
						161·0	162·4	FWMZ
162.4	196.0	33.6	100	WEAKLY ALTERED COARSE VOLCANICLASTICS AND MINOR FINE GRAINED EPICLASTICS.		162·4	196·0	FWAW
				DETAILED LOG				
				0.0-113.0 FELSIC VOLCANICLASTICS AND LAVAS CUT BY A SERIES OF THIN MAFIC DYKES.				
0.0	2.0			Tricone, no core recovered.				
2.0	28.8	16.8	63	Strong weathered, pale brown, highly fractured felsic volcaniclastics.				
28.8	85.3	56.5	100	Variably but generally weakly weathered felsic volcaniclastics and lavas. These are cut by rare mafic dykes (fine grained) up to 0.6m thick. This unit is weakly fractured overall with only a few thin increased fractured zones developed. The rock is dark grey-pink in colour; metamorphosed to a quartz-albite-hematite-chlorite assemblage. With this, irregular quartz veins cut the core throughout. The unit is foliated (the coarse volcaniclastic lenses) at				

520115

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP18 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				45°Ca.											
				A 1.0m wide, well developed sericitic fractured zone occurs at 62.3m, and											
				the core is weakly weathered (limonitic fracture coatings) 9m below this.											
				Overall the amount of fracturing increases with depth, into the unit											
				below.											
85.3	113.0	24.4	88	Strongly fractured, green-pink coarse volcaniclastics with minor felsic											
				lavas, cut by 2 mafic dykes. Lengths of core are around 5-20cm maximum,											
				and numerous crumbly, very highly fractured zones occur. Together with											
				the increased fracturing in this unit, sericite is also strongly developed.											
				Otherwise thhe metamorphism is as for the previous unit. The mafic											
				dykes are found on the basal contact of this sequence, below 108.0m.											
				113.0-142.4 HENTY FAULT. STRONGLY SHEARED AND SHATTERED MYLONITIC VOLCANICS.											
113.0	131.6	17.0	91	Pale brown-green, mylonitised volcaniclastics, cut by mafic dykes. The											
				core is highly fractured, with the clay altered volcanics intensely sheared											
				into thin fissile blocks. The unit is strongly sericitic, the foliation runs											
				at 50-80°Ca, and many completely shattered, unconsolidated zones occur.											
				At 120.5, a 2.0m wide mafic dyke occurs; this is relatively weakly											
				fractured and although quartz veined, is not particularly sericitic.											
131.6	140.4	7.4	84	Completely fractured, crushed, unconsolidated, sericitic volcanics. A											
				few short lengths (up to 10cm), of relatively intact rock occur, otherwise											
				the unit is completely shattered. Numerous clayey, puggy zones (around											
				20cm wide) are found. Below 135.7, the core is pale green (instead of											
				pink-green) and a 20cm wide, crushed black shale unit occurs at 137.9.											
				Bright green batchelorite is also found with the sericite below 138.0.											
				The core is weakly silicified with green sericite veinlets and minor pyrite	T 8792	138·8	140·4	84	0·040	0·5	6	5	20	45	<1
				between 138.8 and 139.0.	3		141·4	100	<0·008	<0·5	15	5	5	35	1
					T 8794	141·4	142·6	100	"	"	13	10	10	50	<1
140.4	142.4	2.0	100	Weakly mineralised (pyritic) fault material. Strongly sericitic and											
				moderately silicified with small wisps and disseminations of pyrite. The											
				rock is pale green-grey and is moderately to strongly fractured. The											

520116

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP18 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec %	Au	Ag	As	Cu	Pb	Zn	Bi
				overall sulphide content is around 1-2%.											
				142.4-149.8 MINERALISED VOLCANICS WITHIN THE HENTY FAULT. STRONGLY ALTERED AND PYRITIC.											
142.4	149.8	7.4	100	Highly shattered and fractured pyritic volcaniclastics. In many places	T8795	142.6	143.6	100	0.230	5.5	21	145	95	55	3
				the core is very clayey with angular, harder, silicified fragments in a	6		144.6	"	0.130	1.5	46	150	40	20	5
				semi-consolidated pyritic clay. Overall the unit is strongly sericitic and	7		145.6	"	0.100	2.0	29	70	45	"	10
				sulphidic (around 10%-15% by vol.). A few grains of bright green batchel-	8		146.6	"	1.010	"	23	370	75	40	5
				orite occur at 145.0. Below 146.6, the core is highly fractured silicified	9		147.6	"	0.150	0.5	12	120	45	230	6
				volcaniclastics, with sericite not as strongly developed. The pyrite	800		148.6	"	0.170	2.0	10	430	15	120	5
				content is lower also, around 5-10%. A few wispy veinlets containing	T8801	148.6	149.8	"	1.020	1.0	15	195	100	230	5
				galena, sphalerite and chalcopyrite occur in this zone, which appears to											
				be a re-silicified breccia-numerous late quartz veinlets are networked											
				throughout.											
				149.8-162.4 MINERALISED COARSE VOLCANICLASTICS CUT BY A 2.4m THICK BRECCIATED QUARTZ VEIN.											
149.8	158.6	18.8	100	Medium-coarse grained volcaniclastics, strongly altered and mineralised.	T8802	149.8	150.8	100	0.060	1.0	11	20	10	60	2
				Coarse, white, sub-angular silicified clasts occur in a fine matrix of	3		151.8	"	0.350	2.0	17	775	55	130	3
				silica-sericite-chlorite-pyrite. Many irregular quartz veins cut the	4		152.8	"	1.280	1.5	18	650	15	150	3
				sequence randomly, and the core is weakly fractured except for the top	5		153.8	"	0.040	<0.5	10	10	<5	100	<1
				2.0m, which is strongly fractured. Zones of intense, pervasive silicifica-	7		154.6	"	0.090	1.5	13	"	10	95	"
				tion, usually with associated splashes of chalcopyrite, up to 20cm wide	8		155.6	"	"	"	12	"	15	"	3
				occur, as do 10cm zone of crumbly sericite and intense fracturing.	9		156.6	"	0.110	"	20	60	40	105	"
				Sulphides are 5-10% by vol. Below 154.6, the core is unsilicified and more	10		157.6	"	"	"	46	85	50	30	6
				pyritic. It is also less fractured and more foliated, at 42°CA. In places	T8811	157.6	158.6	"	0.040	0.5	24	10	15	40	2
				the foliation is kink-banded.											
				At 158.0, a few narrow (up to 5cm) veins and lenses of quartz occur -											
				similar lithologies to the unit below. A sharp, angular, fractured											
				contact occurs.											
					T8812	158.6	159.4	100	<0.008	<0.5	6	10	<5	40	<1
158.6	161.0	2.4	100	Pale grey-white siliceous vein. Fine opaque quartz is cut by numerous	3		160.2	"	0.010	0.5	7	85	10	50	5
				thin quartz veinlets and minor stringers of pyrite and pale green sericite.	T8814	160.2	161.0	"	<0.008	<0.5	5	5	<5	20	<1

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP18 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				No carbonate veins occur. The core is moderately fractured with an overall sulphide content around 5-10%. Base metal sulphides are absent or rare.
161.0	162.4	1.4	100	Medium grey, strongly silicified volcaniclastics. These rocks are similar to those above except the original volcaniclastic textures can be still seen. Sulphide and veining levels are as above and the rock is also moderately fractured. This unit changes sharply into the one below.
				162.4-196.0 UNALTERED TO WEAKLY ALTERED COARSE VOLCANICLASTICS AND MINOR FINE GRAINED EPICLASTICS.
162.4	196.0	33.6	100	Dark green-grey coarse volcaniclastics and fine grained epiclastics. Very weakly altered to a chloritic assemblage with sericite only developed in crushed zones (usually 10cm wide). The core is weakly fractured, unsulphidic and unsilicified, except for a few narrow silicified zones between 169.4 and 171.0, and 173.9 and 174.6. At 178.7 the core becomes slightly sericitic with white sericite and white quartz veinlets developed throughout the rock. Minor fractured zones begin to develop and overall the core becomes moderately fractured. A few specks of sulphide can be seen in this zone, which is 9.3m wide. At 188.0, the coarse grained volcaniclastic breccia is unaltered being metamorphosed to a deep green-pink chlorite-hematite assemblage. This unit is unfoliated.
				END OF HOLE 196.0m
				ANALABS : 309 = Fire assay with AAS finish.

ASSAY DATA (all ppm)

Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
T8815	161·0	162·0	100	0·100	<0·5	10	10	<5	30	5
T8817	162·0	163·0	"	0·010	1·0	12	20	"	105	<1

GOLD ASSAY DATA (ppm)

	ANALABS Au	ANALABS Au Chk
REPEATS :		
METHOD :	309	309
T8798 (145·6 – 146·6, 100)	0·990	1·020
T8801 (148·6 – 149·8)	1·010	1·020
T8804 (151·8 – 152·8)	1·240	1·310

520118

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

HOLE NO : HP19
STATE : TASMANIA

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	A.J. CARTWRIGHT
COMMENCED	9.4.87
COMPLETED	7.5.87

PURPOSE

To test the Henty Mineralised Zone in a 50m square pattern around the HP4 intersection.

LOG SUMMARY

A thick Fault sequence was encountered, with minor pyrite mineralisation. This was separated from a strongly mineralised system by a 4.3m weakly altered section. Within the strongly mineralised unit, a 10.0m thick zone containing abundant base metal sulphides was found. Immediately below this a lensoid carbonate-volcaniclastic sequence (weakly mineralised) occurs. Assays are given below.

GENERAL COMMENTS

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width(m)	Au	Ag	As	Cu	Pb	Zn	Bi	all ppm				COMMENTS
264.6	275.6	11.0	0.56	1.0	37	225	828	723	8					
and														
280.1	290.0	9.9	4.69	29.7	270	2172	5523	3630	31					
including														
280.1	284.1	4.0	9.95	53.8	599	3744	8825	7184	52					

LOCATION

NORTHING	5364152.7
EASTING	379961.5
R.L.	2589.8
GRID	AMG
LENGTH	320.0

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HQ	0.0-320.0

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
0.0	27.4	18

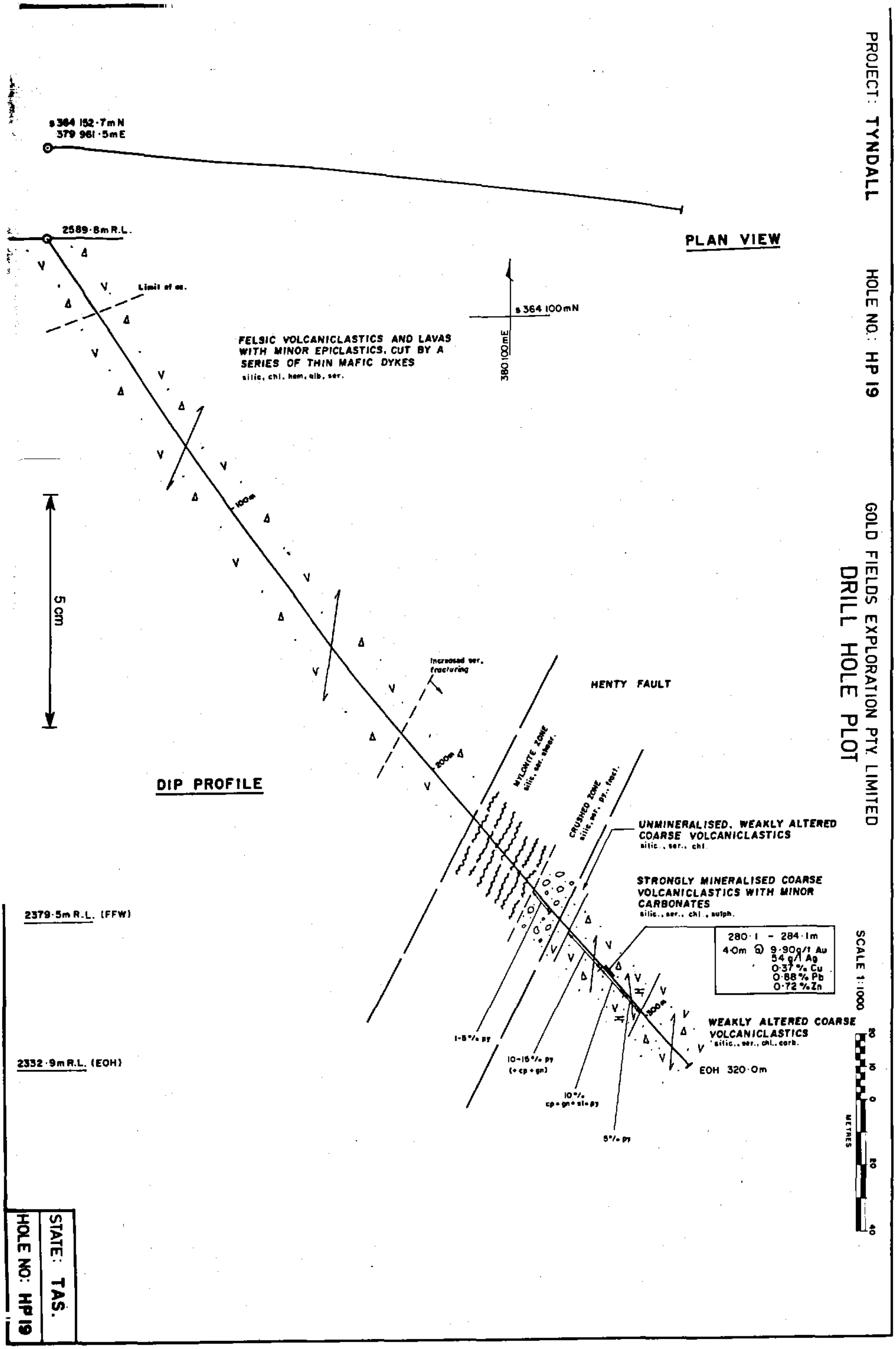
POOR GROUND CONDITION ZONES From	To	Condition
0.0	27.4	Weathered hanging-wall rocks.
219.7	259.7	Henty Fault. Mylonites and strongly fractured, crumbly rocks.

HOLE CONDITIONS AFTER COMPLETION

Hole is open, with a collar marker left in place. All rods were removed.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	Bearing	Dip	INTERVAL From	To	Distance	VERTICAL D.Sin.Dip	R.L.	HORIZONTAL D.Cos.Dip	Prog.Total	SURVEY Depth	Bearing	Dip	INTERVAL From	To	Distance	VERTICAL D.Sin.Dip	R.L.	HORIZONTAL D.Cos.Dip	Prog.Total
0.0	090	57.0	0.0	12.5	12.5	10.5	2579.3	6.8	6.8										
25.0	095	58.0	12.5	32.5	20.0	17.0	2562.4	10.6	17.4										
60.0	096	58.0	32.5	60.0	27.5	23.3	2539.0	14.6	32.0										
80.0	095	57.0	60.0	100.5	40.5	34.0	2505.1	22.1	54.0										
121.0	094	55.0	100.5	148.0	47.5	38.9	2466.2	27.2	81.3										
175.0	097	52.0	148.0	193.5	45.5	35.9	2430.3	28.0	109.3										
212.0	097	51.0	193.5	225.0	31.5	24.5	2405.8	19.8	129.1										
238.0	097	50.5	225.0	255.0	30.0	23.1	2382.7	19.1	148.2										
272.0	098	50.0	255.0	295.5	40.5	31.0	2351.7	26.0	174.2										
319.0	099	50.0	295.5	320.0	24.5	18.8	2332.9	15.8	190.0										



PROJECT: TYNDALL
HOLE NO: HP 19
GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL HOLE PLOT
SCALE 1:1000
s 364 152·7m N
379 961·5m E
PLAN VIEW
s 364 100mN
380 100mE
2589·8m R.L.
Limit of ox.
FELSIC VOLCANICLASTICS AND LAVAS WITH MINOR EPICLASTICS, CUT BY A SERIES OF THIN MAFIC DYKES
silic, chl, hem, alb, ser.
100m
5cm
Increased ser, fracturing
HENTY FAULT
200m
DIP PROFILE
MYLONITE ZONE
silic, ser, shear.
CRUSHED ZONE
silic, ser, py, fract.
UNMINERALISED, WEAKLY ALTERED COARSE VOLCANICLASTICS
silic., ser., chl.
STRONGLY MINERALISED COARSE VOLCANICLASTICS WITH MINOR CARBONATES
silic., ser., chl., sulph.
280·1 - 284·1m
4·0m @ 9·90g/t Au
54 g/t Ag
0·37 % Cu
0·88 % Pb
0·72 % Zn
2379·5m R.L. (FFW)
300m
WEAKLY ALTERED COARSE VOLCANICLASTICS
silic., ser., chl., carb.
2332·9m R.L. (EOH)
EOH 320·0m
1-5% py
10-15% py
(+cp+gn)
10%
cp+gn+sl+py
5% py
METRES
STATE: TAS.
HOLE NO: HP19

520120

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP19

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARISED LOG				
0.0	219.7	214.4	98	FELSIC VOLCANICLASTICS AND LAVAS WITH MINOR FINE GRAINED EPICLASTICS, CUT BY A SERIES OF MAFIC DYKES. WEATHERED NEAR SURFACE AND STRONGLY FRACTURED AT DEPTH, UNALTERED.				
219.7	259.7	39.3	98	HENTY FAULT. A THICK MYLONITE OF STRONGLY ALTERED VOLCANICS IS UNDERLAIN BY A WELL DEVELOPED CRUSHED ZONE, CONTAINING PYRITIC SILICIFIED VOLCANICS.				
259.7	264.0	4.3	100	SILICIFIED, UNMINERALISED, WEAKLY ALTERED, COARSE VOLCANICLASTICS.				
264.0	297.7	33.7	100	STRONGLY MINERALISED AND ALTERED COARSE VOLCANICLASTICS WITH MINOR FINER GRAINED VOLCANICLASTICS AND CARBONATE LENSES. A VERY STRONGLY DEVELOPED MINERALISED ZONE, 10m WIDE, CONTAINS ABUNDANT BASE METAL SULPHIDES.				
297.7	320.0	22.3	100	WEAKLY ALTERED COARSE VOLCANICLASTICS, STRONGLY SLICIFIED IN PLACES. PREDOMINANTLY CHLORITE-CARBONATE ALTERATION				
				DETAILED LOG				
				0.0-219.7 FELSIC MEDIUM GRAINED VOLCANICLASTICS AND AUTO-BRECCIATED LAVAS, CUT BY MAFIC DYKES.				
0.0	27.4	22.5	82	Moderately weathered brown-green felsic volcaniclastics and lavas. Brown limonite coats most of the fracture surfaces and is also pervasively developed in the strongly fractured zones. Overall the core is moderately fractured. A very strongly fractured/weathered zone, 1.1m wide, occurs at 16.6m.				
27.4	219.7	191.9	100	Dark green/grey-pink coloured medium grained felsic volcaniclastics and minor autobrecciated lavas with rare lenses of dark green, very fine grained epiclastics. This sequence os metamorphosed to a quartz-				

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP 19 Page: 2

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				albite-hematite-chlorite assemblage and is cut by irregular quartz veins. Several mafic dykes, up to 6.0m wide, also cut the sequence. These are usually well veined and fractured, and always strongly chloritic. A few zones (0.5-1.0m wide) of sericite development and increased fracturing also occur. The core is well foliated in places, at 55°CA and is weakly fractured overall. A few rare, thick, quartz-chlorite metamorphic veins are present.				
				Between 93.6 and 103.0, the pink autobrecciated lava predominates over the volcaniclastics.				
				At 160.0, a 4.0m zone of strong fracturing occurs in a pink-red lava rich unit.				
				From 185.0m to the end of this unit (34.7m) the core is generally strongly fractured, more foliated (at 50°CA) and is moderately sericitic. Numerous thin crushed-sericitic zones (≃ 0.5m wide) occur. Also, mafic dykes are more abundant in this fractured unit, 4.0-5.0m thick every 10m. The basal 3.7m of this sequence consists of a fractured, very strongly foliated epiclastic (fine grained) with numerous thin quartz veins parallel to the foliation. This grades into the fault below.				
				219.7-259.7 HENTY FAULT. A MYLONITIC VOLCANICS ZONE IS UNDERLAIN BY A CRUSHED ZONE, CONTAINING MINERALISED VOLCANICS.				
219.7	241.2	20.8	97	Pale pink-green strongly mylonitised volcanics. The original volcanic lithologies have been intensely sericitised and foliated to form a mylonite. This soft rock has in turn been strongly fractured, with many crumbly-completely fractured zones. A few quartz veins occur, parallel to the foliation, at 60°CA. The foliation is kink banded and folded in many places.				
				At 229.0m a zone, of complete fracturing occurs - the core is all in small fragments and clays. This lasts to 233.1m.				
				At 236.4m a 2.8m wide, mafic dyke occurs. This is fractured and mylonitic as above.				
241.2	248.2	7.0	100	Pink-green foliated and sheared volcaniclastics. Sub-rounded, siliceous				

520122

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP19 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				pink and white fragments are elongated parallel to foliation in a highly											
				sheared pale green sericitic matrix. The unit is soft, but is competent -	T8825	241·5	242·9	100	0·030	<0·5	13	15	505	110	4
				overall weakly fractured. The foliation is at 70°CA, and is crenulated											
				and kink banded. Small silicified zones and fractured zones (up to 10cm											
				wide) are present, and the unit is weakly pyritic (0.1% by vol) with patches											
				up to 3-5%. Numerous sericite and quartz veinlets cut the core											
				irregularly.											
248.2	256.8	8.6	100	Green-grey, highly fractured, clayey rock fragments and clays. A											
				crushed zone - completely incompetent, rock pieces up to 10cm long											
				in a pale green sericitic matrix. This unit is more sulphidic than the											
				last; up to 5% disseminated pyrite. Crenulation on sericitic veinlets are	T8826	249·6	250·6	100	<0·008	<0·5	19	35	10	50	5
				common, as are zones of fine unconsolidated clays and rock fragments,	7		251·6	"	"	"	11	20	"	25	"
				particularly between 248.2-249.6 and 254.9-256.8. The remainder of the	8		252·6	"	"	"	11	10	<5	20	<1
				unit is grey, silicified, strongly altered volcaniclastics - completely	9		253·6	"	"	"	15	"	"	25	1
				fractured. A sharp contact occurs with the unit below.	30		254·6	"	"	"	12	"	"	"	3
					1		255·6	"	"	"	23	25	5	55	4
256.8	259.7	2.9	100	Strongly fractured-fissile, fine-medium grained epiclastics-volcaniclastics.	T8877		256·6	"	"	"	30	100	15	145	<1
				The rock is hard and weakly altered, and appears to be unsulphidic. The	T8832		257·6	"	"	"	19	125	10	"	"
				fracturing parallels foliation at 50°CA. Quartz veins are common also.	3		258·6	"	"	"	35	70	5	145	"
					4		259·6	"	"	"	25	125	15	115	2
				259.7-264.0 UNMINERALISED, SILICIFIED, WEAKLY ALTERED COARSE	5		260·6	"	"	"	6	75	<5	25	3
				VOLCANICLASTICS.	6		261·6	"	"	"	"	15	5	55	<1
					7		262·6	"	"	"	8	135	<5	45	2
259.7	264.0	4.3	100	Pink-grey silicified coarse volcaniclastics. Unmineralised and weakly	8		263·6	"	"	"	6	130	5	25	3
				sericitic, this unit is strongly silicified. Pink, coarse siliceous lava	T8839	263·6	264·6	"	0·050	"	14	110	10	40	5
				fragments occur in a brown, fine sericite-silica matrix. Weakly fractured.											
				Alteration (sericite) begins to increase over the lower 0.5m of this unit,											
				grading into the one below.											
				264.0-297.7 STRONGLY MINERALISED AND ALTERED COARSE											
				VOLCANICLASTICS, WITH A MINOR FINER GRAINED UNIT AND											
				CARBONATES.											
264.0	275.0	11.0	100	Green-grey strongly altered and mineralised coarse volcaniclastics.											

520123

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP19 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (all ppm) Au	Ag	As	Cu	Pb	Zn	Bi	Te	Tl
				Large (up to 2-3cm) white siliceous and silicified fragments (of lava)													
				occur in a fine grained sericite-chlorite-sulphide matrix, which is	T8841	264.6	265.6	100	2.475	<0.5	50	275	225	110	16		
				moderately foliated at 50°CA. The unit is weakly - moderately fractured.	2		266.6	"	0.190	"	23	135	695	1050	6		
				Several thin irregular quartz veinlets cut and often brecciate the core,	3		267.6	"	0.310	"	38	290	950	1450	7		
				in particular the silicified fragments. Overall the pyrite content is 10-	4		268.6	"	0.250	1.5	32	140	1300	1150	5		
				15% by vol., with coarser splashes of both chalcopyrite and galena	5		269.6	"	0.080	<0.5	24	100	910	2350	3		
				commonly developed. Also developed are small (10cm) strongly silicified	6		270.6	"	0.265	"	22	90	160	155	5		
				zones, and wispy pale green sericite veinlets. No carbonates are present.	7		271.6	"	1.540	"	16	20	65	70	8		
				A number of strongly fractured sericitic zones occur; 267.0-268.0,	8		272.6	"	0.270	1.5	35	200	515	30	11		
				269.3-269.8 and 274.8-275.0. This unit grades into the one below by	9		273.6	"	0.280	5.0	100	840	1140	110	10		
				becoming fine grained and more foliated with depth.	50		274.6	"	0.330	2.5	37	290	2200	75	9		
					1		275.6	"	0.170	<0.5	29	90	945	1400	3		
275.0	280.0	5.0	100	Dark grey, medium-fine grained, strongly altered and mineralised	2		276.6	"	0.090	-	36	50	100	520	4		
				volcaniclastics. This unit is predominantly fine grained with a few lenses	3		277.6	"	<0.008	"	33	35	55	95	<1		
				and bands of coarse breccias. It contains mainly chlorite-sulphide and	4		278.6	"	0.080	"	34	40	140	255	1		
				sericite in a fine matrix with minor coarse pebble-sized siliceous fragments	T8855		279.6	"	0.070	"	31	85	105	520	6		
				and very minor wispy quartz veinlets. The unit is weakly fractured and	T8857	279.6	280.1	"	0.090	"	30	70	180	190	4		
				strongly foliated at 45°CA. At 276.0, a thin (5cm) band of coarse													
				breccia occurs at 20°CA. The sulphide content is still 10-15%, nearly													
				all as very fine disseminated pyrite. A 0.3m thick sericitic, strongly													
				fractured zone occurson base of this unit, which changes sharply into the													
				one below.													
280.0	290.0	10.0	100	Pale green-grey, very strongly mineralised coarse volcaniclastics. A	T8858	280.1	281.1	100	10.20	21.0	34	175	1800	135	6	13.40	<0.5
				return to the coarse lava-fragment-rich unit like the one before last,	9		282.1	"	4.04	35.0	190	1200	6300	4900	22	18.00	"
				with pale coloured silicified fragments up to 2-3cm across, in a sulphide-	60		283.1	"	19.88	105.0	270	2900	13800	16000	60	1.00	"
				sericite matrix. The unit is almost unfoliated, is moderately fractured	1		284.1	"	5.68	54.0	1900	10700	13400	7700	119	20.00	"
				overall and contains several strongly fractured-sericitic zones. Quartz	T8862	284.1	285.1	"	2.62	32.0	61	2800	6200	5000	38	6.80	"
				veinlets are rare, but pale green sericite network of veinlets are common.													
				Many silicified zones (10-20cm wide) occur usually with an associated													
				strong development of base metal sulphides. The overall sulphide	T8863	285.1	286.1	"	0.430	6.5	38	915	2100	175	11		
				content is 10%, however half of this is pyrite, the other half is base	4		287.1	"	0.790	4.0	45	670	1600	225	13		
				metals (chalcopyrite , galena, sphalerite). All sulphide phases are coarse	5		288.1	"	1.780	14.0	50	1325	3800	245	12		
				grained, as small stringers and large blebs (up to 1cm across). Also,	6		289.1	"	0.760	17.0	35	500	5000	1400	8		
				between 282.0 and 284.4, pyrite occurs as irregular massive lenses.	T8867	289.1	290.0	"	0.290	6.0	51	615	755	175	15		

520121

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP19 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				2-3cm wide. No carbonates are present. This unit ends sharply against	T8868	290·0	291·0	100	0·050	<0·5	18	205	65	65	2
				the ore below.	9		292·0	"	"	"	35	430	145	120	1
					70		293·0	"	0·030	"	"	310	95	185	"
290.0	297.7	7.7	100	Orange-white-grey, strongly silicified, weakly mineralised coarse	1		294·0	"	<0·008	"	12	140	65	65	4
				volcaniclastics with intergrown carbonates. A coarse grained unit with	3		295·0	"	0·040	"	44	160	"	"	<1
				silicified lava fragments (up to 3cm wide), carbonate lenses (around	4		296·0	"	0·030	"	51	30	40	30	1
				3-4cm thick) in a pyrite-sericite-chlorite matrix. The upper 0.5m of	5		296·7	"	0·050	"	77	305	215	75	6
				this unit is very strongly silicified, and the carbonates are rare below	T8876	296·7	297·4	"	<0·008	"	22	35	25	50	2
				below 295.0, where the core is strongly foliated at 30°CA. Overall the											
				rock is moderately fractured with several sericitic fractured zones. A											
				few rare, irregular quartz veinlets cut the core. The sulphide content is											
				low, around 5% - nearly all as pyrite finely disseminated throughout the											
				groundmass. A 10cm thick, white metamorphic quartz vein occurs on											
				the contact with the unit below.											
				297.7-320.0 WEAKLY CHLORITE-CARBONATE ALTERED, COARSE											
				VOLCANICLASTICS.											
297.7	301.6	3.9	100	Orange, intensely silicified coarse grained volcaniclastics. Weakly frac-						GOLD ASSAY DATA (ppm)					
				tured with a massive silica overprint, destroying most textures. Unpyritic						ANALABS					
				and unfoliated, this unit is in sharp contact with the one below.			REPEATS:			Au	Au	Au Ck	Au 2nd Ck	Au 2nd Ck	
							METHOD:			309	310	309	309	310	
301.6	320.0	18.4	100	Grey-dark green coarse volcaniclastics. Large white and pink siliceous	T8841	264·6	265·6	100		2·520		2·430			
				lava fragments (angular-sub rounded) occur in a fine chlorite-sericite											
				matrix. The unit is unsorted and very weakly altered. Disseminated	T8846	269·6	270·6	100		0·240		0·290			
				pyrite occurs in the matrix in places but the overall content is low,	T8847		271·6	"		1·430		1·650			
				1-2%. The core is weakly fractured and moderately foliated at 45°CA.											
				Minor, irregular quartz and carbonate veins and veinlets are present.	T8858	280·1	281·1	100		11·290	10·20				
					9		282·1	"		4·670		3·650	3·790		
				END OF HOLE 320.0m	0		283·1	"		26·270	18·53			21·23	
					1		284·1	"		5·840		5·520			
					T8862		285·1	"		2·760		2·470			
				ANALABS :											
				309 = Fire assay with AAS finish.	T8865	287·1	288·1	100		1·820		1·730			
				310 = " " " gravimetric finish.	T8866		289·1	"		0·730		0·790			

520125

GOLD FIELDS EXPLORATION PTY LIMITED
DRILL CORE RECORD

HOLE NO. : HP20
STATE : TASMANIA

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	P.A. ROBERTS
COMMENCED	30.4.87
COMPLETED	15.5.87

PURPOSE

To test Henty mineralized zone in 50m square pattern around the HP9 intersection.

LOG SUMMARY

0.0 - 110.8m Hanging wall volcaniclastics and mafic dykes.
- 119.8m Henty Fault - extremely badly broken crush zone
- 165.8m Variably mineralized footwall volcaniclastics including massive pyritic sections at 143.7-145.9m
- 169.0m Siliceous veins, minor sericitic volcaniclastics.

GENERAL COMMENTS

ASSAY SUMMARY

INTERVAL From	INTERVAL To	m	Au	Ag	As	Cu	Pb	Zn	Bi					COMMENTS
140.2	145.2	5.2	1.23	28	407	1520	2824	221	105					
including:														
143.7	145.2	1.5	2.11	85	1343	5000	8220	467	352					

LOCATION

NORTHING	5364359.7
EASTING	380136.4
R.L	2610.9
GRID	AMG
LENGTH	169.0

HOLE CONDITION

SIZE

Hole Size	Depth
HW	0.0- 3.5m
HQ	3.5-169.0m

SIGNIFICANT CORE LOSS INTERVALS

From	To	% Lost
3.5	15.6	50
21.2	37.3	32
50.4	76.3	17
86.2	95.9	27
109.2	119.5	63

POOR GROUND CONDITION ZONES

From	To	Condition
0.0	76.8m	Includes badly broken sections
		(mostly weathered volcanics)
110.8	121m	Extremely badly broken
		(Henty Fault)
149.5	165.8m	Includes badly broken sections

HOLE CONDITIONS AFTER COMPLETION

Hole is open, all casing removed, with a collar marker in place. Lost water at 36.4m, started making water at 130.0m.
Hole making water at termination of drilling.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	100	59.0	0.0	15.0	15.0	12.9	2598.0	7.7	7.7
30.0	102	58.5	15.0	45.0	30.0	25.6	2572.5	15.7	23.4
60.0	102	57.5	45.0	75.0	30.0	25.3	2547.2	16.1	39.5
90.0	101	57.0	75.0	105.0	30.0	25.2	2522.0	16.3	55.9
120.0	102	55.5	105.0	135.0	30.0	24.7	2497.3	17.0	72.9
150.0	102	54.5	135.0	169.0	34.0	27.7	2469.6	19.7	92.6

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total

520126

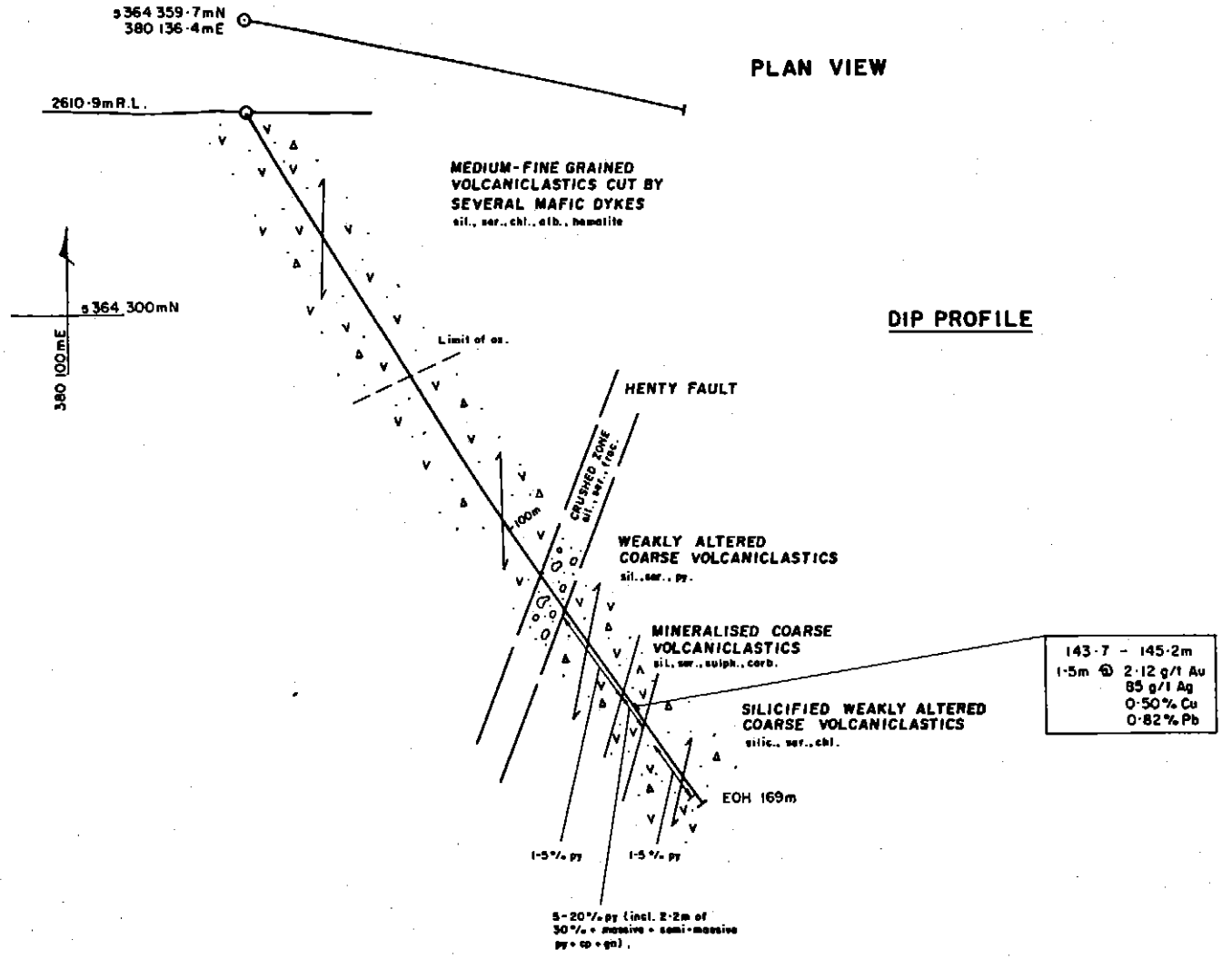
PROJECT: **TYNDALL** HOLE NO.: **HP 20**

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT

SCALE 1: 1000 — METRES

5 cm



STATE: **TAS.**

HOLE NO: **HP 20**

520127

GOLD FIELDS EXPLORATION PTY. LIMITED

DEV. PRESS

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP20 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				SUMMARIZED LOG	PGI			
0.0	3.5	0	0	NO CORE				
3.5	63.0	44.0	74	MODERATELY TO WEAKLY WEATHERED VOLCANICLASTICS AND MINOR MAFIC DYKES(?)	HWWT			
63.0	110.8	41.0	86	MEDIUM TO FINE GRAINED VOLCANICLASTICS AND LESSER MAFIC DYKES(?)	HWUW			
110.8	119.5	3.0	34	HENTY FAULT - CRUSH ZONE	FTCS			
119.5	140.1	20.5	99	WEAKLY PYRITIC SHEARED COARSE GRAINED VOLCANICLASTICS	FWAW			
140.1	143.7	3.6	100	MINERALIZED COARSE GRAINED VOLCANICLASTICS	FWMZ			
143.7	145.9	2.2	100	MASSIVE PYRITE INTERCALATED WITH LESSER PYRITIC COARSE GRAINED VOLCANICLASTICS	FWMZ			
145.9	148.0	2.0	95	MINERALIZED COARSE GRAINED VOLCANICLASTICS	FWMZ			
148.0	152.7	4.7	100	SILICIFIED VOLCANICLASTICS	FWSL			
152.7	165.8	12.2	93	VARIABLY MINERALIZED COARSE GRAINED VOLCANICLASTICS	FWMZ			
165.8	169.0	2.8	90	SILICEOUS VEINS INTERCALATED WITH MINOR SERICITIC VOLCANICLASTICS	FWVN			

520123

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP20

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
0.0	3.5	0	0	NO CORE				
3.5	63.0	44.0	74	MODERATELY TO WEAKLY WEATHERED VOLCANICLASTICS AND MINOR MAFIC DYKES(?) Pale yellow-brown, green-grey locally with pink patches. Moderately weathered and pale yellow yellow-brown down to 25.1m, only weakly weathered below that point with limonitic staining prominent on joint surfaces. Comprises 90% medium to coarse grained volcaniclastics and 10% mafic dykes. Volcaniclastics are foliated; clasts mostly pink lava, rarely fine grained and mafic, range in grain size from 1mm to >10cm set in a fine grained matrix; predominantly medium grained, however. Prominent mafic dykes at 22.0-25.0 (very weathered, yellow-brown and clayey) and 59.0-61.6 (dark green and badly broken). Minor, variously oriented quartz±chlorite veins 1mm to 5cm thick at 30.0-38.0m. Foliation CA's: 30-40° Fracture Density: Moderate to high. Badly broken 3.5-13.8m, 22.0-25.0m, 37.8-39.4m, 43.5-48.0m, 51.0-63.0m. Core losses: 6.0m at 3.5-15.6m, 5.3 at 21.2-37.3m and 3.8m at 50.4-63.0m. Lower Contact: Gradational.				
63.0	110.8	41.0	86	MEDIUM TO FINE GRAINED VOLCANICLASTICS AND LESSER MAFIC DYKES(?) Pink-brown, dark grey-green, grey. Comprises 80% volcaniclastics and 20% mafic dykes. Volcaniclastics are grey, grey-green or pink brown and fine grained or on the fine side of medium grained (i.e. fragments ≤ 2mm), strongly foliated. Mafic dykes(?) are dark grey-green, foliated with contacts parallel (or near-parallel) to foliation(?)sills. Thicker mafic dykes at 73.4-78.1m, 87.4-88.5m, 88.8-90.0m and 101.6-107.2m. Minor (?)bedded pale green (?)ash layers 1 to 20cm thick below 90.3 m.				

520129

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP20 Page: 3

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				Variously oriented quartz±chlorite±feldspar veins 1mm to 5cm thick in volcaniclastics and mafic dykes. In the latter, veins tend to be near-parallel to foliation.										
				BCA(?): 35° at 97.2m (in interbedded volcaniclastic and (?)ash).										
				Foliation CA's: 30-40°										
				Fracture Density: Moderate to high.										
				Badly broken 63.0-65.0m, 66.7-67.5m, 69.6-71.0m, 71.5-76.8m, 90.4-91.1m, 92.5-96.0m, 101.5-103.8m.										
				Core loss zones: 3.3m at 63.9-69.5m, 0.5m at 71.9-72.8m, 0.6m at 75.4-76.3m, 1.1m at 86.2-87.5m 1.5m at 92.8-95.9m and 0.8m at 109.2-110.8m.										
				Lower Contact: Sharp.										
110.8	119.5	3.0	34	HENTY FAULT - CRUSH ZONE										
				Grey, green grey.										
				Extremely badly broken zone comprising siliceous fragments carrying	T8748	110.8	113.3		<0.008	<0.5	5	10	45	155	<1
				trace to minor pyrite and puggy sericitic material. Includes 12cm of	T8749		115.6		<0.008	<0.5	9	15	330	830	3
				extremely soft black shale at bottom contact.	T8750		117.3		<0.008	<0.5	8	10	5	170	6
				5.7m of core loss throughout intersection. Only 10cm of brown sand	T8751		118.6		<0.008	<0.5	6	10	<5	75	3
				recovered between 112.6 and 113.3m.	T8752		119.5		0.030	1.0	11	10	10	75	8
				Lower Contact: Abrupt.											
119.5	140.1	20.5	99	WEAKLY PYRITIC SHEARED COARSE GRAINED VOLCANICLASTICS	T8753	119.5	120.5	100	<0.008	1.0	10	95	50	115	5
					T8754		121.5	100	0.070	1.5	18	95	<5	60	9
				Pinkish grey-brown.											
				Strongly sheared volcaniclastics comprising pink and white siliceous	T8755	124.0	125.0	100	0.030	2.0	20	55	15	70	5
				fragments set in a grey or grey-green sericitic matrix carrying minor	T8756		126.0	100	0.050	2.5	17	15	15	55	3
				pyrite. Shearing cuts through and apparently dismembers siliceous	T8757		127.0	100	0.090	5.5	16	10	10	55	3
				fragments, consequently original size of the latter unclear, however they probably ranged up to 30cm across (e.g. preserved ?fragment at 119.9-120.2cm). Increasingly siliceous towards bottom contact.											
				Includes sericitic section with spots of "hatchelorite" at 139.6-139.75m.	T8759	136.0	137.0	100	0.010	2.0	11	10	20	75	5
				Sulphides: Generally 1-5% disseminated fine grained pyrite,	T8760		138.0	100	<0.008	<0.5	2	10	5	40	<1
				>5% at 120.4-120.9m and 125.1-126.3m.	T8761		139.0	100	<0.008	<0.5	3	10	5	40	<1

520130

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: TYNDALL HOLE NUMBER: HP20 Page: 4

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi	Te	Tl
				Veining: Minor post-shearing quartz veining throughout, most veins banded, partly chalcedonic (?) and 1-6mm thick, commonly at 30-40° to c.a., also a few slightly thicker (≤ 2cm) irregular white quartz veins.	T8762	139.0	140.0	100	<0.008	0.5	17	25	25	80	1		
				Foliation CA's: 40-55°													
				Fracture Density: Moderate to low except between start and 121m where quite broken.													
				Lower Contact: Gradational.													
140.1	143.7	3.6	100	MINERALIZED COARSE GRAINED VOLCANICLASTICS													
				Similar to above but with > 5% pyrite overall, includes a number of pink and greenish white siliceous pyrite-poor sections up to 30cm long.	T8763	140.0	141.0	100	1.89	2.0	19	20	55	90	10	2·80	<0·5
					T8764		142.0	100	0.07	2.0	15	20	20	90	1		
				Lower Contact: At approx. 15° to c.a., however it is fault offset parallel to c.a. Pre-fault contact is ~45° to c.a.	T8765		143.0	100	1.21	13.5	29	155	335	165	5	13·00	<0·5
					T8766		143.7	100	0.080	1.5	52	300	185	150	5		
143.7	145.9	2.2	100	MASSIVE PYRITE INTERCALATED WITH LESSER PYRITIC COARSE GRAINED VOLCANICLASTICS													
				Olive-grey and grey.	T8744	143.7	144.5	100	2.257	99	1600	4300	1.06%	525	450		
				Massive pyrite sections at 143.7-144.5m, 144.7-144.8m, 145.0-145.2m,	T8745		145.2	100	1.948	70	1050	5800	5500	400	240		
				145.4-145.5m and 145.85-145.90m. Massive pyrite includes numerous	T8746		145.9	100	0.663	23	400	2075	2600	775	70		
				wispy veinlets of quartz±carbonate. Several thicker (5-10cm) highly irregular quartz-minor carbonate veins carrying minor chalcopyrite and													
				several tiny (≤ 2mm) jaspery fragments (cf. HP12 vein) seen at 144.2-144.4m. Massive pyrite-volcaniclastics contacts parallel foliation at ~45° to c.a.						ANALABS			COMLABS				
							Au CHECK ASSAYS:			Au(309)	Au(309)	Au(309)	Au(FASI)				
							T8763			1.730	2.050	-					
				Sulfides: "Massive pyrite" contains 70-80% pyrite and traces of chalcopyrite, volcaniclastics carry 20-30% sulfides which are largely pyrite with traces of chalcopyrite and galena. Chalcopyrite rims massive pyrite contact with vein in volcan iclastics at 145.4m.			T8764			0.080	0.060	-					
							T8765			1.170	1.250	-					
							T8744			2.490	2.350	-	1.93				
							T8745			1.400	2.180	2.340	1.87				
							T8746			0.720	0.710	-	0.56				
				Fracture Density: Moderate to high. Broken along several fracture(s)													

520131

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: TYNDALL HOLE NUMBER: HP20 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
				near-parallel to c.a. and parallel to foliation.											
145.9	148.0	2.0	95	MINERALIZED COARSE GRAINED VOLCANICLASTICS											
				Pink grey. Similar to 140.1-143.7m. Includes several siliceous pink	T8767	145.9	147.0	95	0.290	8.0	210	455	285	60	36
				intervals 10-20cm long and separated by grey, pyritic sections.	T8768		148.0	95	0.020	0.5	38	40	10	25	1
				Sulfides: 10-20% disseminated pyrite.											
				Fracture Density: Moderate to high.											
				Badly broken 145.9-147.2m, notably on a puggy											
				fracture near parallel to c.a.											
				Lower Contact: Gradational.											
148.0	152.7	4.7	100	SILICIFIED VOLCANICLASTICS											
				Pale grey-brown, pink.	T8769	148.0	149.0	100	<0.008	0.5	17	10	20	25	7
				Massive, locally cut by numerous siliceous veinlets (±pyrite). Volcani-	T8770		150.0	100	<0.008	<0.5	16	10	75	70	<1
				clastic textures locally apparent, particularly in top 1m and at 151-152m,	T8771		151.0	100	<0.008	<0.5	12	5	55	80	<1
				where groundmass is less siliceous and more sericitic than elsewhere.	T8772		152.0	100	<0.008	<0.5	9	10	45	80	1
				Sulfides: < 1% disseminated fine grained pyrite, associated	T8773		153.0	100	<0.008	<0.5	13	15	10	80	<1
				particularly with sericite and quartz veinlets.											
				Veining: Apart from siliceous veinlets, one 3cm thick											
				quartz±feldspar meta morphic? vein at 45° to											
				c.a. at 148.5m.											
				Foliation CA's: Weakly defined at 40°.											
				Fracture Density: Moderate to high.											
				Badly broken 149.5-151.8m.											
				Lower Contact: Gradational.											
152.7	165.8	12.2	93	VARIABLY MINERALIZED COARSE GRAINED VOLCANICLASTICS.											
				Grey-brown, mottled with pink.	T8774	153.0	154.0	100	0.120	2.5	33	235	50	75	2
				Foliated volcaniclastics comprising pink and white rounded and sheared	T8775		155.0	100	0.010	0.5	12	105	40	155	4
				siliceous fragments set in a variably pyritic quartz-sericite groundmass.	T8776		156.0	100	0.020	1.5	18	50	40	80	<1
				Fragments vary from 1mm to >core width. Pink siliceous sections	T8778		157.0	100	0.040	1.0	16	10	10	60	1
				5-30cm long are probably large fragments.	T8779		158.0	100	0.050	2.0	17	10	5	60	2

520132

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP20 Page: 6

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				Sulfides: Fine grained disseminated pyrite, varying from 1 to 10%.
				Veining: Rare, variously oriented quartz veinlets.
				Foliation CA's: 45-55°, rarely contorted.
				Fracture Density: Moderate to high.
				Badly broken 155.2-156.2m, 157.9-158.7m (0.4m core loss), 159.6-160.0m, 164.6-164.9m, 165.4-165.8m.
				Lower Contact: Irregular, ~90° to c.a.
165.8	169.0	2.8	90	SILICEOUS VEINS INTERCALATED WITH MINOR SERICITIC VOLCANICLASTICS
				Pale grey, white.
				Comprises ~95% quartz vein material and ~5% volcaniclastics. The vein material is dark to pale grey and includes elongated siliceous white spots ≤1mm across as well as very minor thin wispy dark veinlets carrying very fine grained sulfides(?) - possibly some base metals; later metamorphic white quartz veins, 1-20cm thick, traverse the earlier grey veins at 30-60° to c.a. Volcaniclastics are extremely sericitized and foliated and occur in 1-10cm thick sections with irregular contacts (30-70° to c.a.) with quartz. Stopped in quartz.
				Sulfides: <1% total.
				Fracture Density: Moderate to high.
				0.3m core loss in (the narrow) badly broken sericitic sections.
				END OF HOLE

Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
T8780	158.0	159.0	60	<0.008	<0.5	9	5	10	80	1
T8781		160.0	100	0.100	4.0	15	10	25	60	3
T8782		161.0	100	0.030	1.5	18	10	30	70	<1
T8783		162.0	100	0.010	1.0	18	15	20	50	<1
T8784		163.0	100	0.020	0.5	19	10	15	45	<1
T8785		164.0	100	0.020	1.0	38	10	5	45	5
T8786		165.0	80	0.050	1.5	20	10	10	40	6
T8787		166.0	70	0.010	2.0	19	15	20	70	6
T8788	166.0	167.0	80	0.050	<0.5	9	30	10	30	1
T8790		168.0	100	<0.008	<0.5	7	25	15	60	3
T8791		169.0	90	<0.008	<0.5	2	5	5	35	2

520133

GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE RECORD

DEV. PRESS

HOLE NO. HP21
STATE TASMANIA

PROJECT	TYNDALL
DESIGNED BY	A.J. CARTWRIGHT
LOGGED BY	A.J. CARTWRIGHT
COMMENCED	8.5.87
COMPLETED	27.5.87

PURPOSE

To test the Henty Mineralised Zone in a 50m square pattern around the HP4 intersection.

LOG SUMMARY

A wide mineralised zone, some 5.7m (downhole) below the Henty Fault footwall, was encountered. This zone is split into two sulphide rich sections by a silicified zone and a 3.4m thick siliceous vein. Significant assays are recorded below.

GENERAL COMMENTS

ASSAY SUMMARY

INTERVAL From	INTERVAL To	Width(m)	Au	Ag	As	Cu	Pb	Zn	Bi - all ppm.					COMMENTS
244.3	261.5	17.2	0.38	3.9	99	196	607	505	10					
including														
259.3	260.5	1.2	1.45	15.0	410	525	3800	4675	27					
306.0	307.0	1.0	1.17	0.5	37	1500	30	45	12					

LOCATION

NORTHING	5364128.1
EASTING	379971.0
R.L.	2586.0
GRID	AMG
LENGTH	315.4

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0- 3.5
HQ	3.5-315.4

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
3.5	31.5	12
179.6	235.1	8

POOR GROUND CONDITION ZONES From	To	Condition
3.5	31.5	Weathered Hanging wall rocks.
179.6	206.6	Highly fractured " "
206.6	238.6	Henty Fault. Highly fractured and sheared mylonites, rock fragments and unconsolidated sericitic clays.

HOLE CONDITIONS AFTER COMPLETION

Hole open with a marker left in the collar.
All casing and rods removed.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total
0.0	106	60.0	0.0	22.0	22.0	19.1	2566.9	11.0	11.0
44.0	106	59.0	22.0	67.0	45.0	38.6	2528.4	23.2	34.2
90.0	105	56.5	67.0	108.5	41.5	34.6	2493.8	22.9	57.1
127.0	102	56.0	108.5	146.0	37.5	31.1	2462.7	21.0	78.1
165.0	102	54.0	146.0	183.5	37.5	30.3	2432.3	22.0	100.1
202.0	102	53.0	183.5	230.5	47.0	37.5	2394.8	28.3	128.4
259.0	101	52.0	230.5	286.0	55.5	43.7	2351.1	34.2	162.6
313.0	100	52.0	286.0	315.4	29.4	23.2	2327.9	18.1	180.7

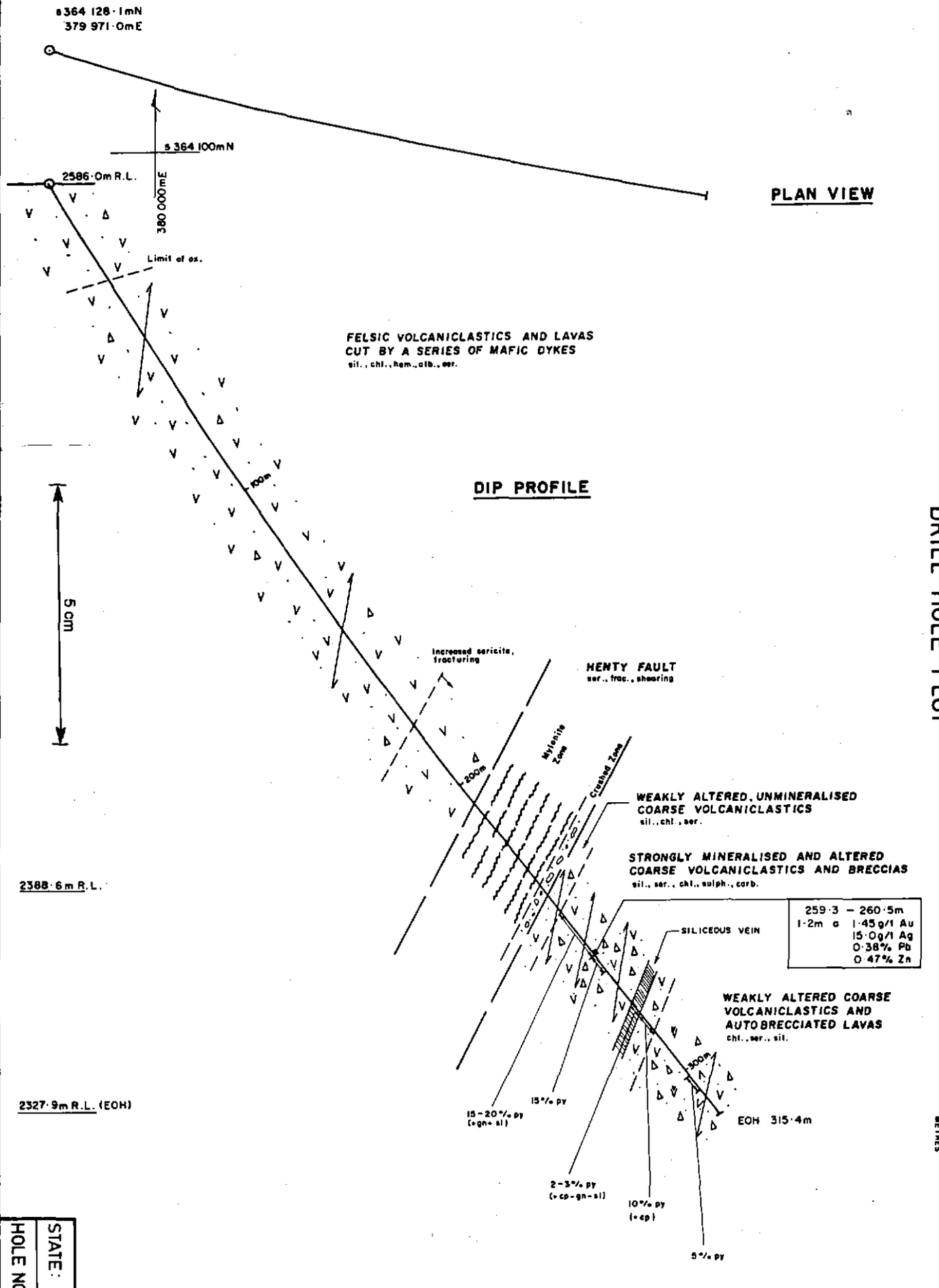
SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog.Total

PROJECT: TYNDALL

HOLE NO: HP 21

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL HOLE PLOT



STATE: TAS.

HOLE NO: HP21

GOLD FIELDS EXPLORATION PTY. LIMITED

520135

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP21

INTERVAL		RECOVERY		DESCRIPTION
From	To	m	%	
				SUMMARISED LOG
0.0	206.6	200.0	97	FELSIC VOLCANICLASTICS WITH MINOR FELSIC LAVAS AND FINE GRAINED EPICLASTICS CUT BY A SERIES OF THIN MAFIC DYKES. WEATHERED TO 31.3m AND BECOMES STRONGLY FRACTURED-SERICITIC CLOSE TO THE FAULT.
206.6	238.6	29.6	93	HENTY FAULT. STRONGLY FRACTURED AND SHEARED ALTERED VOLCANICLASTICS AND MYLONITE. NUMEROUS ZONES OF PUGGY CLAY DEVELOPMENT AND COMPLETE SHATTERING ARE PRESENT.
238.6	244.3	5.7	100	WEAKLY ALTERED, UNMINERALISED BUT STRONGLY VEINED COARSE GRAINED VOLCANICLASTICS.
244.3	285.8	41.5	100	STRONGLY ALTERED AND MINERALISED COARSE VOLCANICLASTICS SEPARATED INTO TWO ZONES BY AN UNMINERALISED SILICIFIED SEQUENCE, AND A 3.4m THICK SILICEOUS VEIN.
285.8	309.7	23.9	100	WEAKLY ALTERED COARSE GRAINED VOLCANICLASTICS AND AUTO-BRECCIATED FELSIC LAVAS.
				DETAILED LOG
				0.0-206.6 FELSIC VOLCANICLASTICS AND LAVAS CUT BY A SERIES OF MAFIC DYKES.
0.0	3.5			Tricone, no core recovered.
3.5	31.3	24.6	88	Moderately weathered, grey-brown, medium grained felsic volcaniclastics. Moderately-strongly fractured, with abundant limonite-coated joints.
31.3	179.6	146.9	99	Green-grey, medium-coarse grained felsic-intermediate volcaniclastics with minor, pink felsic lavas and fine grained, dark green epiclastic lenses. The volcaniclastics contain many white lava? fragments (grit sized, poorly sorted) all elongated parallel to foliation at 40°CA. The

ASSAY DATA															
Sample No.	From	To	Rec. %												

GOLD FIELDS EXPLORATION PTY. LIMITED

520136

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP21 Page: 2

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA													
From	To	m	%		Sample No.	From	To	Rec. %										
				sequence is cut by thin (0.5-2.0m wide) mafic dykes and irregular quartz veins are developed, particularly in the mafic dykes and the epiclastics. The sequence is metamorphosed to a chlorite-quartz-hematite-albite-sericite assemblage and several thick, quartz-chlorite veins occur. Overall the core is well foliated and moderately fractured, with several strongly fractured, sericitic zones developed. At 55.6, a 1.8m wide sericitic-strongly fractured zone occurs. Above 58.0, the lavas are absent, and below 90.0, they become abundant, making up 50% of the rock. Below 100.0, the mafic dykes become more frequent, and are generally thicker (1.0-5.0m wide, every 5-7m). Between 152.0 and 155.0, the core is strongly fractured but not sericitic. At 167.0, fracturing increases slightly to be moderately-strongly fractured down to end of the unit, grading into the ore below.												
179.6	206.6	25.0	93	Strongly fractured, pink-green-grey felsic volcaniclastics and lavas cut by mafic dykes (fine grained). The core is basically the same as above, except for the increased fracturing and sericitic (pervasive) development. In general, the unit contains many highly fractured clayey rock zones with sections of relatively unfractured, sericitic core in between. The unit is strongly foliated at 40-50° CA and is metamorphosed as above. From 204.4 to the end of the unit, the rock is very strongly sericitic and foliated, and grades into the fractured fault sequence below.												
				206.6-238.6 HENTY FAULT. MYLONITIC VOLCANICLASTICS STRONGLY FRACTURED AND SHATTERED.												
206.6	235.1	26.1	92	Pale pink-grey, highly fractured mylonite. Totally clay-altered rock, strongly sheared with bands of lighter and darker clay often kinkbanded. In places this soft rock has been completed fractured to small clayey fragments. Also developed within this zone are narrow (0.1-0.2m) pug zones of white unconsolidated, structureless clay and rock chips. A few quartz veins/silicified zones are also present, usually small (less than 0.1m wide). Between 229.8 and 233.3, a series of thin (0.2-0.5m) black shales occur; these are completely shattered and fractured also.												

520137

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP21

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all ppm) Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
235.1	238.6	3.5	100	Green-grey silicified, sericitic and highly fractured and sheared volcaniclastics. Numerous pale green sericitic veinlets occur irregularly through the silicified rock, which is also very weakly pyritic (0-1% by vol.). At 238.1, the lower 0.5m of this unit is a fractured-puggy zone; numerous rock chips in an unconsolidated clay matrix and fine grained unconsolidated clay bands. A sharp contact at 50° CA occurs with the unit below.											
				238.6-244.3 WEAKLY ALTERED, UNMINERALISED COARSE GRAINED VOLCANICLASTICS.											
238.6	244.3	5.7	100	Pale brown-green weakly altered coarse grained volcaniclastics. This unit is sericitic and is cut by numerous irregular quartz veins. It is unsulphidic and overall weakly altered and fractured. The core is weakly foliated at 50°CA, and is in sharp contact with the unit below.	T8879	244.3	245.3	100	0.350	4.0	42	230	1000	1550	6
				244.3-285.8 STRONGLY ALTERED AND MINERALISED COARSE VOLCANICLASTICS CUT BY A 3.4m SILICEOUS VEIN.	80		246.3	"	0.700	"	48	225	715	75	9
					1		247.3	"	0.200	2.0	37	200	355	60	8
					2		248.3	"	0.090	1.0	25	65	110	100	2
244.3	260.5	16.2	100	Pale grey, strongly mineralised and altered coarse-medium grained poorly sorted volcaniclastics. Silicified fragments, sub-angular to sub-rounded from 0.1cm to 5cm across, occur in matrix of pyrite-sericite, cut by pale green sericite veinlets and narrow silicified zones. The core is foliated at 45°CA. It is also weakly fractured apart from several narrow fractured-sericitic zones, and is unveined. The overall sulphide content is 15-20%. A number of zones, all around 0.1m wide, containing coarse base metals, usually galena-sphalerite, occur at: 244.7, 259.5 and 259.7. Several thin, irregular discontinuous lenses of massive pyrite (up to 2-3cm wide) occur at: 253.9, 259.9 and 260.1.	3		249.3	"	0.110	1.5	27	55	105	125	"
					4		250.3	"	0.170	3.0	47	305	800	135	5
					5		251.3	"	0.270	4.0	39	125	260	80	3
					6		252.3	"	0.490	5.5	44	60	150	40	12
					7		253.3	"	0.430		47	60	225	10	14
					8		254.3	"	0.570	3.5	80	35	150	"	11
					9		255.3	"	0.250	"	110	65	115	"	"
					91		256.3	"	0.115	1.5	68	145	220	25	3
					2		257.3	"	0.490	6.0	110	130	520	20	14
					3		258.3	"	0.170	3.0	55	65	175	15	10
					4		259.3	"	0.230	"	160	155	550	40	12
260.5	265.4	4.9	100	Grey-pink, coarse volcaniclastic breccia. This unit has sharp contacts with the units above and below (the basal one is at 45°CA) and is characterised by containing very coarse angular silicified lava fragment up to 25cm across. The unit is strongly altered and mineralised as above, with a pyrite-sericite matrix. Silicified bands occur as above and the the core is weakly fractured and foliated (at 45°CA). Overall the unit	5		260.5	"	1.450	15.0	410	525	3800	4675	27
					6		261.5	"	0.110	3.0	270	825	435	775	3
					7		262.5	"	0.070	4.0	110	290	250	120	6
					8		263.5	"	0.040	2.5	43	155	65	40	4
					9		264.5	"	0.070	3.0	140	265	145	"	10
					T8900	264.5	265.4	"	0.050	3.5	46	145	70	20	41

GOLD FIELDS EXPLORATION PTY. LIMITED

520138

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP21

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
									ASSAY DATA (all ppm)						
				is unveined, and sulphides are around 15% by vol.	T8915	265·4	266·4	100	0·010	<0·5	7	15	10	25	1
				At 261.4, thin (1-2cm) massive pyrite lenses occur over 0.3m, associated	6		267·4	"	<0·008	0·5	"	5	"	45	<1
				with small blebs of white carbonate-bright red jasper. The latter also	7		268·4	"	"	"	25	5	"	50	1
				occurs at 265.2.	8		269·4	"	"	"	18	5	15	40	2
					9		270·4	"	"	"	"	<5	"	35	3
265.4	275.6	10.2	100	Pink-grey, strongly silicified, weakly altered coarse grained volcaniclastics.	20		271·4	"	"	<0·5	17	5	10	30	<1
				The same original rock types as above (except not as coarse grained)	1		272·4	"	0·020	"	"	"	5	25	<1
				but unmineralised. The core is altered to a silica-chlorite assemblage	2		273·4	"	0·040	1·5	31	"	20	80	3
				with sericite only developed to wards the base of the unit, grading into	T8923	273·4	274·0	"	0·040	1·0	24	10	"	65	5
				the one below. Traces of fine pyrite occur disseminated in the chloritic											
				matrix, and the first 1.7m of this unit is particularly silicified. The	T8901	274·6	275·6	100	0·040	1·0	23	25	35	55	5
				core is very weakly fractured and is moderately foliated at 40°CA.	2		276·6	"	0·590	2·5	28	255	90	80	"
				The lower 1.0m of this unit is more altered than the rest, containing	3		277·6	"	0·010	1·5	18	475	40	45	1
				sericite and 1-2% pyrite.	4		278·6	"	"	0·5	17	380	25	50	"
					5		279·3	"	0·050	"	24	180	5	"	2
275.6	276.6	1.0	100	Coarse grained volcaniclastics, strongly altered and moderately	6		280·0	"	0·010	"	12	450	10	70	2
				mineralised. An alteration assemblage of silica-sericite-chlorite pyrite	8		281·0	"	0·370	2·5	48	370	140	240	6
				is developed, and generally the core is similar to the mineralised zones	9		282·0	"	0·310	1·0	39	125	60	55	3
				in previous units. Silicified zones, pale-green sericite veinlets veinlets	10		283·0	"	0·275	1·5	35	320	65	"	4
				and poorly developed quartz veining all occur. A sharp cont act occurs	1		284·0	"	0·120	1·0	33	240	30	"	3
				with the unit below.	2		285·0	"	0·090	0·5	26	95	5	45	"
					T8913	285·0	285·8	"	"	1·0	34	15	"	25	1
276.6	280.0	3.4	100	Pale grey-white siliceous vein. This consists of highly silicified											
				volcaniclastics, cut by numerous quartz veinlets and veins. Pervasive											
				silica flooding with minor sericite and sulphides is the dominant											
				alteration event. The rock is weakly fractured and structureless with											
				sulphides, including base metal sulphides, making up 2-3% of the rock by											
				vol. A sharp fractured basal contact occurs.											
280.0	285.8	5.8	100	Grey-green-pink strongly altered, mineralised coarse volcaniclastics.											
				Coarse white-pink silicified lava clasts, sub-rounded to sub-angular, occur											
				poorly sorted in a fine matrix of chlorite-sericite-silica-sulphide. The											
				rock is moderately foliated in places at 45°CA, and is weakly fractured											
				overall. Minor quartz veining occurs and the core contains around 10%											
				sulphides in total. A few, minor splashes of coarse base metals, in											

520139

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: TYNDALL

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: HP21 Page: 5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				particular chalcopyrite occur associated with narrow, irregular silicified zones throughout the unit. A few coarse pyritic blebs also occur.
				A sharp basal contact occurs.
				At 284.0, a 0.2m wide fractured-sericitic zone occurs. This is bright green in places and contains flecks of batchelorite. Another similar zone, 0.1m wide, occurs at 284.6.
				285.8-309.7 WEAKLY ALTERED COARSE GRAINED VOLCANICLASTICS AND AUTOBRECCIATED LAVAS.
285.8	309.7	23.9	100	Pink-green-grey coarse grained volcaniclastics. These rocks are weakly altered to a chlorite-sericite-silica assemblage and contain very little sulphides (pyrite)-about 0-1% by vol. The core is weakly-unfractured, foliated at 50°CA and does contain numerous irregular white quartz veins and veinlets in places. Pink-white silicified lava fragments occur in the fine grained chlorite-sericite matrix. In places the rock is very coarse grained - with autobrecciated lavas.
				A few zones of increased alteration and sericite-pyrite development occur with pyrite up to 5% by vol, e.g. 302.0-307.0.
				At 307.1 a strongly fractured-sericitic-puggy-silicified faulted zone occurs. The core is highly fractured and shattered to 309.7m.
				END OF HOLE 315.4m

ASSAY DATA (all ppm)

Sample No.	From	To	Rec. %	Au	Ag	As	Cu	Pb	Zn	Bi
T8924	302.0	303.0	100	0.140	1.0	23	15	30	35	6
5		304.0	"	0.090	<0.5	"	"	"	60	4
6		305.0	"	0.100	0.5	"	25	"	55	"
7		306.0	"	0.500	"	29	630	35	40	10
T8928	306.0	307.0	"	1.170	"	37	1800	30	45	12
T8891	255.3	256.3	100		0.130	0.100				
T8895	259.3	260.5	"		1.530	1.370				
T8902	275.6	276.6	"		0.590	0.590				
T8928	306.0	307.0	"		1.190	1.150				

GOLD ASSAY DATA (ppm)

ANALABS

REPEATS :	Au	AuChk
METHOD :	309	309

APPENDIX 3

CMS PETROGRAPHIC REPORTS

ON HP12 AND HP17

520141

REPORT CMS 87/1/17

Henty Prospect Samples (FROM H.P.12)

Thirteen polished thin sections and offcuts were received for petrographic and mineragraphic study. Stain tests for carbonate species and for K-feldspar were carried out on the offcuts where necessary.

T 5872 551·9 – 552·0

The original rock was a pyritic chert with lenses and bands of impure, argillaceous chert grading into more argillic material. The rock was subsequently fractured and sheared; fracturing occurred in the more competent pure chert, and shearing was concentrated in the more argillic portions, which, as a result, are now schistose.

The present rock consists of fractured, calcite-veined masses of microcrystalline quartz, and lensoid masses of argillaceous chert with associated schistose hydromuscovite (representing recrystallized clastic clays). There are patches of coarser quartz which are thought to represent disrupted ?diagenetic quartz veins.

The calcite veins are stressed and disrupted in places, suggesting a further stress episode postdating veining.

Pyrite occurs as small crystals haphazardly scattered through the rock, and also as small parallel stringers in the more argillaceous chert; some is related to the shear-planes and is probably re-mobilised pyrite.

The main sulphides are pyrite and chalcopyrite, and there are traces of associated galena; pyrite occurs as small, often euhedral crystals seldom > 100 μ, and chalcopyrite as irregular grains. There is an unusual association of chalcopyrite and galena impregnating an irregular (?detrital) patch of leucoxene. All three sulphides occur within chert areas as well as in shears.

T 5873 552·1 – 552·2

The original lithology was more argillaceous and less cherty than T 5872; thus, the present rock is much more schistose and micaceous, and much of the calcite occurs intergrown with the schistose zones.

The more resistant, pure chert, composed of microcrystalline quartz, occurs as elongate masses with crosscutting, fracture-filling calcite veins, in a mass of fine white mica (?hydromuscovite) and calcite; there are small parallel lenses of argillaceous chert, and fragments of coarser quartz. Irregular patches of coarsely crystalline, deformed calcite are probably disrupted veins.

Although pyrite is sprinkled through the chert as small single crystals, there is a marked concentration of pyrite in the areas showing the most intensive shearing, and this pyrite may be re-mobilised or introduced (or both).

Pyrite is the dominant sulphide, generally as stringers of small euhedral crystals, with associated and intergrown/included traces of chalcopyrite, galena, and sphalerite, all very fine-grained.

T 5874 552·4 - 552·5

This is a chert breccia, consisting mainly of calcite with widely-spaced fragments of a reddish hematitic chert ("jasper").

The irregular, angular chert fragments consist of microcrystalline quartz pigmented with fine hematite, usually as thin parallel bands separated by non-pigmented chert. The chert is bleached around its margins and adjacent to crosscutting calcite veinlets. The breccia matrix is composed of coarse, stressed calcite criss-crossed by finer, granular, recrystallized calcite. There are streaks of micaceous, quartzose material, probably representing stretched and deformed argillaceous chert; most of the pyrite is associated with these contorted streaks.

Pyrite is the major sulphide, as euhedral crystals up to 300 μ across, but mostly 10-50 μ. Minor chalcopyrite occurs, and there are traces of fine galena and sphalerite. No gold was detected.

T 5875 552·6 - 552·7

This is an extensively fractured and calcite-veined chert, with conspicuous sulphides which were apparently introduced after brecciation, but before the calcite veining.

The chert itself is fairly uniform and featureless, consisting of microcrystalline quartz with recrystallized clay flakes (illite and ?colourless/pale chlorite). There are subparallel, vein-like zones of coarser, recrystallized, stressed quartz with associated sulphides, and numerous random veins and veinlets of calcite, some of which cut the quartz-sulphide zones; the calcite is also stressed and deformed. Very fine pyrite occurs throughout the chert and is responsible for the grey colour.

The opaque minerals are pyrite, chalcopyrite, galena, and very conspicuous gold - very probably representing the bulk of the value for the intersection. Chalcopyrite and galena are abundant as patches up to 500 μ across, often as simple intergrowths, sometimes as accretions around pyrite, which is generally euhedral.

Gold, thought to be of high fineness judging by its colour, occurs in a variety of ways: a) as discrete, irregularly shaped particles from 3 μ to 50 μ, in gangue (both in chert and in calcite), b) as composites with, or inclusions in, galena or chalcopyrite, very rarely in pyrite; here the gold particles range from 5 μ to 150 μ. Sometimes there are small gold particles attached to the surfaces of pyrite crystals, and overall textural relationships suggest that pyrite was the earliest sulphide to form, followed by the other sulphides and gold;

where gold occurs as apparent inclusions in pyrite, this is due to gold being deposited in "holes" in the pyrite crystals.

There are minor traces of sphalerite, and of an unidentified sulphosalt(?) as inclusions in galena.

T 5876 553·0 - 553·1

This is a brecciated, calcite-veined chert; sulphides are quite scarce.

The rock is composed of massive, cloudy, microcrystalline quartz in which distinctive features are absent; there is a sprinkling of small pyrite crystals. There are patches and veins of coarser, diagenetically recrystallized quartz. Shear zones traverse the rock, with finely granular, recrystalline calcite and streaks of (hydro-)muscovite; there are occasional more substantial lenses of fine, schistose sericite representing argillic layers in the original rock; these tend to contain most of the pyrite in the rock. There are patches and veins of stressed, coarse, platy calcite crystals, each rimmed with clear, recrystallized calcite.

The scattered sulphides are small grains of pyrite, chalcopyrite and galena; no gold was seen.

T 5877 Potash stain test negative. 553·4 - 553·5

This is a sericitic chert, containing very little carbonate and only a trace of fine sulphides.

The major component is microcrystalline quartz, with subparallel wisps, streaks and lenses of fine matted sericite flakes which are commonly associated with coarser quartz. There are scattered small poikiloblastic calcite crystals which appear to be of diagenetic formation, but may be younger. Isolated calcite veinlets traverse the rock. Leucoxenised ?magnetite grains are seen.

Textures and grainsizes are variable, and the rock has a preferred fabric, due partly to the sericite bodies, partly to lensoid and banded development of differing textures and grainsizes; these are thought to be essentially depositional in origin.

There are traces of fine pyrite, chalcopyrite and galena. Gold was seen as irreguiar, discrete grains 15-25 μ in chert or quartz-sericite.

T 5878 Potash stain test negative. 553·6 - 553·7

This sericitic chert is closely similar to the previous rock and needs no separate description; however, a discussion of its origin is appropriate. Certain aspects of the rock suggest a possible volcanic origin, i.e. a lava or tuff of broadly rhyolitic composition.

For instance, some of the coarser quartz might be regarded as phenocrysts, and sericite aggregates could be interpreted as feldspar or feldspathic glass schlieren, and these possibilities were kept in mind when examining this rock. There is no real textural evidence to support a pyroclastic or crystal-fragment/phenocryst derivation. There are traces of leucoxene, a common accessory in chemical sediments; these are pseudomorphs after ?magnetite.

Whilst there was no evidence of a direct volcanic origin, the sediment may well have been exhalative/volcanogenic; the sericite aggregates would tend to support this.

The same reasoning may be applied to T 5877 and T 5879 (below). Traces of sulphides present as very small grains include pyrite, chalcopyrite and galena.

T 5879 Potash stain test negative. 554·0 - 554·1

This is a mineralised argillaceous chert with a distinct lensoid fabric accentuated by mild shearing.

The rock is composed of a series of small parallel lenses of microcrystalline quartz with minor fine sericite (recrystallized clay); each lens has an envelope of matted-parallel sericite flakes, accentuating the fabric. There are patches of coarser quartz as stressed, interlocking grains representing recrystallized material; some may be disrupted diagenetic veins (which form from pre-existing chert in any case).

There are sporadic calcite patches and veins. Sulphides are associated with patches and replacive veins of unstressed quartz and calcite; thus, the sulphides postdate the shearing responsible for the mildly schistose fabric.

The major sulphides are chalcopyrite and pyrite, with subordinate galena. Chalcopyrite forms networks and individual patches up to several millimetres across, and galena patches are up to 500 μ; the two minerals are closely associated, with galena inclusions in chalcopyrite. Pyrite forms euhedral crystals, with galena inclusions and veinlets (microfracture fillings).

T 5880 554·5 - 554·6

This is a sheared, mineralised sericitic chert, and is quite similar to T 5879; shearing and recrystallization were more extensive, and there is evidence of at least two, possibly three, tectonic events.

The original rock was an argillaceous chert, extensively veined by diagenetic quartz. The clays now consist of schistose sericite, and much of the fine quartz is recrystallized, though there are lenses of microcrystalline quartz with sericite envelopes.

Sulphides are scattered right through the rock, but are preferentially associated with subparallel shears; they also occur as vein-like (?replacive) masses with coarse quartz, calcite, and hydromuscovite.

Younger calcite veins cut all other components and are accompanied by pale fluorite and sphalerite; these veinlets are slightly displaced by younger, weak shears. Fluorite also occurs as small patches elsewhere in the rock.

The major sulphide is sphalerite, as pale patches with dark rims, and with minute chalcopyrite inclusions. Chalcopyrite and galena are also common, as irregular patches; all range from 20 μ to 1 mm or more. Pyrite is less conspicuous, as crystals embedded in other sulphides in shears.

Gold is relatively abundant, as small grains (< 2 μ to about 70 μ), generally discrete (i.e. not associated with sulphides), embedded in quartz or sericite; a few grains occur as inclusions (up to 30 μ) in sphalerite.

T 5881 554·7 – 554·8

This was originally an argillaceous chert, but is extensively modified by shearing, recrystallization, and substantial fluorite veining, which occurs in two generations.

There are lenses and irregular patches of microcrystalline to medium-grained quartz representing the original chert, and streaks of sericite concentrated in thin shears. Large, subparallel masses of pale fluorite have penetrated the rock and now comprise about 30 % of its volume. A later generation of dark purple fluorite, with coarse calcite, occurs in breccia zones containing chert fragments, cutting all other components. Sulphides are sparse and haphazardly distributed, but predate the youngest fluorite veins.

Sulphides comprise fine galena, chalcopyrite and occasional sphalerite. Gold is relatively common (over 120 grains were counted in the section), as irregular grains ranging from 2 μ to 50 μ - many grains are < 20 μ, generally in groups of 5-40 grains, with distribution broadly related to that of the sulphides, but seldom directly (texturally) associated with them, i.e. related to, and embedded in, gangue.

T 5882 554·9 – 555·0

This is a sheared sericitic chert; it is more quartzose and less recrystallized than the previous intersections.

The major component is microcystalline quartz, massive in places but lensoid or almost nodular in others, accentuated by wisps and streaks of matted-parallel hydromuscovite (coarse, well-crystallized sericite). There appear to be two sets of shears; the earlier ones contain deformed calcite and hydromuscovite, and later ones carry most of the sulphides, with associated random hydromuscovite flakes (i.e. not orientated by shearing). Elsewhere in the rock (not in this section) the calcitic veins contain purple fluorite. Fragmented veinlets of fluorite alone also occur.

Sulphides are plentiful in zones (see above) and comprise expanses of coarse sphalerite, unusually pale chalcopyrite, associated minor galena and small euhedral pyrite crystals. Elsewhere, sulphides are scarce. No gold was detected.

T 5883 555·3 – 555·4

This is a brecciated chert with extensive veining by sericite (yellow) and fluorite (purple); there are traces only of sulphides.

The rock consists dominantly of microcrystalline quartz with small wisps of fine sericite representing primary clays; there are also larger irregular or lensoid bodies of fine sericite, possibly formed diagenetically, sometimes with associated coarser quartz.

Irregular veins of fine sericite form a network throughout the rock; the sericite is generally orientated. Fluorite is associated with some of these veins, but also occur separately as veins and patches. Thin shears traverse the rock, and are younger.

Sulphides are very scarce and comprise small pyrite crystals and shreds of spongy ?galena. Leucoxenised opaques (?magnetite or ilmenite) are relatively conspicuous and appear euhedral.

T 5884 555·6 – 555·7

This is a quartz-sericite schist breccia, with conspicuous fine pyrite throughout. The original rock is believed to have been a pyritic, cherty argillite, representing an argiliaceous facies of the preceding cherts.

The rock consists of angular fragments of varying shapes depending on their quartz content; the sericitic fragments are small and tend to be folded or plastically deformed, and the quartzose/cherty fragments are larger and more angular. The sericitic fragments are strongly schistose, and large mica flakes (hydromuscovite) have formed; they also contain virtually all the sulphides. Leucoxenised opaques are present.

The rock was mildly metamorphosed to a schist prior to brecciation.

Pyrite is the dominant sulphide, generally occurring as small, well-formed crystals; larger crystals sometimes have porous textures and indications of colloform or framboidal origin. Galena is the only other conspicuous sulphide, as irregular crystals up to 500 μ, and also as fine intergrowths with pyrite. The sulphides may well be essentially syngenetic, possibly exhalative-volcanogenic in origin, and the rock may represent a distal, chemical sedimentary facies of a volcanic event.

Summary

1. The rocks were essentially chemical sediments, with possible exhalative, volcanism-related origin; the frequent occurrence (widespread rather than abundant) of leucoxenised oxide opaques, as euhedral, embayed or fragmentary pseudomorphs, as well as fine dispersed leucoxene, suggests a possible link with, say, andesitic/basaltic volcanics. Thus, the rocks could be regarded as sub-economic variants of volcanogenic sulphide deposits. If this is the case, the lateral extent of the mineralisation could be significant, and though these rocks would not be economic as sulphide deposits, their precious metal potential may be enhanced.

2. The gold is broadly linked with the base metal sulphides (i.e. chalcopyrite, galena, sphalerite) rather than with pyrite (this could be subject to modification), which appear to predate the calcite and fluorite veining and may represent re-mobilised syngenetic material (e.g. the sphalerite is very pale); by inference, the gold may also be syngenetic, with later mobilisation. Tectonic overprinting and veining have obscured or confused the paragenesis.

   Thus it could be argued that all the rock components, including sulphide and gold but excluding calcite and fluorite, are indigenous to the host rocks.

3. Metallurgical problems would centre around the liberation of the finer gold, and the presence of acid-consuming calcite. Of course, in cyanidation, calcite can be beneficial in maintaining a high pH.

   There are no cyanocides in this fresh material, though any oxidised ore would very probably contain cyanide consumers.

   Since much of the gold occurs independently of the sulphides, there is no advantage in producing a flotation concentrate to recover the gold; gravity concentration would be better.

H.W. Fander, M. Sc.

HP 17

520148

REPORT CMS 87/6/3

Six samples of mineralised drill core from the Henty area were received for mineralogical examination, with emphasis on the nature and distribution of contained gold. Two polished sections were prepared from each sample and examined in reflected and oblique incident light. Attached semi- to detailed descriptions summarise the microscopic data.

Summary

The majority of samples (T 8819 - T 8823 inclusive) consist of banded, fine-grained, semi- to near-massive pyrite aggregates with a carbonate-qaurtz gangue assemblage and interspersed carbonate-quartz veins and discontinuous veinlets. Sample T 8824 represents a breccia composite of pyritic pelite and relatively siliceous vein components.

Massive pyrite aggregates exhibit a rather consistent accessory sulphide assemblage of chalcopyrite with subordinate galena, relatively minor sphalerite and traces of tetrahedrite-tennantite. This is generally supplemented by bismuthinite with locally associated bismuth, partly as corroded relics. Accessory phases, in general, are of pyrite-intergranular to pyrite-included habit, as simple blebs, irregular films and simple composites. Rare, extremely fine-grained arsenopyrite appears in the pyrite-intergranular sulphide blebs.

The tetrahedrite-tennantite phase is tentatively classified as tetrahedrite on the basis of optical characteristics and may represent a locus of Ag in the absence of optically specific silver phases. It is noted, however, that observed levels of arsenopyrite are notably insufficient to account for the As assay data, suggesting the presence of arsenical pyrite and/or a more complex sulphosalt assemblage than evident in this suite of samples. Analyses for Sb may be instructive.

Veins are variably sulphide-mineralised with sphalerite-galena-chalcopyrite-rich assemblages, and are distinctly base metal sulphidic in comparison with the "massive" pyrite aggregates. Veins are mildly stressed in common with the pyritic host rock.

Gold was detected in five of the six samples examined (i.e. in ten of the twelve sections), typically in amounts consistent with the Au assay data. Habit is very uniform and may be summarised as pyrite-intergranular to (relatively minor) pyrite-included. In detail, there is a strong, but not invariable association between gold and chalcopyrite, with approximately half of the gold particles observed in composite with pyrite-intergranular chalcopyrite blebs. In that the pyrite-intergranular sulphides occur partly as composites, there is a loose association between gold and, for example, galena and tetrahedrite, but in detail gold was not observed as inclusions in these phases. Similarly, there is no apparent association between gold and bismuth or bismuthinite in terms of microscale distributional features.

There is a marked, almost total, concentration of gold in the massive pyrite aggregates, with minor traces only detected in veins, and then in a single section (58105A/sample T 8819). Locally, gold exhibits a vein-distal, banded distribution possibly consistent with partial remobilisation into the veins which may thus prove significant elsewhere in the deposit.

Gold may be classified as "micron-sized", with observed particle sizing in the 1 - 30 μ range and with overall modes of 5-10 μ. That is, the gold is fine but particulate and should exhibit free-milling characteristics albeit at fine grinds. The strictly pyrite-included or "locked" finer particles, however, represent a potential leach-refractory component.

Bulk sulphide flotation represents a potential upgrading route. Differential flotation (e.g. of chalcopyrite) would not appear viable in that a substantial proportion of gold would report to pyritic tails.

Observed gold is generally pale in colour, varying from yellow to creamy yellow-white, consistent with a variable alloyed Ag content (i.e. variable fineness). The disparity between Au and Ag assay data indicates the bulk of silver is represented by tetrahedrite-tennantite and/or, to this stage undetected, silver sulphosalts or sulphides.

D. Cowan, B. Sc.

REPORT CMS 87/6/3 - H.P. 17

Mineragraphic Descriptions

T 8819 (P.S. 58105A, B)
(157.80– 157.88)

Exhibits semi- to near-massive, fine-grained (20-300 μ, mode 50-60 μ) pyrite in weakly banded quartz-gangued aggregates veined by a carbonate-quartz/minor sulphide assemblage.

The "massive" pyrite aggregates are weakly but variably microfractured to locally granulated. Associated sulphides comprise accessory chalcopyrite, subordinate galena, and traces of tetrahedrite (with rare micro-inclusions of arsenopyrite) and sphalerite with a marked pyrite-intergranular habit as discontinuous irregular films and cuspate blebs typically sized < 50 μ and frequently < 20 μ.

The vein-hosted sulphide assemblage is similar, but with relatively conspicuous chalcopyrite, sphalerite and subordinate galena in overall near-equal proportions with fine-grained pyrite. Vein-sulphides are erratically distributed, with localised concentrations in thin intersecting films and occasionally in stylolites. Veins are semi-planar to irregular, with variable attitudes to banding in the pyritic host rock, range to 1.5 cm in width, are crudely banded in terms of quartz distribution, and reflect mild stress effects.

Observed gold is distinctly concentrated in the massive pyrite aggregates. Approximately fifty particles were detected, with a marked concentration in section 58105B. Modal sizing is about 5 μ in a range of 1-2μ to a maximum observed of 30 μ. Habit is pyrite-intergranular to rarely pyrite-included and grain shapes closely analogous to those of the minor pyrite-intergranular sulphides (i.e. cuspate irregular to subequant blebs, discontinuous microfilms). Observed colour is pale (creamy yellow to creamy-white) and subtly variable, suggesting a variable alloyed silver content.

Rarely, gold particles occur as composites with pyrite-intergranular sulphide blebs, notably of chalcopyrite.

Traces of bismuth, occasionally composite with bismuthinite, were noted. Distribution is analogous to that of gold, as is the sizing, although overall bismuth is relatively coarse-grained, with a mode of 15-20 μ. Bismuth and gold were not observed in contact. Both gold and bismuth exhibit a semi-banded distribution, with concentrations a few millimetres from vein walls, particularly in section 58105B.

Two micron-sized gold particles were noted as inclusions in a vein-hosted sphalerite bleb in section 58105A.

T 8820 (P.S. 58106A, B)
(157.95 – 158.10)
Exhibits semi- to near-massive pyrite aggregates closely analogous to those in T 8819, but relatively uneven-grained, including microcrystalline aggregates and sporadic coarse euhedra (to 750 μ). Modal overall sizing is in the 30-50 μ range. Accessory sulphides comprise relatively conspicuous chalcopyrite, minor bismuthinite, sphalerite and galena, and traces of tetrahedrite with a pyrite-intergranular distribution and a minor pyrite-included (typically chalcopyrite) mode.

Gangue consists of medium-grained carbonate with subordinate to minor quartz. Minor lensoid zones, of millimetric proportions, of coarse-grained vein-carbonate carry a sparse chalcopyrite-sphalerite-rich disseminated sulphide assemblage.

Approximately forty gold particles were detected, with an essentially equal incidence between the two sections examined. Habit is pyrite-intergranular (approximately 70 %) to pyrite-included (approximately 30 %). Approximately 25 % of gold particles are in composite with pyrite-intergranular or included sulphide blebs, almost invariably chalcopyrite, but rarely bismuthinite. Observed (gold particle) sizing and shape variations are closely analogous to those noted in T 8819, with a mean diameter of 5 μ in a range of 1 to 35 μ. Colour is a relatively uniform creamy yellow.

In contrast to T 8819, bismuth was not observed, probably a reflection of complete replacement by bismuthinite, and arsenopyrite is absent from the two sectioned surfaces examined.

T 8821 (P.S. 58107A, B)
(158.20 – 158.30)
Exhibits relatively massive, fine-grained carbonate-quartz-gangued pyrite aggregates, banded on a millimetric scale, with a mean grainsize of 30 μ. Accessories comprise semi-pervasive pyrite-intergranular blebs and films of chalcopyrite, relatively conspicuous tetrahedrite (in ovoid blebs to 60 μ diameter, distinctly concentrated in section 58107A), and relatively quite inconspicuous traces of galena, bismuthinite and sphalerite. Extremely rare arsenopyrite is present as micro-inclusions in chalcopyrite.

Tetrahedrite, where relatively coarse, exhibits a faint colour-zoning (bluish to faintly purplish brown-grey), and micro-inclusions of galena.

This sample appears relatively gold-deficient in comparison with T 8819 and T 8820. Approximately fifteen particles were observed, with a marked concentration in section 58107A. Sizing ranges from 2 μ to 15x25 μ, with a mode of 8-10 μ. The bulk of particles were noted in association with pyrite-intergranular chalcopyrite, as single grains and loose clusters. There is a minor pyrite-locked gold component, with included particles relatively fine (2-6 μ). Colour is uniformly pale yellow.

T 8822 (P.S. 58108A, B)
(158·40 – 158·50)
Exhibits fine-grained to microcrystalline, near-massive pyrite aggregates, quartz-carbonate-gangued, and relatively crudely banded. Accessory chalcopyrite is more or less ubiquitous with a typical pyrite-intergranular habit, and is relatively concentrated in section 58108B. Relatively minor tetrahedrite, sphalerite, galena and bismuthinite, with occasional corroded relics of bismuth as micro-inclusions, complete the accessory assemblage.

Gold is present as very thinly dispersed, pyrite-intergranular particles, typically enclosed, or partly enclosed, in blebs of chalcopyrite. Sizing is closely analogous to that noted in T 8821. Colour is uniformly pale yellow.

T 8823 (P.S. 58109A, B)
(158·67 – 158·83)
This sample consists largely of uneven-grained, semi- to near-massive, banded, carbonate-quartz-gangued pyrite aggregates with sporadic lensoid veins to a few millimetres in width of carbonate and quartz with subordinate pyrite. Pyrite aggregates are relatively micro-fractured, with sporadic discordant carbonate-healed fractures carrying granulated pyrite as mechanical inclusions.

A typical chalcopyrite-dominated accessory sulphide assemblage is present, with traces of bismuthinite, locally including corroded microscopic relics of bismuth, and relatively minor traces of galena, tetrahedrite and sphalerite. Microtextural relationships are typical, with accessories intergranular to the uneven-grained pyrite.

Gold is relatively sparse, with ten particles only detected in the two sections examined. Colour is uniformly pale yellow and sizing ranges from 2 μ to an observed maximum of 10x20 μ and a mode of 3-5 μ. Distribution is typical, with a marked association with pyrite-intergranular chalcopyrite blebs ranging to 50 μ diameter, but typically < 30 μ. Rarely, gold occurs in association with chalcopyrite-bismuthinite composites.

T 8824 (P.S. 58110A, B)
(159·28 – 159·37)
This rock may be categorised as a breccia comprising millimetric to centimetric clasts of variably pyritic, quartzose-sericitic, weakly carbonaceous pelitic sediment with interspersed clasrs and veins of quartz with disseminated carbonate rhombs and clusters and sporadic sulphide aggregates. The vein-quartz(-carbonate-sulphide) component is microfractured and, as noted, locally appears as clasts, reflecting multistage deformation effects.

Pelite clasts exhibit disseminated to locally semi-massive pyrite with accessory proportions of chalcopyrite, galena and sphalerite. Relatively massive pyrite aggregates are texturally similar to the banded massive pyrite in associated samples, but tend to be variously chalcopyrite- or galena-rich in terms of accessory sulphide.

Vein-quartz-hosted sulphide aggregates range to a few millimetres diameter and are typically sphalerite-galena composites with fine disseminations of chalcopyrite and pyrite, or, in marginal areas, chalcopyrite with included fine pyrite.

Rare microscopic tetrahedrite blebs occur associated with pyrite-intergranular chalcopyrite and galena in the relatively massive pelite-hosted pyrite aggregates, which exhibit variable micro-fracturing and granulation effects.

Close examination of the two polished sections revealed no detectable gold, bismuth, or bismuthinite.

D. Cowan, B. Sc.

APPENDIX 4

REPORT ON PRELIMINARY METALLURGICAL TESTWORK

OF HP12 BY WARMAN INTERNATIONAL LTD.

RENISON GOLDFIELDS CONSOLIDATED LIMITED

MEMORANDUM

520155

JEB/683/zb

cc: R.A. Shakesby
G.G. Northcote

J.E. BUTLER

MR. L.A. NEWNHAM

HENTY METALLURGICAL TESTWORK

15TH APRIL, 1987

DATE: 16 A...
FILE NO.:
INITIALS:

SFR::
87/E

The enclosed Warman report no. 87/00094 contains the results of testwork carried out on the five Henty drill core samples you submitted recently. I have authorised payment against their invoice, a copy of which is submitted for your information only.

You will note that the recovery of gold, embracing amalgamation/ cyanidation, was high for all samples, and although the contents of the report are largely self explanatory I would make the following general comments:-

1. Sample T3843 was confirmed as having a much lower gold value than indicated in drill core data.

2. A significant proportion of the contained gold would be recoverable in a simple gravity circuit, e.g. spirals and shaking tables.

3. Although sample T3844 gave a 90% gold recovery the gold tenor of the leach residue at 3.50 gm./tonne is somewhat confusing in view of the fine grind adopted and the virtual absence of the "refractory elements" sulphur and arsenic. On the other hand sample T3846, which also exhibited a high leach residue gold value at 4.53 gm./tonne, probably has some of its gold locked in pyrites and base metal sulphides.

4. Gold recovery in the cyanidation phase is relatively rapid, even at high head values, and preliminary observations suggest a leach retention time of about 16 hours may be adequate. This compares with the not infrequently adopted 24 hours design capacity.

5. Cyanide and lime consumptions were extremely low, and from experience would almost certainly be even lower on a plant scale.

S.F.
C.J.

J.E. BUTLER

is impor
nowledge

87-2673 A.

WARMAN INTERNATIONAL LTD.
A member of the WARMAN INTERNATIONAL GROUP Incorporated in Queensland

520156

Postal Address: P.O. Box 51, Artarmon, N.S.W. 2064, Australia
Laboratories: 6-8 McLachlan Avenue, Artarmon, Sydney, N.S.W. Phone (02) 436 6789 Telex: AA20711

RESEARCH & DEVELOPMENT DIVISION REPORT

SFR:sh
87/692

Report 87/00094

Preliminary Metallurgical Testing of Henty Gold Ore

for

Renison Goldfields Consolidated Ltd

S.F. Rayner
C.J. McDowell

April 14, 1987

CONTENTS

SUMMARY

Five ore samples from the Henty project have been tested for gold extraction via a gravity/cyanidation process route.

Results were;

sample	T3843	T3844	T3845	T3846	T3847
g/t Au	0.8	33	4.5	50	11.6
gravity recovery %	30	44	36	22	55
leach recovery %	61	46	52	69	39
total recovery %	91	90	88	91	94
tailing g/t Au	0.08	3.50	0.53	4.53	0.67
reagent consumption					
hydrated lime kg/t	0.5	0.4	0.3	0.3	0.6
NaCN kg/t	0.6	0.6	0.5	0.7	0.6

1. INTRODUCTION

Five samples of drill core from the Henty project near Queenstown were submitted on March 9, 1987 for metallurgical evaluation. Apart from some copper, lead and zinc mineralisation the samples also were said to contain appreciable gold levels of the order of 30 g/t with significant amounts of coarse, potentially gravity recoverable gold.

In the first instance testing was kept small scale to conserve sample, the initial tests looking at the recovery of liberated gold via amalgamation with mercury, followed by cyanide leaching to extract residual gold.

An additional larger scale test consuming all of the sample provided was carried out on one sample when anomolous gold contents were encountered.

2. SAMPLE IDENTIFICATION/ANALYSIS

Each of the samples consisting of approximately 3 kg of drill core were crushed to minus 2 mm, blended and riffle sampled to produce assay and test portions.

The identification data and assay results appear in Table 1. In deference to the visible gold contents reported, we did not assay for gold but rather have quoted back calculated gold grades from the 1 kg scale laboratory tests. Indicated grades supplied by Goldfields on matching core sections are also shown. Differences were expected in gold grades but the variation in sample T3843 is exceptional and is discussed later in the report.

Sample data

TABLE 1

identification HP 12	indicated grades ex Goldfields		Warman assays						
	g/t Au	g/t Ag	g/t Au	g/t Ag	ppm Cu	ppm Pb	ppm Zn	ppm As	% S
T3843 552 -552.7	30.3	9.5	0.86	9.0	304	954	95	<5	0.89
T3844 552.7-553.4	31.2	11.5	33.7	11.1	618	931	90	<5	0.12
T3845 553.4-554.3	5.5	9.0	4.55	9.5	3670	1617	76	<5	0.46
T3846 554.3-555	35.8	21.0	49.8	27.7	3570	2.35%	1.88%	29	3.50
T3847 555 -555.7	11.7	3.0	11.6	5.3	503	3092	4117	24	1.47

Notes: 1. Warman gold assays are back calculated values from the tests in Table 2.

2. Indicated metal grades on T3846 by Goldfields
Cu = 3500 ppm, Pb = 29,500 ppm, Zn = 22,000 ppm

3. AMALGAMATION/CYANIDATION TESTING

3.1 Initial Tests

Portions of each ore sample were wet ground in the laboratory rod mill to give a grind finer than 75% passing 75 μm before being amalgamated with mercury in a panning dish. The amalgam was recovered and assayed for gold with ore slurry allowed to thicken to 50% solids before being leached in 0.1% NaCN solution at a lime adjusted pH 10^+ level. Liquor samples were taken to chart the progress of gold dissolution with the final leach residue washed and assayed.

The data collected is summarised in Table 2 producing mixed results, i.e.,

sample	grade g/t Au	gold distribution			tailing g/t Au
		gravity %	cyanide %	total %	
T3843	0.9	30	61	91	0.08
T3844	33.7	44	46	90	3.50
T3845	4.5	36	52	88	0.53
T3846	49.8	22	69	91	4.53
T3847	11.6	55	39	94	0.67

First there is a significant gravity recoverable gold component in the ore which is only confirmation of mineralogical examination. On a percentage basis the gold extraction is good averaging 91% with low lime and cyanide reagent use. The levels of other metal ions Cu, Pb and Zn are not present in prohibitive amounts. The only negative aspect is the high tailings grades for T3844 and T3846. Discarding 3 to 5 g/t Au seems extravagant, even if it is from 30 to 40 g/t Au ore. Usually we would expect a correlation between these samples and sulphides (sulphur assays) but in this instance the low assay of 0.12% S for T3844 does not hold, although the 3.50% S assay for T3846 is consistent.

3.2 Repeat Test on T3843

The discrepancy between the back calculated gold assay in Table 2 and the indicated gold grade from Goldfields in Table 1 for sample T3843 was thought to relate to sampling as the bulk of the gold was reported in a narrow band in the core. To overcome this the total remaining sample (2.27 kg) was milled and treated in similar manner to the samples in Section 3.1. The results are presented in Table 3 but failed to locate any additional gold. Allowing for variation between samples the results are considered as confirmation with the first test.

TABLE 2

Amalgamation/cyanidation data

sample	T3843	T3844	T3845	T3846	T3847
nominal g/t Au	30.3	31.2	5.5	35.8	11.8
weight g	779	656	789	617	633
grind (mins @ 50%)	20	20	20	20	20
% passing 75 µm	80	88	74	90	88
leach % solids	50	50	50	50	50
initial pH	7.9	7.9	8.0	8.2	7.7
hyd lime kg/t	0.5	0.4	0.3	0.3	0.6
leach pH	10.3	10.3	10.3	10.4	10.5
NaCN					
addition kg/t	1.0	1.0	1.0	1.0	1.0
residual %	0.044	0.044	0.048	0.034	0.044
consumption kg/t	0.6	0.6	0.5	0.7	0.6
liquor assays					
mg/l Au 3 hr	0.51	13.2	1.53	24.4	4.46
6 hr	0.52	13.8	1.77	25.0	4.27
24 hr	0.53	15.2	1.93	27.4	4.50
Cu 24 hr	54.8	44.7	52.6	43.2	25.6
Pb 24 hr	0.14	0.16	0.30	1.24	0.51
Zn 24 hr	5.2	4.8	5.6	38.0	21.8
leach residue					
g/t Au @ 24 hr	0.12, 0.05 → 0.08	3.81, 3.18 → 3.50	0.68, 0.38 → 0.53	4.62, 4.44 → 4.53	0.89, 0.45 → 0.67
gold balance @ 24 hr					
mg amalgam	0.20	9.84	1.65	11.00	4.07
mg solution	0.41	9.97	1.52	16.90	2.85
mg residue	0.06	2.30	0.42	2.80	0.42
total mg	0.67	22.11	3.59	30.70	7.34
calc head g/t Au	0.86	33.7	4.55	49.8	11.6
gold dissolution %*					
3 hr	90	84	80	85	94
6 hr	90	85	85	86	92
24 hr	91	90	88	91	94
% free gold	(30)	(44)	(36)	(22)	(55)

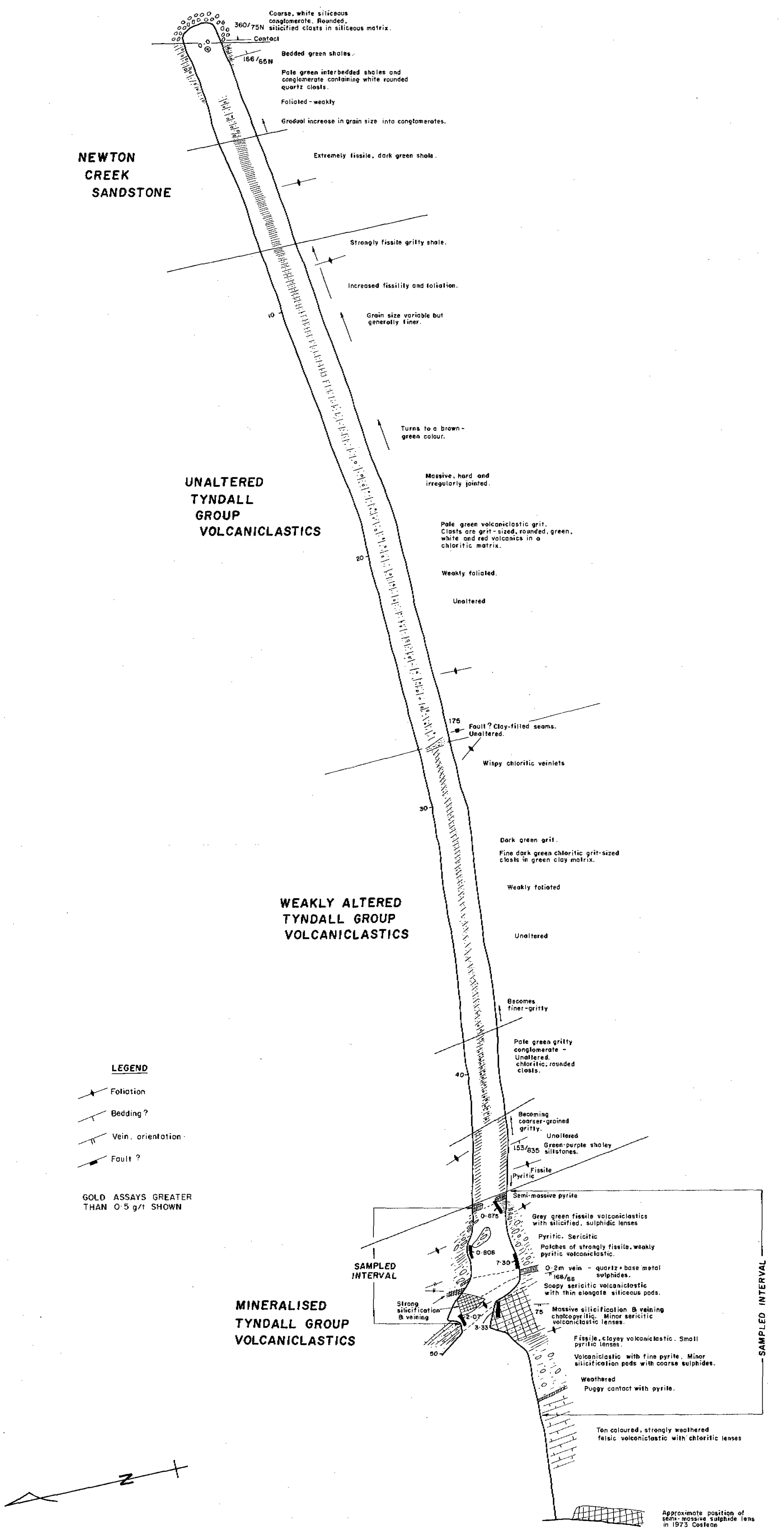
* includes the (free) amalgam gold component

TABLE 3

Repeat amalgamation/cyanidation of sample T3843

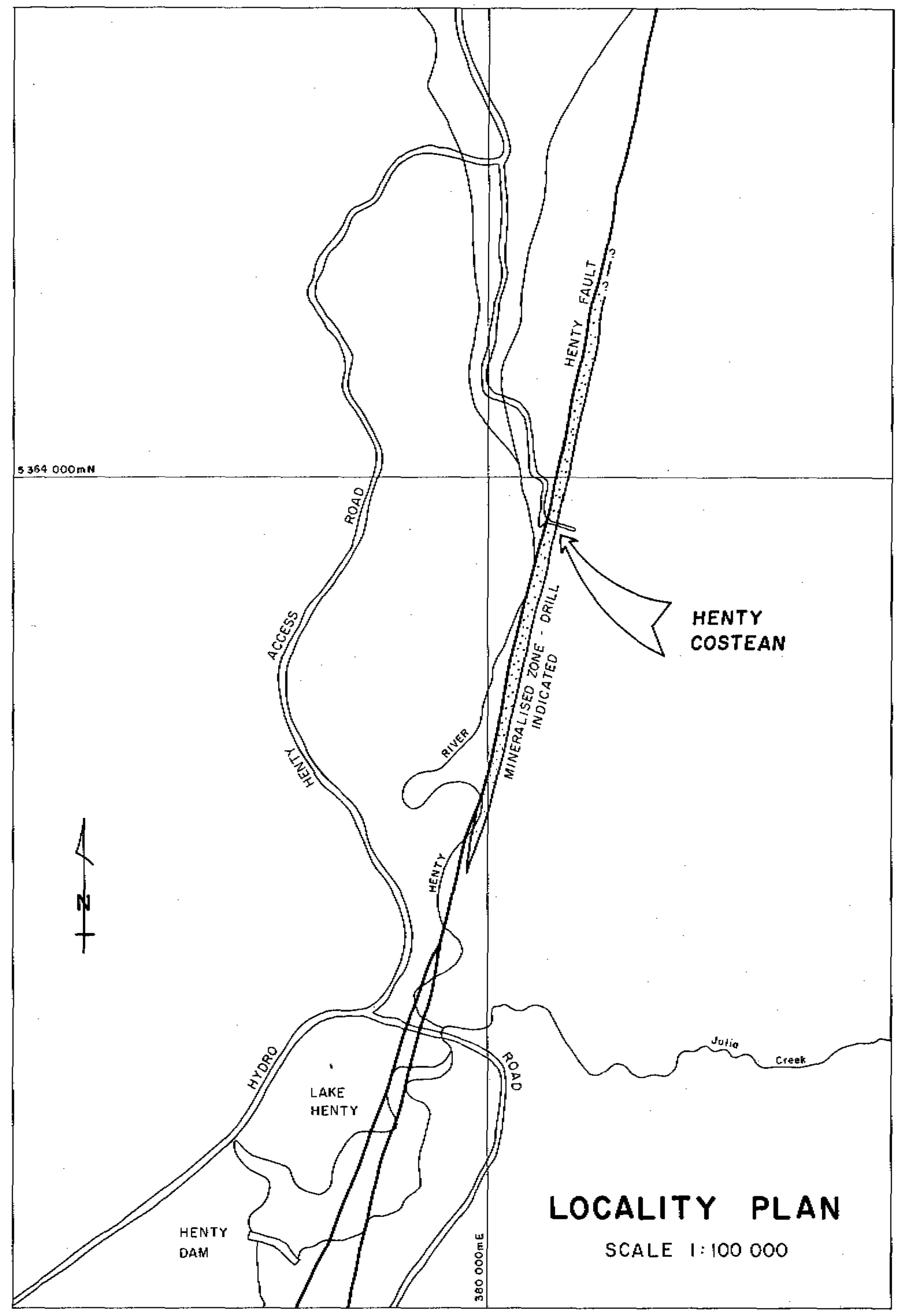
indicated grade	30.3 g/t Au
weight kg	2.267
grind % passing 75 µm	80
leach % solids	50
initial pH	8.3
hydrated lime kg/t	0.2
leach pH	10.6
NaCN	
addition kg/t	1.0
residual %	0.062
consumption kg/t	0.6
liquor assays	
mg/l Au @ 3 hr	0.40
6 hr	0.41
24 hr	0.45
leach residue	
g/t Au @ 24 hr	0.12, 0.13 } 0.12
gold balance	
mg amalgam	0.25
mg solution	1.02
mg residue	0.27
mg total	1.54
calc head g/t Au	0.68
% gold dissolution *	
3 hr	75
6 hr	77
24 hr	82
% free gold	(16)

Note: * calculation of gold dissolution includes the free (amalgam) gold component and is based on the calculated head assay



GEOLOGY PLAN

SCALE 1:100

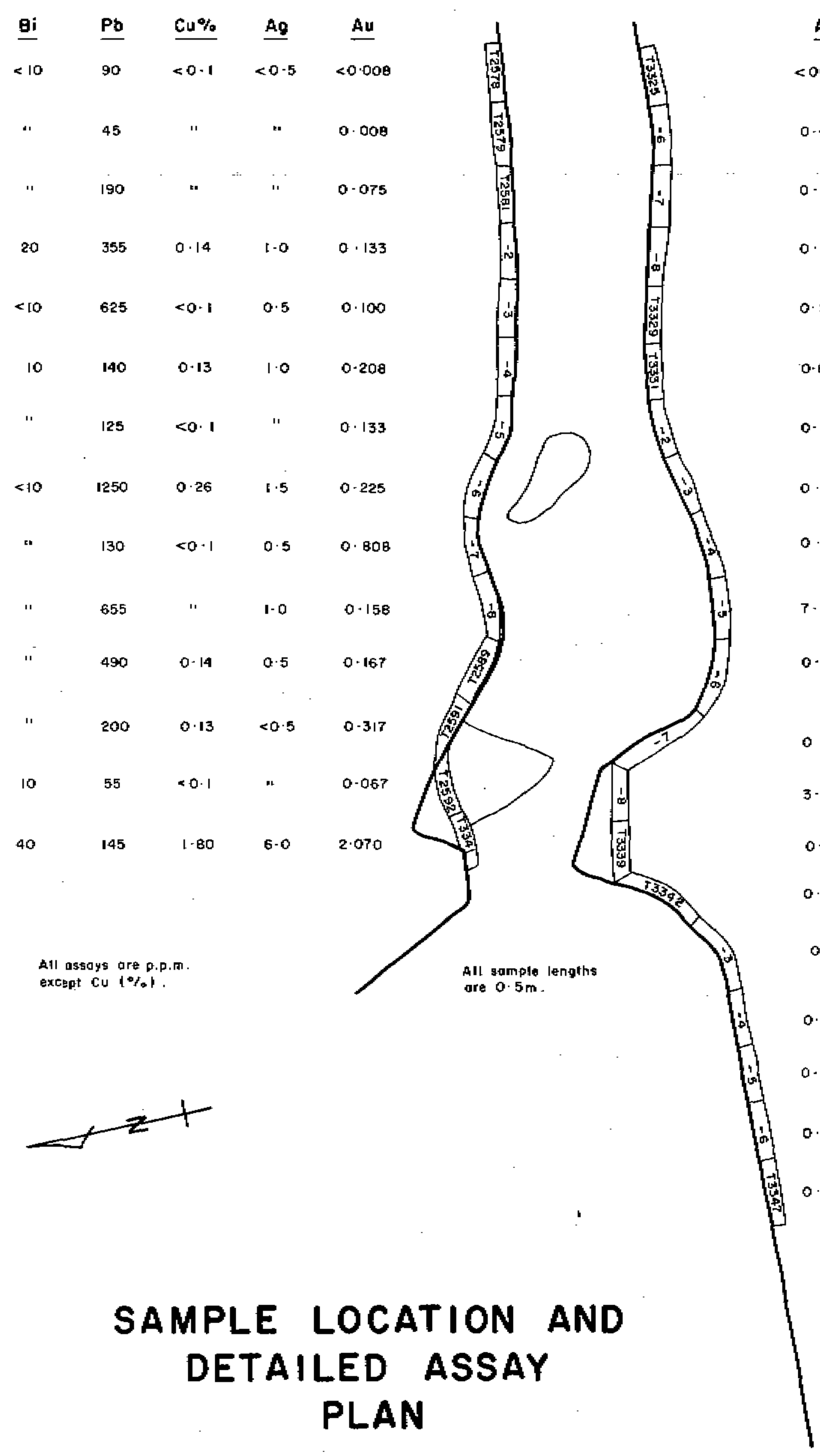


LOCALITY PLAN

SCALE 1:100 000

Bi	Pb	Cu%	Ag	Au
<10	90	<0·1	<0·5	<0·008
"	45	"	"	0·008
"	190	"	"	0·075
20	355	0·14	1·0	0·133
<10	625	<0·1	0·5	0·100
10	140	0·13	1·0	0·208
"	125	<0·1	"	0·133
<10	1250	0·26	1·5	0·225
"	130	<0·1	0·5	0·808
"	655	"	1·0	0·158
"	490	0·14	0·5	0·167
"	200	0·13	<0·5	0·317
10	55	<0·1	"	0·067
40	145	1·80	6·0	2·070

All assays are p.p.m. except Cu (%).



Au	Ag	Cu%	Pb	Bi
<0·008	<0·5	<0·1	55	<10
0·067	"	"	260	"
0·300	1·0	0·24	570	10
0·292	2·0	0·27	740	"
0·233	1·5	0·17	410	"
0·675	11·0	0·56	1300	20
0·483	1·5	1·10	475	<10
0·167	<0·5	0·26	725	10
0·325	0·5	"	690	20
7·300	1·0	0·41	655	80
0·032	BLD	<0·1	405	10
0·150	1·0	0·14	210	"
3·330	2·0	0·76	255	70
0·133	BLD	0·18	245	10
0·083	"	<0·1	125	<10
0·117	0·5	"	425	10
0·067	<0·5	"	290	<10
0·233	1·5	0·11	400	"
0·108	1·0	<0·1	240	"
0·250	2·0	"	330	"

SAMPLE LOCATION AND DETAILED ASSAY PLAN

SCALE 1:50

5 cm

520165

87-2673

HENTY COSTEAN

LOCATION, GEOLOGY AND ASSAYS

SCALE: AS SHOWN

FIG. 3

FELSIC PORPHYRY
(TYNDALL GROUP)

OWEN CONGLOMERATE

GREAT LYELL FAULT

NEWTON CREEK SANDSTONE

HENTY FAULT

TYNDALL GROUP

HENTY MINERALISED ZONE

HENTY FAULT

INTER – HENTY FAULT SEQUENCE

CENTRAL SEQUENCE

HOWARD'S ROAD

RIVER HENTY

CONCRETE PLANT AREA

COSTEAN

HP 16 HP 11 HP 6 HP 5A HP 8 HP 4 HP 20 HP 9 HP 17 HP 15 HP 14 HP 18 HP 5 HP19 HP21 HP4A HP 7 HP13A HP13 HP 3A HP 3 HP 12A HP 1 HP 12 HP 2 HP 2A

HFZ 5 HFZ 11 HFZ 6 HFZ 10 HFZ 9 HFZ 12

700 800 900 600

64600mN. 64200mN. 63800mN. 63400mN. 63000mN.

80400mE. 80000mE. 79600mE. 379200mE.

SHEET LOCATION

A 5	A 8	A 11

520166

5cm

87-2673

GOLDFIELDS EXPLORATION PTY. LIMITED

TYNDALL – E.L. 9/66
HENTY PROSPECT – SHEET A8

DIAMOND DRILL HOLES AND INTERPRETIVE GEOLOGY

SCALE 1 : 2000 METRES

DRAWN BY :	A.C.
DRAFTSMAN :	T.G.D.S.
DATE :	June '87
REVISIONS :	
FILE No.	

FIG. 4

NORTH

SOUTH

PROJECTED SURFACE TRACE OF GOLD MINERALISED ZONE

65450mN. 65300mN. 65200mN. 65100mN. 65000mN. 64900mN. 64800mN. 64700mN. 64600mN. 64500mN.

2600m R.L.

2500m R.L.

2400m R.L.

HP16 O

2300m R.L.

2200m R.L.

2100m R.L.

2000m R.L.

1900m R.L.

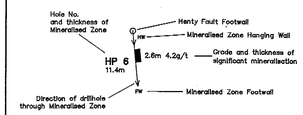
LEGEND

THE GOLD MINERALISED ZONE

The Mineralised Zone is defined in each hole as the zone between the first assays of greater than 0.1 g/t Au and the last assays of greater than 0.1 g/t Au. These may in some cases be seperated by a barren interval.

SIGNIFICANT GOLD MINERALISATION

The grades and thicknesses of significant mineralisation have been calculated using a minimum average grade of 4.0 g/t over a minimum horizontal thickness of 2.0m, i.e. a grade-thickness cut-off of 8 g/t-metres.



Drillhole ends within Mineralised Zone

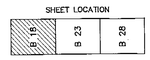
HFZ 11 O Drillhole fails to intersect Mineralised Zone

A
● PROPOSED DRILLHOLE

NOTES:

1. All thicknesses are horizontal.
2. Projection line is 380400mE.
3. 2000m has been added to the true RL's.
4. Projected surface of the Mineralised Zone is approximate only, taken from 1:1000 and 1:2000 geology plans. A 5.0m height adjustment has been assumed for the tree-top-ground difference.

SHEET LOCATION



520167

5 cm

87-2673

GOLDFIELDS EXPLORATION PTY. LIMITED

TYNDALL – E.L. 9/66
HENTY PROSPECT – SHEET B 18

LONGITUDINAL PROJECTION OF GOLD MINERALISED ZONE

DRAWN BY :	A.C.
DRAFTSMAN :	T.G.D.S.
DATE :	Jan. '87
REVISIONS :	
FILE No.	

SCALE 1 : 1000 (0 10 20 30 40 50 METRES)

FIG. 6

NORTH

SOUTH

63400mN. 63300mN. 63200mN. 63100mN. 63000mN. 62900mN. 62800mN. 62700mN. 62600mN. 62500mN.

2600m R.L.

PROJECTED SURFACE TRACE OF GOLD MINERALISED ZONE

2500m R.L.

2400m R.L.

2300m R.L.

HW
HFZ 12
29.6m
FW

2200m R.L.

2100m R.L.

2000m R.L.

1900m R.L.

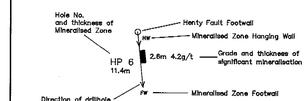
LEGEND

THE GOLD MINERALISED ZONE

The Mineralised Zone is defined in each hole as the zone between the first assays of greater than 0.1 g/t Au and the last assays of greater than 0.1 g/t Au. These may in some cases be seperated by a barren interval.

SIGNIFICANT GOLD MINERALISATION

The grades and thicknesses of significant mineralisation have been calculated using a minimum average grade of 4.0 g/t over a minimum horizontal thickness of 2.0m, i.e. a grade–thickness cut–off of 8 g/t–metres.



Drillhole ends within Mineralised Zone

HFZ 11 O Drillhole fails to intersect Mineralised Zone

NOTES:

1. All thicknesses are horizontal.
2. Projection line is 380400mE.
3. 2000m has been added to the true RL's.
4. Projected surface of the Mineralised Zone is approximate only, taken from 1:1000 and 1:2000 geology plans. A 5.0m height adjustment has been assumed for the tree–top–ground difference.

SHEET LOCATION

B 18	B 23	B 28

5 cm

520168

87-2673

GOLDFIELDS EXPLORATION PTY LIMITED

TYNDALL – E.L. 9/66
HENTY PROSPECT – SHEET B 28

LONGITUDINAL PROJECTION OF GOLD MINERALISED ZONE

DRAWN BY :	A.C.
DRAFTSMAN :	T.G.D.S.
DATE :	Jan. '87
REVISIONS :	
FILE No.	

SCALE 1 : 1000 — METRES

FIG. 8