

000

E.L. 26/85

NARRAWA

ANNUAL REPORT - 1985/86

	24 NOV 1986		E & L
	DEPT. OF MINES		
	FILE No. 11. 824/86		

**INDEXED**

**OPEN FILE**

001

E.L. 26/85

NARRAWA

ANNUAL REPORT - 1985/86

**OPEN FILE**

*RHR 26/85*

By: R.H. Roberts  
Geologist

November, 1986.

Circulation: R.G.C. (2)  
Mines Department (1)  
C.H. Whitehead (1)

G.F.E.L. Report No. T/86/9

002

SUMMARY

E.L.26/85 is held by Mr. C.H. Whitehead, and was issued to him on 29 November, 1985. Under an Agreement with Mr. C.H. Whitehead, Gold Fields Exploration Pty. Limited (G.F.E.L.) has been carrying out exploration on the licence since April 1986.

The southern part of the licence is dominated by undifferentiated Cambrian volcanics. These are overlain to the north by Ordovician conglomerate and sandstone (Moina Sandstone). The Dolcoath Granite (Devonian) outcrops in the northeast of the licence and is thought to dip shallowly to the west. Several old W-Bi-Mo-Sn mines and two gold mines (Narrawa Reward and Higgs) occur in the northern part of the E.L. and appear to be spatially and genetically related to the Dolcoath Granite.

Extensive exploration was carried out during 1981/82 in the northern part of the licence by C.R.A.E. However, this was orientated primarily towards tin and base-metal mineralization and not gold, which is the present focus of exploration by G.F.E.L.

To date G.F.E.L. has:

1. reconnaissance rock-chip sampled in the vicinity of the old workings,
2. compiled C.R.A.E.'s geological, geochemical and geophysical data onto 1:5,000 standard sheets,
3. carried out an orientation soil sampling study in the vicinity of the old workings,
4. relogged drill holes DD82 DG-1 and DD82 DG-2, and reassayed the core for gold,
5. begun refurbishment of the Dolcoath Grid.

The above program cost \$35,000 to complete.

A review of the C.R.A.E. geophysical data is also currently being undertaken by Dr. J.R. Bishop (Mitre Geophysics) on behalf of G.F.E.L.

The following conclusions have been drawn from the above work:

003

1. Rock-chip sampling has indicated the presence of significant gold mineralization, especially in the vicinity of the old Higgs and Narrawa Reward mines.
2. Recent exploration by C.R.A.E., although extensive, did not test the area's gold potential.
3. Surveys carried out by C.R.A.E. have delineated coincident geochemical and geophysical anomalies corresponding with the known gold mineralization at Higgs and Narrawa Reward mines. These anomalies suggest that the mineralization at both mines may have substantial strike lengths (400-500 metres) beyond that presently exposed. Similar anomalies occur elsewhere on the grid and all represent major targets for follow up.
4. The soil sampling orientation study has shown that hand augering would be an effective means of sampling the grid for gold. Similarly, the C.R.A.E. hand-auger soil results for Cu, Pb, Zn, Ag, Mo, Sn and W are acceptable and need not be repeated.
5. Economic gold grades were not achieved in either of the C.R.A.E. holes drilled near the Narrawa Reward mine. However, anomalous gold zones (>0.01 g/t and <1 g/t Au) were identified which correlate closely with anomalous base-metal values. The gold mineralization does not appear to be stratabound and may be related to a steep dipping structure. Bedding appears to dip shallowly (30-40°) to the north. Grades in the core do not adequately explain the gold soil anomalies, especially in DG-2, and further drilling may be required to test the zone. Other anomalous zones on the Dolcoath Grid are untested by drilling.

Proposed follow-up work for the remainder of 1986/87 is given below:

1. Continued refurbishment of the Dolcoath Grid.
2. Continued assessment of the C.R.A.E. data to define target areas on the grid.
3. Hand-auger sampling for Au and As over the Dolcoath Grid at 25-metre spacings, closing up to 12.5 metres over designated target areas.
4. Channel sampling of Higgs workings.
5. Mapping and rock sampling of the Dolcoath Grid.
6. Possibly some geophysical work, depending on the recommendations by Dr. J.R. Bishop (Mitre Geophysics).

007

**GOLD FIELDS EXPLORATION PTY. LIMITED**

972005

The above work should lead to the definition of drill targets, and it is envisaged that drilling will commence before the end of the present financial year. Assuming it is, a budget of \$105,000 is required to complete this work.

005

CONTENTS

	<u>Page No.</u>
1. INTRODUCTION	1.
2. EXPENDITURE	3.
3. LAND TENURE	4.
4. PREVIOUS EXPLORATION 1981/82	5.
5. WORK COMPLETED 1985/86	6.
5.1 COMPILATION OF PREVIOUS DATA	6.
5.1.1 Geology	6.
5.1.2 Mineralization and Old Workings on the Dolcoath Grid	7.
5.1.3 Geochemistry	9.
5.1.4 Geophysics	9.
5.2 GOLD FIELDS EXPLORATION PTY. LTD. ROCK SAMPLING	10.
5.3 SOIL SAMPLING ORIENTATION STUDY	12.
5.4 DRILLING	14.
6. CONCLUSIONS	18.
7. RECOMMENDATIONS FOR 1986/87	20.
8. REFERENCES	21.

APPENDIX I : G.F.E.L. EXPENDITURE TO END OCTOBER 1986

APPENDIX II : ROCK SAMPLE DESCRIPTIONS AND ASSAYS

APPENDIX III : RESULTS OF THE SOIL SAMPLING ORIENTATION STUDY

APPENDIX IV : DRILL LOGS FOR DD82 DG-1 AND DD82 DG-2

APPENDIX V : BUDGET 1986/87

006

LIST OF FIGURES

<u>Figure No.</u>	<u>Description</u>
1 ✓	Locality Plan, 1:250,000 (in text)
2 ✓	Cethana Factual and Interpretive Geology 1:25,000
3 ✓	Moina Mineral Chart, 1:25,000
4 ✓	Cethana 2-2 Factual and Interpretive Geology, 1:5,000
5 ✗	Cethana 3-2 Factual and Interpretive Geology, 1:5,000
6 ✗	Cethana 2-2 Sample Locations 1:5,000
7 ✓	Cethana 3-2 Sample Locations, 1:5,000
8 ✗	Cethana 2-2 Cu Geochemistry, 1:5,000
9 ✓	Cethana 3-2 Cu Geochemistry, 1:5,000
10 ✗	Cethana 2-2 Pb Geochemistry, 1:5,000
11 ✓	Cethana 3-2 Pb Geochemistry, 1:5,000
12 ✓	Cethana 2-2 Zn Geochemistry, 1:5,000
13 ✓	Cethana 3-2 Zn Geochemistry, 1:5,000
14 ✓	Cethana 2-2 Ag Geochemistry, 1:5,000
15 ✗	Cethana 3-2 Ag Geochemistry, 1:5,000
16 ✓	Cethana 2-2 As Geochemistry, 1:5,000
17 ✓	Cethana 3-2 As Geochemistry, 1:5,000
18 ✓	Cethana 2-2 Mo Geochemistry, 1:5,000
19 ✓	Cethana 3-2 Mo Geochemistry, 1:5,000
20 ✓	Cethana 2-2 Bi Geochemistry, 1:5,000
21 ✗	Cethana 3-2 Bi Geochemistry, 1:5,000
22 ✗	Cethana 2-2 W Geochemistry, 1:5,000
23 ✓	Cethana 3-2 W Geochemistry, 1:5,000
24 ✗	Cethana 2-2 Sn Geochemistry, 1:5,000
25 ✗	Cethana 3-2 Sn Geochemistry, 1:5,000
26 ✓	Cethana 2-2 Au Geochemistry, 1:5,000
27 ✓	Dolcoath Grid Ground Magnetics, 1:5,000
28 ✓	Cethana 2-2 Normalised VLF-EM Dips with DIGHEM and UTEM Anomalies, 1:5,000
29 ✓	Narrawa Reward - Higgs Gold Mining Area Sample Locations 1:1,000
30 ✗	Narrawa Reward - Higgs Gold Mining Area Au Geochemistry 1:1,000
31 ✗	DD82 DG-1 Drill Hole Plot and Geological Interpretation 1:1,000
32 ✗	DD82 DG-2 Drill Hole Plot and Geological Interpretation 1:1,000

## 1. INTRODUCTION

E.L.26/85 covers an area of 11 sq. km. on the western side of Lake Cethana (Figure 1) and is held by Mr. C.H. Whitehead. Cethana Road is on the northern limits of the licence, and the Wilmot Power Station is in the northeast corner. The Narrawa and Dolcoath Creeks drain eastward across the licence into Lake Cethana. The central and southern parts of the licence are reached via the Dolcoath Hill Road, while the Narrawa Reward-Higgs gold mining area is accessed by a dirt road which runs from Cradle Mountain Road, along the north side of Narrawa Creek.

The regional geology is shown at 1:25,000 scale in Figure 2. Undifferentiated Cambrian volcanics dominate the southern part of the licence. These are overlain to the north by Ordovician conglomerate (Roland Conglomerate) and a thick sandstone-rich sequence (Moina Sandstone). The Cambrian and Ordovician rocks have been intruded during the Devonian by the Dolcoath Granite and a series of associated quartz-feldspar dykes. Tertiary greybilly and basalt are common in the region, but little Tertiary cover is evident in the northern part of the licence.

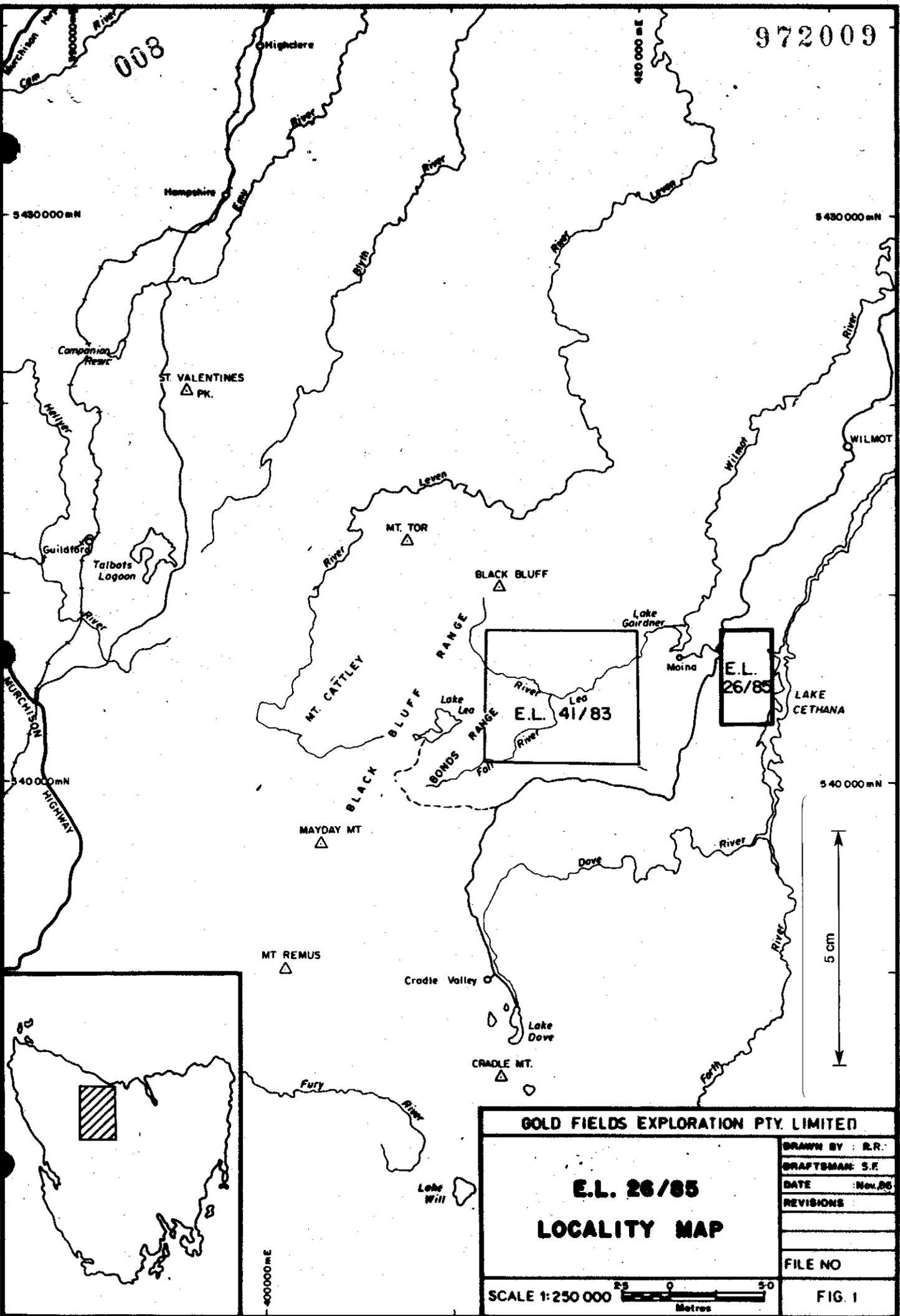
Many old mines occur in the district (Figure 2), with mining having commenced around the 1890's. Most of the deposits appear to be spatially and genetically related to the Dolcoath Granite, and have contained tungsten, bismuth, molybdenum and tin. There appears to be a metal zonation around the granite, with cassiterite being more common away from the granite margin. The Round Hill deposits have also been postulated to be an outer Ag/Pb zone around the granite. The Dolcoath Granite is thought to dip shallowly to the west, with cupola extensions being responsible for the skarn occurrences at Moina, Ti-Tree Creek and Stormont.

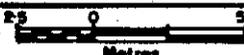
Two gold mines, Higgs and Narrawa Reward, also occur within the western contact aureole of the Dolcoath Granite and in E.L.26/85. It is the presence of these mines which led Gold Fields Exploration\* into the area. The Narrawa Reward Mine was worked prior to 1913, with values of up to 6 g/t Au being reported in the sulphide ore. Mining at Higgs did not begin until 1934, and continued intermittently until 1947. A total of 28.35 kg of gold is estimated to have been recovered during this period.

\* Subsequently referred to as G.F.E.L.

972009

008



<b>GOLD FIELDS EXPLORATION PTY. LIMITED</b>	
<b>E.L. 26/85</b>	
<b>LOCALITY MAP</b>	
DRAWN BY : E.R.	REVISIONS :
DRAFTSMAN : S.F.	FILE NO :
DATE : Nov. 85	FIG 1
SCALE 1:250 000 	

009

The present licence area was previously applied for in March 1973 by Asarco (Aust.) Pty. Ltd. as part of E.L.7/73. This E.L. was initially 743 sq. km. in area and covered most of the Cambrian volcanics in northern Tasmania. The licence area was reduced to 429 sq. km. in 1974. C.R.A. joint ventured into the E.L. in 1976, and the title was transferred to them in 1977. In 1979, the licence was further reduced to 199 sq. km., and in 1980 Asarco's interest was transferred to Carpentaria Exploration Co. Ltd. During 1981/82 extensive exploration was carried out in the northern part of the present E.L.26/85. However, C.R.A.E. were primarily interested in tin and base-metal mineralization, and appear to have virtually ignored the gold potential in the area. It is the gold target which is the major focus of the present G.F.E.L. exploration.

This report presents a compilation of the data collected by C.R.A.E., describes and discusses results of work carried out to date by G.F.E.L., and outlines work proposed for the following year.

2. EXPENDITURE

Expenditure by G.F.E.L. on E.L.26/85 to the end of October 1986 was \$25,811 (see Appendix I). Expenditure to the renewal date is estimated to be approximately \$35,000.

### 3. LAND TENURE

E.L.26/85 was granted to Mr. C.H. Whitehead on 20th November, 1985. The land tenure situation is shown on Figure 3. An agreement on E.L.26/85 was reached between C.H. Whitehead and Renison Limited (a wholly-owned subsidiary of Renison Goldfields Consolidated) on 17th April 1986. Gold Fields Exploration Pty. Limited (the exploration division of R.G.C.) has carried out exploration on the licence since this date under the terms of the Agreement. Two mining leases, 13M/85 and 22M85, which lie partially within E.L.26/85, have been excluded from the Exploration Area under the terms of the Agreement.

Three freehold properties occur within the licence. Property 1847 is owned by Mrs. T.J. Gillespie and properties 1845 and 1848 are owned by Mr. C.D. Butler. Both owners presently reside in New South Wales.

#### 4. PREVIOUS EXPLORATION 1981/82

Detailed exploration was undertaken over the present licence area during 1981/82 under the management of C.R.A.E. Their exploration target was mineralization in the Ordovician sandstone-limestone sequence within the Dolcoath Granite aureole.

Examination of aeromagnetic data identified magnetic anomalies in the vicinity of the Dolcoath Granite similar to those occurring over the Molna deposit (a fluorite-tin-tungsten skarn with 26 million tonnes of ore at 18% CaF<sub>2</sub>, 0.1% Sn, 0.1% W). These anomalies were followed up by a DIGHEM airborne E.M. survey, which more accurately positioned the aeromagnetic anomalies and located two E.M. conductors (19 I, 20 XR). Anomaly 19 I lies close to the Higgs gold mine.

A major grid (Dolcoath Grid) was established, consisting of a 1700m base line (110°MN) and twenty line kilometres, with the lines cut every 100m at right angles to the base line. The grid was "C" horizon soil sampled, mapped and rock sampled. Ground magnetic and VLF/EM surveys were conducted over the grid. A UTEM transient E.M. survey was also conducted over selected lines in the central portion of the grid (including over the Higgs and Narrawa Reward gold mines).

Assessment of this data by the end of 1981 led to the drilling of three diamond drill holes. Poor base-metal and tin values in the holes downgraded the prospect, and eventually resulted in C.R.A.E. relinquishing the ground.

## 5. WORK COMPLETED 1985/86

Since signing the Joint Venture Agreement with C.H. Whitehead in April 1986, G.F.E.L. has carried out the following:

1. reconnaissance rock-chip sampling in the vicinity of the old workings,
2. preparation of standard 1:5,000 base plans,
3. compilation of the C.R.A.E. geological, geochemical and geophysical data,
4. an orientation soil sampling study in the vicinity of the Narrawa Reward mine,
5. relogging of drill holes DD82 DG-1 and DD82 DG-2 drilled by C.R.A.E., and reassaying of the core for gold,
6. refurbishment of the Dolcoath Grid has commenced,
7. a review of the C.R.A.E. geophysical data is currently being undertaken by Dr. J.R. Bishop (Mitre Geophysics), and a report with recommendations is expected in December 1986.

### 5.1 COMPILATION OF PREVIOUS DATA

#### 5.1.1. Geology

1:5,000 interpretative geology maps have been produced from C.R.A.E. data (Figures 4 and 5). Outcrop is scarce on the grid and much of the geology over this area appears to have been interpreted from descriptions of rock-chip samples collected from the soil sampling programme. The gridded area is dominated by sandstones and quartzite. C.R.A.E. recognised the following two units:

1. Oms - Sandstones with some argillaceous zones. Worm casts occur within the sandstone, identifying it as part of the tubicolar sandstone unit in the Moina Sandstone.
2. Omq - Quartzite which is harder and more fractured than the sandstone.

014

7.

The quartzite may represent the more silicified and possibly mineralized sections of the sandstone. Pyrite is common to both units.

Pelite to psammopelite zones occur with the sandstone sequence and these are grouped as "Omh". Biotite is ubiquitous and cordierite is common in the more pelitic layers. This is consistent with a medium grade of contact metamorphism (>500°C). Calc-silicate (Omc) and skarn (Omk) have been mapped by C.R.A.E. These lithologies appear to be closely associated with the pelitic units and probably represent more calcareous layers or lenses in the rocks which have been converted to calc-silicates during contact metamorphism. These may represent transitional beds beneath the Gordon Limestone.

The Dolcoath Granite is a sub-circular outcropping feature, but is thought to plunge shallowly westward below the gridded area. Margins of the granite are extremely greisenised. A series of quartz-feldspar porphyry dykes, assumed to be genetically related to the Dolcoath Granite intrusion, strike parallel to the base line across the grid.

#### 5.1.2 Mineralization and Old Workings on the Dolcoath Grid

##### W-Sn-Mo-Bi

Several W-Sn-Mo-Bi workings occur within and on the margins of the Dolcoath Granite. Squibs workings is the largest of these, and lies on the contact of the granite with Moina Sandstone. The mineralization consists largely of quartz veins with wolframite and minor molybdenite, bismuthinite, cassiterite, gold, pyrite, chalcopyrite, sphalerite and arsenopyrite. The quartz veins traverse the contact. The Dolcoath Mine, Black's workings, Povey's workings and Sayer's workings are all other examples of W-Sn-Mo-Bi mineralization in narrow quartz veins and greisen zones of the Dolcoath Granite.

##### Gold

Both the Higgs and Narrawa Reward mines were worked for gold.

**Narrawa Reward**

The Narrawa Reward lode, north of Narrawa Creek, consists of dark-grey quartzite with disseminated pyrite, arsenopyrite and minor chalcopyrite. Assays of up to 4 dwt (6 g/t Au) were reported by Twelvetreets (1913). C.R.A.E. have also described disseminated base-metal mineralization from the adit and dump, with Pb values up to 3.34% and Zn values up to 4.35%, and noted that the highest gold values (>2 g/t Au) occurred with the base-metal mineralization. A quartz-porphry dyke runs adjacent to the Narrawa Reward adit. Thin quartz veins carrying wolframite and molybdenite also occur in the vicinity of the mine.

**Higgs**

Higgs surface workings extend for over 200 metres along the south side of Narrawa Creek. However, development only took place on the eastern end of the workings.

The mineralization has been described by Blake (1937), Jack (1961) and Jennings (1979) as occurring in three sub-parallel northwest trending bodies, but only the southernmost has been developed to any degree. Jack (1961) describes the ore as being in an extensively crushed zone between two well marked shears. The lode material consists of disseminated sulphides within metaquartzite (Blake, 1937). Galena is the major sulphide with lesser pyrite, arsenopyrite and chalcopyrite. Late white quartz veinlets occur within the crushed zone, but are apparently poor in gold. An irregular zone of oxidation extends from surface to a depth of approximately 18 metres, in which free gold was seen. Most of the mining occurred in this oxidised zone with average grades between 5 and 6 g/t Au. Keid (1947) carried out extensive rock sampling across the workings and recorded gold values throughout of above 1 g/t Au, and commonly above 5 g/t Au. Values above 10 g/t Au were noted at the western end of the workings, 200 metres from the main development. Jack (1961) also sampled surface workings west of the mine and similarly achieved assays between 1 and 10 g/t Au. Disseminated semi-massive sulphide outcrops

016

in a creek immediately east of the main workings. C.R.A.E. sampled this outcrop, resulting in values up to 15% combined Pb and Zn, and gold values up to 4.59 g/t Au.

#### **Packetts Workings**

Packetts workings lie to the south of Higgs mine. Twelvetreets (1913) notes that the pyritic sandstone in this area was worked for gold around 1898, and refers to a sample containing  $6\frac{1}{2}$  dwt (10 g/t) Au. Keid (1947) also quotes a gold value of 1 dwt 13 grains (2.4 g/t) Au from these workings. C.R.A.E. described the rocks as being very pyritic with minor disseminated galena, and also noted the presence of thin quartz stringers with anomalous W and Sn values.

#### 5.1.3 Geochemistry

C.R.A.E. C-horizon soil sampled the entire Dolcoath Grid. Samples were dried, sieved to -80#, and assayed for Cu, Pb, Zn, Ag, As, Mo, Bi, W and Sn. However, As was only assayed for on the far eastern lines extending over the Dolcoath Granite margin (L 6300E-6700E). These data have been plotted at 1:5,000 scale on separate element sheets (Figures 6 to 26). To date, lead and tin values have been contoured and there is strong anomalism in both elements over and along strike of Higgs, Narrawa Reward and Packetts workings. There is also a large anomaly at the northern end of the grid from L5800E to L6000E, which corresponds with a gossan outcrop on the C.R.A.E. geological map (Figure 4). A further anomalous region lies to the northeast of Higgs workings along a proposed fault line and requires further investigation.

#### 5.1.4 Geophysics

The C.R.A.E. ground magnetics data (contoured) are shown at 1:5,000 scale on Figure 27. A band of intensely disturbed magnetics strikes northeast across the Dolcoath Grid. This band has been interpreted as being a zone of faulting and shearing associated with near-surface mineralization.

017

A compilation of results from the DIGHEM airborne E.M., ground VLF/E.M., and UTEM transient E.M. surveys is presented on Figure 28. The VLF data (contoured VLF-E.M. dips) form narrow, well defined linear anomalies which correspond with and along strike from known sulphide mineralization at Narrawa Reward, Higgs and Packetts prospects. A linear VLF anomaly is also associated with the geochemically anomalous gossan zone at the northern extremity of the grid. DIGHEM anomalies 19 I and 20 XR correspond with the VLF anomalies over Higgs and Packetts workings respectively.

The UTEM survey was only carried out over the central part of the grid (the 100m-spaced lines from 6300E to 5600E inclusive, and from 5200N to their southern extremities, plus line 5950E). Crossover anomalies were identified which correspond with the VLF anomalies over Higgs, Narrawa Reward and along strike to the west of Packetts workings. The UTEM anomalies were considered to represent only poor quality conductors, which is consistent with the disseminated style of base-metal mineralization outcropping in the old prospects. The UTEM and VLF responses indicate that Higgs mineralization may have a strike length of 400m, whilst the Narrawa Reward mineralization may be up to 500m in length.

## 5.2 G.F.E.L. ROCK SAMPLING

37 rock chip samples (T682-T700, T2501-T2524) were collected in reconnaissance sampling around several of the old prospects - Higgs, Narrawa Reward, Squibs and All Nations. A further fifteen samples (T3530-T3533, T3571, T4761-T4773) have been assayed from recent mapping on the Dolcoath Grid. Sample descriptions and assays are tabulated in Appendix II.

### **All Nations Mine**

The workings were developed on quartz veins carrying wolframite. However, a dump sample of country rock with traces of pyrite gave a value of 0.18 g/t Au.

### Squibs

C.R.A.E. sampling of the dumps returned several assays above 1 g/t Au with a high value of 6.95 g/t Au. G.F.E.L. sampling was generally disappointing, but one dump sample (T2518), containing vein mineralization, carried 2.1 g/t Au associated with 0.23% Bi, 0.27% WO<sub>3</sub>, and 0.09% Mo.

### Narrawa Reward - Higgs Gold Mines and Vicinity

Samples collected from this area are located on Figure 29, with their gold values plotted on Figure 30.

High gold values can still be obtained from the adits and trench walls of Higgs workings, with values averaging around 4 g/t Au and ranging up to 18 g/t Au (T3532). Disseminated Pb-Zn mineralization is evident in the eastern end of the main development, and sampling has confirmed that combined base-metal values can be greater than 10%, as noted by C.R.A.E. (e.g. T3532). Twelve grab samples were taken along the old surface workings, which extend west from the main development, and all but two gave values above 0.1 g/t Au, with three greater than 1 g/t Au. Keid (1947) and Jack (1961) also sampled these workings, as noted in section 5.1.2, and generally achieved higher gold grades throughout. These workings indicate there is substantial potential for gold mineralization along a strike length of at least 250m.

Samples from the Narrawa Reward adit and surrounding outcrops typically have greater than 1.0 g/t Au with one dump sample (T691) having 22.0 g/t Au and 6.0% As. Good gold grades have been sampled from outcrops between the Narrawa Reward and Higgs mines associated with gossanous veined quartzite (T4772: 1.26 g/t Au) and disseminated base-metal sulphide (T4761: 0.86 g/t Au and T4762: 0.23 g/t Au). Gold grades above 0.1 g/t Au have also been obtained in various rock types, including quartz-feldspar porphyry, between the two mines. Consequently, the whole zone between Higgs and Narrawa Reward (200m) is highly anomalous in gold, and represents a potential target for a possible open-cut deposit.

From the present rock-chip sampling there appears to be two styles of gold mineralization: gold associated with disseminated base-metals, and gold associated with high arsenic values but low base-metal

019

values. Ag values are typically high with the base-metals, but low (<20 p.p.m.) in the Au-As association. However, this difference may only reflect local oxidation of primary sulphides.

### 5.3 SOIL SAMPLING ORIENTATION STUDY

An orientation study was carried out on the Dolcoath Grid along line 5810E from 5050N to 5105N. This traverse lies ninety metres grid west of the western end of the Narrawa Reward mine and cuts across the apparent strike extension of the lode. The aim of the survey was to take samples at various depths in the soil profile using different methods, to compare the relative effectiveness of various geochemical techniques in the area. Gold was the prime target, with Cu, Pb, Zn, Ag, As, Bi, Sn and W being analysed as possible pathfinder elements. All results are recorded in Appendix III.

#### **Sampling Programme**

Sampling was carried out at five-metre intervals by hand auger, wacker, and a method presently termed wacker-casing sampling. Wacker-casing sampling involved driving lengths of NQ casing into the soil with the wacker. This method gives core samples of the complete profile (though it was often difficult to remove the sample from the casing without destroying the profile), and enables large (0.5-1 kg) samples to be taken from both the B and C horizons. The wacker, in comparison, gave C horizon samples of less than 100 gms. The hand augering was estimated to be typically reaching the B or B/C horizon, and sample weights were intermediate between those of the wacker and wacker-casing.

#### **Assaying**

Samples were dried and pulverised in total to -200 mesh. Cu, Pb, Zn, Ag and Bi were analysed by AAS, As by vapour hydride generation, and Sn and W by XRF. The samples were pre-roasted before a 30g sample was digested by Aqua Regia solution and analysed for gold by AAS, with a carbon-rod finish (detection limit of 0.001 p.p.m.). All of the assaying was carried out by Analabs.

020

**Results**

1. A prominent gold zone was detected from approximately 5040N to 5075N.
2. The wacker-casing C-horizon sampling gave the best profiles with anomalous results for all elements in all but one sample across the anomalous zone, and peak gold values of 4920 p.p.b. and 740 p.p.b.
3. The anomalous zone is still clearly evident in the wacker-casing B-horizon results. However, anomalies in the Cu and Zn profiles are not as prominent as in the C-horizon sampling because of leaching in the soils. In the other elements anomalous peaks are reduced by half compared with those in the C-horizon sampling.
4. The hand augering, though going as deep as practically possible, was noted in general to be sampling the B-horizon or possibly the B/C horizon. This is reflected in the results which were similar to those of the B-horizon wacker-casing sampling. The gold anomalous zone was clearly indicated in the hand-auger sampling results and gave a major peak of 1460 p.p.b. However, the anomalies tended to be more erratic across the zone in the hand augering compared with the wacker-casing sampling, with less of the individual values being markedly anomalous. This is more noticeable in the pathfinder elements than with gold.
5. The wacker sampling detected the mineralized zone. However, the results are distinctly more erratic across the zone compared with the other methods, especially compared to the wacker-casing C-horizon results. This feature was evident in both the gold and pathfinder elements.

**Conclusions**

1. The wacker-casing C-horizon sampling would give the best chance of detecting mineralized zones on the grid.
2. Anomalies in gold and the pathfinder elements are still clearly detected in the B-horizon, making it an acceptable

horizon to sample. However, Cu and Zn results will not be so reliable and anomalies in general will be reduced compared to C-horizon samples.

- 3. The smaller the sample size the more erratic the results, with the probability of detecting mineralization at individual sample sites being reduced. Consequently, the chance of detecting a mineralized zone on wider sample spacings becomes significantly reduced. This effect was most noticeable with the small (<100g) wacker samples.

The orientation study does not support the use of the normal wacker system. Although the wacker-casing C-horizon sampling would give the best results, the study has shown hand-auger sampling of at least the B-horizon is acceptable and a substantially more economic alternative. Similarly, it follows that results from the C-horizon auger sampling carried out by C.R.A.E. over the grid are acceptable, and there is no need to repeat elements for which there is a comprehensive grid coverage (i.e. Cu, Pb, Zn, Ag, Bi, Sn, W).

5.4 DRILLING

C.R.A.E. drilled three diamond drill holes in the licence area:

<u>Hole No.</u>	<u>Collar</u>	<u>Azimuth</u>	<u>Dip</u>	<u>Depth E.O.H.</u>
DD82 DG-1	5900 E 5095 N	200°	-46°	216.5m
DD82 DG-2	5800 E 5127 N	200°	-46°	113.5m
DD82 DG-3	6600 E 5190 N	020°	-46°	191.0m

DG-1 was collared to drill beneath the Narrawa Reward mine and a coincident UTEM anomaly. It was designed to test for base-metal and tin mineralization, both beneath the workings and in a sequence of calc-silicate bearing hornfels south of the workings. This hole was extended well to the south in an attempt to also possibly pick up the down-dip extension of the Higgs workings.

022

DG-2 was sited to drill under a high tin anomaly in the soils and a coincident UTEM anomaly, testing for tin and base-metal mineralization in a zone of calc-silicate and pelitic hornfels.

DG-3 was drilled in the Dolcoath Granite to test for tin, tungsten and molybdenum mineralization in the greisenised granite. The hole was sited on the highest W-Mo soil anomalies.

The drill core from these holes has been collected from C.R.A.E. DG-3 is presently of no interest. DG-1 and DG-2 have been completely relogged and tested for gold by fire assay. C.R.A.E. assayed all the core for Cu, Pb, Zn, Ag, As, Mo, Sn and W by either splitting or grinding the core. In general, the more pelitic and calc-silicate bearing layers were split whereas the quartzites were ground. Only minor intervals within the split core were assayed for gold, emphasising C.R.A.E.'s general lack of interest in the area's gold potential (even though they were drilling beneath an old gold mine in pyritic quartzite). Core previously ground by C.R.A.E. was cut in half, with half being sent for gold assay, while the C.R.A.E. pulps from their split core were obtained and used to assay for gold.

Summary and detailed drill logs, including assay results, are included as Appendix IV. Interpretative drill profiles for DD82 DG-1 and DD82 DG-2 are shown in Figures 31 and 32 respectively.

### Discussion

Similar lithologies ranging from quartzite to psammopelite and pelite were drilled in both DG-1 and DG-2. It was possible to distinguish units of predominately quartzite (Omq) from units consisting of pelites and psammopelites with only minor quartzite (Omh). The more pelitic units often contain lenses and layers of greenish calc-silicate assemblages (mainly amphibole, pyroxene, and possibly some epidote), derived from calcareous lenses during contact metamorphism. A relatively thick band (13.5m) of calc-silicate and pelitic hornfels was considered worth designation as a separate unit (Omc). The other major lithology in the drill holes is the quartz-feldspar porphyry (Dpq). Phenocrysts of quartz

023

and feldspar, 1-4mm wide, occur with a sericitic, siliceous ground-mass. These porphyries often have a wavy eutaxitic-like texture, but it is likely that this texture has been developed by later shearing. The porphyries occur as bands or wedges in the sediments, and sediments at the contacts typically have a coarsened granoblastic texture, emphasising the intrusive nature of the porphyries.

Extrapolating the lithologies identified in drill core to the surface mapping of C.R.A.E., the units appear to have a general northerly dip of 30-40°. This is consistent with bedding to core-axis intersections, though there are often marked variations in bedding angles in the core over short distances, suggesting the presence of small-scale folding. It is difficult to estimate the dip of the quartz-feldspar porphyries from the core, but by correlation with a known outcrop of porphyry adjacent to the Narrawa Reward mine, it appears the porphyries may have a steeper dip of 70-80° to the north.

#### Mineralization

Although anomalous gold zones occur within the core, no values of greater than 1 g/t Au were recorded. Gold values  $>0.008$  g/t and  $<0.1$  g/t and values  $>0.1$  g/t Au are shown on the drill profiles (Figures 31 and 32). The best intersections were in DG-1, 9m at 0.24 g/t Au from 93.2 to 102.5m; and in DG-2, 6m at 0.28 g/t Au from 93 to 99m.

There is a strong correlation in the core between gold and base-metal content. The gold zones also appear to correlate with the pelitic horizons, and in particular the calc-silicate zones. However, this is not exclusive for high-grade gold and base-metal values are known to occur in quartzite at both Narrawa Reward and Higgs mines, and anomalous gold values ( $>0.1$  g/t Au) occur with base metals (Pb + Zn = 1%) in porphyry in DG-1. Consequently, the gold/base-metal mineralization does not appear to be stratabound. Correlation of the anomalous gold zone in DG-2 with the anomalous gold soil geochemistry detected in the orientation survey (Figure 32) may imply that the mineralization is steeply dipping. Similarly, there seems to be a spatial correlation between gold and the presence of the porphyries, especially in DG-1. It is suggested that the

gold and base-metal mineralization may have accompanied intrusion of the porphyries, or that both may be controlled by a steep-dipping structure which cuts across the flatter-lying stratigraphy.

Mo and W values in the core correlate with thin (typically a few millimetres wide) quartz and quartz-feldspar veinlets containing visible molybdenite and wolframite. A series of these veinlets in DG-1, from 115-167m, are consistently orientated sub-parallel to the core axis. This type of mineralization does not correlate with gold values in the core, though clearly the two can overlap. Tin values are interesting, for although anomalous tin values often occur with high tungsten values, tin anomalism also appears to be associated with base-metal mineralization.

025

6. CONCLUSIONS

1. Rock chip sampling by G.F.E.L. and previous workers (Keid, 1947 and Jack, 1961) has indicated that the prospect, especially in the vicinity of the old Higgs and Narrawa Reward mines, has good potential for substantial gold mineralization.
2. Recent exploration by C.R.A.E., although extensive, was not oriented towards gold, and consequently did not adequately test the area's gold potential.
3. Surveys carried out by C.R.A.E. have delineated coincident geochemical and geophysical anomalies corresponding with the known gold mineralization at Higgs and Narrawa Reward mines. These anomalies suggest that the mineralization at both mines may have substantial strike lengths (400-500 metres) beyond that presently exposed. Similar coincident anomalies have also been delineated over Packetts workings and a gossanous outcrop at the northern extremity of the grid. These all represent major targets for further follow-up.
4. The soil sampling orientation study has shown that gold mineralization can be readily detected using soil geochemistry, and that relatively low-cost hand augering to the C-horizon where possible would be an effective means of sampling the grid for gold. Similarly, the C.R.A.E. hand-auger soil results for Cu, Pb, Zn, Ag, Mo, Sn and W are acceptable and need not be repeated.
5. C.R.A.E. drilled two holes in the vicinity of the Narrawa Reward workings. Economic gold grades were not achieved in either. However, anomalous gold zones do occur and show a close association with anomalous base-metal values. The general stratigraphy of quartzites and pelitic horizons appears to be shallowly dipping to the north. The gold mineralization does not seem to be stratabound, and may be related to a steep-dipping structure. There is also evidence that the gold mineralization is spatially related to the intrusive porphyries. Grades in the core have not adequately explained the gold soil anomalies, especially in DG-2, and further drilling may

be required to test this zone. The other anomalous zones on the Dolcoath Grid are untested by drilling.

027

7. RECOMMENDATIONS FOR 1986/87

1. Refurbishment of the Dolcoath Grid should be continued.
2. Contouring of all the C.R.A.E. geochemical data should continue, and assessment of the data compilation should proceed to define major target areas on the grid.
3. The Dolcoath Grid should be hand-auger sampled at 25 metre spacings, closing up to 12.5 metre spacings over the designated target areas. Samples should be assayed for Au and As (and possibly Sb, depending on Sb assays of the orientation samples).
4. The outcropping Higgs workings should be totally channel sampled.
5. The Dolcoath Grid should be mapped to produce a 1:1,000 outcrop map, and rock sampled for gold where possible.
6. Depending on recommendations by Dr. J.R. Bishop (Mitre Geophysics), further geophysical surveys (probably I.P.) may be useful to define drill target depths.
7. Based on assessment of the above work, drill targets should then be defined. It is presently envisaged that drilling of the targets could begin before the end of the present financial year.
8. Expenditure on the above program is expected to reach \$105,000 in the remaining part of the 1986/87 financial year (Appendix V).

8. REFERENCES

BLAKE, F., 1937: Higgs Gold Mine - Narrawa Creek. Unpublished Report, Department of Mines, Tasmania, 1937.

JACK, R., 1961: Gold Mine, Narrawa Creek, Moina. Technical Report, Department of Mines, Tasmania, No.5.

JENNINGS, I.B., 1979: Geological Survey Explanatory Report, Sheet 37 - Sheffield, Department of Mines, Tasmania, Report.

KEID, H.G.W., 1947: The Sunrise Mine, Narrawa Creek, Moina. Unpublished Report, Department of Mines, Tasmania, 1947.

TWELVETREES, W.H., 1913: The Middlesex and Mount Claude Mining Field, Bulletin 14, Geological Survey Tasmania, 1913.

APPENDIX I

G.F.E.L. EXPENDITURE TO END OCTOBER 1986

030

APPENDIX IG.F.E.L. EXPENDITURE TO END OCTOBER 1986

<u>Item</u>	<u>\$</u>
Salaries, Wages and On-costs	12,101
Travel and Accommodation	104
Consultants and Contractors	2,189
Sample Preparation and Assays	2,542
Drilling	-
Stores	1,080
Vehicle/Plant Hire	2,100
Tenement Costs	5,255
Computing	97
Office Costs	343
<b>TOTAL</b>	<b>\$ 25,811</b>

081

APPENDIX II

ROCK SAMPLE DESCRIPTIONS AND ASSAYS

032

## GOLD FIELDS EXPLORATION PTY. LTD.

## SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: AC-PR-MS

PROJECT: GENERATION PROSPECT: MOINA Au  
1:250,000 SHEET LEA/CETHANA TYPE OF SAMPLE: ROCK CHIPSAMPLE STORAGE REQ'D:  
SAMPLE PREP. REQ'D:LABORATORY:  
ANALYSIS REQ'D:DATE DISPATCHED: 1/86  
DATE RECEIVED:

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES (ppm)								
	LEA SHEET	CETHANA SHEET		Au	Ag	As	Bi	Ba				
T682	5 405 800N	418 70E	Calc-silicate skarn from base of Egl in creek west of Stormont workings.	40.008	40.1	29	4	85				
T683	5 406 700N	425 600E	Sunrise/Higgs Workings. Weakly pyritic, siliceous Moira Sandstone.	0.175	8.7	69	12	40				
T684	"	"	Sunrise/Higgs Workings. Float. Moderately - highly pyritic silicified Moira Sandstone.	6.501	0.8	74	14	15				
T685	"	"	Sunrise/Higgs Workings. Moderately pyritic, silicified Moira Sandstone. From lower cells.	1.631	1.3	100	11	30				
T686	"	"	Sunrise/Higgs Workings. Weathered (carbonaceous) Moira Sandstone in trench upslope from main workings.	0.016	4.6	220	9	25				
T687	"	"	Sunrise/Higgs Workings. As above but also minor quartz veining. Possible shear zone mat- erial. From north edge (hanging wall) of trench.	3.344	0.4	44	38	15				

972033

033

**GOLD FIELDS EXPLORATION PTY. LTD.**

**SAMPLE RECORD AND ANALYTICAL DATA SHEET**

COLLECTED BY: AC-PR-MS

PROJECT: GENERATION

PROSPECT: MOINA Au

SAMPLE STORAGE REQ'D:

LABORATORY: ANALABS

DATE DISPATCHED: 1/86

1:200,000 SHEET: CETHANA

TYPE OF SAMPLE: ROCK CHIP

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED:

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES (ppm)							
				Au	Ag	As	Bi	Ba			
T688	5 406 700N	42S 600E	Silicified? Moina Sandstone with disseminated pyrite and <sup>barite</sup> tourmaline? Sunrise/Higgs Workings.	0.161	1.0	51	5	15			
T689	"	"	Higgs/Sunrise Workings. Moina Sandstone. Fine grained sandstones and grits containing disseminated pyrite and galena, and veinlets of galena and sphalerite.	2.677	26.0	7	5	20			
T690	5 406 900N	42S 800E	Narrana Reward Workings. Quartz pebbles Float	<0.008	0.1	50	7	75			
T691	"	"	Narrana Reward Workings. Float (dump). Highly sulphidic (fine-grained) Moina Sandstone.	22.0	29.0	6.0%	320	30			
T692			Standard B70 (0.36 g/t Au)	0.322	<0.1	22	47	75			
T693			Standard B71 (0.12 g/t Au)	0.118	"	3	12	115			

972034

## GOLD FIELDS EXPLORATION PTY. LTD.

## SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: AC/PA/LN

PROJECT: GENERATION

PROSPECT: MOINA Au

SAMPLE STORAGE REQ'D:

LABORATORY: ANPLABS

DATE DISPATCHED:

1:250,000 SHEET: CETHANA

TYPE OF SAMPLE: ROCK CHIP

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED: 1/86.

SAMPLE NUMBER	LOCATION (see map)		DESCRIPTION	ANALYSES (ppm)								
				Au	Ag	As	Cu	Pb	Zn	Bi/Mo	WO <sub>3</sub>	Sn
T694	ALL NATIONS	MINE.	Dump sample from inclined adit. Weakly silicified and pyritic Moira Sandstone.	0.175	<0.1	29	12	4	6	35/28	50	22
	NARRARA	REWARD.										
T695	Nth bank,	Narrara Ck.	o/c. Weathered, limonitic hardbed and/or skarnified Moira quartzite.	0.393	"	250	99	18	15	14/34	113	40
		Start of road to CIA drill sites										
T696	Along	" " "	Talus debris in roadcut. Weakly altered skarnified Moira sandstone.	0.176	"	35	15	111	49	5/8	<10	59
T697	"	" " "	Grey, siliceous, iron stained, hornfelsed Moira quartzite. Finely pyritic? with rare muscovite veinlets.	0.022	"	45	30	51	54	<1/20	47	82
T698	"	" " "	Possibly skarnified Moira sandstone with minor quartz veinlets.	<0.01	0.1	16	11	34	10	<1/38	121	18
T699	finely in road between	" " "	Calc-silicate rock - ex Moira quartzite. Pale green and limonitic.	0.062	<0.1	26	23	39	24	2/12	14	87
T700	8		Standard B24 (2.90 g/t Au)	3.026								

034

972035

035

**GOLD FIELDS EXPLORATION PTY. LTD.**

**SAMPLE RECORD AND ANALYTICAL DATA SHEET**

PROJECT: L<sup>1</sup>GENERATION

PROSPECT: MOINA AU

SAMPLE STORAGE REQ'D:

LABORATORY: ANALABS

COLLECTED BY: AC/PA/LN

1:250,000 SHEET: CETHANA

TYPE OF SAMPLE: ROCK CHIP

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE DISPATCHED:

DATE RECEIVED: 1/86

SAMPLE NUMBER	LOCATION (see map)		DESCRIPTION	ANALYSES (ppm)									
				Au	Ag	As	Cu	Pb	Zn	Bi/Mn	WO <sub>3</sub>	Sr	
T 2501	NARRAWA freshly on road above	REWARD CRA drillhole	% Moderately weathered, soft Moina sandstone possibly calcareous, with very fine pyrite.	0-210	<0-1	35	43	137	18	8/11	15	77	
T 2502	"	"	% Moina sandstone as above, with network fractures filled with Fe-oxides. Gossaneous.	0-310	0-1	700	164	250	45	43/25	94	378	
T 2503	SUNRISE/HIGGS MINE Track between Pit + Open Stage		ok. Weakly pyritic/limonitic, softish Moina sandstone.	0-320	1-4	18	21	124	53	7/24	21	22	
T 2504	"	"	% As above, with a micaceous component.	0-326	3-9	33	97	440	133	15/18	<10	65	
T 2505	"	"	% Soft, buff coloured Moina sandstone.	0-160	0-2	10	3	1250	10	21/10	<10	34	
T 2506	In slope/trench.		% Sample between joints, above stope. Highly limonitic and altered Moina.	2-636	0-4	29	370	1300	129	21/11	54	161	
T 2507	"	"	% Sample of southern joint line next to T2506. Soft limonitic quartzite. No sulphides. (Northern joint sampled by T 687)	7-320 2-330*	4-7	76	780	2850	720	3/5	51	373	

\* FIRE ASSAYS

972036

**GOLD FIELDS EXPLORATION PTY. LTD.**

**SAMPLE RECORD AND ANALYTICAL DATA SHEET**

COLLECTED BY: AC/AR/LN

PROJECT: GENERATION

PROSPECT: MOINA Au

SAMPLE STORAGE REQ'D:

LABORATORY: ANALABS

DATE DISPATCHED:

1:250,000 SHEET: CETHANA

TYPE OF SAMPLE: ROCK CHIP

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED: 1/86

SAMPLE NUMBER	LOCATION (see map)		DESCRIPTION	ANALYSES (gms)									
				Au	Ag	As	Cu	Pb	Zn	Bi	Mo	WO <sub>3</sub>	Sr
T 2508	SUNRISE/HIGGS	MINE	% On northern face, 5m from eastern end in stope. Finely pyritic + galena, altered Moira sandstone.	2-830 2-830*	42	20	225	0.92%	1475	<1/21	<10	23	
T 2509	In small trench	10m E of above.	% SE end of small trench. Silicified, galena rich, sulphidic Moira sandstone. (cf. 935735CRA)	6-830 4-500*	28	5	425	2.44%	1.59%	<1/29	27	36	
T 2510	"	"	% NW end of small trench. As above. (cf. 935735CRA)	4-920 4-500*	36	12	675	2.65%	2.37%	<1/39	<10	34	
T 2511	SUNRISE MINE	AREA	% 20m SE down DeLoock Rd. from junction with Squib-Higgs Rd. (near sign, 634CE). Over 10-20m small (2cm) veinlets of quartz - wolframite.	0-109	0.1	5	6	40	32	<1/21	1.49%	9	
T 2512	"	"	% same location as above. The sandstone (Moira) hosting the above veinlets.	<0.01	<0.1	5	4	53	20	<sup>10</sup> /31	199	68	
T 2513			Standard. B 65 (1.70 g/t Au)	1-730									

\* FIRE ASSAYS

030

972037

037

**GOLD FIELDS EXPLORATION PTY. LTD.**

**SAMPLE RECORD AND ANALYTICAL DATA SHEET**

COLLECTED BY: *AC/PR/LN*

PROJECT: *GENERATION*

PROSPECT: *MOINA Au*

SAMPLE STORAGE REQ'D:

LABORATORY: *ANALABS.*

DATE DISPATCHED:

1:250,000 SHEET: *CETHANA*

TYPE OF SAMPLE: *ROCK CHIP*

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED: *1/86*

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES (ppm)												
				Au	Ag	As	Cu	Pb	Zn	Bi	Mo	WO <sub>2</sub>	Sn			
	<i>SQUIB MINE AREA</i>															
<i>T2514</i>	<i>Sparks Drive</i>		<i>% At 1st rise. Dalcoalk granite. Altered.</i>	<i>&lt;0.01</i>	<i>0.3</i>	<i>12</i>	<i>24</i>	<i>20</i>	<i>19</i>	<i>23/87</i>	<i>248</i>	<i>16</i>				
<i>T2515</i>	<i>Fruscotts Adit dump.</i>		<i>Mixture of some granite, very silicified, and predominantly Moira sandstone - weakly altered. Also pieces of quartz-wolframite-molybdenite veins.</i>	<i>0.065</i>	<i>0.1</i>	<i>4</i>	<i>9</i>	<i>20</i>	<i>14</i>	<i>74/880</i>	<i>1540</i>	<i>10</i>				
<i>T2516</i>	<i>Squib Mine dump.</i>		<i>On Higgs-Squib Road. Silicified, weakly pyritic Moira sandstone. Some molybdenite + wolframite in quartz veins (v. mine-)</i>	<i>&lt;0.01</i>	<i>0.2</i>	<i>17</i>	<i>46</i>	<i>77</i>	<i>31</i>	<i>33/135</i>	<i>29</i>	<i>32</i>				
<i>T2517</i>	<i>"</i>	<i>"</i>	<i>Same location as above. Taumatinui bearing rock. Taken for petrography.</i>	<i>&lt;0.01</i>	<i>0.2</i>	<i>7</i>	<i>48</i>	<i>235</i>	<i>2650</i>	<i>1/43</i>	<i>&lt;10</i>	<i>32</i>				
<i>T2518</i>	<i>"</i>	<i>"</i>	<i>Same location as above. Predominantly quartz vein samples. Molybdenite-wolframite mineralisation.</i>	<i>2.071</i>	<i>0.3</i>	<i>32</i>	<i>33</i>	<i>48</i>	<i>10</i>	<i>225/940</i>	<i>2710</i>	<i>19</i>				
<i>T2519</i>	<i>Higgs-Squib Road.</i>		<i>80m NW down road from T2516-8. Flat of stream. Crystalline, hard, multi-bedded Moira.</i>	<i>&lt;0.01</i>	<i>&lt;0.1</i>	<i>4</i>	<i>6</i>	<i>15</i>	<i>76</i>	<i>3/6</i>	<i>12</i>	<i>6</i>				

972038

038

**GOLD FIELDS EXPLORATION PTY. LTD.**

**SAMPLE RECORD AND ANALYTICAL DATA SHEET**

COLLECTED BY:

PROJECT: GENERATION

PROSPECT: MOINA Au

SAMPLE STORAGE REQ'D:

LABORATORY: ANALABS

DATE DISPATCHED:

1:250,000 SHEET: CETHANA

TYPE OF SAMPLE: ROCK CHIP

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED: 1/86

SAMPLE NUMBER	LOCATION (see map)	DESCRIPTION	ANALYSES (ppm)									
			Au	Ag	As	Cu	Pb	Zn	Bi/Mo	WO <sub>2</sub>	Sn	
T2520	SUNRISE / HIGGS MINE AREA 95m <sup>W</sup> east of Hut.	% on road/hack. Poorly altered Moina quartzite.	0.140	1.7	38	37	275	51	8/24	18	52	
T2521	Western workings (W. Bank of Narraua Ck.)	Dump. Pyritic Moina quartzite. Some arsenopyrite present?	<0.01	1.3	44	92	440	49	10/32	15	27	
T2522	"	East adit. % Hornfelsed Moina sandstone with very fine sulphides. Silicified.	0.569	8.0	75	135	3050	1800	15/23	13	36	
T2523	"	% Small, shallow adit above (8m) westernmost adit. Weakly mineralised Moina sandstone. Purpleish, with brown veinlets.	0.650 2.580	0.5	64	83	1100	31	5/26	45	25	
T2524	"	Standard 0.44 (0.60 g/t Au).	0.564									

\* FIRE ASSAY

972039

GOLD FIELDS EXPLORATION PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY: R. H. ROBERTS

PROJECT: NARRAWA PROSPECT: HIGGS  
 1250.000 SHEET: CETHANA TYPE OF SAMPLE: ROCK

SAMPLE STORAGE REQ'D:  
 SAMPLE PREP. REQ'D:

LABORATORY: ANALABS - TAS  
 ANALYSIS REQ'D:

DATE DISPATCHED: 30/7/86  
 DATE RECEIVED: 1/8/86

039

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES								
				AQUA REGIA Au	FIRE ASSAY Au	Cu	Pb	Zn	Ag	As	Bi	W
T 3530	HIGGS WORKINGS (425600E / 5406150N)		Mona SS - Disseminated base metals (Py, Gal), sil.	0.117 0.072	0.117	230	1.93%	1.11%	11	1	10	12
T 3531	"		Mona SS - Altered crumbly, white colour.	<0.008		5	15	25	4.5	1	<10	<1
T 3532	"		Mona SS - Coarse (±cm) base metal (Py, Gal, Spy) veins	18.330 9.700	18.330	680	4.36%	6.21%	48	11	20	6.5
T 3571	DOLCOATH 5825E	GRID 4900N	grey silicified quartzite, minor pyrite	0.01	0.032	65	135	10	40.5	9	30	<10



041

GOLD FIELDS EXPLORATION PTY. LIMITED

972042

APPENDIX III

RESULTS OF THE SOIL SAMPLING ORIENTATION STUDY

GOLD FIELDS EXPLORATION PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY ROBERTS

PROJECT: NARRAWA

PROSPECT: DOLCATH GRID

SAMPLE STORAGE REQ'D:

LABORATORY:

DATE DISPATCHED:

1:250,000 SHEET:

TYPE OF SAMPLE: ORIEN. SOIL SAMPLING

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED:

A19

042

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES								
				Al	Cu	Pb	Zn	Ag	Bi	As	Sn	
T4383	5810 E	5105N	WALKER, 1.5M, GRAVEL & gylite chips	0.006	15	5	25	40.5	5	4	40	<10
T4384	5810 E	5100N	WALKER, 1.2M	0.04	10	5	15	"	41	2	55	10
T4385	"	5095N	WALKER, 2-3M, C-HOR, white/cream & siltst. chips	0.008	10	25	25	"	"	6	40	10
T4386	"	5090N	WALKER, 1.6M,	0.008	15	20	25	"	"	7	40	<10
T4387	"	5085N	WALKER, 2.1M, C-HOR, cream/tan & gylite chips	0.003	15	40	30	"	"	7	20	<10
T4388	"	5080N	WALKER, 1.9M, B/C-HOR, grey/tan clayey & gylite	0.014	40	180	50	"	"	14	170	40
T4389	"	5075N	WALKER, 1.6M, B/C-HOR, orange → grey & siltst chips	0.015	30	40	40	"	"	39	70	10
T4390	"	5070N	WALKER, 1.6M, B/C-HOR, orange → grey/green & mudstone chips	0.069	80	135	80	"	"	54	170	110
T4391	"	5065N	WALKER, 2.8M, C-HOR, orange & siltst. + Fe oxides	0.140	20	465	105	"	"	320	560	40
T4392	"	5060N	WALKER, 1.4M, B/C-HOR, yell/orange & siltst. chips	0.600	305	320	35	"	33	750	380	100
T4393	"	5055N	WALKER, 0.8M, C-HOR, Pale orange & siltst/SS chips	0.068	45	330	20	"	41	150	150	20
T4394	"	5050N	WALKER, 0.8M, C-HOR, Orange & whd SS	0.047	35	1150	45	"	"	190	90	<10
T4395	"	5045N	WALKER, 1.0M, C-HOR, Orange/Bm & siltst chips	0.091	40	250	50	"	"	110	350	15
T4396	"	5040N	WALKER, 1.5M, C-HOR, Orange/tan & siltst/SS chips	0.094	40	155	30	"	"	39	410	<10
T4397			STANDARD B71	0.110	5	45	40	"	"	3	10	15

**GOLD FIELDS EXPLORATION PTY. LTD.**

**SAMPLE RECORD AND ANALYTICAL DATA SHEET**

COLLECTED BY: ROBERTS

PROJECT: NARRAWA

PROSPECT: DOLCORTH GRID

SAMPLE STORAGE REQ'D:

LABORATORY:

DATE DISPATCHED:

1:250,000 SHEET:

TYPE OF SAMPLE: SOIL SAMPLING  
ORIENTATION

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED:

043

A1

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES								
				Au	Cu	Pb	Zn	Ag	Bi	As	S	
T4501	5075N	5840E	SAMPLE PIT-3 - WITH Bedrock SS/glyte	0.066 0.053	35	230	20	<0.5	15	23	50	10
T4502	"	"	" " " - Transitional C-HOR, Orange Brn gritty	0.057 0.046	55	200	20	"	25	200	490	20
T4503	"	"	" Pit 3 - C-HOR - Elluvial clay - Brn clay/silt	0.114 0.094	20	110	15	"	13	150	270	15
T4504	"	"	Pit 3 - B-HOR, Brn clay	0.092 0.072	15	85	20	"	12	150	260	25
T4505	"	"	Pit 3 - UPPER B-HOR, Lt. grey silty	0.123 0.090	10	30	15	"	2	80	240	3
T4506	"	"	Pit 3 - B-HOR, Black-Brn charcoal-bearing layer	0.052 0.120	10	20	15	"	1	44	210	10
T4507	"	"	Pit 3 - lower upper horizon - med. brn silty clay	0.070 0.074	15	45	15	"	2	69	220	15
T4508	"	"	Pit 3 - A/B equivalent to a break-of-slope sample	0.052 0.040	25	35	20	"	3	81	170	15
T4509	"	"	STANDARD - B71	0.100 0.140	45	45	35	"	10	2	15	<10
T4510	5055-5060N	5875E	SAMPLE PIT-4: Boulders of ferruginous SS from pit	0.540 0.540	455	335	100	5.0	29	3100	3250	<10
T4511	"	"	PIT-4 - Bedrock - ferruginous SS	0.760 0.780	455	345	125	<0.5	101	1000	3950	40
T4512	"	"	PIT 4 - C-HOR, Red/Brn	1.350 1.120	195	470	75	"	158	1200	4950	50
T4513	"	"	PIT 4 - B/c-HOR, Med orange/brn	0.123 0.140	30	255	25	"	30	410	780	25
T4514	"	"	PIT 4 - A°-HOR, Orange silty	0.180 0.190	25	160	25	"	14	300	340	20
T4515	"	"	PIT 4 - upper B-HOR, Elluvial Lt grey silty	0.080 0.160	10	110	20	"	23	290	340	15
T4516	≈ 5100 N	5810E → 5900E	Break-of-slope sample	0.024 0.017	8	33	18	0.1	1	24	110	15

972044

GOLD FIELDS EXPLORATION PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY ROBERTS

PROJECT: NARRAWA

PROSPECT: DOLLOATH GRID

SAMPLE STORAGE REQ'D:

LABORATORY:

DATE DISPATCHED:

1 250.000 SHEET:

TYPE OF SAMPLE: SOIL SAMPLING & ORIENTATION

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED:

A19

0  
A

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES								
				Au	Cu	Pb	Zn	Ag	Bi	As	Su	
T4517	5810E	5040N	WACKER CASING (W/C), C-HOR, 0.9-1.2M, Orange/wh. ss	0.067	20	125	20	10.5	21	50	410	210
T4518	"	"	STANDARD B70	0.240	5	45	40	"	36	2	10	10
T4519	"	5040N	W/C, B-HOR, Orange & ss chips, 0.3-0.7M.	0.036	45	40	40	"	21	70	180	210
T4520	"	"	Repeat of T4519, 0.5-0.9M, Orange/Bm	0.058	30	200	30	"	"	220	390	35
T4521	"	"	W/C, B/C-HOR, Leached grey zone above C-horizon.	0.064	20	110	15	"	"	70	290	15
T4522	"	"	W/C, A/B-HOR, Leached grey B-HOR, sandy.	0.120	10	15	30	"	"	45	140	210
T4523	5810E	5045N	W/C, C-HOR, 0.65-1.0M, Yell/orange & ss chips	0.120	45	185	25	"	"	140	310	210
T4524	"	"	Repeat of T4523, Dark orange, silty & limonite fragments	0.460	75	1300	60	"	38	460	510	55
T4525	"	5045N	W/C, B-HOR, 0.3-0.65M, Bm clayey	0.200	35	545	30	"	10	390	530	40
T4526	"	"	Repeat of T4525, Bm/orange	0.180	10	255	25	"	21	310	360	2
T4527	5810E	5050N	W/C, C-HOR, 0.6-0.8M, Rusty red/orange	4.920	385	12500	165	1.5	28	1250	6050	40
T4528	"	"	Repeat of T4527, 0.65-0.85M, Orange/green-grey & silty chips	0.062	40	1150 405	65	10.5	2	65	60	10
T4529	"	5050N	W/C, B-HOR, 0.65-0.8M, Gray/Bm clayey	0.025	20	580	25	"	7	300	690	30
T4530	"	"	W/C Repeat of T4529, 0.2-0.65M, A/B-HOR, Black/Bm	0.036	30	390	25	"	6	220	760	15
T4531	5810E	5055N	W/C, C-HOR, 0.4-0.7M, Cream & ss chips	0.046	15	1700	10	"	3	110	150	15
T4532	"	"	Repeat of T4531, 0.45-0.7M, Orange/Green & ss chips	0.043	15	325	15	"	2	90	140	10
T4533	"	5055N	W/C, B-HOR, 0.1-0.4M, Gray/Bm clayey	0.460	25	370	15	"	21	68	450	210
T4534	"	"	Repeat of T4533, 0.15-0.45M, Gray/Bm	0.140	10	175	15	"	21	77	490	20
T4535	5810E	5060N	W/C, C-HOR, 0.6-1M, Orange/cream silty	0.740	295	1350	40	"	70	1750	3050	170
T4536	"	"	Repeat of T4535, 0.7-0.8M.	0.720	80	545	25	"	48	470	1100	150
T4537	"	5060N	W/C, B-HOR, 0.3-0.6M, Dk Bm clay	0.320	75	2200	25	"	65	1560	370	80

972045

GOLD FIELDS EXPLORATION PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY R. ROBERTS

PROJECT: NARRAWA

PROSPECT: DOLLOATH GRID

SAMPLE STORAGE REQ'D:

LABORATORY:

DATE DISPATCHED:

1:250.000 SHEET:

TYPE OF SAMPLE: SOIL ORIENT. CONT.

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED: 0

0  
5  
1

AL

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES								
				Au	Cu	Pb	Zn	Ag	Bi	As	Sn	
T4538	5810E	5060N	Repeat of T4537, 0.35-0.6M, B-HOR.	0.480	45	395	30	40.5	100	620	940	70
T4539	"	5060N	w/c, UPPER B-HOR, 0.2-0.3M, Red/bm	0.090	20	186	25	"	4	220	430	25
T4540	"	"	w/c Repeat of T4539 grey silty	0.400	20	130	20	"	6	160	1050	45
T4541	5810E	5065N	w/c, C-HOR, 0.9-1.2M, Orange, limonite with rock	0.100	250	700	220	"	18	800	440	50
T4542	"	"	Repeat of T4541	0.080	70	360	80	"	11	400	290	25
T4543	"	5065N	w/c, B-HOR, 0.25-0.4M, Orange brn clayey	0.160	35	270	30	"	11	370	490	35
T4544	"	"	Repeat of T4543	0.080	30	270	35	"	11	360	410	30
T4545	"	5065N	w/c, UPPER B-HOR, 0.05-0.25M, Leached grey gritty	0.080	10	70	20	"	<1	130	350	15
T4546			STANDARD B44	0.400	5	66	90	"	18	5	8	<10
—	T4547 →	T4562	See Hand Auger samples at end of w/c samples									
T4563	5810E	5075N	w/c, C-HOR, 1.3-1.8M, grey green ± silts. chips	0.150	20	65	35	40.5	4	56	160	25
T4564	"	5075N	w/c, B-HOR, 0.2-0.8M, Red orange, clayey	0.080	20	105	30	"	4	85	210	10
T4565	"	5080N	w/c, C-HOR, 1.2-1.7M, Orange → Pale green ± gm silts.	0.013	45	190	60	"	1	21	45	<10
T4566	"	5080N	w/c, B-HOR, 0.2-0.8M, Red clay	0.020	20	60	35	"	4	62	175	15
T4567	"	5085N	w/c, C-HOR, 1.1-1.6M, yellow/green, gritty	0.035	35	70	40	"	3	26	110	<10
T4568	"	5085N	w/c, B-HOR, 0.5-0.4M, Red clay	0.021	20	80	35	"	5	36	120	10
T4569	"	5090N	w/c, C-HOR, 0.75-1.2M, Orange/cream ± wh. g. silts chips	0.011	15	15	25	"	<1	14	35	<10
T4570	"	5090N	w/c, B-HOR, 0.2-0.6M, Red brn	0.019	15	25	30	"	6	27	110	<10
—	—	—	— T4571 → T4573 See Hand Auger samples at end of w/c samples									
T4574	5810E	5095N	w/c, C-HOR, 0.8-1.3M, Orange/bm, clay/silt	0.011	10	40	30	40.5	2	14	85	10
T4575	"	5095N	w/c, B-HOR, 0.2-0.8M, Red brn clayey	0.013	10	35	25	"	1	13	95	20

GOLD FIELDS EXPLORATION PTY. LTD.

SAMPLE RECORD AND ANALYTICAL DATA SHEET

COLLECTED BY R. ROBERTS

PROJECT: NARRAWA

PROSPECT: DOLLOATH GRID

SAMPLE STORAGE REQ'D:

LABORATORY:

DATE DISPATCHED:

1:250.000 SHEET:

TYPE OF SAMPLE: SOIL ORIENT.  
CONT.

SAMPLE PREP. REQ'D:

ANALYSIS REQ'D:

DATE RECEIVED:

A19

SAMPLE NUMBER	LOCATION		DESCRIPTION	ANALYSES								
				Au	Cu	Pb	Zn	Ag	Bi	As	SA	
T4576	5810E	5100N	w/c, B/C-HOR, 0.4-0.9M, Orange/grey ± wh. gyrite	0.015	5	10	15	<05	1	2	40	<10
T4577	5810E	5100N	w/c, B-HOR, 0.15-0.4M, grey silty	0.012	10	20	10	"	1	1	35	<10
T4578	"	5105N	w/c, B/C-HOR, 0.2-1.1M, grey, sand gravel	0.006	5	<5	10	"	1	<1	30	<10
T4547	5810E	5070N	HAND AUGER (H.A.), B-HOR, 1.4M, Orange clayey	0.100	35	140	40	<05	3	110	260	<25
T4548	"	5075N	H.A., B-HOR, 1.2M, Orange red clayey	0.051	30	100	40	"	4	85	220	35
T4549	"	5080N	H.A., B-HOR, 1.4M, Or/red/bm clayey	0.035	15	80	35	"	4	63	160	20
T4550												
T4551	5810E	5065N	H.A., B-HOR, 1.1M, Or/bm clayey	0.500	35	275	30	"	12	410	420	30
T4552	"	5060N	H.A., A/B HOR, 0-0.25M, Black	0.086	10	65	15	"	<1	32	440	10
T4553	"	5060N	H.A., ?C-HOR, 0.25-0.5M, grey/green silty	0.051	20	65	20	"	<1	80	280	25
T4554	"	5055N	H.A., B-HOR, 0.5M, Black/grey silty	0.240	10	115	15	"	<1	63	500	10
T4555	"	5050N	H.A., B/C-HOR, 0.3-0.75M, Rusty orange clay	1.460	95	2800	60	"	22	600	4200	50
T4556	"	5050N	H.A., UPPER B HOR, 0-0.3M, grey silty	0.160	20	480	25	"	2	130	620	10
T4557	"	5045N	H.A., B/C-HOR, orange/bm silty	0.180	5	40	15	"	<1	45	400	15
T4558	"	5040N	H.A., C-HOR, Yell/grey ± wh. gyrite, 0.4-0.6M	0.033	5	10	15	"	1	28	130	<10
T4559	"	5040N	H.A., UPPER B-HOR, 0-0.4M, grey	0.071	15	<5	20	"	<1	20	190	<10
T4560			STANDARD B 71	0.100	5	<5	30	"	7	2	<3	<10
T4561	"	5085N	H.A., B/C-HOR, 0-0.6M, Orange/bm clay ± silty	0.031	5	30	30	"	<1	24	95	10
T4562	"	5090N	H.A., B/C-HOR, 0.9M, Orange/bm clay/silts	0.024	20	45	30	"	5	22	110	<10
T4571	"	5095N	H.A., B-HOR, 0.7M, Red/bm clay	0.017	10	45	25	"	3	20	90	15

972047



048

APPENDIX IV

DRILL LOGS FOR DD82 DG-1 AND DD82 DG-2



PROJECT: **NARRAWA**

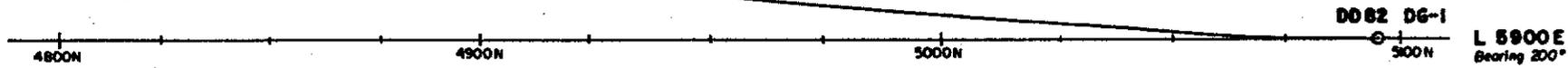
HOLE NO.: **DD82 DG-1**

**GOLD FIELDS EXPLORATION PTY. LIMITED  
DRILL HOLE PLOT**

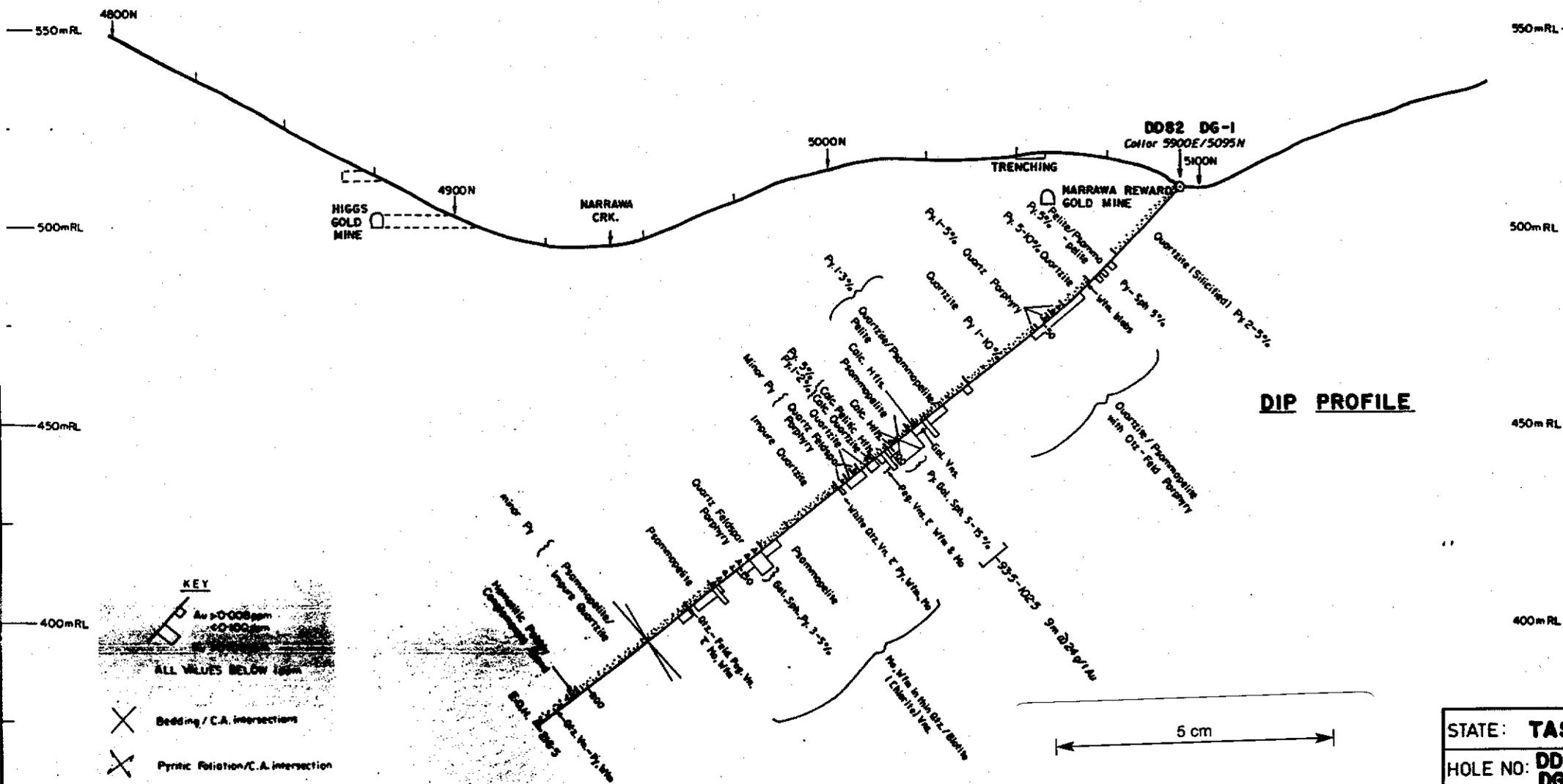
SCALE 1:



050



**PLAN VIEW**



**DIP PROFILE**

**KEY**

- Au > 0.008 ppm  
CO-100 dm
- ALL VALUES BELOW 100m
- Bedding / C.A. intersections
- Pyritic Foliation / C.A. intersection

STATE: **TAS**  
HOLE NO: **DD82  
DG-1**

TC0716

GOLD FIELDS EXPLORATION PTY. LIMITED  
**DRILL CORE LOG AND ASSAY DATA**

PROJECT: NARRAWA

HOLE NUMBER: DD82 DG-1

Page:

051

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA													
From	To	m	%		Sample No.	From	To	Rec. %										
SUMMARY LOG																		
LITHOLOGY					MINERALIZATION													
0	4.5			NO CORE														
4.5	23.5	19.0	90	QUARTZITE (silicified and pyritic)	Py=2.5%													
23.5	33.0	9.5	90	PELITE AND PSAMMOPELITE	Py=5%													
					26.8-28.3: Ph, Sph:5%													
33.0	74.1	41.1	95	QUARTZITE AND PSAMMOPELITE WITH QUARTZ PORPHYRY	Py=5-10%													
				33.0-42.4 QUARTZITE	Py=5-10%													
				42.4-46.9 QUARTZ PORPHYRY														
				46.9-47.6 PSAMMOPELITE														
				47.6-49.4 QUARTZ PORPHYRY	Py=1-5%													
				49.4-51.7 QUARTZITE/PSAMMOPELITE														
				51.7-52.5 QUARTZ PORPHYRY														
				52.5-74.1 QUARTZITE	Py=1-10%													
74.1	107.0	32.9	97	MIXED QUARTZITE/PSAMMOPELITE/PELITE AND CALC-SILICATE HORNFELS														
				74.1- 91.2 QUARTZITE/PSAMMOPELITE	Py=1-3%													
				91.2- 93.5 CALC-SILICATE HORNFELS	Ph=1-3%													
				93.5- 99.6 PSAMMOPELITE	94.4-100.5 Py,Gal,Sph:5-15%													
				99.6-100.5 CALC-SILICATE HORNFELS														
				100.5-105.5 CALC-SILICATE/PELITIC HORNFELS	Py=5%													
				105.5-107.0 QUARTZITE	Py=1-2%													
					Minor Mo,Wfm													
107.0	216.5	109.5	98	QUARTZITE/IMPURE QUARTZITE/PSAMMOPELITE WITH QUARTZ PORPHYRY														
				107.0-110.3 QUARTZITE	Minor Py													
				110.3-111.6 QUARTZ-FELDSPAR PORPHYRY														
				111.6-113.6 IMPURE QUARTZITE														
				113.6-117.0 QUARTZ-FELDSPAR PORPHYRY	115.0-167.0: Minor Py													
				117.0-117.3 QTZ VEIN	Mo, Wfm in thin Qtz-biotite veins													



GOLD FIELDS EXPLORATION PTY. LIMITED  
DRILL CORE LOG AND ASSAY DATA

ULV. PRESS

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-1

Page: 1

053

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
0.0	4.5	4.5		NO CORE.														
4.5	23.5	19.0	90	QUARTZITE - Silicified and pyritic.														
	NQ			4.5-5.7 Grey silicified quartzite with limonitic veinlets.														
				5.7-6.4 White ss with lim. veinlets and qtz veins.	T5301	4.5	6.0	100	Split Core	<0.008	65	35	90	x	50	2	-	-
				6.4-9.0 Grey sild. ss with cherty lenses. Vugs and veinlets of Py.	T5302	6.0	9.0	97	"	<0.008	85	20	160	x	x	4	-	-
				Min: Py 2-5%	T5303	9.0	12.0	77	"	<0.008	175	110	210	x	100	2	-	-
				9.0-23.5 Varies from cream ss to grey sil. qtzite, with varying degrees of siln. Late qtz veins (up to 1 cm wide)	T5304	12.0	15.0	67	"	<0.008	190	40	120	0.5	50	x	-	-
				cross cut Py veinlets and remobilise Py.	T5305	15.0	18.0	98	"	<0.008	105	30	120	x	x	2	-	-
				Strong oxidation decreases at approx. 15.0m.	T5306	18.0	21.0	100	"	<0.008	345	85	295	0.5	50	2	-	-
				Py occurs in vugs and veinlets, and commonly has a dendritic pattern.	T5307	21.0	24.3	100	"	<0.008	190	80	275	0.5	50	4	-	-
				Min: Py 2-5% varying up to 10%.														
23.5	33.0	9.5	90	PELITIC AND PSAMMOPELITIC HORNFELS														
				23.5-24.0 Psammopelite; Py <1%.														
				24.0-25.5 Cream siltstone; Py <1%.														
				25.5-27.0 Mixed pelitic/psammitic layers. Garnet and cordierite occur in some sections.	T5331	24.3	24.7	100	RA Pulv	<0.008	10	80	80	x	80	4	24	92
				Min: Py <1%.	T5332	24.7	26.2	80	Cut Core	<0.008	55	210	2600	1.0	x	6	x	38
				27.0-28.3 Med/low grade pelite - Bio, Mus, Chl with possible pink garnet patches. Silt size quartz grains evident in part.	T5333	26.2	26.8	100	"	0.032	105	945	200	2.5	50	4	x	167
				Min: Disseminated and veins Py and Sph.	T5334	26.8	27.5	100	"	0.058	95	9600	7700	13.0	x	4	x	59
				26.8-28.3 Py & Sph 5%. Red sph. with yellow staining.	T5335	27.5	29.0	83	"	<0.008	110	300	175	1.0	50	4	7	21
				28.3-28.9 Metass/Quartzite.	T5336	29.0	30.1	95	"	0.017	105	110	1500	0.5	50	6	x	31
				Min: Py 5-10%.	T5337	30.1	31.0	72	"	<0.008	50	110	100	0.5	50	4	x	21
				28.9-30.0 Pelite with altered cordierite; minor pyrite.	T5338	31.0	31.8	98	"	0.017	110	120	360	1.5	x	4	x	190
				30.0-33.0 Mixed pelite/psammopelite; Py 2%.	T5339	31.8	33.0	96	"	<0.008	75	55	1600	0.5	x	6	x	179
				31.5: patches of dk green calc silicates with reaction veins.														

FC0718



**GOLD FIELDS EXPLORATION PTY. LIMITED**  
**DRILL CORE LOG AND ASSAY DATA**

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-1

Page: 055

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
52.5	74.1	21.6		QUARTZITE - Silicified														
				52.5-56.2 SS to massive white Qtzite with Qtz veins. Min: Vugs of pyrite, especially in Qtz veins 52.5-54.5: Py rich veins														
				56.2 Broken core and core loss. ?Fault.	T5311	51.0	54.0	97	Split Core	0.017	773	8	125	0.5	x	3	126	200
				56.2-59.4 Sild Py ss; Pyrite on fractures. Py 2-5%.	T5312	54.0	56.0	93	"	<0.008	125	x	100	0.5	50	4	184	411
				59.4-60.1 Intense sericite alteration. Patches of blue grey pyritic Qtz in sericitic rock. Min: Py 2-10%.	T5313	56.0	58.0	89	"	<0.008	275	x	45	0.5	x	x	10	15
					T5314	58.0	61.0	87	"	<0.008	160	10	120	0.5	x	x	20	54
					T5315	61.0	64.0	98	"	<0.008	85	20	205	x	x	2	6	14
				60.1-74.1 Grey sild. pyritic ss with patches of sericitic alteration. Min: Py 1-3%.	T5316	64.0	67.0	100	"	<0.008	150	15	65	x	x	2	15	22
					T5317	67.0	70.5	100	"	<0.008	142	5	37	0.5	x	2	15	55
					T5318	70.5	73.5	97	"	<0.008	157	5	50	x	50	13	54	38
74.1	107.0	32.9	97	MIXED QUARTZITE/PSAMMOPELITE/PELITE AND CALCAREOUS HORNFELS	T5349	73.5	74.5	100	CRA Pulp Cut Core	<0.008	210	5	55	x	x	4	13	82
74.1	91.2	17.1		PELITE/PSAMMOPELITE/QUARTZITE	T5350	STD	B44(0.60)			0.600								
				74.1-78.5 Pelite to Psammopelite (metasiltstone to meta- greywacke). Qtz grains evident. Min: Py 1-3% in thin pyritic microfractures. 75.0: ?Bedding/CA=60°.	T5351	74.5	75.5	100	"	0.032	110	10	270	0.5	100	6	21	98
					T5352	75.5	76.0	100	"	0.008	75	75	780	0.5	50	2	48	52
				78.5-83.6 Grey sild. Qtzite; minor Py.	T5353	76.0	77.0	100	"	<0.008	25	75	200	0.5	x	2	x	31
				83.6-84.5 Varies from siliceous ss to biotite hfls; minor Py. 84.5 Compositional banding/CA=47° Calc silicates in biotite hfls.	T5319	77.0	79.0	95	Split Core	<0.008	45	40	70	x	x	54	68	41
					T5320	STD	B.24 (2.90)			2.920								
				84.6-85.1 Sild ss; Py 1-3%.	T5321	79.0	81.0	90	"	<0.008	55	115	100	0.5	100	4	39	79
				85.1-85.5 Psammopelite. Qtz-musc in microfracture.	T5322	81.0	83.0	100	"	<0.008	60	90	125	0.5	100	2	52	x
				85.5-86.1 Pelitic biotite hfls. Min: 85.9-86.1 Patchy dissem fine grained base metals, sulphides 2-3%.	T5323	83.0	85.5	100	"	0.008	55	128	203	1.0	50	2	44	8
					T5354	85.5	88.5	100	CRA Pulp Cut Core	0.067	95	1600	835	1.5	200	10	27	109
				86.1-89.5 Very broken core (?faulting), mixture of ss and pelite. Yellow-green patches in biotite hfls. Calc- silicate veining in metagreywacke. Min: Py 1-2%.	T5355	88.5	89.5	70	"	0.208	110	45	170	1.0	350	4	14	196
				89.5-91.2 Qtzite Min: 90.5-91.2; Py on fractures. Galena-rich veins (1-2 mm wide)	T5324	89.5	92.5	100	Split Core	0.017	15	70	295	x	50	66	18	12

**GOLD FIELDS EXPLORATION PTY. LIMITED**  
**DRILL CORE LOG AND ASSAY DATA**

ULV. PRESS

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-1

Page: 456

056

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
91.2	93.5	2.3		CALC SILICATE HORNFELS														
				91.2-93.5 Pale green calc-silicate: metamarl or calcarenite. Abundant limonite veining. Min: Py 1-3% in veins.														
93.5	99.6	6.1		PSAMMOPELITE (Strongly mineralised from 94.4 to 99.6m)	T5356	92.5	93.5	100	CRA Pulp Cut Core	0.083	70	25	175	1.0	50	2	51	75
				93.5-94.4 Minor spotting in psammopelite	T5357	93.5	94.5	100	"	0.125	770	235	755	1.0	150	4	43	128
				93.6 Compositional banding/CA=62°.	T5358	94.5	95.5	100	"	0.352	225	6100	1.02%	10.0	150	x	x	63
				94.4-99.6 Mineralised psammopelite	T5359	95.5	96.5	100	"	0.608	75	1.19%	1.18%	15.0	200	2	30	172
				Min: 94.4-95.5 Py 5% with dissem gal and sph.	T5360	96.5	97.5	100	"	0.275	100	2.00%	1.69%	32.0	200	x	32	107
				95.5-99.6 Dissem and veined Py,Gal,Sph, 10-15%														
				Grey-blue qtz veins with Py,Gal,Sph are up to	T5361	97.5	98.2	100	"	0.317	40	9000	1.04%	15.0	200	4	42	74
				1cm wide. N.B. Veins are irregular with diffuse	T5362	98.2	100.5	100	"	0.183	105	4600	4850	8.5	100	x	79	166
				edges, i.e. not filling discrete fractures.	T5363	100.5	101.5	100	"	0.067	80	75	235	1.0	x	x	48	95
				*** Parts are semi-massive sulphide	T5364	101.5	102.5	90	"	0.183	225	40	160	1.0	100	2	102	148
				94.8 Banding/CA=56°	T5365	102.5	103.7	83	"	0.075	180	20	120	0.5	x	2	145	193
				97.9 Banding/CA=62°	T5366	103.7	103.9	100	"	0.083	185	30	105	0.5	x	2	67	63
				98.5 Banding/CA=43°	T5367	103.9	104.2	67	"	0.032	65	25	145	1.0	x	920	120	13
99.6	100.5	0.9		CALC-SILICATE HORNFELS (Mineralised)	T5368	104.2	104.8	117	"	<0.008	45	15	100	0.5	x	136	59	75
				99.6-100.5 Pale green calc-silicate hfls-amphiboles + pyroxene	T5369	104.8	105.7	100	"	0.008	30	20	60	0.5	50	20	43	77
				Possibly an original marl	T5360	105.7	107.0	100	"	0.017	25	10	65	0.5	50	6	57	28
				Min: Abundant veinlets rich in Py and base metals Py, Gal, Sph 10-15%.														
100.5	105.5	5.0		CALCAREOUS TO PELITIC HORNFELS														
				100.5-105.5 Mixtures of calc-silicate and pelitic hornfels assemblages (biotite, amphibole and pyroxene assemblages)														
				Min: Py veins and lenses 5%														
				103.5-105 Thin pegmatitic veinlets with Mo and Wfm														
				101.0 Bedding/CA=30°														
				101.1 Bedding/CA=40°														
				103.2 Bedding/CA=35°														
				104.5 Bedding/CA=58°														
105.5	107.0	1.5		QUARTZITE WITH CALCAREOUS BANDS														
				105.5-107.0 Bands of pale green calc-silicates in quartzite.														

100716

057

GOLD FIELDS EXPLORATION PTY. LIMITED  
**DRILL CORE LOG AND ASSAY DATA**

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-1 Page: 5

ULV. PRESS

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
107.0	216.5	109.5	98	QUARTZITE, IMPURE QUARTZITE, PSAMMOPELITE, WITH QUARTZ PORPHYRY	T5371	107.0	109.4	88	CRA Pulv Cut Core	<0.008	20	5	140	1.0	x	32	34	11
107.0	110.3	3.3		QUARTZITE	T5372	109.4	110.3	100	"	0.017	40	10	255	0.5	x	8	76	14
				107.0-110.3 White qtzite	T5373	110.3	111.7	100	"	0.017	30	195	490	x	50	4	19	23
				110.0 Banding/CA=84°	T5374	111.7	112.7	85	"	0.017	85	25	50	0.5	100	6	33	16
110.3	111.6	1.3		QUARTZ FELDSPAR PORPHYRY	T5375	112.7	113.6	100	"	0.008	50	10	45	x	50	12	17	15
				110.3-111.6 Pale green qtz-feldspar porphyry. Distinct layering possibly being flow banding or eutaxitic texture (i.e. ?Lava or pyroclastic). Layering may also result from shearing in the porphyry.	T5376	113.6	114.5	100	"	0.008	30	60	160	0.5	50	4	19	83
				110.5 Layering/CA=51°.	T5377	114.5	115.5	76	"	<0.008	25	40	50	x	100	70	1010	57
111.6	113.6	2.0		IMPURE QUARTZITE														
				111.6-113.6 Impure qtzite with anastomosing sericite and calc-silicates (amph, epi, px). Biotite occurs in layers and patches. Min: Minor dissem and veined Py.														
113.6	117.0	3.4		QUARTZ FELDSPAR PORPHYRY														
				113.0-114.9 Foliated qtz-feldspar porphyry	T5378	115.5	116.5	100	"	<0.008	35	160	45	1.0	50	42	20	48
				114.9-117.0 Porphyry with veins of qtz and calc-silicates. Veins of qtz-epidote & qtz-amphibole. Also separate qtz veins. Min: Py, Mo in qtz veining.	T5379	116.5	117.3	100	"	0.017	10	60	25	0.5	50	4800	174	7
				1115.2-116.3 Qtz-fluorite vein runs parallel to core axis A Py-Chl vein is also parallel to core axis Mo slugs present in the qtz-fluorite vein.	T5380	STD	B65(1.70)			0.717								
				1115.2-116.3 Qtz-fluorite vein runs parallel to core axis A Py-Chl vein is also parallel to core axis Mo slugs present in the qtz-fluorite vein.	T5325	117.3	118.5	100	Split Core	<0.008	30	20	55	x	50	40	34	13
				1115.2-116.3 Qtz-fluorite vein runs parallel to core axis A Py-Chl vein is also parallel to core axis Mo slugs present in the qtz-fluorite vein.	T5381	118.5	119.4	100	CRA Pulv Cut Core	<0.008	15	5	55	x	50	32	16	39
117.0	117.3	0.3		WHITE QUARTZ VEIN	T5382	119.4	120.4	100	"	<0.008	40	x	55	x	50	530	33	36
				117.0-117.3 Min: Coarse (2cm) vugs of Py & Mo in white quartz	T5383	120.4	121.5	91	"	<0.008	50	x	45	0.5	50	52	24	50
117.3	133.5	16.2		QUARTZITE AND IMPURE QUARTZITE														
				117.3-124.5 White qtzite with thin millimetre-wide veinlets of chlorite & qtz-fluorite running sub-parallel to the core axis. Biotite flakes occur in some of the veins and the chlorite may be derived from earlier biotite. Min: Mo slugs occur in the veins.	T5326	121.5	124.5	100	Split Core	<0.008	35	15	65	x	x	32	27	14
				117.3-124.5 White qtzite with thin millimetre-wide veinlets of chlorite & qtz-fluorite running sub-parallel to the core axis. Biotite flakes occur in some of the veins and the chlorite may be derived from earlier biotite. Min: Mo slugs occur in the veins.	T5327	124.5	127.5	99	"	<0.008	70	65	65	x	100	20	30	11
				117.3-124.5 White qtzite with thin millimetre-wide veinlets of chlorite & qtz-fluorite running sub-parallel to the core axis. Biotite flakes occur in some of the veins and the chlorite may be derived from earlier biotite. Min: Mo slugs occur in the veins.	T5328	127.5	129.5	85	"	<0.008	45	55	95	x	x	16	46	*
				117.3-124.5 White qtzite with thin millimetre-wide veinlets of chlorite & qtz-fluorite running sub-parallel to the core axis. Biotite flakes occur in some of the veins and the chlorite may be derived from earlier biotite. Min: Mo slugs occur in the veins.	T5384	129.5	129.7	100	CRA Pulv Cut Core	<0.008	15	x	25	0.5	x	2700	x	*

C  
1  
2  
3  
C

**GOLD FIELDS EXPLORATION PTY. LIMITED**  
**DRILL CORE LOG AND ASSAY DATA**

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-1

Page: 6

0158

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
				124.5-127.5 Pebbly siliceous conglomerate	T5385	129.7	129.9	100	CRA PULD Cut Core	<0.008	20	10	50	0.5	50	98	4	20
				Min: Py on fractures	T5386	129.9	131.5	91	"	<0.008	40	5	65	x	x	20	x	x
				125.5: Layering/CA=26°	T5387	131.5	132.5	100	"	<0.008	50	5	65	x	50	18	x	20
				127.5-133.5 Impure white qtzite, parts show layering.														
				129.0-130.3: White qtz veining with coarse-grained	T5388	132.5	133.5	100	"	<0.008	110	10	45	0.5	150	20	13	111
				biotite and slugs of Mo. (Biotite is	T5389	133.5	135.0	100	"	<0.008	50	5	50	x	x	12	x	x
				altered to chlorite in patches).	T5390	135.0	136.5	100	"	<0.008	25	10	60	x	x	52	x	21
133.5	142.5	9.0		PSAMMOPELITE	T5391	136.5	138.0	100	"	<0.008	45	10	65	x	x	12	4	13
				133.5-135.0 Psammopelite														
				134.5 Layering/CA=57°	T5392	138.0	139.6	100	"	0.017	50	15	80	0.5	50	16	16	36
				135.0-135.3 Biotite (coarse-grained) - qtz vein														
				Vein/CA=16°.	T5393	139.6	140.7	91	"	0.025	50	165	330	x	50	10	38	109
				135.3-136.9 Psammopelite	T5394	140.7	141.9	100	"	0.017	80	105	170	x	100	32	55	40
				136.9- Biotite - qtz. vein	T5395	141.9	143.5	100	"	0.032	50	1250	1600	3.0	50	70	16	64
				136.9-139.5 Psammopelite	T5396	143.5	145.0	100	"	0.167	115	1175	1700	3.5	200	12	15	90
				139.5-142.5 Pelitic to calc-silicate hfls.	T5397	145.0	146.5	100	"	0.300	115	3050	5300	11.0	100	8	7	89
				142.5: Layering/CA=48°	T5398	146.5	148.0	100	"	0.067	40	850	1500	0.5	100	1560	19	44
142.5	158.8	16.3		QUARTZ PORPHYRY (Parts strongly mineralised)	T5399	148.0	149.5	100	"	0.040	40	415	900	6.0	50	30	20	71
				142.5-147.5 Quartz porphyry with qtz phenocrysts in a sericitic	T5400	STD	B24(2.90)			2.830								
				pale green matrix.														
				Min: Base metal lenses of Py, Sph, Gal 3-5%	T5501	149.5	151.0	93	"	0.025	x	110	75	x	x	26	30	87
				143.2: Compositional banding/CA=30°	T5502	151.0	152.5	97	"	<0.008	20	40	145	x	50	260	24	88
				Foliation/CA=25-40°	T5503	152.5	154.0	100	"	<0.008	10	50	200	x	x	4	13	94
				147.5-151.5 Grey qtz-feldspar porphyry	T5504	154.0	155.0	100	"	<0.008	5	65	180	x	50	6	5	48
				150.4-151.5 Fractures run sub-parallel to CA	T5505	155.0	157.0	75	"	<0.008	45	20	145	x	x	2	15	51
				151.2 X-cutting qtz vein with Mo slug	T5506	157.0	157.9	100	"	0.025	35	15	70	x	50	22	35	42
				151.5-158.8 Yellow-green qtz porphyry. Wavy foliation through	T5507	157.9	158.6	86	"	0.358	45	5	90	x	150	8	13	111
				rock. Alteration halos along microfractures.	T5508	158.6	161.0	100	"	0.008	25	10	85	0.5	50	8	7	x
				Min: Minor Py on fractures.														
158.8	166.8	8.0		PSAMMOPELITE	T5509	161.0	163.5	100	"	0.017	15	5	65	x	50	108	17	9
				158.8 Contact appears to be intrusive with wedge of por-	T5510	163.5	165.0	100	"	0.017	35	5	40	0.5	50	14	11	113
				phyry in psammopelite. Coarsely granoblastic biotite	T5511	165.0	166.5	100	"	<0.008	15	10	40	x	x	76	17	23
				texture adjacent to porphyry representing baking.														
				158.8-166.8 Psammopelite varying to impure qtzite and pelite.														
				Cordierite present in more pelitic layers.														
				163.3 Coarse-grained biotite and chlorite in qtz vein.														

2000

GOLD FIELDS EXPLORATION PTY. LIMITED  
**DRILL CORE LOG AND ASSAY DATA**

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-1

Page: 7

059

ULV. PRESS

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
166.8	167.0	0.2		QUARTZ-FELDSPAR PEGMATITE VEINS														
				166.8-167.0 Granoblastic qtz-biotite assemblage between two pegmatite veins.	T5512	166.5	167.0	100	CRA Pulp Cut Core	<0.008	25	5	55	x	50	1190	1.26%	88
				Min: Mo & Wfm in veins and in zone around veins	T5329	167.0	170.0	92	Split Core	0.032	20	15	50	x	x	28	243	22
167.0	216.5	49.5		PSAMMOPELITE/IMPURE QUARTZITE	T5330	STD	B24(2.90)			2.670								
				167.0-178.5 Impure qtzite.														
				169.8 Bedding/CA=84°														
				176.5 Bedding/CA=90°														
				178.5-188.5 Psammopelite														
				184.4 Bedding/CA=90°	T5513	170.0	173.0	100	CRA Pulp Ground	<0.008	105	5	80	x	50	20	72	6
				188.5-193.5 Massive white qtzite.	T5514	173.0	176.0	97	Core	<0.008	125	5	10	0x	50	2	88	5
				193.4-193.5 Pegmatite vein with Py cubes	T5515	176.0	179.0	100	"	<0.008	110	x	80	x	100	2	46	11
				193.5-197.5 Impure qtzite	T5516	179.0	182.0	100	I/S FOR ASSAY		45	10	60	x	150	2	x	x
				195.0 Bedding/CA=83°	T5517	182.0	185.0	100	CRA Pulp Ground	<0.008	45	5	40	x	100	2	19	3
				197.3 Bedding/CA=63°	T5518	185.0	188.0	93	Core	<0.008	20	10	45	x	100	2	29	9
				197.5-199.5 White qtzite, Py slugs 1%	T5519	188.0	191.0	97	"	<0.008	30	10	50	x	50	x	19	12
				199.5-202.5 Pebbly siliceous cgl, minor py.	T5520	STD	B24(2.90)			2.92								
				202.5-204.3 Hematitic pebbly cgl, minor py	T5521	191.0	194.0	100	"	<0.008	145	x	40	x	x	x	23	197
				203.5 Bedding/CA=56°	T5522	194.0	197.0	100	"	<0.008	40	10	45	x	150	8	40	23
				204.3-216.5 Impure qtzite	T5523	197.0	200.0	100	"	<0.008	40	x	30	x	150	2	25	121
				209.7 Qtz vein with minor Py, wfm Vein/CA=32°	T5524	200.0	203.0	100	"	<0.008	25	x	20	x	100	x	20	23
					T5525	203.0	206.0	100	"	<0.008	25	x	40	x	50	x	28	44
				E.O.H.	T5526	206.0	209.0	92	"	<0.008	60	x	55	x	x	2	89	77
					T5527	209.0	212.0	100	"	<0.008	75	x	30	x	100	24	58	20
					T5528	212.0	215.0	100	"	<0.008	20	x	20	x	50	x	28	177
					T5529	215.0	216.5	100	"	<0.008	30	x	30	x	100	x	44	x
							E.O.H.											

216000



PROJECT: **NARRAWA**

HOLE NO.: **DD82 DG 2**

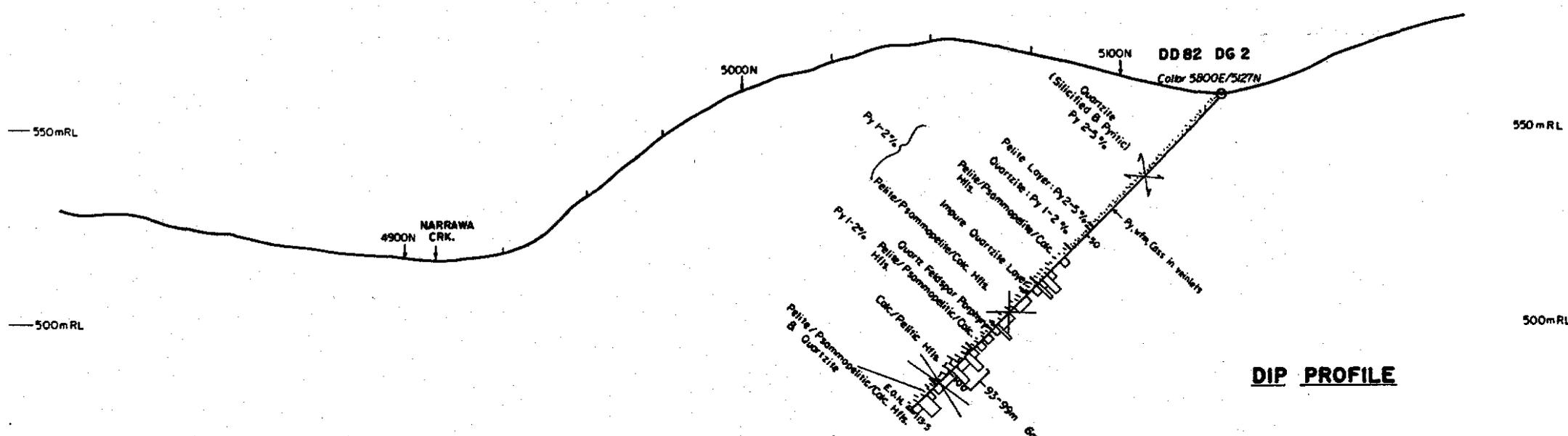
GOLD FIELDS EXPLORATION PTY. LIMITED  
DRILL HOLE PLOT

SCALE 1:



061

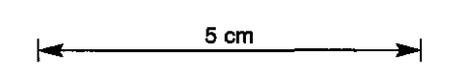
**PLAN VIEW**



**DIP PROFILE**

**KEY**

- Au > 0.006 ppm < 0.100 ppm
- Au > 0.100 ppm
- ALL VALUES BELOW 1ppm
- Bedding / C.A. intersections
- Pyritic Foliation / C.A. intersection



STATE: **TAS**  
HOLE NO: **DD 82 DG 2**

11/10/02



**GOLD FIELDS EXPLORATION PTY. LIMITED**  
**DRILL CORE LOG AND ASSAY DATA**

ULV. PRESS

PROJECT: NARRAWA

HOLE NUMBER: DDH DG-2

Page: 064

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No.	From	To	Rec. %	Sample Type	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
55.7	83.1	27.4	98	PELITE/PSAMMOPELITE/CALC-SILICATE HORNFELS WITH MINOR QUARTZITE														
55.7	68.0	12.3		PELITE/PSAMMOPELITE WITH CALC-SILICATE LENSES														
				55.7-57.0 Bio-rich pelitic hfls with calc-silicate lenses (amph, epi, pyx).														
				Min: Dissem Py 1-2%	T5550	55.0	58.0	100	CRA Pulp Cut Core	<0.008	35	20	70	x	50	8	x	177
				57.0-58.0 Qtzite	T5551	58.0	59.8	89	"	0.032	50	x	45	x	x	x	13	95
				58.0-68.0 Pelite to psammopelite with calc-silicate lenses	T5552	59.8	61.5	100	"	<0.008	55	15	65	x	100	8	167	59
				Min: Minor Py (up to 1%) either dissem or in qtz veins.	T5553	61.5	63.0	100	"	<0.008	45	5	55	x	150	2	12	46
68.0	71.3	3.3		IMPURE QUARTZITE	T5554	63.0	64.5	88	"	0.025	40	25	75	x	100	8	13	25
				68.0-71.3 Impure qtzite with dendritic Py 1-2%	T5555	64.5	66.0	100	"	0.208	50	120	110	x	x	6	12	22
71.3	83.1	11.8		PELITE/PSAMMOPELITE WITH CALC-SILICATE LENSES	T5556	66.0	67.5	100	"	0.017	30	375	470	1.5	x	8	7	5
				71.3-71.6 Pelitic hfls	T5557	67.5	68.0	100	"	0.125	80	710	530	4.0	50	6	11	35
				71.6-72.0 Qtz-biotite vein	T5558	68.0	69.76	100	"	0.025	40	355	120	1.5	x	6	x	177
				72.0-75.0 Psammopelite with calc-silicate lenses	T5559	69.76	72.0	100	"	<0.008	35	20	50	1.0	x	10	x	30
				Min: Py 1-2%	T5560	STD	B24 (2 90)			2.920								
				75.0-76.7 Pelite with calc-silicate patches, minor Py	T5561	72.0	73.5	100	"	0.008	60	20	35	0.5	x	6	5	39
				Bio-qtz veins	T5562	73.5	75.0	99	"	0.008	190	10	45	0.5	x	2	26	65
				76.7-78.0 Calc-silicate hfls	T5563	75.0	76.0	100	"	0.025	220	15	35	x	50	4	29	33
				77.3 Compositional layering/CA=55°	T5564	76.0	78.0	97	"	<0.008	80	15	35	0.5	x	6	12	30
				77.8 Compositional layering/CA=45°	T5565	78.0	79.5	100	"	0.017	125	10	60	0.5	x	x	15	42
				78.0-79.8 Pelite	T5566	79.5	81.0	100	"	0.008	90	20	70	1.0	x	4	54	11
				78.2 Compositional layering/CA=43°	T5567	81.0	82.0	100	"	0.008	50	40	80	1.0	x	2	x	8
				79.8-81.0 Calc-silicate hfls. Py 1%.	T5568	82.0	83.1	100	"	0.150	95	65	390	x	x	6	5	15
				81.0-83.1 Pelite														
83.1	84.4	1.3	100	QUARTZ-FELDSPAR PORPHYRY														
				83.1 Contact between porphyry and hornfels/CA=57°														
				Little evidence of baking on contact														
				83.1-84.4 Quartz-feldspar porphyry. Phenocrysts 1-4mm in size	T5569	83.1	84.4	100	"	0.017	35	85	70	0.5	x	8	x	84
				Fine-grained wavy texture.														
				Min: 83.8-84.3 - Py vein sub-parallel to core axis.														
84.4	91.3	6.9	93	PELITE/PSAMMOPELITE/QUARTZITE	T5570	84.4	85.6	95	"	<0.008	55	25	295	0.5	50	2	79	20
				84.4-87.6 Pelitic to psammopelitic with calc-silicate lenses.	T5571	85.6	86.9	95	"	0.008	125	60	220	0.5	x	2	56	52
				Microfractures containing Py and Chl.	T5572	86.9	87.6	100	"	0.017	355	25	45	0.5	x	2	14	12

10070

**GOLD FIELDS EXPLORATION PTY. LIMITED**  
**DRILL CORE LOG AND ASSAY DATA**

ULV. PRESS

PROJECT: NARRAWA

HOLE NUMBER: DG-2

Page: 095

095

INTERVAL		RECOVERY		DESCRIPTION	N.B. Au - G.F.E.L. FIRE ASSAY: 1986				ASSAY DATA REMAINDER ASSAYED BY C.R.A.: 1982									
From	To	m	%		Sample No	From	To	Rec. %	Sample Type C.R.A. Pump Cut Core	Au	Cu	Pb	Zn	Ag	As	Mo	W	Sn
				Min: Py 1-2% varying up to 5%	T5573	87.6	88.5	92	"	<0.008	35	110	20	x	x	x	x	x
				87.6-91.3 Quartzite	T5574	88.5	89.75	100	"	0.008	350	60	60	0.5	100	x	21	80
				Min: Dendritic Py 2-3%	T5575	89.75	91.3	84	"	<0.008	30	30	30	0.5	100	2	13	8
91.3	104.8	13.5	100	<b>MIXED CALC-SILICATE AND PELITIC HORNFELS</b>														
				91.3-104.8 Mixed patterns of brown (biotite-bearing), dark green (amph-bearing) and pale green (pyroxene-bearing) zones representing mixed calc-silicate and pelitic hfls, possibly original marls	T5576	91.3	93.0	100	"	0.017	55	35	60	1.0	150	x	x	41
				98.6 Compositional layering/CA=82°	T5577	93.0	94.5	97	"	0.633	50	35	75	1.0	50	x	6	58
				100.5 Compositional layering/CA=77°	T5578	94.5	96.0	100	"	0.092	20	35	90	0.5	100	x	x	32
					T5579	96.0	97.5	100	"	0.017	20	25	75	0.5	150	x	x	54
104.8	113.5	8.7	94	<b>PLITE/PSAMMOPELITE/CALC-SILICATE HORNFELS WITH MINOR QUARTZITE</b>	T5580	97.5	99.0	100	"	0.375	25	45	85	1.5	200	x	x	129
				104.8-106.5 Biotite hfls with cordierite in more pelitic layers	T5581	STD												
				104.9: Layering/CA=81°	T5582	99.0	100.5	100	"	0.017	30	40	65	0.5	150	12	323	71
				105.7-107.0 Shearing along layers	T5583	100.5	12.0	100	"	0.058	65	60	90	0.5	x	8	9	100
				106.5-107.0 Calc-silicate unit	T5584	102.0	103.5	100	"	0.040	105	70	65	0.5	350	4	18	81
				107.0-108.0 Psammopelite	T5585	103.5	105.0	100	"	0.032	20	40	55	0.5	650	12	8	25
				108.0-113.5 Impure qtzite to psammopelite														
				E.O.H.	T5586	105.0	105.7	94	"	0.017	25	15	30	1.0	150	16	x	x
					T5587	105.7	106.55	88	"	<0.008	10	20	15	0.5	150	2	5	5
					T5588	106.55	108.0	100	"	0.017	65	25	30	0.5	50	70	120	35
					T5589	108.0	109.5	93	"	0.150	30	15	25	x	100	14	7	x
					T5590	109.5	111.0	93	"	0.100	45	25	30	x	150	8	x	6
					T5591	111.0	113.2	92	"	0.017	35	20	160	x	200	10	5	9

095



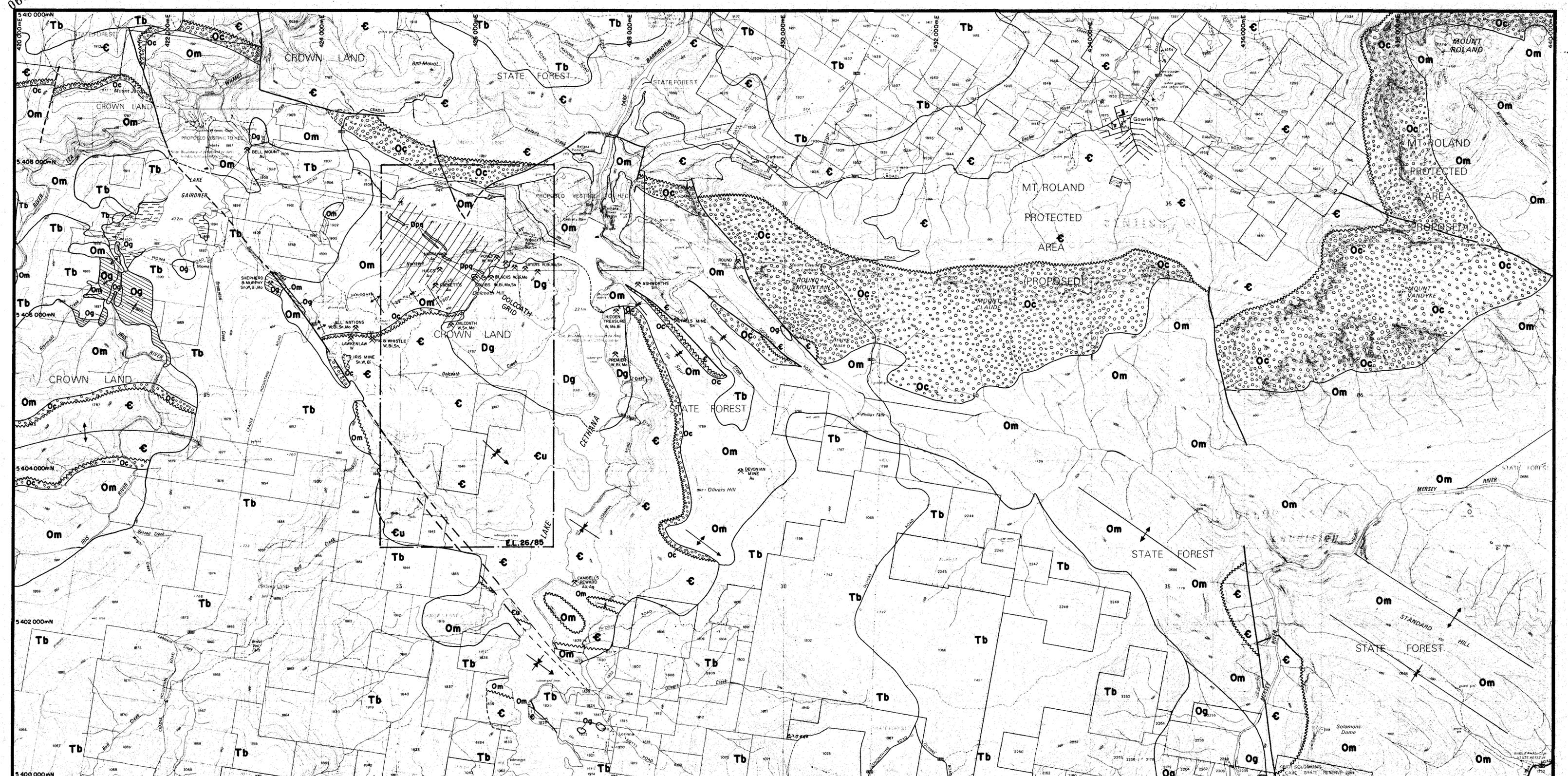
APPENDIX V

BUDGET 1986/87

067

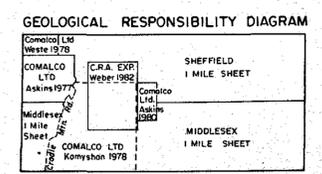
APPENDIX VG.F.E.L. BUDGET FOR THE REMAINING PART OF THE1986/87 FINANCIAL YEAR

<u>Item</u>	<u>\$</u>
Salaries, Wages and On-Costs	30,000
Travel and Accommodation	500
Consultants and Contractors	21,000
Sample Preparation and Assays	15,000
Drilling	27,000
Stores	1,000
Vehicle/Plant Hire	3,000
Tenement Costs	5,000
Computing	1,500
Office Costs	1,000
	<hr/>
TOTAL	\$ 105,000
	<hr/>



**LEGEND**

<b>TERTIARY</b>	<b>ORDOVICIAN</b>	Strike & Dip	Fault
Tb Basalt, Basalt scree & Greybill	Og Gordon Limestone	Anticline	Old Mines & contained metals
<b>DEVONIAN</b>	Skarn	Syncline	Unconformity Surface
Dg Dolcoath Granite	Om Maina Sandstone	Cut Grid	Geology Contact
Dpq Quartz-porphry dykes	Owen Conglomerate Equivalents		
<b>CAMBRIAN</b>	Undifferentiated Volcanics		



GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA SHEET**  
**FACTUAL & INTERPRETIVE**  
**GEOLOGY**

5 cm

SCALE 1:25 000

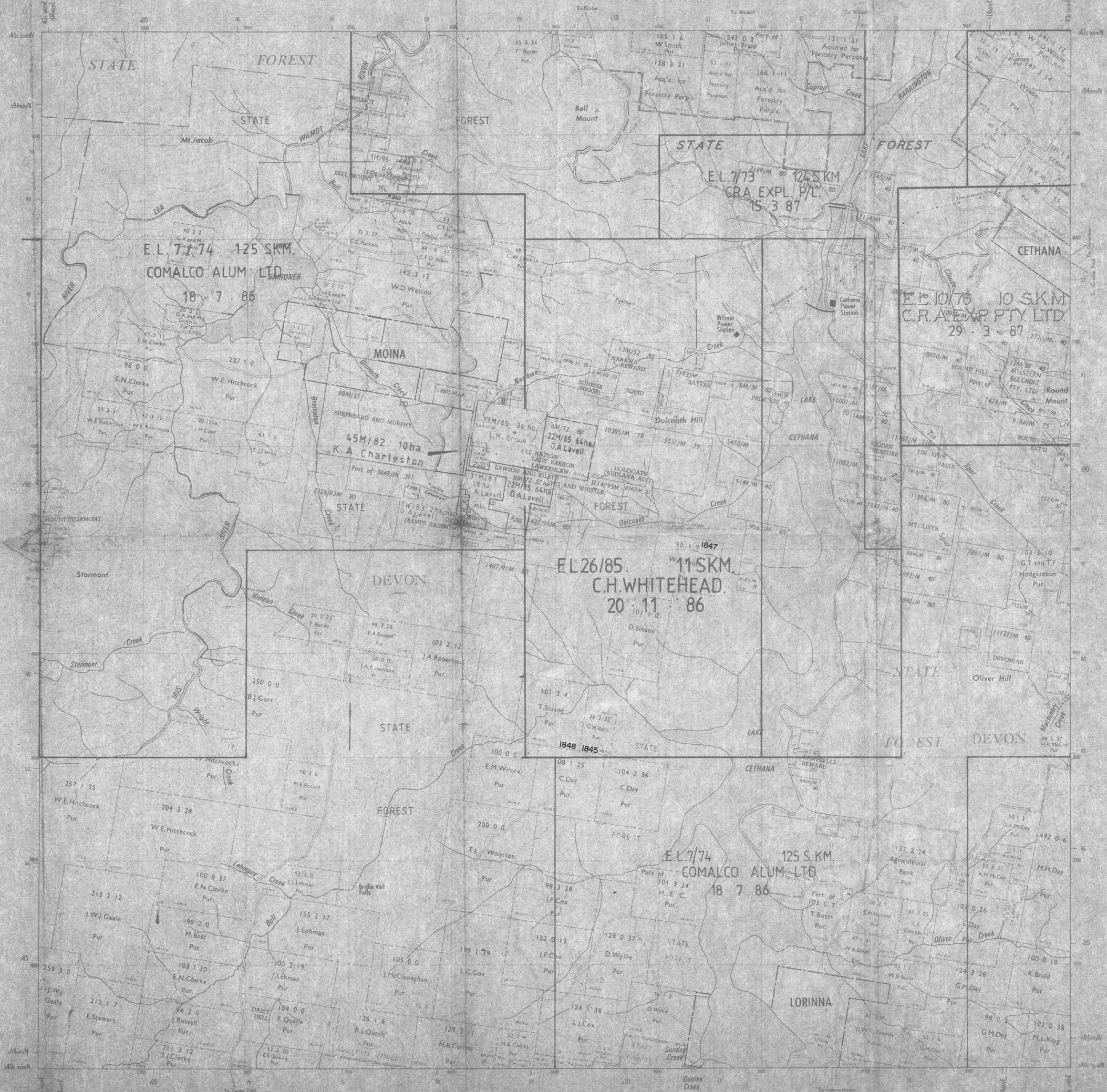
500 250 0 250 500 1000 METRES

DRAWN BY: R.R.	DATE: NOV.86
DRAFTSMAN: S.F.	REVISIONS:
FILE NO.	FIG. 2

PRODUCTION Leads Dept 1975  
 PROJECTION Transverse Mercator  
 HORIZONTAL DATUM Australian Geodetic Datum 1966  
 VERTICAL DATUM Mean Sea Level  
 COMPLETION Based on 1:50,000 Mineral Plan and the Melbourne and Mt. Cleve Mineral Charts

Road Surface  
 Vehicle Track  
 Railway or Tram  
 Abandoned Railway or Tram  
 Track  
 Embankment Cutting  
 Power Transmission Line  
 Water Race  
 Topographic Station  
 Contour  
 Stream or Marsh  
 Artificial Road  
 Waterhole  
 BOUNDARIES - Land District  
 Mineral Lease  
 Mineral Lease Subject to Survey  
 Catchment Lot  
 Town  
 State Forest  
 Mineral Lease Proclamation No 9349/M  
 Mineral Lease Area in Acres 70  
 Mineral Lease Area in Hectares 15 ha  
 Survey Area in Acres Road, Patches 75 0 0  
 Survey System Referenced  
 Map Name BARNETT  
 Land District DORSET

The representation of a boundary or other cartographic information on this map does not constitute evidence of its existence or location.  
 The representation of a road or track on this map is no evidence of the existence of a right of way.  
 Extended margin ticks are 1000 yard intervals within Zone 1 of the former national grid.

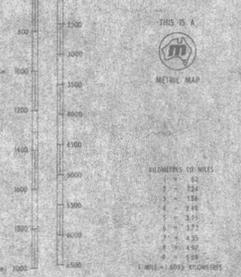


972070  
 5 cm

SCALE 1:20 000  
 Line Scale Factor K for this sheet = 99969  
 CONTOUR INTERVAL 40 METRES

CONVERSION TABLES

METRES	FEET
100	328
200	656
300	984
400	1312
500	1640
600	1968
700	2296
800	2624
900	2952
1000	3280
1100	3608
1200	3936
1300	4264
1400	4592
1500	4920
1600	5248
1700	5576
1800	5904
1900	6232
2000	6560
2100	6888
2200	7216
2300	7544
2400	7872
2500	8200
2600	8528
2700	8856
2800	9184
2900	9512
3000	9840
3100	10168
3200	10496
3300	10824
3400	11152
3500	11480
3600	11808
3700	12136
3800	12464
3900	12792
4000	13120
4100	13448
4200	13776
4300	14104
4400	14432
4500	14760
4600	15088
4700	15416
4800	15744
4900	16072
5000	16400
5100	16728
5200	17056
5300	17384
5400	17712
5500	18040
5600	18368
5700	18696
5800	19024
5900	19352
6000	19680
6100	19992
6200	20304
6300	20616
6400	20928
6500	21240
6600	21552
6700	21864
6800	22176
6900	22488
7000	22800
7100	23112
7200	23424
7300	23736
7400	24048
7500	24360
7600	24672
7700	24984
7800	25296
7900	25608
8000	25920
8100	26232
8200	26544
8300	26856
8400	27168
8500	27480
8600	27792
8700	28104
8800	28416
8900	28728
9000	29040
9100	29352
9200	29664
9300	29976
9400	30288
9500	30600
9600	30912
9700	31224
9800	31536
9900	31848
10000	32160

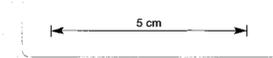
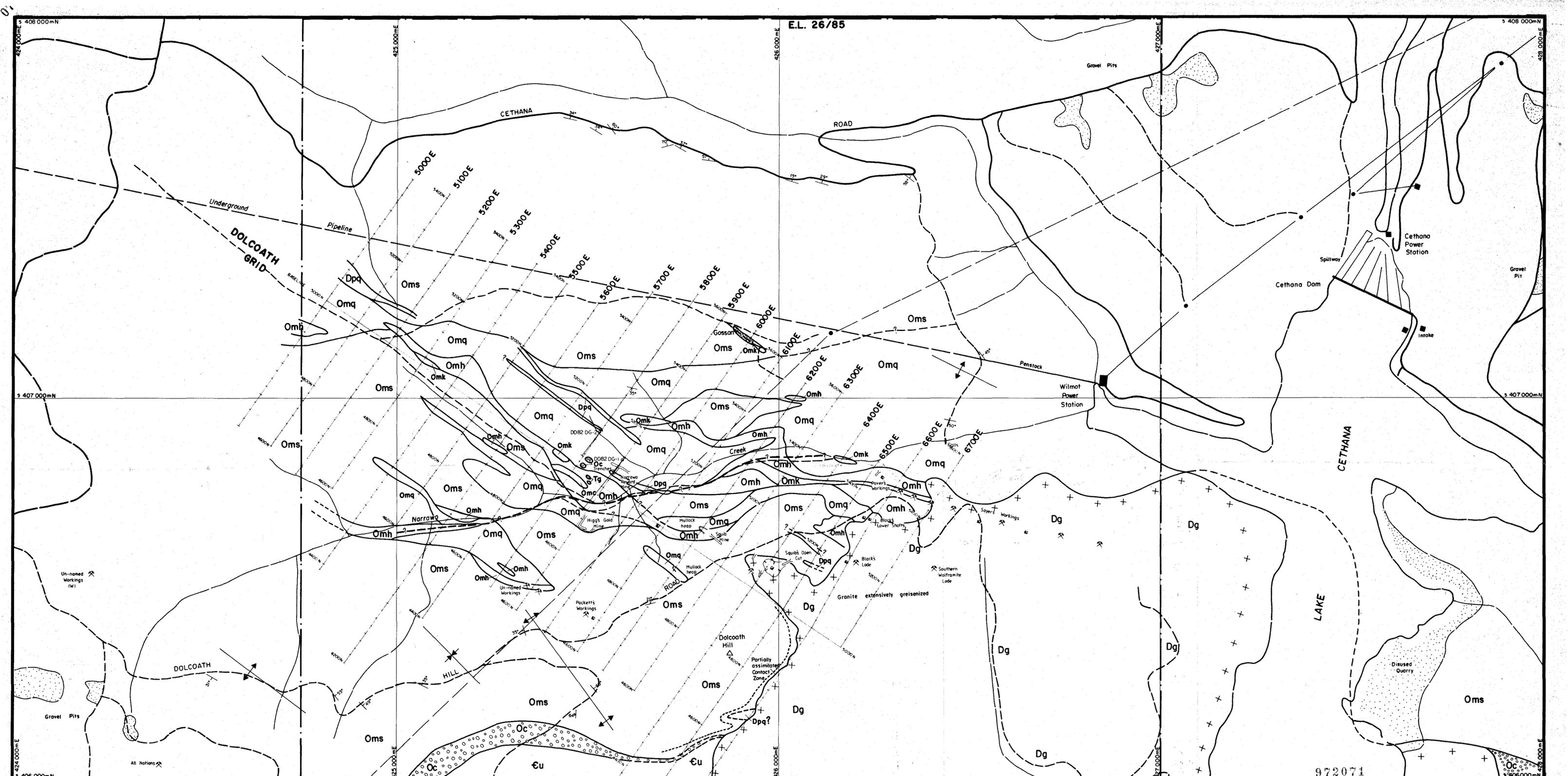


MINES DRAFTING ROOM  
 Up to date as at  
 7 07 84  
 for Mining Information only

LOCATION DIAGRAM

FIG. 3  
 INDEX TO ADJOINING SHEETS

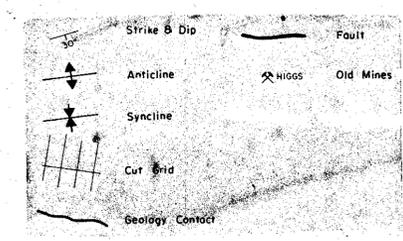
4141	4241	4341
4140	4240	4340
4139	4239	4339



- TERTIARY**
- Tbv** Tertiary Basalt
  - Tg** Tertiary Greybilly
- Gossan Zone**

- ORDOVICIAN**
- Oms** Predominantly sandstone with some argillaceous zones. Can contain worm casts (tubular sandstone). Pyritic
  - Omq** Quartzite - contact metamorphosed (? silicified). Hard & well fractured. Pyritic
  - Omh** Pelitic to psammopelitic hornfels. Varies from impure quartzite to cordierite-bearing pelite
  - Omc** Calc-silicate zones. Varies from calc-silicate lenses within more siliceous and pelitic hornfels to predominantly calc-silicate
  - Omk** Skarn. Dark green banded hedenbergite, actinolite, diopside skarns. Can contain significant pyrrhotite & magnetite

- INTRUSIVES**
- DEVONIAN**
- Dg** Dolcoath Granite: Devonian Granite. Equigranular, often highly greisenised
  - Dpq** Quartz Porphyry dykes
- CAMBRIAN**
- Cu** Undifferentiated



INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

972071

GOLD FIELDS EXPLORATION PTY. LIMITED

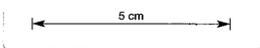
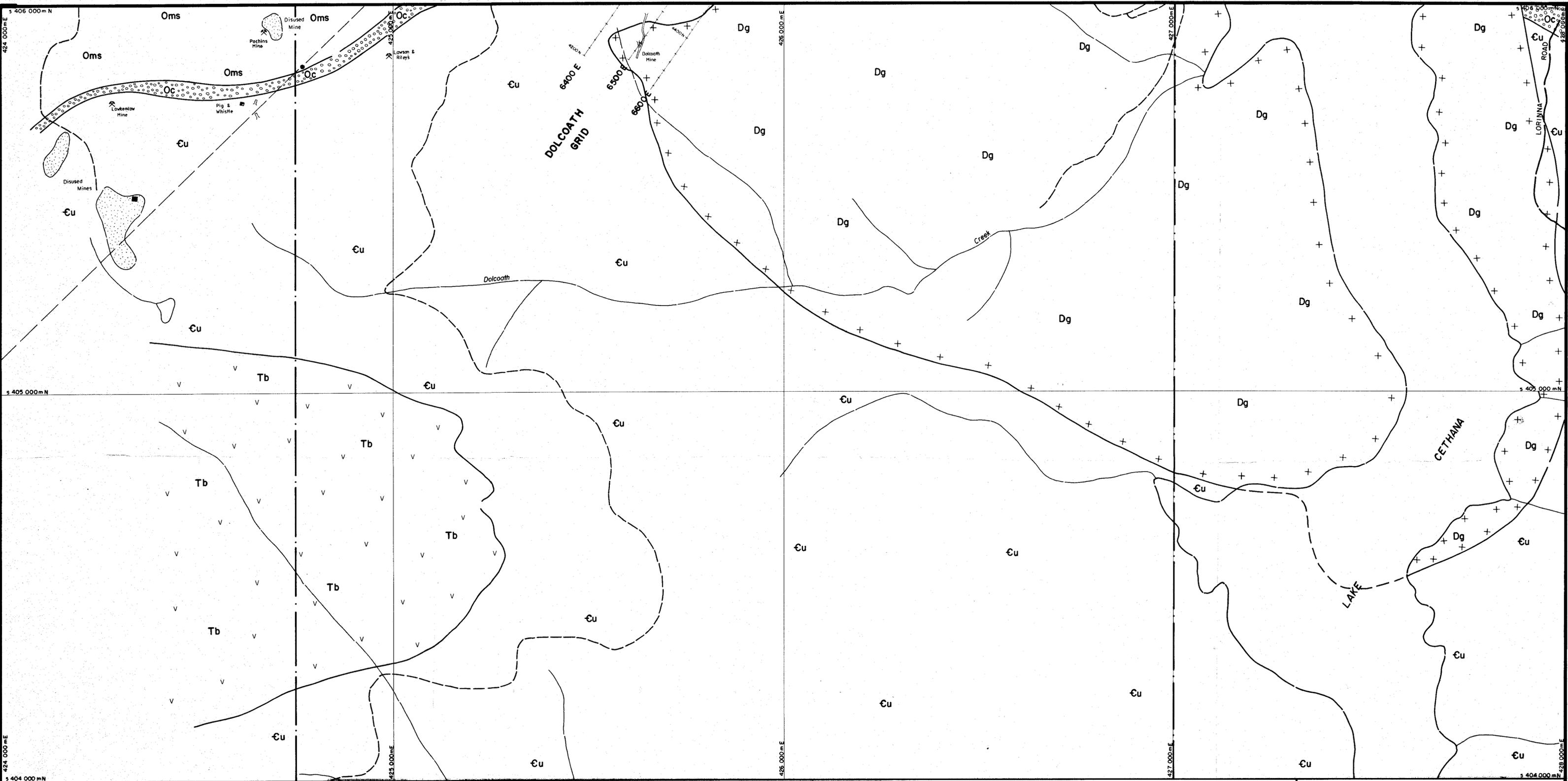
**CETHANA MOINA AREA - EL 26/85**

**FACTUAL & INTERPRETIVE GEOLOGY**

SCALE 1:5000

100 50 0 100 200 METRES

DRAWN BY C.R.A.  
DRAFTSMAN: S.F.  
DATE: NOV. 86  
REVISIONS:  
FILE NO.  
FIG. 4



**TERTIARY**

Tb	Tertiary Basalt
Tg	Tertiary Greyblity
Gz	Gossan Zone

**ORDOVICIAN**

Oms	Predominantly sandstone with some argillaceous zones. Can contain worm casts (tubicolular sandstone). Pyritic
Omq	Quartzite - contact metamorphosed (? silicified). Hard & well fractured. Pyritic
Omh	Pelitic to psammopelitic hornfels. Varies from impure quartzite to cordierite-bearing pelite
Omc	Calc-silicate zones. Varies from calc-silicate lenses within more siliceous and pelitic hornfels to predominantly calc-silicate
Omk	Skarn. Dark green banded hedenbergite actinolite diopside skarns. Can contain significant pyrrhotite & magnetite

**INTRUSIVES**

**DEVONIAN**

Dg	Dolcoath Granite: Devonian Granite. Equigranular, often highly greisenised
Dpq	Quartz Porphyry dykes

**CAMBRIAN**

Cu	Undifferentiated
----	------------------

	Strike & Dip		Fault
	Anticline		Old Mines
	Syncline		
	Cut Grid		
	Geology Contact		

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

GOLD FIELDS EXPLORATION PTY. LIMITED

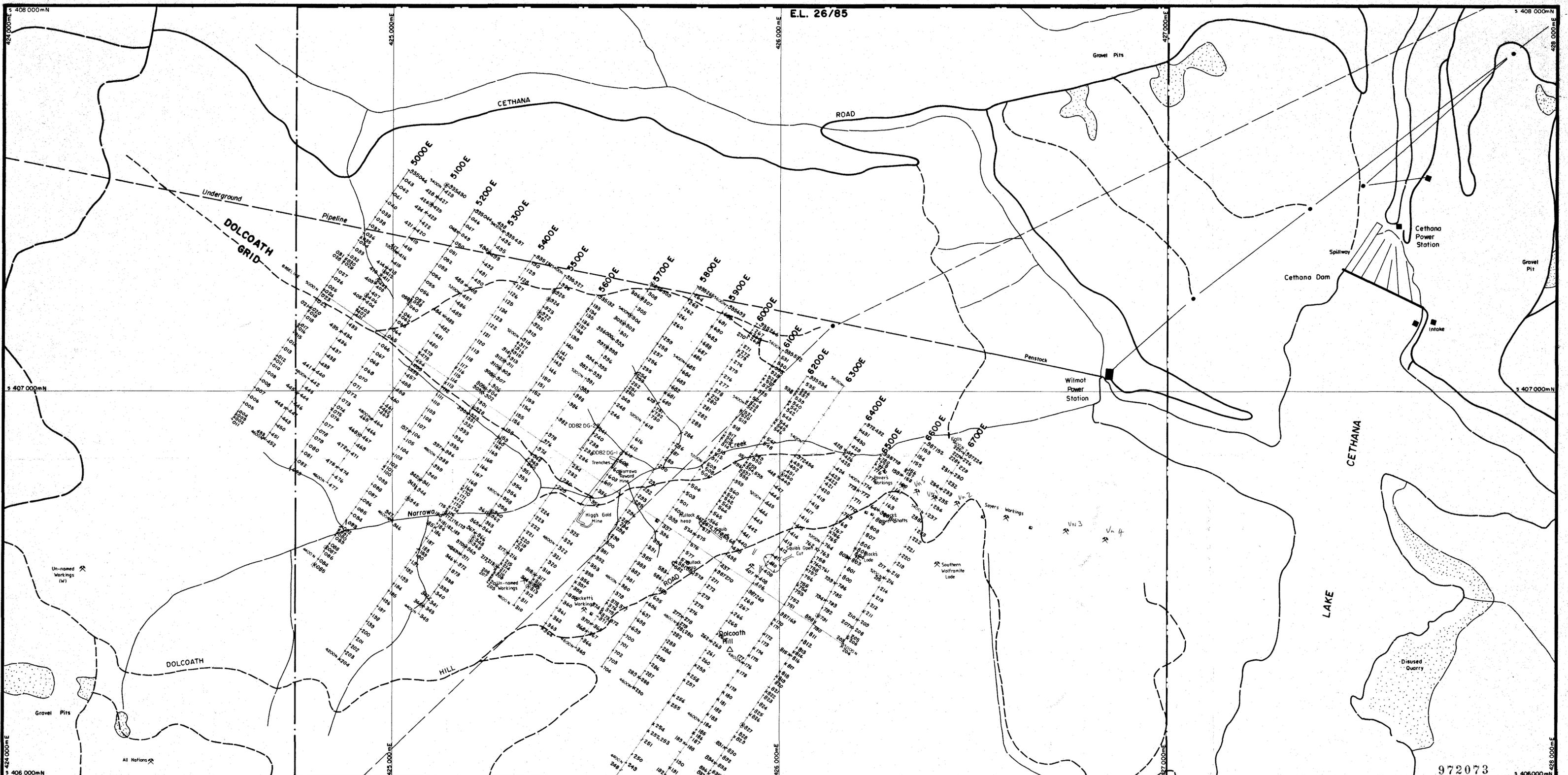
MOINA AREA - EL 26/85

**FACTUAL & INTERPRETIVE GEOLOGY**

972072

SCALE 1:5000

DRAWN BY: C.R.A.  
DRAFTSMAN: S.F.  
DATE: NOV. 86  
REVISIONS:  
FILE NO.  
FIG 5



E.L. 26/85

972073

- KEY**
- SOIL SAMPLE
  - ✕ ROCK SAMPLE (OUTCROP)
  - ✕ ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

GOLD FIELDS EXPLORATION PTY. LIMITED

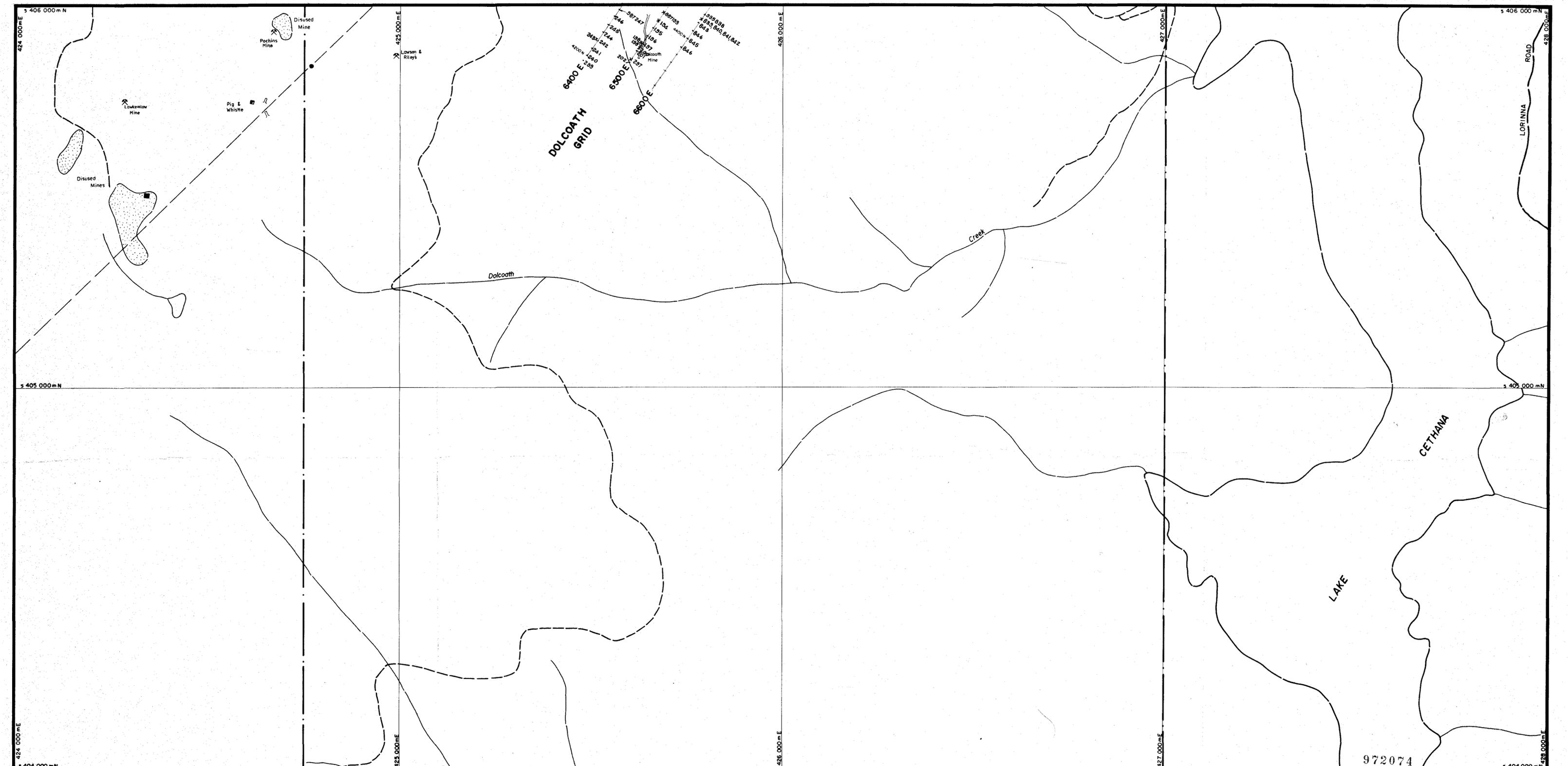
**CETHANA**  
MOINA AREA - EL 26/85  
**SAMPLE LOCATIONS**

SCALE 1:5000

5 cm

100 50 0 100 200 METRES

DRAWN BY : R.R.  
DRAFTSMAN : S.F.  
DATE : Sept. 86  
REVISIONS :  
FILE NO.  
**FIG. 6**



**KEY**  
 • SOIL SAMPLE  
 ⊠ ROCK SAMPLE (OUTCROP)  
 x ROCK SAMPLE (FLOAT)  
 / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**  
**SAMPLE LOCATIONS**

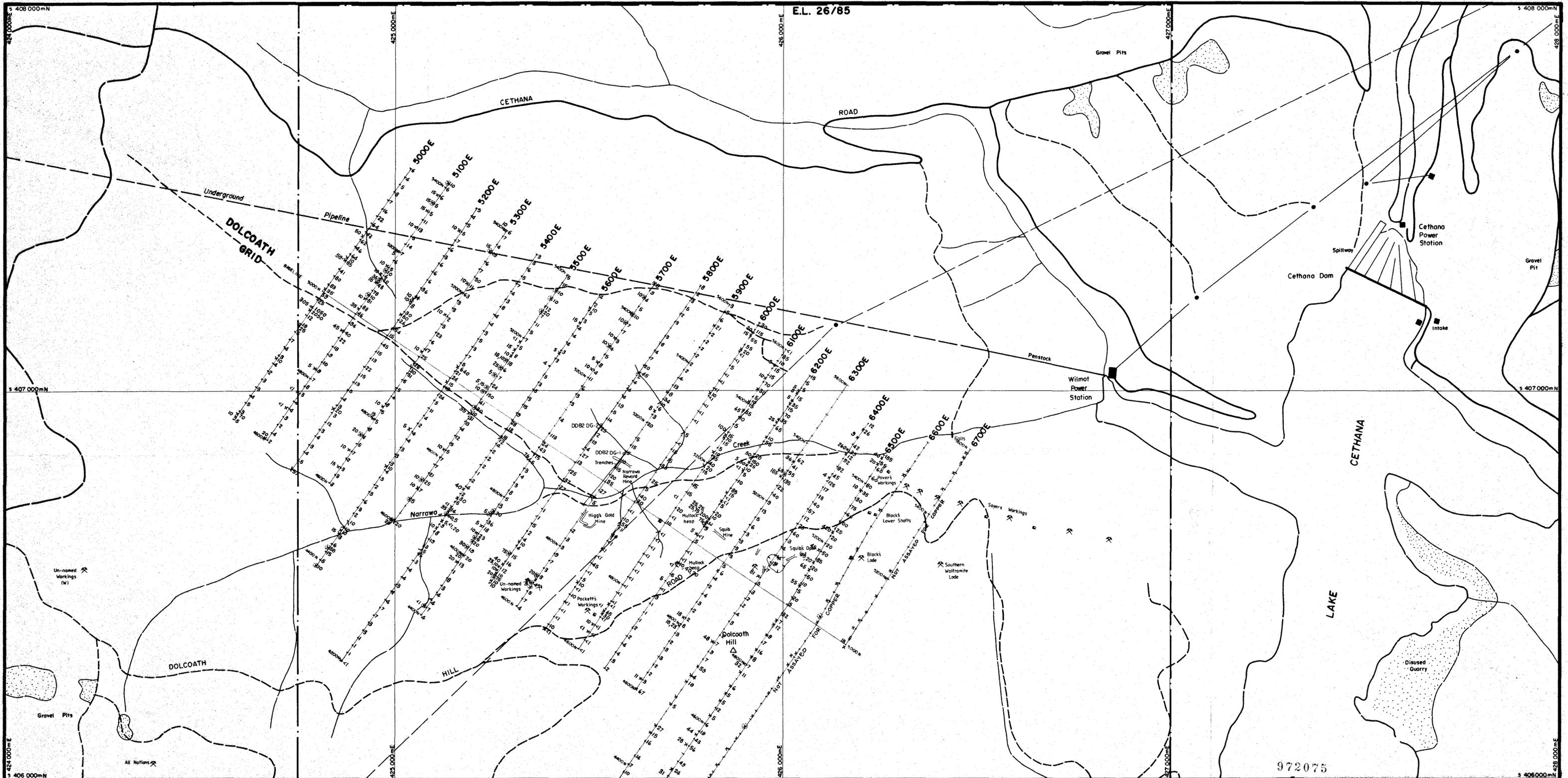
SCALE 1:5000

5 cm

100 50 0 100 200 METRES

972074

DRAWN BY : R.R.  
 DRAFTSMAN : S.F.  
 DATE : Sept, 86  
 REVISIONS :  
 FILE NO.  
**FIG 7**



**KEY**

- SOIL SAMPLE
- ✱ ROCK SAMPLE (OUTCROP)
- ✱ ROCK SAMPLE (FLOAT)
- ✱ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

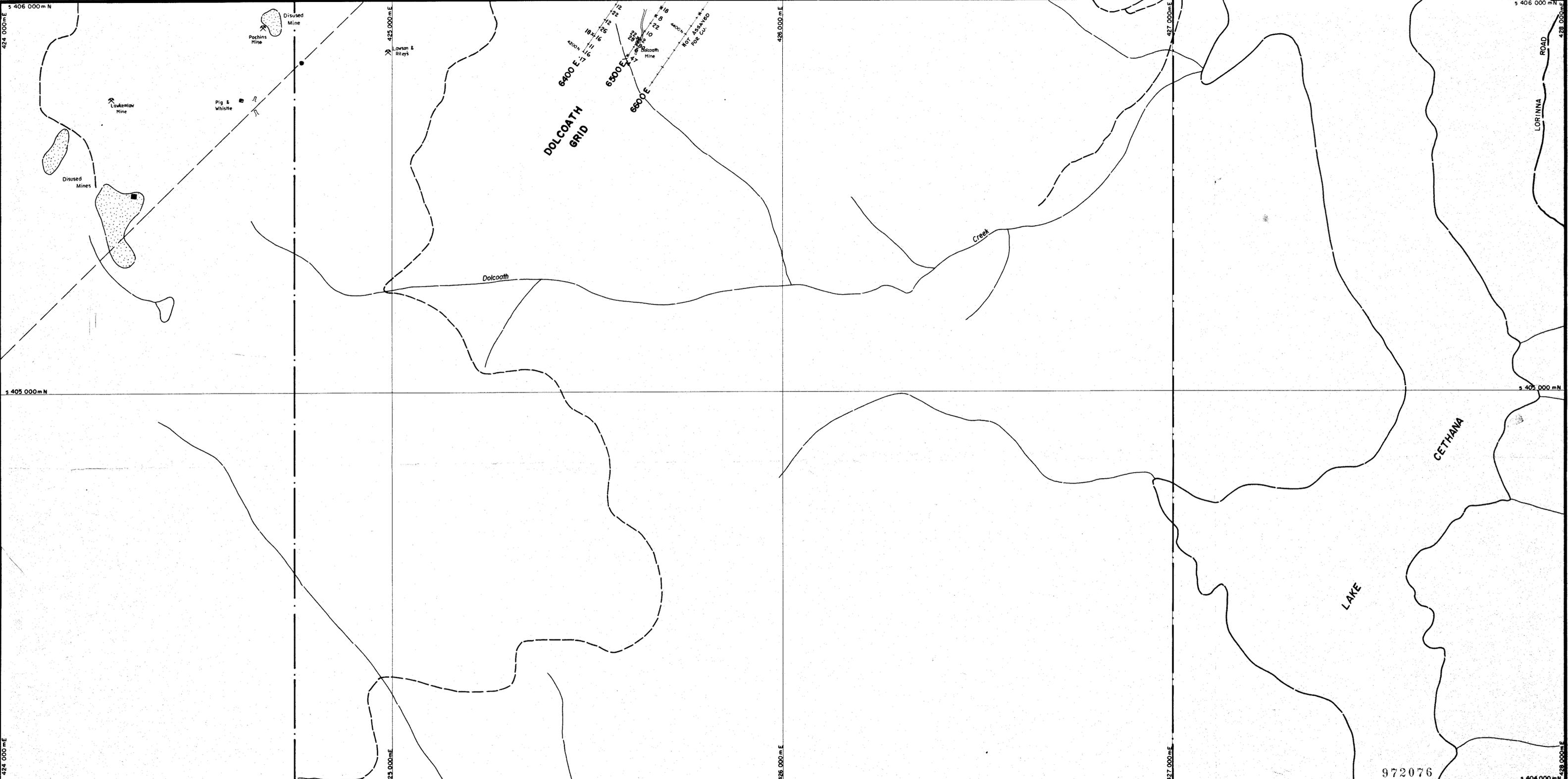
GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA**  
MOINA AREA - EL 26/85

**COPPER GEOCHEMISTRY (P.P.M)**

SCALE 1:5000

DRAWN BY : R.R.	DATE : Oct. 86
DRAFTSMAN : S.F.	REVISIONS :
FILE NO.	<b>FIG. 8</b>



972076

**KEY**

- SOIL SAMPLE
- ⊙ ROCK SAMPLE (OUTCROP)
- × ROCK SAMPLE (FLOAT)
- ∕ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**

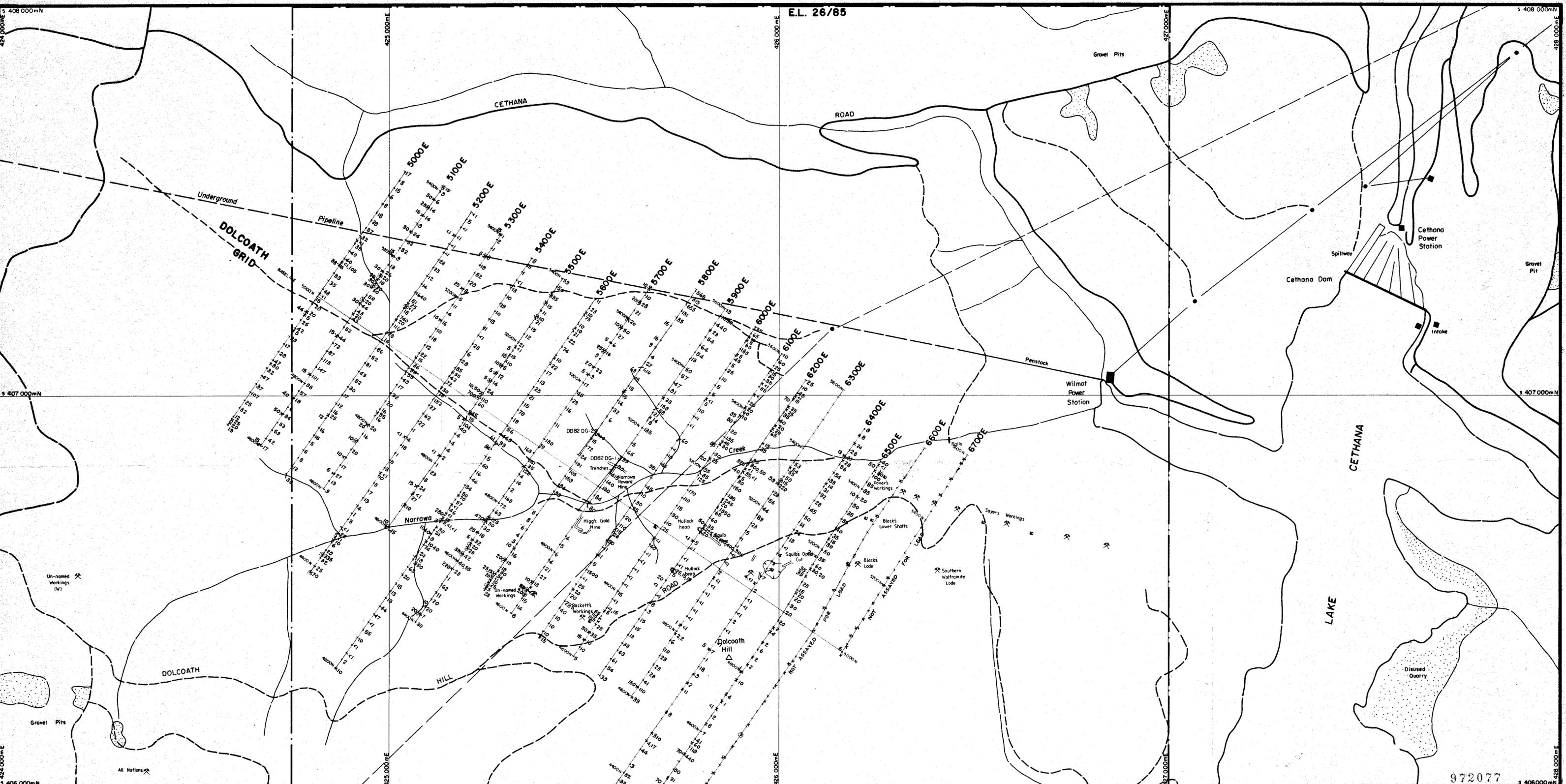
**COPPER GEOCHEMISTRY (PPM)**

SCALE 1:5000

5 cm

100 50 0 100 200 METRES

DRAWN BY: R.R.  
 DRAFTSMAN: S.F.  
 DATE: Oct. 86  
 REVISIONS:  
 FILE NO.  
**FIG 9**



E.L. 26/85

972077

- KEY**
- SOIL SAMPLE
  - \* ROCK SAMPLE (OUTCROP)
  - x ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT-SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

GOLD FIELDS EXPLORATION PTY. LIMITED

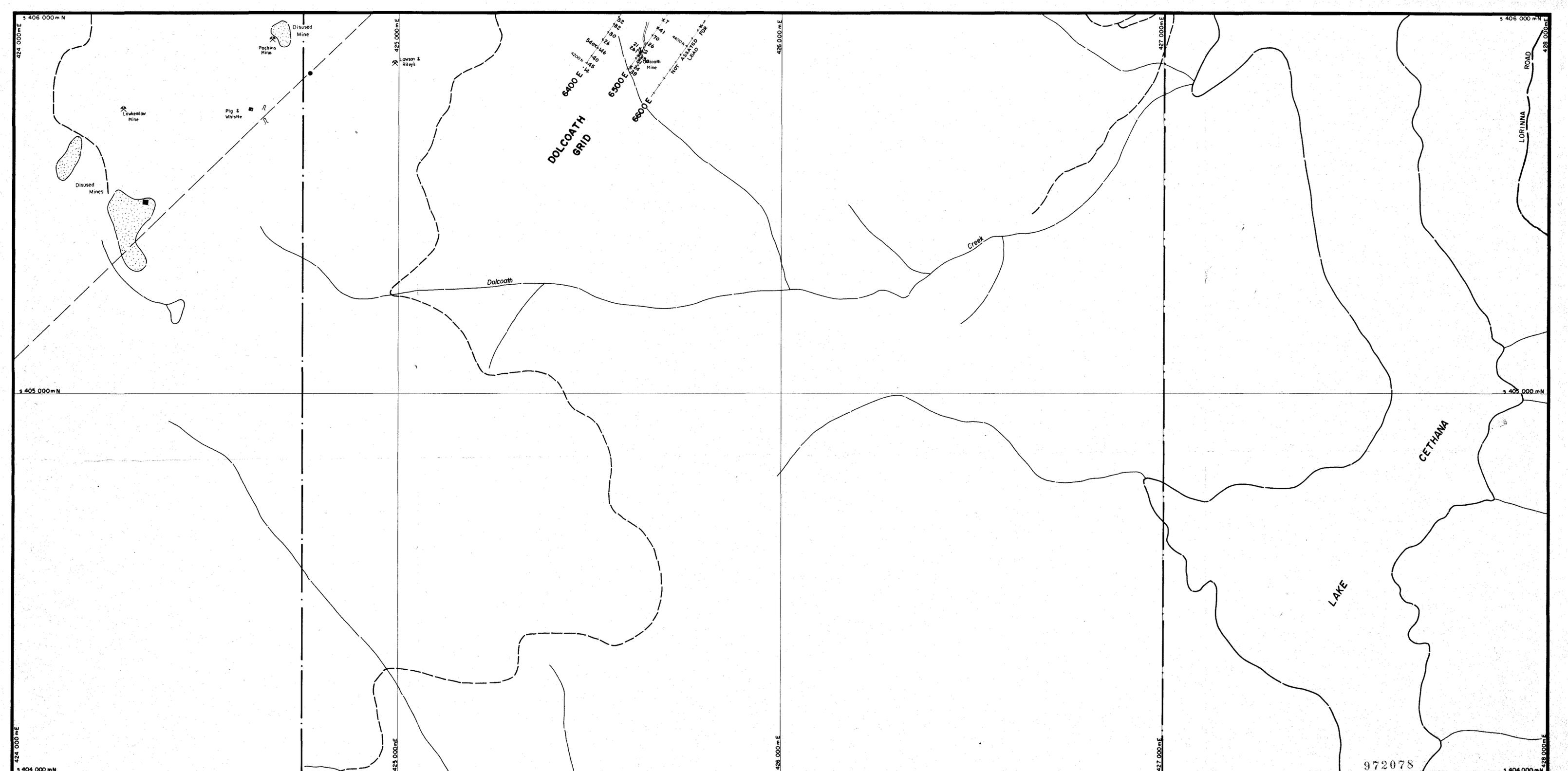
**CETHANA  
MOINA AREA - EL 26/85  
LEAD GEOCHEMISTRY  
(PPM.)**

SCALE 1:5000

5 cm

100 50 0 100 200 METRES

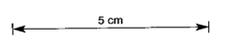
DRAWN BY: R.R.  
DRAFTSMAN: S.F.  
DATE: Oct. 86  
REVISIONS:  
FILE NO. **FIG. 10**



972078

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**  
**LEAD GEOCHEMISTRY**  
**(PPM.)**



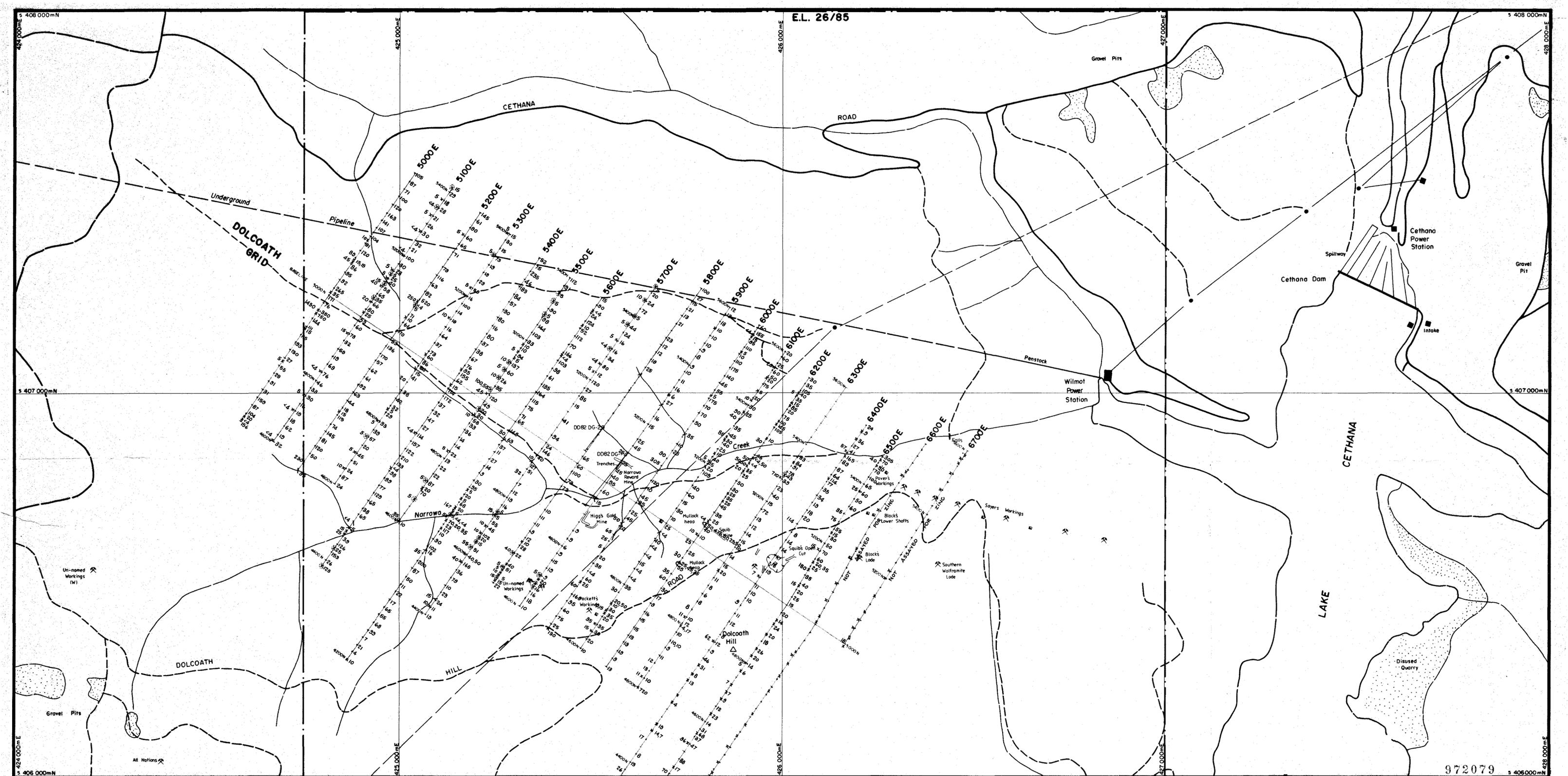
SCALE 1:5000

DRAWN BY : R.R.  
 DRAFTSMAN : S.F.  
 DATE : OCT, 86  
 REVISIONS :  
 FILE NO.  
 FIG. 11

- KEY**
- SOIL SAMPLE
  - ✕ ROCK SAMPLE (OUTCROP)
  - ✕ ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3



- KEY**
- SOIL SAMPLE
  - ✱ ROCK SAMPLE (OUTCROP)
  - ✱ ROCK SAMPLE (FLOAT)
  - ∨ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

972079

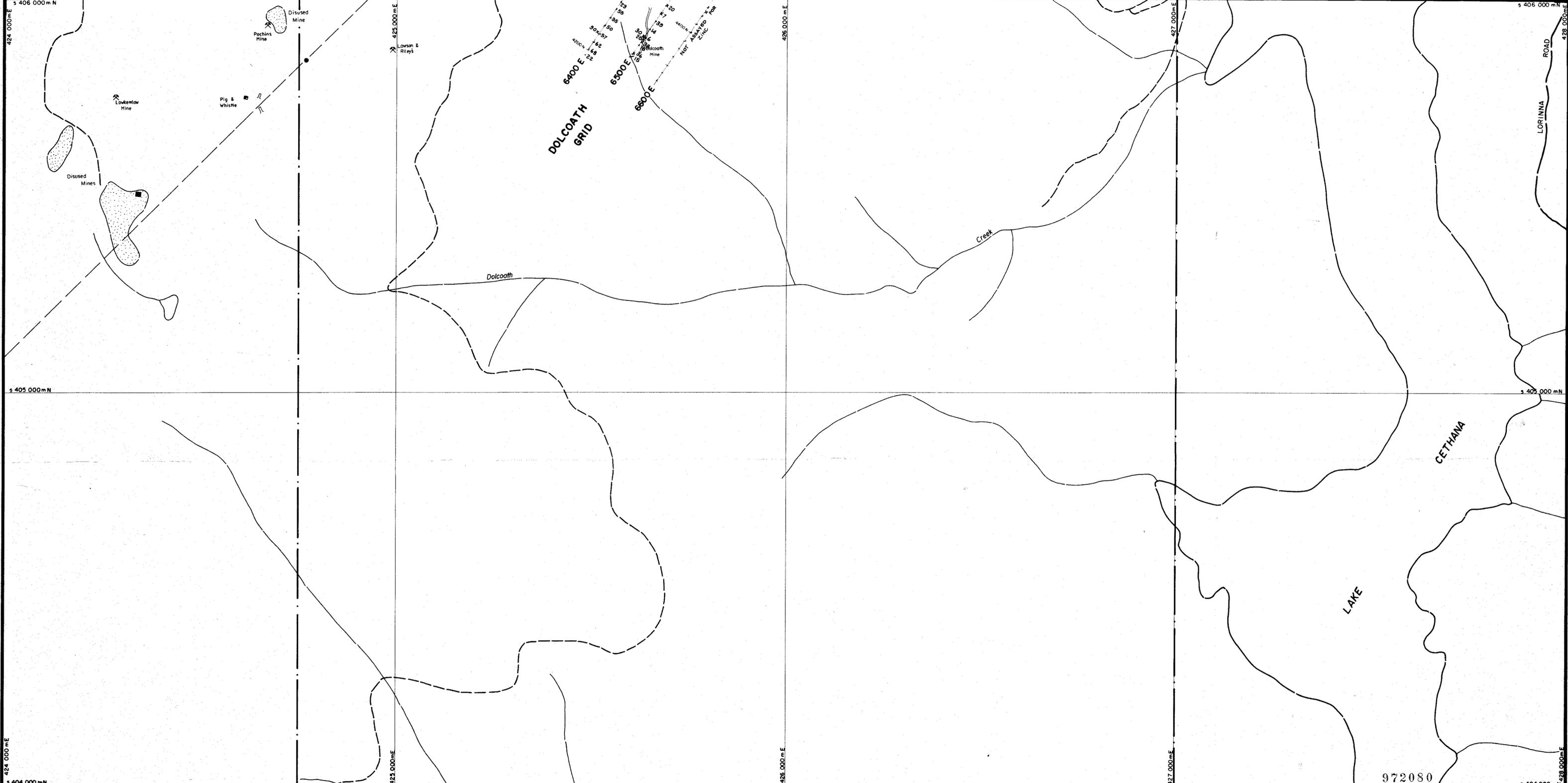
GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA**  
MOINA AREA - EL 26/85  
**ZINC GEOCHEMISTRY**  
(P.P.M.)

DRAWN BY : R.R.  
DRAFTSMAN : S.F.  
DATE : OCT.86  
REVISIONS :  
FILE NO.

5 cm

SCALE 1:5000



972080

- KEY**
- SOIL SAMPLE
  - ⊗ ROCK SAMPLE (OUTCROP)
  - × ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

GOLD FIELDS EXPLORATION PTY. LIMITED

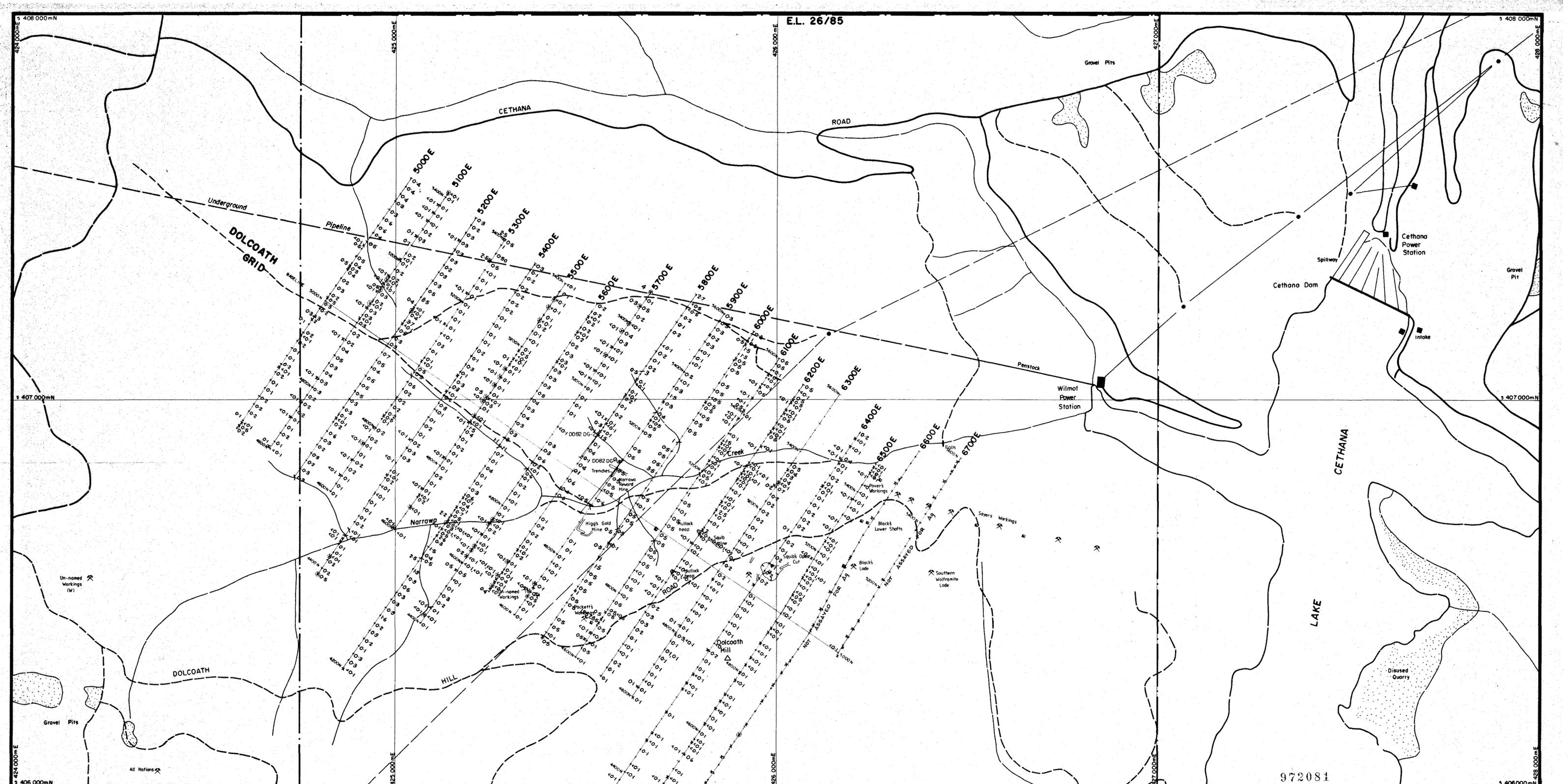
**MOINA AREA - EL 26/85**  
**ZINC GEOCHEMISTRY (P.P.M.)**

SCALE 1:5000

5 cm

100 50 0 100 200 METRES

DRAWN BY : R.R.  
 DRAFTSMAN : S.F.  
 DATE : OCT. 86  
 REVISIONS :  
 FILE NO.  
**FIG. 13**



**KEY**  
 • SOIL SAMPLE  
 X/ ROCK SAMPLE (OUTCROP)  
 \* ROCK SAMPLE (FLOAT)  
 / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

972081

GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA**  
**MOINA AREA - EL 26/85**  
**SILVER GEOCHEMISTRY**  
**(PPM.)**

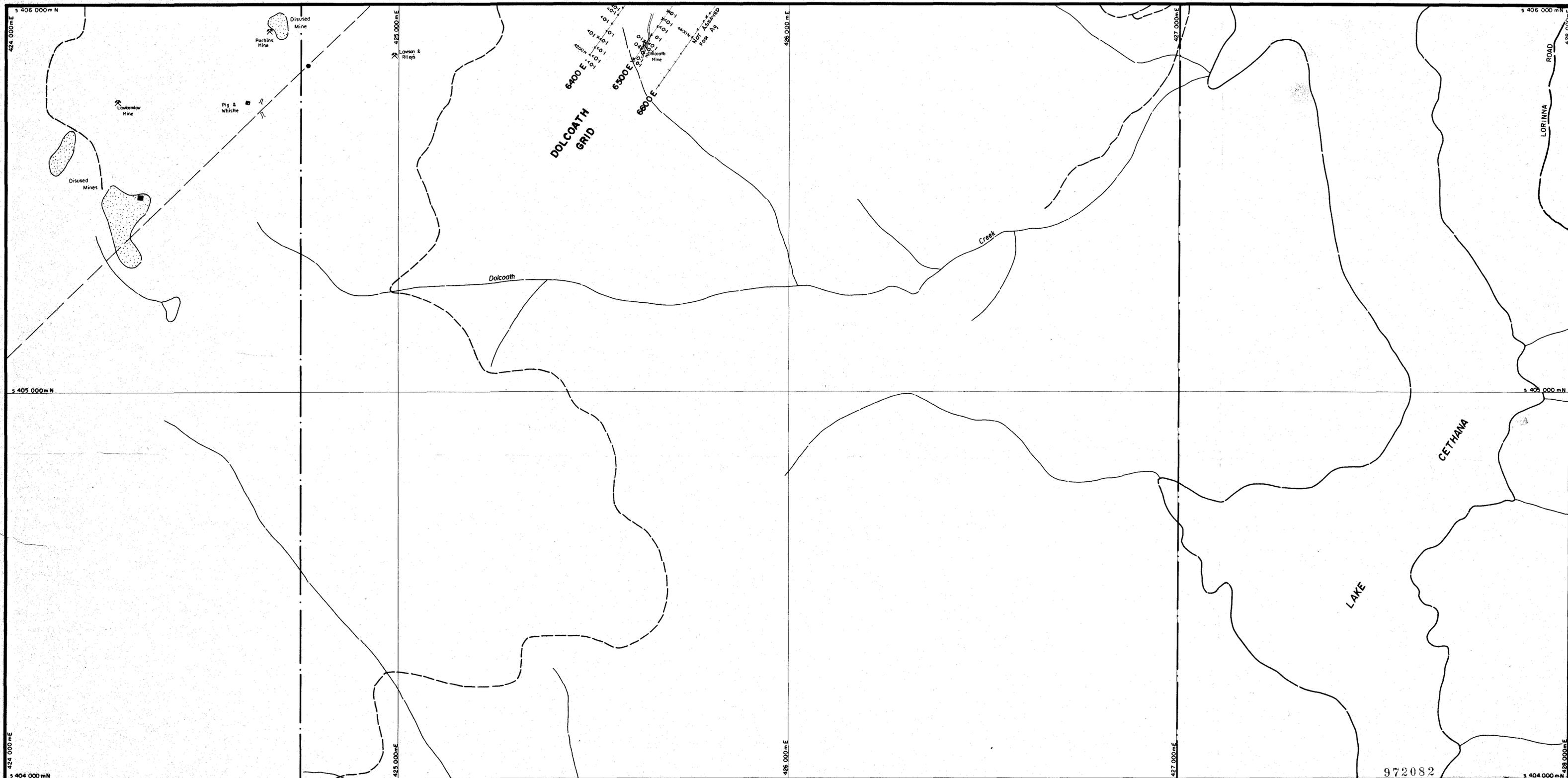
SCALE 1:5000

5 cm

0 100 200 METRES

DRAWN BY: R.R.  
 DRAFTSMAN: S.F.  
 DATE: Oct. 86  
 REVISIONS:  
 FILE NO.

FIG. 14



**KEY**

- SOIL SAMPLE
- ⊗ ROCK SAMPLE (OUTCROP)
- ⊗ ROCK SAMPLE (FLOAT)
- ▬ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**  
**SILVER GEOCHEMISTRY (PPM)**

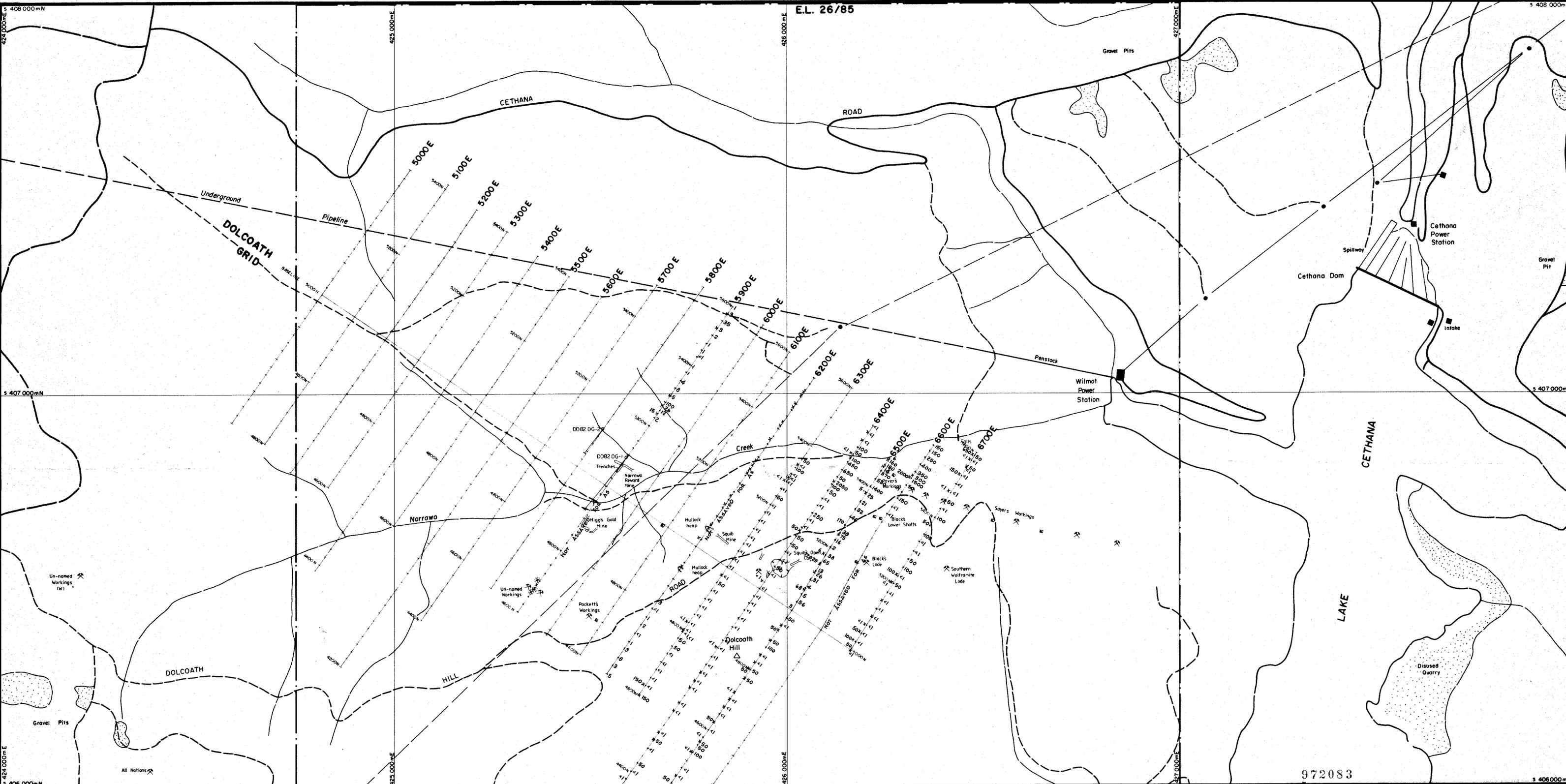
5 cm

SCALE 1:5000

100 50 0 100 200  
METRES

DRAWN BY: R.R.
DRAFTSMAN: S.F.
DATE: Oct. 85
REVISIONS:
FILE NO.

**FIG. 15**



- KEY**
- SOIL SAMPLE
  - \* ROCK SAMPLE (OUTCROP)
  - x ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

972083

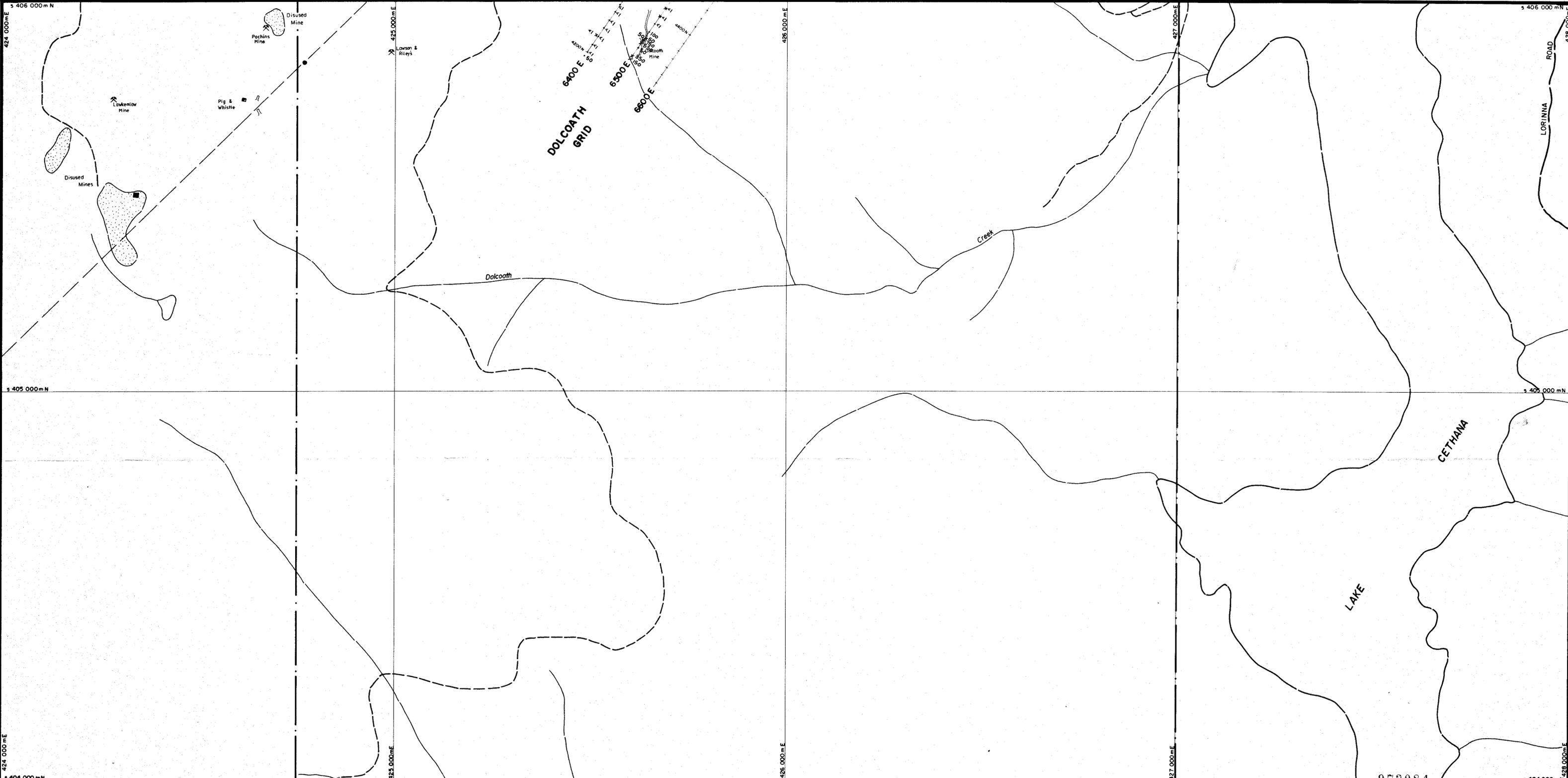
GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA  
MOINA AREA - EL 26/85  
ARSENIC GEOCHEMISTRY  
(P.P.M.)**

5 cm

SCALE 1:5000

DRAWN BY: R.R.  
DRAFTSMAN: S.F.  
DATE: OCT. 86  
REVISIONS:  
FILE NO.  
**FIG 16**



**DOLCOATH  
GRID**

6400 E  
6500 E  
6600 E

424 000 m N  
425 000 m N  
426 000 m N  
427 000 m N  
428 000 m N

424 000 m E  
425 000 m E  
426 000 m E  
427 000 m E  
428 000 m E

**KEY**

- SOIL SAMPLE
- ⊗ ROCK SAMPLE (OUTCROP)
- ✕ ROCK SAMPLE (FLOAT)
- ✓ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

972084

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**

**ARSENIC GEOCHEMISTRY (P.P.M)**

SCALE 1:5000

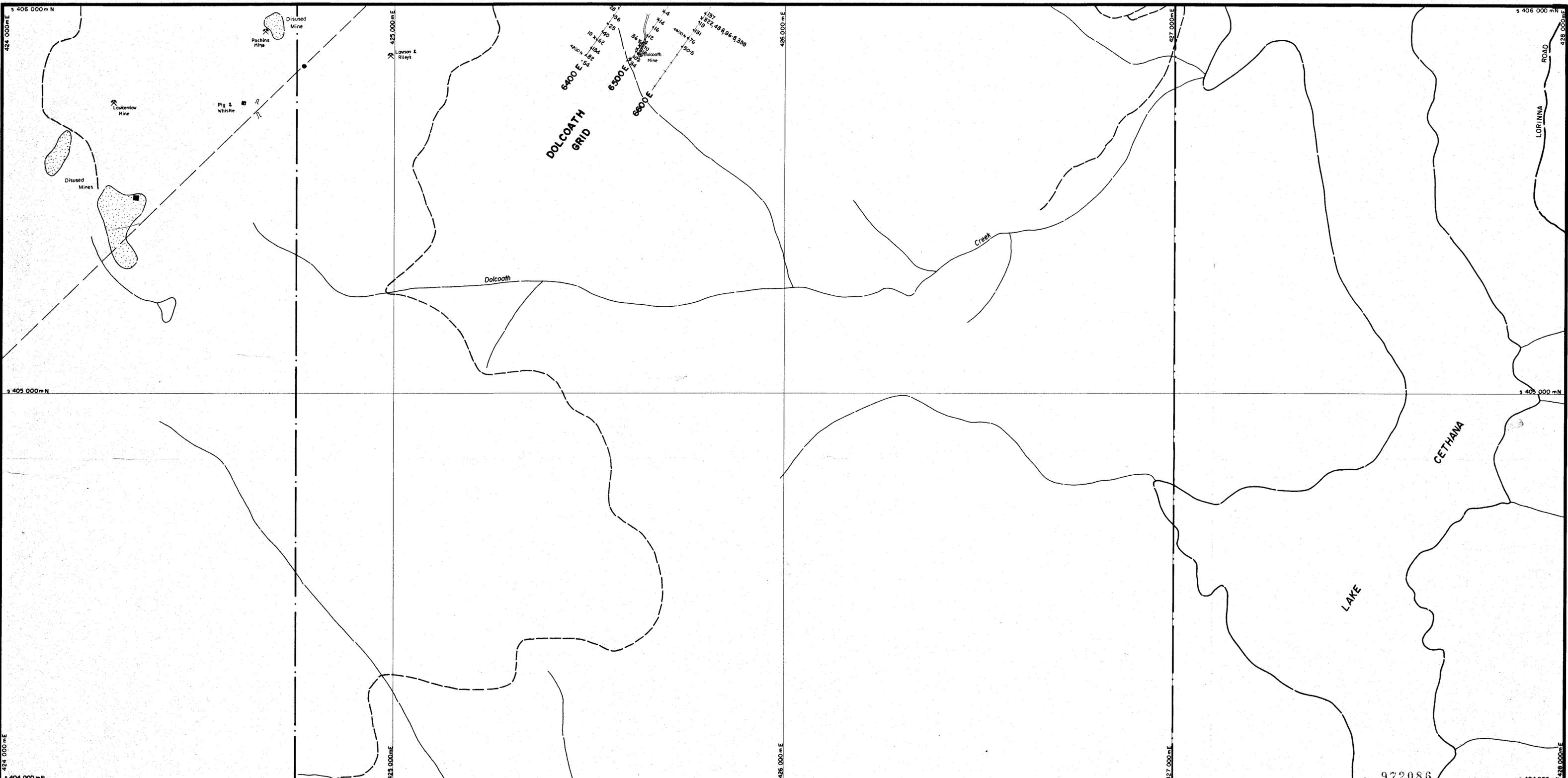
5 cm

100 50 0 50 100 200 METRES

DRAWN BY	R. R.
DRAFTSMAN	S. F.
DATE	OCT. 86
REVISIONS	
FILE NO.	

**FIG. 17**

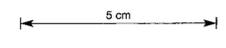




972086

GOLD FIELDS EXPLORATION PTY. LIMITED

MOINA AREA - EL 26/85  
**MOLYBDENUM GEOCHEMISTRY (P.P.M.)**



SCALE 1:5000

**KEY**

- SOIL SAMPLE
- ⊙ ROCK SAMPLE (OUTCROP)
- × ROCK SAMPLE (FLOAT)
- ✓ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

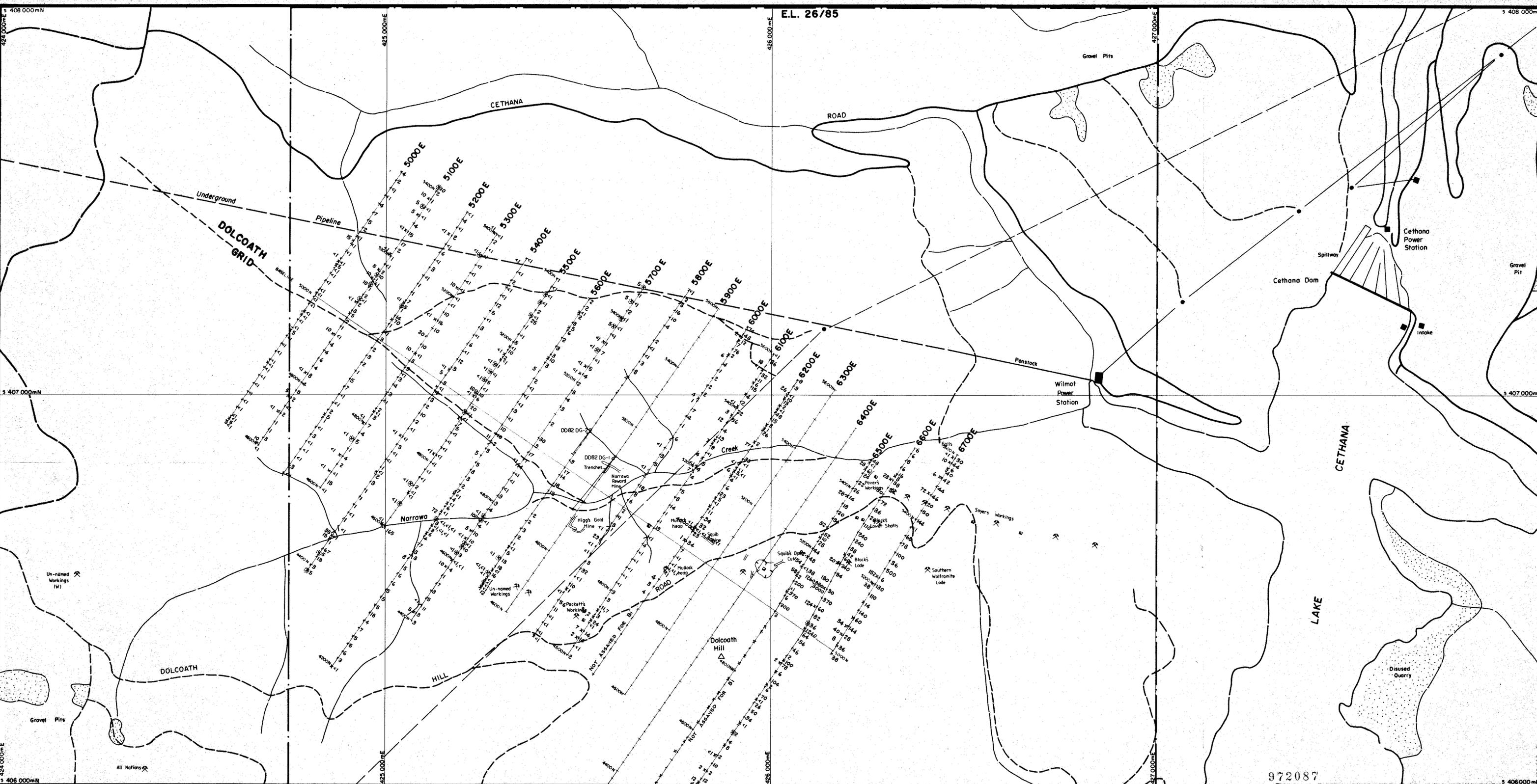
2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

DRAWN BY : R.R.  
 DRAFTSMAN : S.F.  
 DATE : Oct., 86  
 REVISIONS :  
 FILE NO.

FIG. 19

86-2609

5915



**KEY**

- SOIL SAMPLE
- ⊠ ROCK SAMPLE (OUTCROP)
- ⊡ ROCK SAMPLE (FLOAT)
- ⊣ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

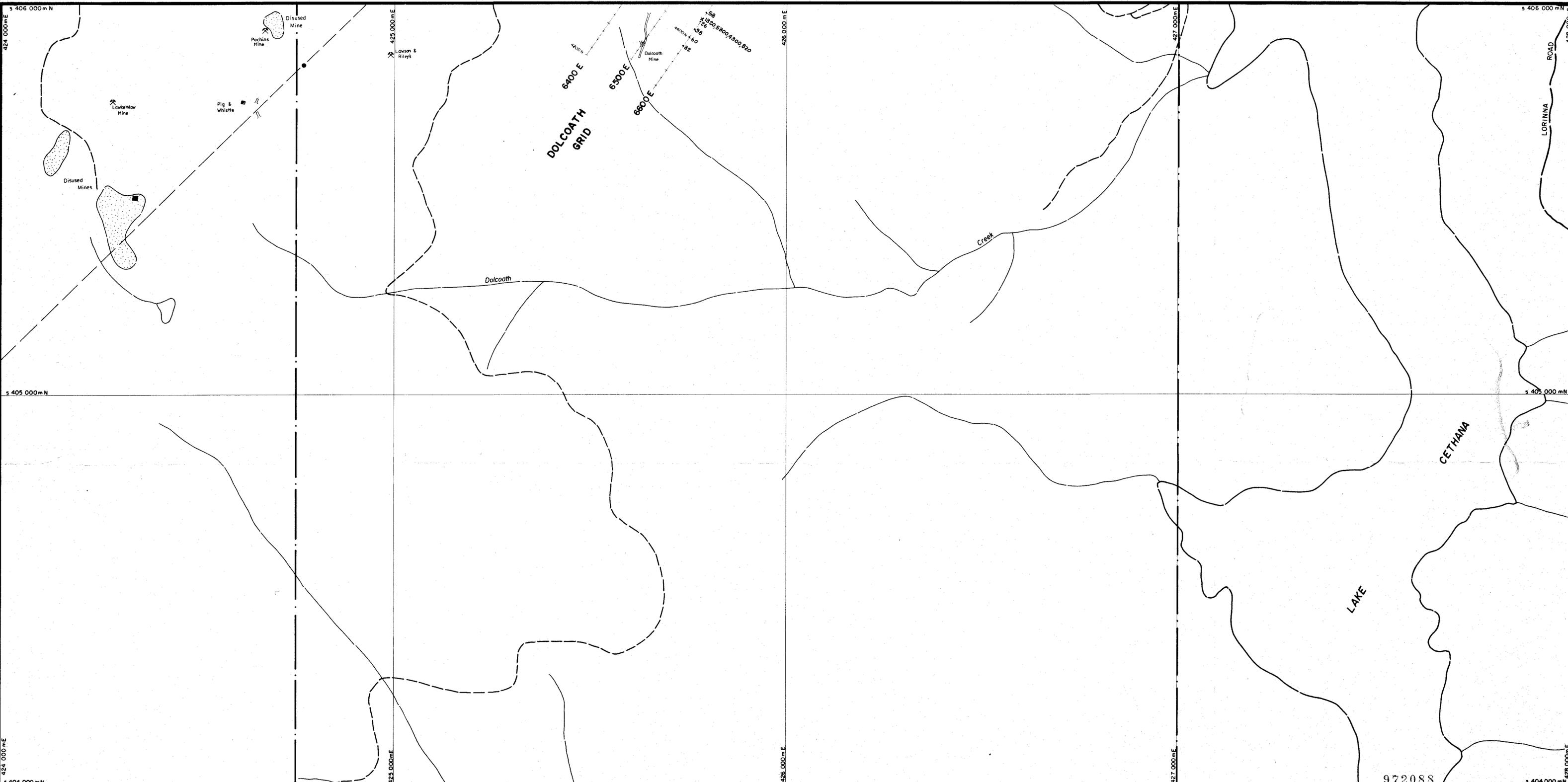
1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA  
MOINA AREA - EL 26/85  
BISMUTH GEOCHEMISTRY  
(P.P.M.)**

SCALE 1:5000

DRAWN BY: R.R.  
DRAFTSMAN: S.F.  
DATE: OCT, 85  
REVISIONS:  
FILE NO.  
**FIG 20**



- KEY**
- SOIL SAMPLE
  - \* ROCK SAMPLE (OUTCROP)
  - x ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

972088

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**  
**BISMUTH GEOCHEMISTRY**  
**(P.P.M.)**

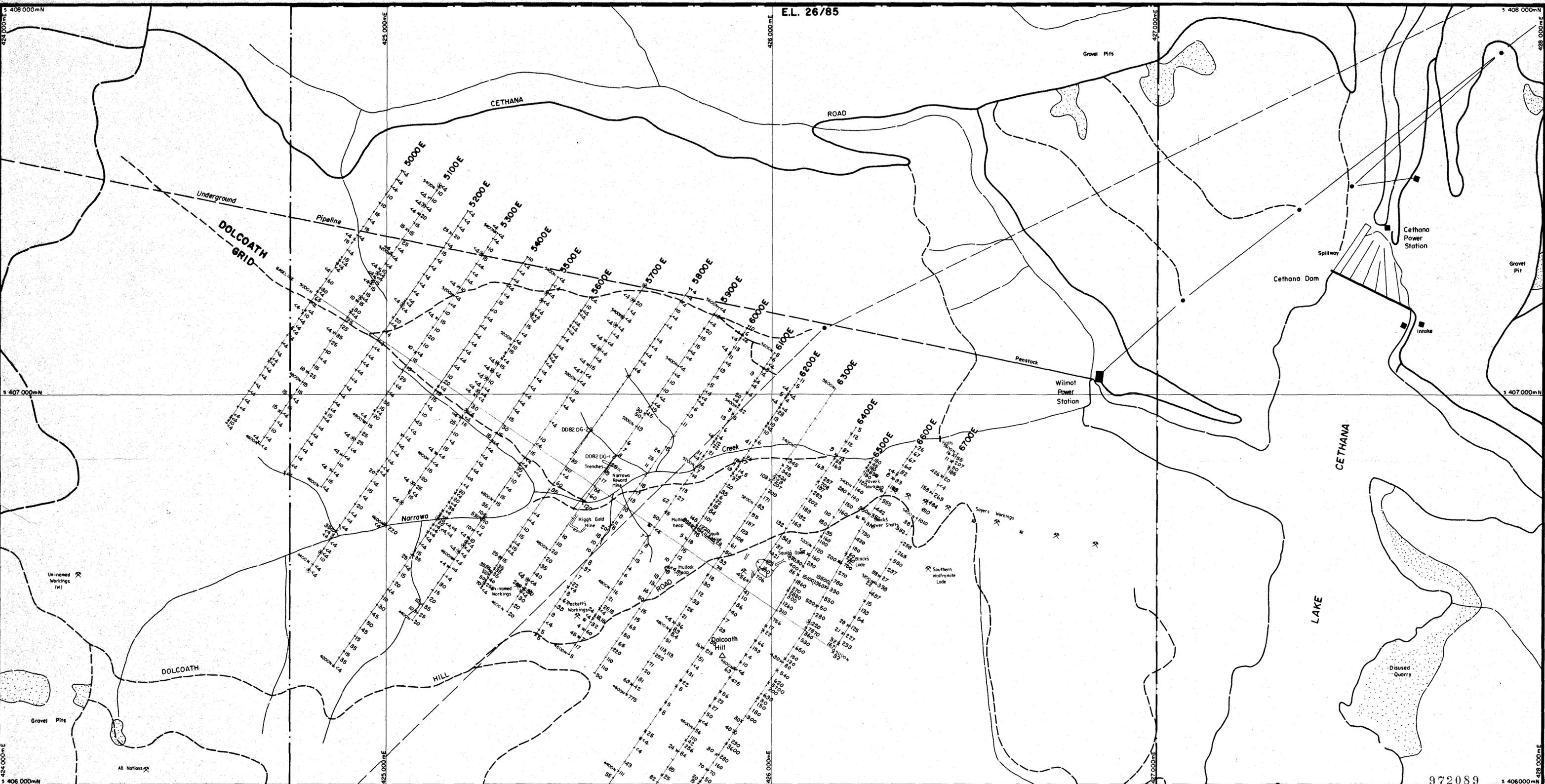
5 cm

SCALE 1:5000

100 50 0 100 200  
METRES

DRAWN BY : R.R.
DRAFTSMAN : S.F.
DATE : OCT, 86
REVISIONS :
FILE NO.

**FIG. 21**



- KEY**
- SOIL SAMPLE
  - ✕ ROCK SAMPLE (OUTCROP)
  - ✕ ROCK SAMPLE (FLOAT)
  - ∇ STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

972089

GOLD FIELDS EXPLORATION PTY. LIMITED

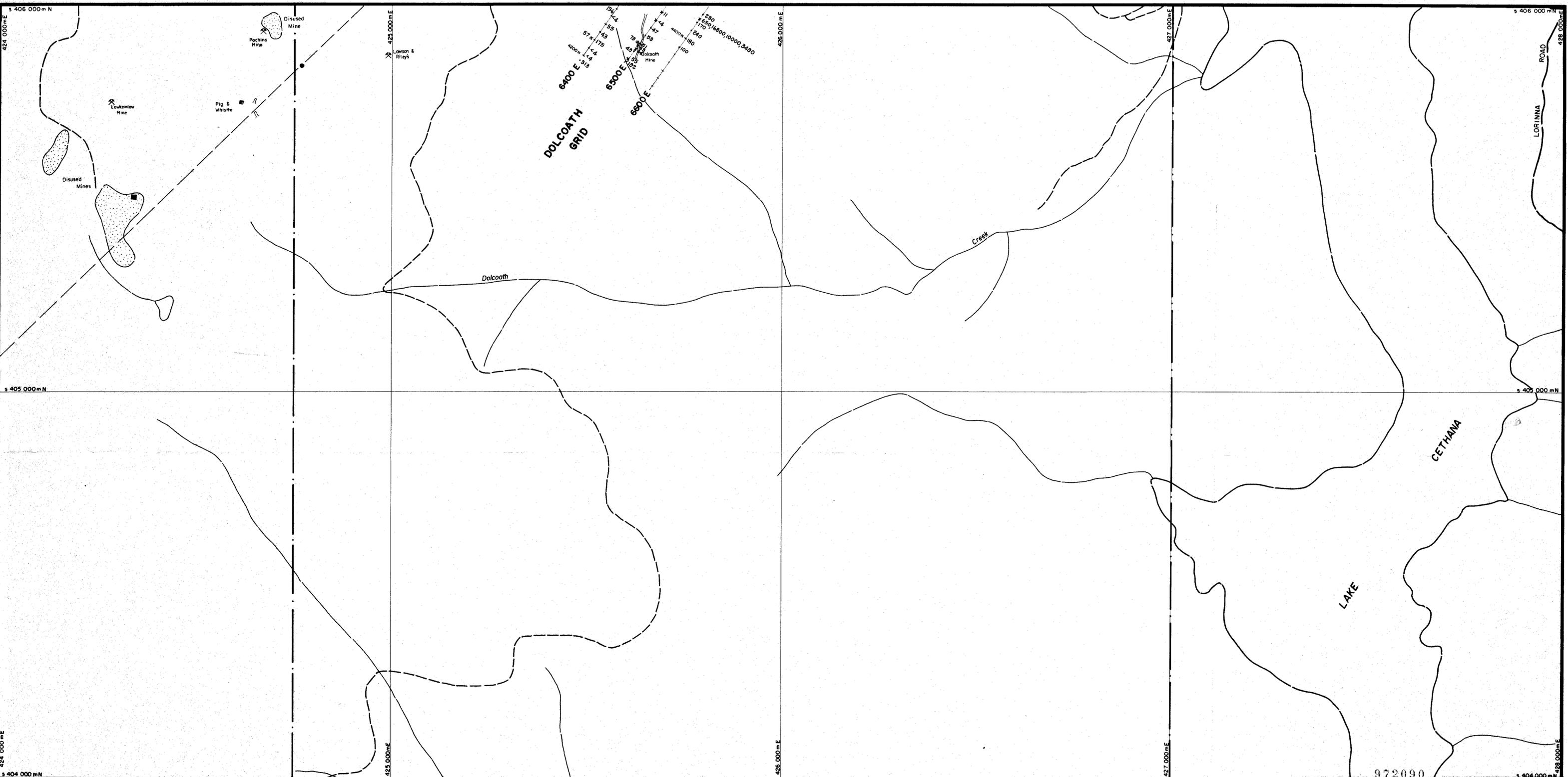
**CETHANA  
MOINA AREA - EL 26/85**

**TUNGSTUN GEOCHEMISTRY  
(PPM.)**

SCALE 1:5000

DRAWN BY: R.R.  
DRAFTSMAN: S.F.  
DATE: OCT. 86  
REVISIONS:  
FILE NO.

**FIG 22**



**KEY**

- SOIL SAMPLE
- ⊕ ROCK SAMPLE (OUTCROP)
- × ROCK SAMPLE (FLOAT)
- / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

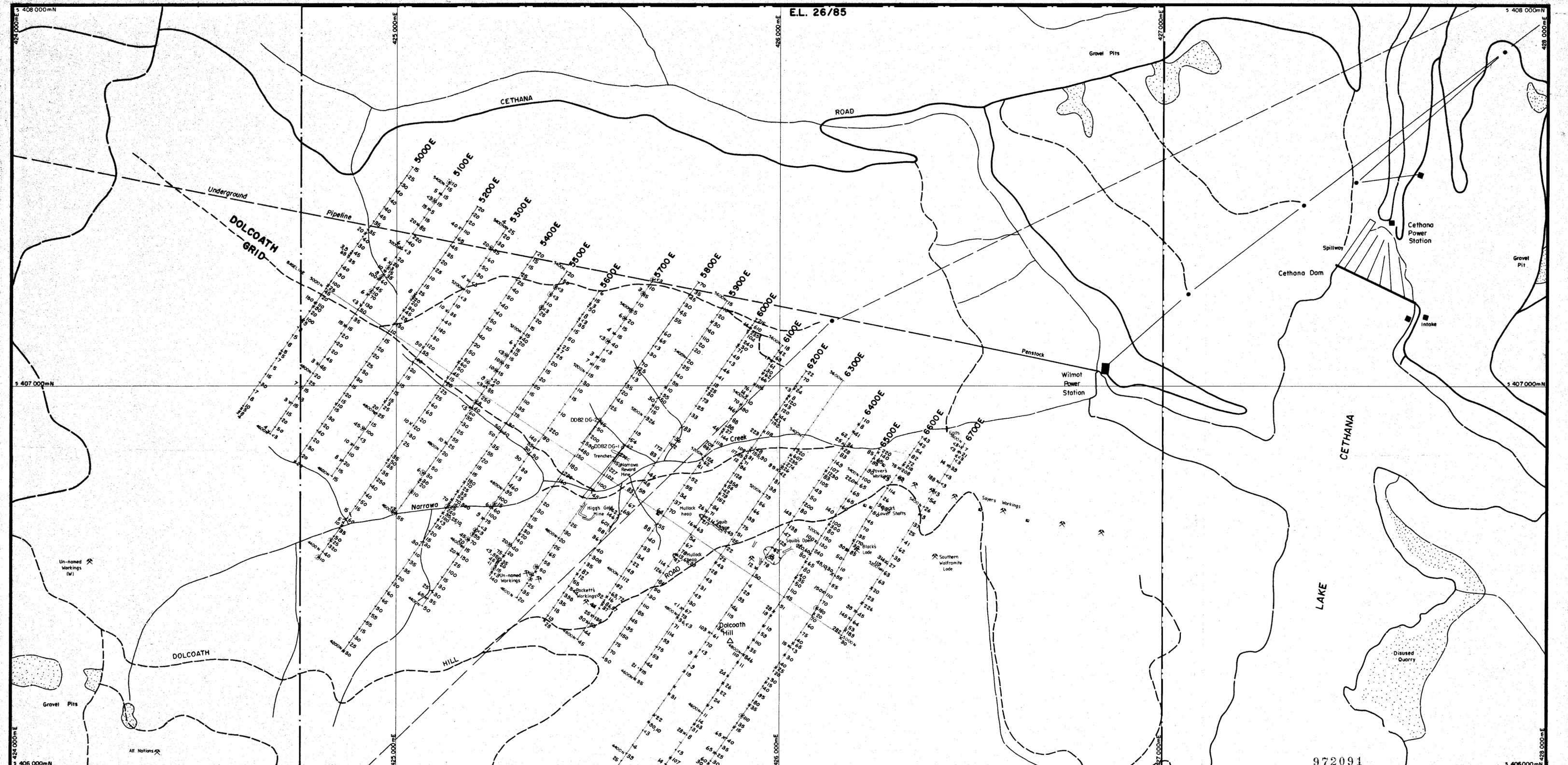
2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

GOLD FIELDS EXPLORATION PTY. LIMITED

**MOINA AREA - EL 26/85**

**TUNGSTUN GEOCHEMISTRY (PPM.)**

DRAWN BY : R.R.
DRAFTSMAN: SF
DATE : OCT.86
REVISIONS :
FILE NO.
<b>FIG. 23</b>



- KEY**
- SOIL SAMPLE
  - \* ROCK SAMPLE (OUTCROP)
  - x ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

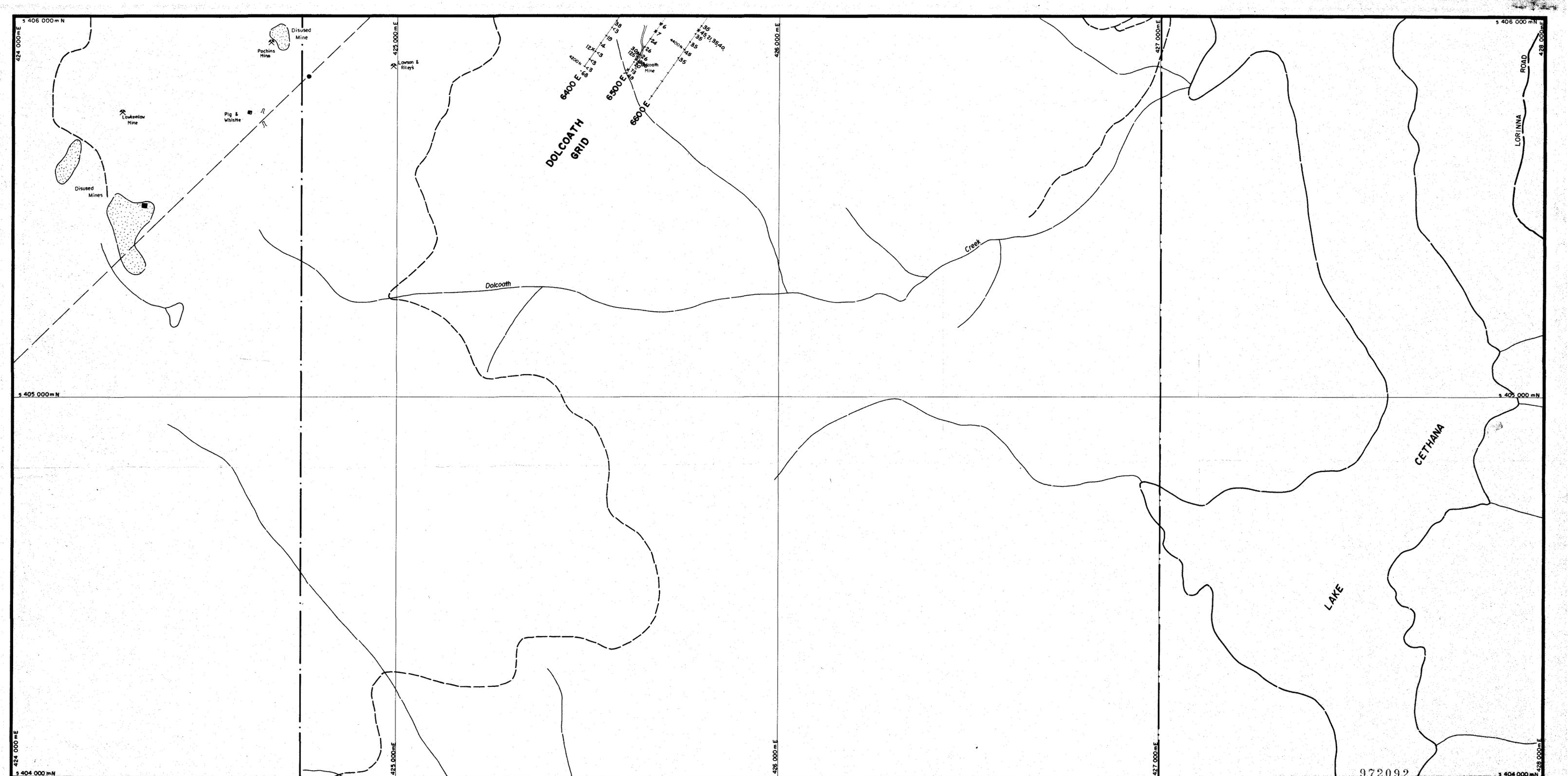
972091  
 GOLD FIELDS EXPLORATION PTY. LIMITED  
**CETHANA  
 MOINA AREA - EL 26/85  
 TIN GEOCHEMISTRY  
 (P.P.M.)**

SCALE 1:5000

5 cm

SCALE 1:5000  
 100 50 0 100 200  
 METRES

DRAWN BY: R.R.  
 DRAFTSMAN: S.F.  
 DATE: OCT. 86  
 REVISIONS:  
 FILE NO.  
**FIG. 24**



972092

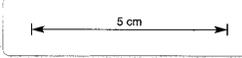
GOLD FIELDS EXPLORATION PTY. LIMITED

- KEY**
- SOIL SAMPLE
  - ⊠ ROCK SAMPLE (OUTCROP)
  - \* ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

2-1	2-2	2-3
3-1	3-2	3-3
4-1	4-2	4-3

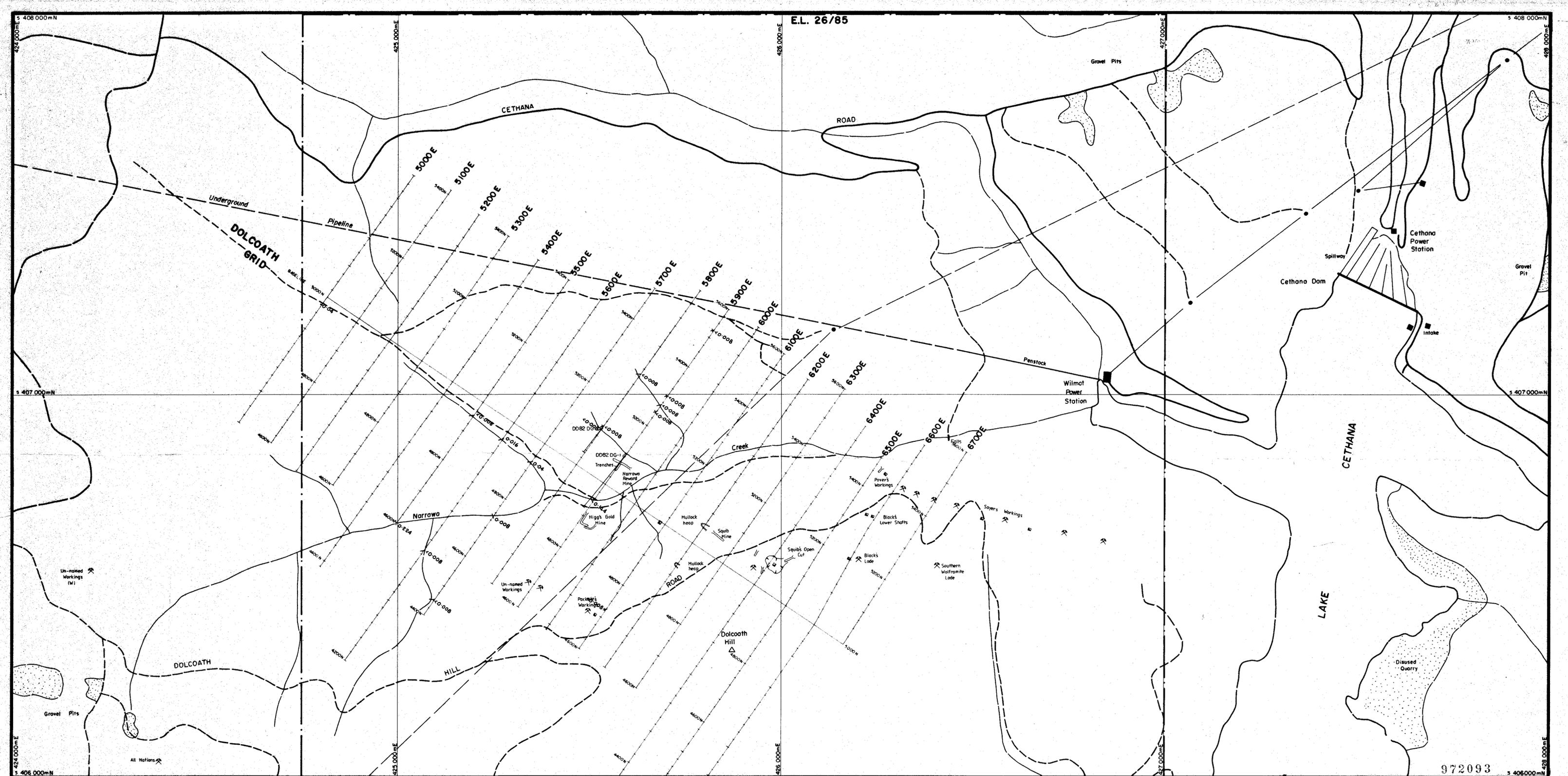
**MOINA AREA - EL 26/85**  
**TIN GEOCHEMISTRY**  
**(PPM.)**



SCALE 1:5000

DRAWN BY: R.R.  
 DRAFTSMAN: S.F.  
 DATE: OCT. 85  
 REVISIONS:  
 FILE NO.

FIG 25



E.L. 26/85

972093

GOLD FIELDS EXPLORATION PTY. LIMITED

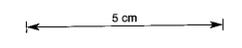
**CETHANA**  
**MOINA AREA - EL 26/85**  
**GOLD GEOCHEMISTRY**  
**(P.P.M)**

DRAWN BY : R.R.  
 DRAFTSMAN : S.F.  
 DATE : Oct. 86  
 REVISIONS :  
 FILE NO.

- KEY**
- SOIL SAMPLE
  - ⊗ ROCK SAMPLE (OUTCROP)
  - x ROCK SAMPLE (FLOAT)
  - / STREAM SEDIMENT SAMPLE

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

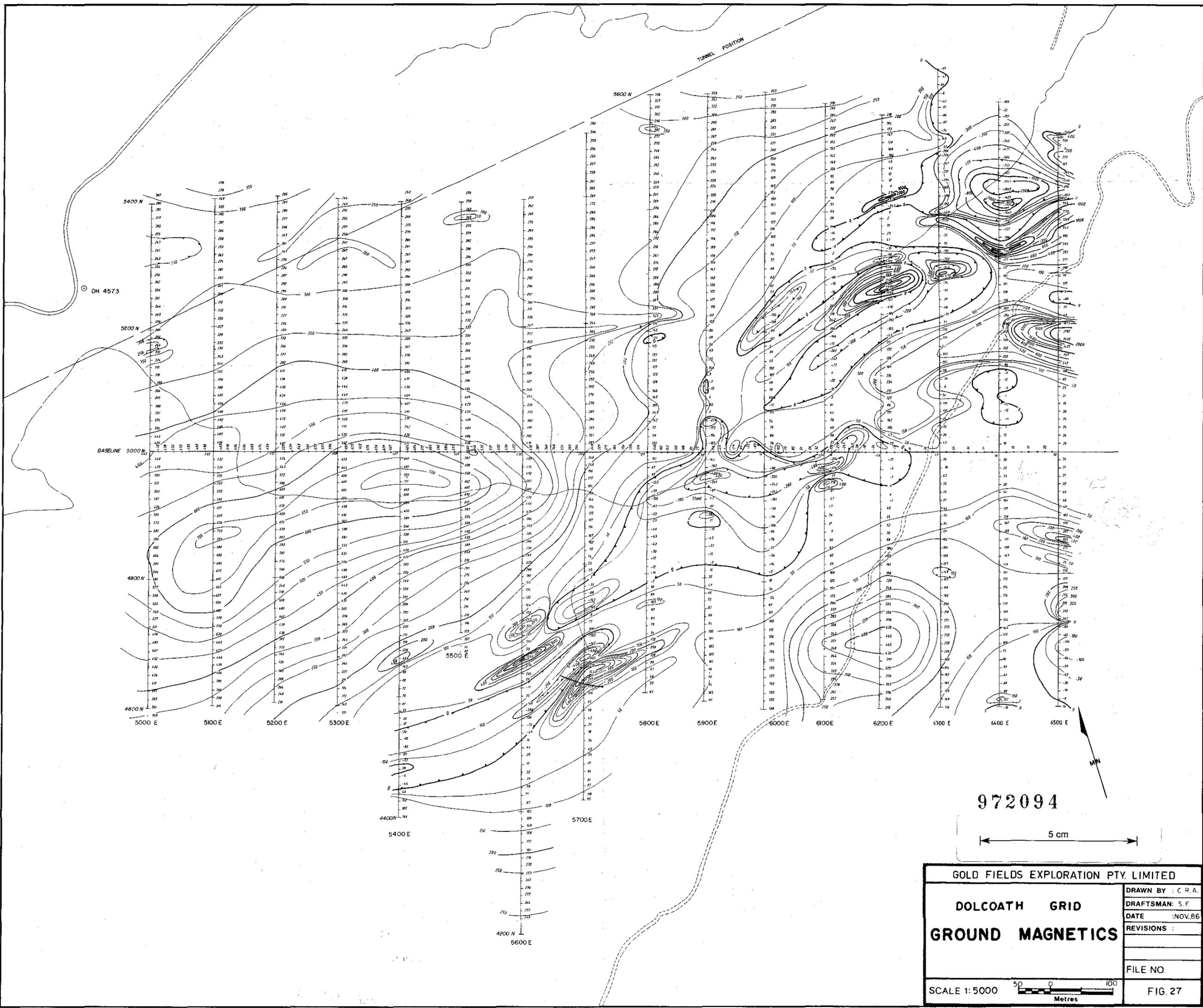


SCALE 1:5000

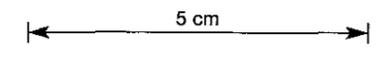
FIG 26

86-2609

5922



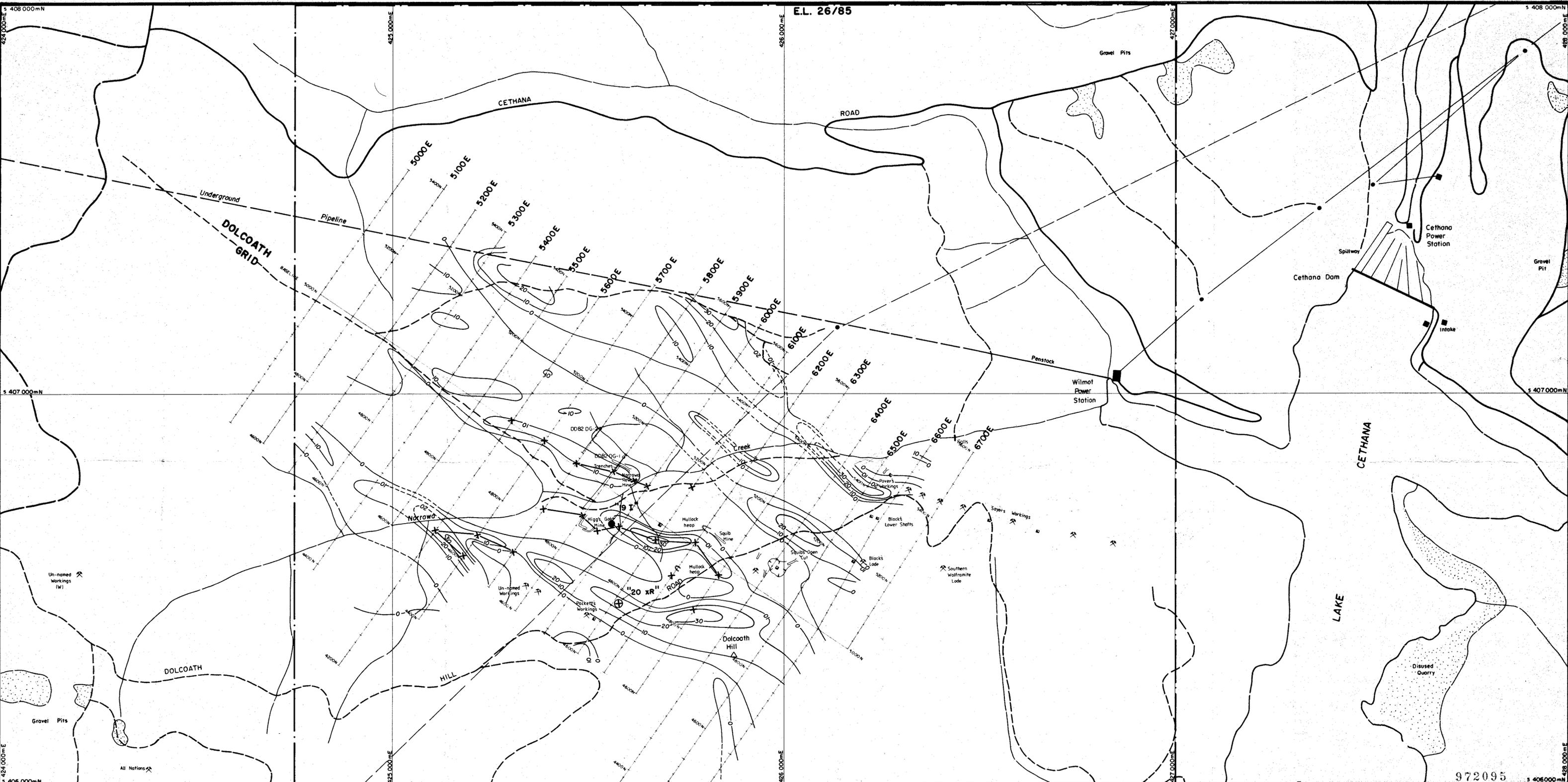
972094



GOLD FIELDS EXPLORATION PTY. LIMITED	
DOLCOATH GRID	
<b>GROUND MAGNETICS</b>	
DRAWN BY : C.R.A.	DRAFTSMAN: S.F.
DATE : NOV.86	REVISIONS :
FILE NO.	FIG. 27
SCALE 1:5000	

86-2609

5923



**SURVEY INFORMATION**  
 N.W. CAPE TRANSMITTER (295° MN)  
 PHOENIX V.L.F. - 2

— 10 — CONTOURED V.L.F. DATA

**LEGEND**

- x — x UTEM ANOMALIES & CONDUCTOR TRACE
- 19 I APPROX. POSITION OF DIGHEM ANOMALIES
- ⊗ 20 XR

M. N.

N.W.C.

INDEX TO ADJOINING MAPS

1-1	1-2	1-3
2-1	2-2	2-3
3-1	3-2	3-3

GOLD FIELDS EXPLORATION PTY. LIMITED

**CETHANA**  
 MOINA AREA - EL 26/85  
 NORMALISED V.L.F. - E.M. DIPS  
 WITH  
 DIGHEM & UTEM ANOMALIES

DRAWN BY: C.R.A.  
 DRAFTSMAN: S.F.  
 DATE: Oct. 81  
 REVISIONS: G.F.E.L.  
 Oct. 86  
 FILE NO.

SCALE 1:5000

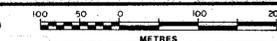
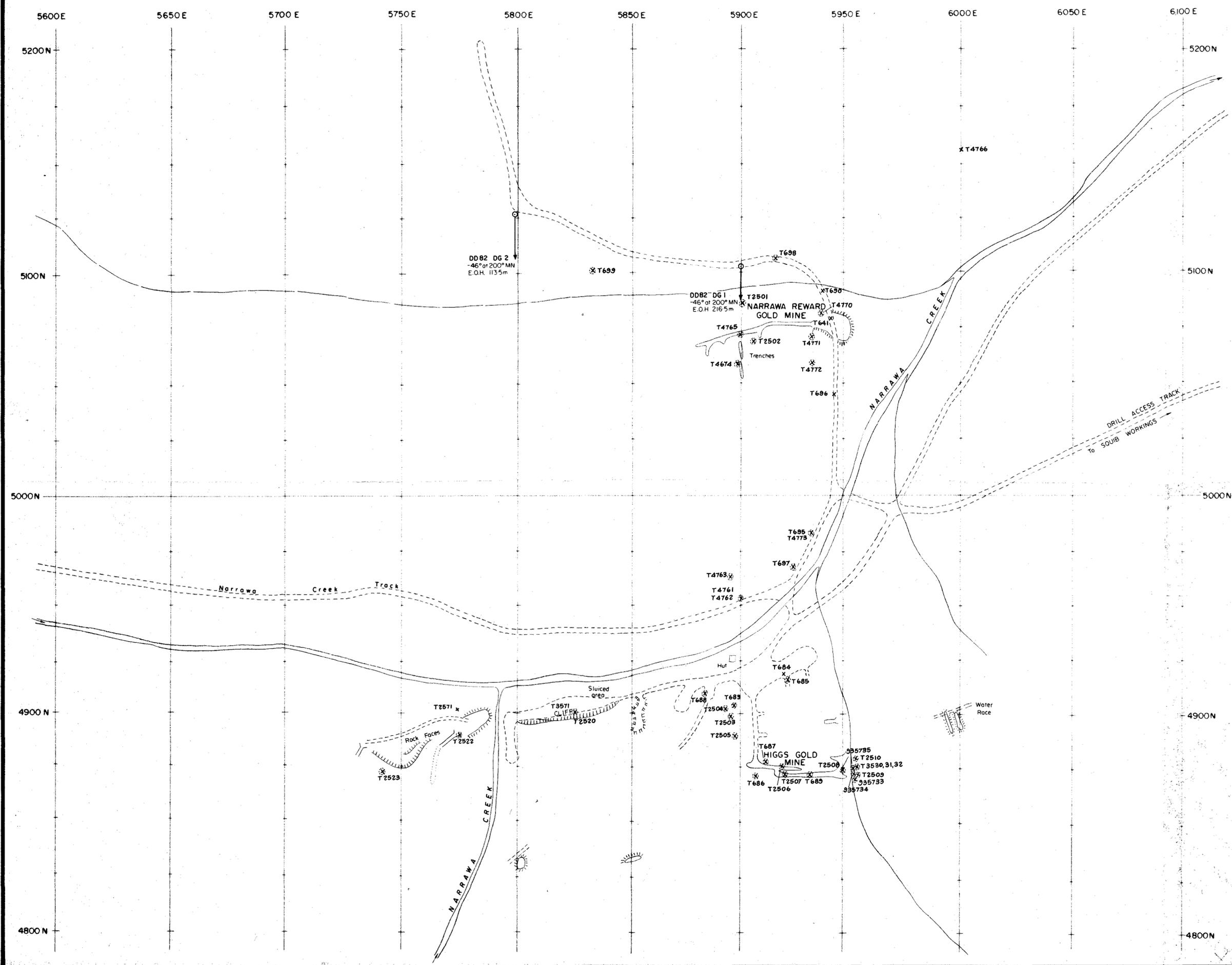


FIG. 28

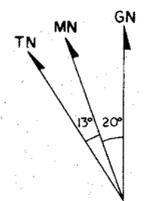
5 cm

86-2609

5924

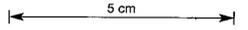


**KEY**  
 ⊗ Outcrop Rock Sample  
 x Float Rock Sample



972096

NB - Refer to 1:5000 Cethano 2-2 Plan for plan position



GOLD FIELDS EXPLORATION PTY. LIMITED

E.L. 26/85  
 NARRAWA REWARD - HIGGS GOLD MINING AREA  
 DOLCOATH GRID  
 SAMPLE LOCATIONS

DRAWN BY	R.R.
DRAFTSMAN	S.F.
DATE	NOV. 85
REVISIONS	
FILE NO.	

SCALE 1:1000



FIG. 29

36-2609

5925



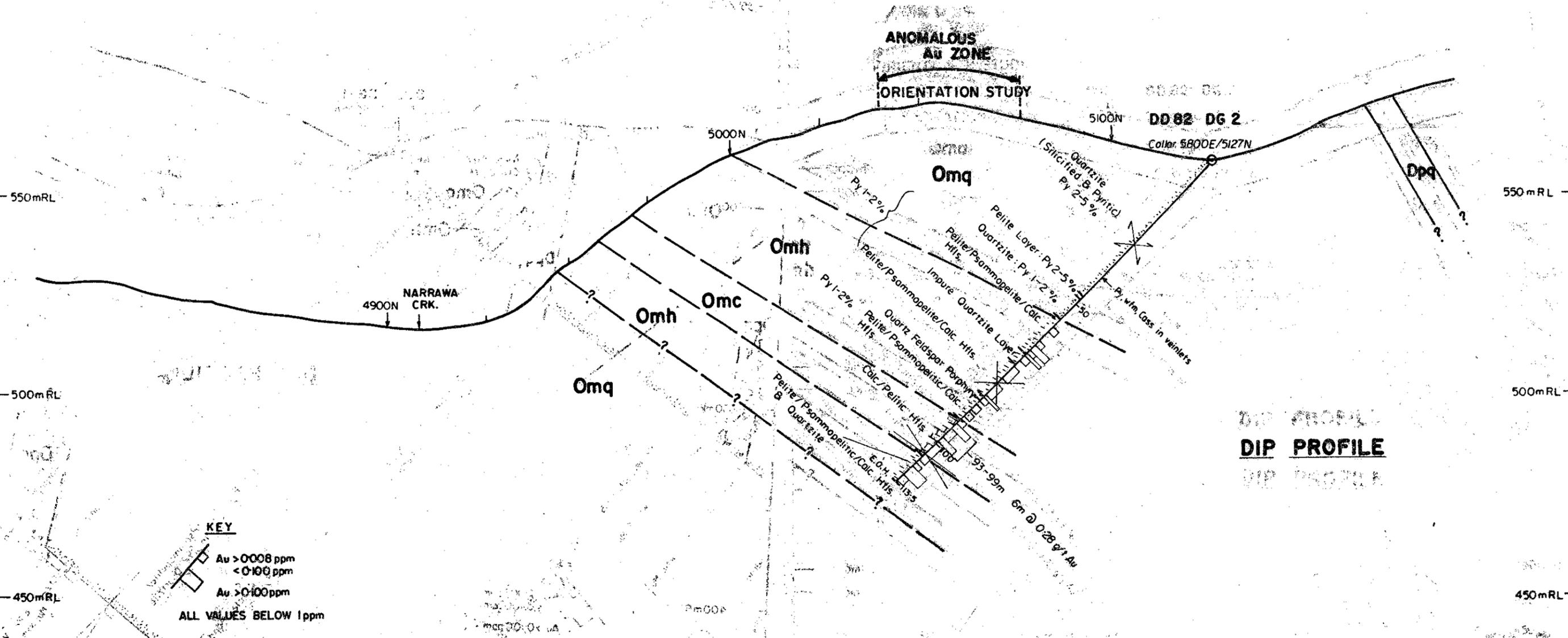
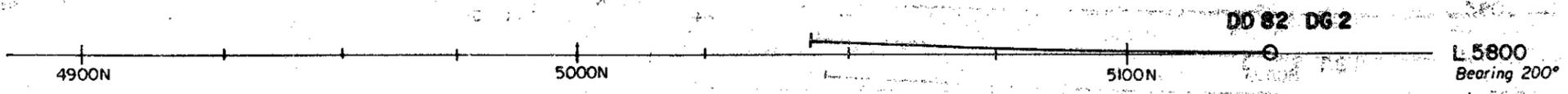


86-2609

PROJECT **NARRAWA** HOLE NO. **DD82 DG 2** GOLD FIELDS EXPLORATION PTY LIMITED  
**DRILL HOLE PLOT**  
**& GEOLOGICAL INTERPRETATION**



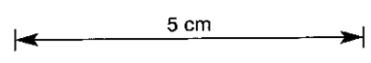
**PLAN VIEW**



**KEY**  
Au > 0.008 ppm  
< 0.100 ppm  
Au > 0.100 ppm  
ALL VALUES BELOW 1 ppm

Bedding/C.A. intersections  
 Pyritic Foliation/C.A. intersection

**DIP PROFILE**



**Fig. 32**

STATE **TAS**  
HOLE NO **DD 82 DG 2**

972099

5928