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GOLD FIELDS EXPLORATION PTY. LIMITED

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E.L. 41/83 - LAKE LEA AREA

ANNUAL REPORT 1987

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E.L. 41/83 - LAKE LEA AREA

ANNUAL REPORT - 1987

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Geologist.

Distribution: Mines Department  
G.F.E.L. (2)

G.F.E.L. Report No: T/87/15  
December, 1987.

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SUMMARY

E.L. 41/83 covers an area of 56 sq. km in Northern Tasmania. Gold Fields Exploration has carried out exploration on the licence during the past twelve months, with gold its principal target.

The area lies within a sequence of Ordovician sediments and Cambrian volcanics which have been extensively covered by Tertiary Basalt. Several old gold workings occur in the area within Ordovician sediments. Minor quartz lodes have been worked from Moina Sandstone at Blacks and Devonport Mines. Gold and bismuth have been extracted from the Stormont Mine where mineralisation occurs in garnet-actinolite skarn.

Work during the last twelve months has concentrated on the north-west part of the licence around the Stormont Mine and Fletchers Adit area. This area was previously gridded by Comalco who carried out geological mapping, ground magnetics, ground I.P., soil sampling and minor rock-chip sampling. The Comalco data has been assessed and compiled onto standard 1:5,000 plans.

G.F.E.L. partially refurbished and extended the Comalco grid. The old Stormont gold workings (as apart from the Stormont Mine gold-bismuth workings) were relocated during the gridding. These workings are now referred to as Upper Stormont. Since establishment of the grid a proton precession magnetic survey has been carried out by G.F.E.L. Detailed mapping and channel sampling of the Stormont Mine open cut and underground workings has been completed. Encouraging results were achieved with the underground workings averaging 9.53g/t Au from 37 samples and the open cut averaging 4.79g/t Au from 16 samples. 1:1000 scale mapping has commenced around the Stormont Mine and Fletchers Adit areas. The remainder of the grid will be mapped at 1:5000 scale.

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A summary of the work planned for 1988 is given below.

- 1) Continued mapping on the Lea River grid.
- 2) Channel sampling of Fletchers Adit and Upper Stormont workings.
- 3) Rock chip sampling of outcrop on the Lea River grid, possibly leading to further channel sampling.
- 4) Compilation of the Comalco and G.F.E.L. data should justify a series of short diamond drill holes. It is anticipated that several of these holes will be completed in the next twelve months.
- 5) Further follow-up of the stream sediment anomalies defined in 1985/86 is planned, with mapping and rock sampling in the main areas of interest. This work should lead to construction of further grids which would be geologically mapped, soil and rock sampled and possibly covered by some geophysics. Encouragement could result in the definition of drill targets.

1987 exploration cost approximately \$55,000. The programme for 1988 is expected to cost about \$100,000.

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1. INTRODUCTION

E.L. 41/83 covers an area of 56 sq. km. south of Black Bluff in northern Tasmania (Figure 1). Lake Gairdner lies immediately to the northeast and Lake Lea to the west. The Lea and Fall Rivers flow through the area. The southern and central part of the Licence are well accessed by logging roads branching off from the Cradle Mountain Road. The northeast part of the licence is accessed via a 4WD track to the old Stormont workings. However, vehicular access into the northwest part of the licence is not possible.

The Lake Lea Licence is at the northern end of the Mt. Read volcanic belt where the Cambrian and Ordovician rocks structurally turn east-west around the northern end of the Precambrian Tyennan Block. Cambrian volcanics occur mainly in the north and central part of the licence. They are unconformably overlain by a thick Ordovician sequence consisting of a lower unit of Owen Conglomerate equivalent, a central unit of Moina Sandstone, and an upper unit of Gordon Limestone (Figure 2). The topography shows the influence of the underlying geology, with the Lea River valley lying in the centre of a major east-west (AMG) syncline. The valley reflects the presence of the Gordon Limestone in the centre of the syncline, while the valley slopes broadly mimic dip in the limbs of the syncline. It is also apparent from distribution of Tertiary Basalt down the Lea River valley that the present drainage pattern is similar to that in the Tertiary. Consequently, much of the limestone is likely to be covered by basalt with the best limestone exposures occurring in the Lea River and its banks.

Several old workings occur within EL 41/83. Blacks, Devonport and Golden Cliff mines (Figure 2) were all quartz lodes from which gold values above 10 g/t Au have been quoted,



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but tonnages were very small. Two small copper shows also occur on the Mariner 4 grid (Figure 2). Largest production was from the Stormont Mine in the northeast of the E.L., with 6.3 tons of bismuth concentrate grading 63% Bi and 450 g/t Au being produced from 1928 - 1934. Mineralisation at the Stormont Mine occurs disseminated within skarn. Minor gold-bismuth mineralisation was also obtained from skarn and vein deposits in the vicinity of Fletchers Adit. The Stormont Gold Mine (as apart from the bismuth-gold producing Stormont Mine) has been described by Twelvetrees (1913) and Broadhurst (1934) as occurring on the northern slope of Mt. Stormont. However, the location of this deposit has been in doubt until recent work by G.F.E.L. located the workings approximately 120 metres southeast of the bismuth-gold mine. These workings will be referred to as Upper Stormont in this and future reports to save confusion between the deposits.

Modern exploration in the area since 1961 was summarised in the 1986 Annual Report (Roberts, 1986). Little emphasis has been given to the gold potential of the region, which is presently the main exploration target for G.F.E.L. on the licence. EL41/83 was originally 112 sq. km., but early mapping by R.A. Poltock allowed the area to be reduced by 50% to its present size. During 1985/86 data compilation and a regional mapping and stream sediment survey were completed. Several areas of interest were delineated (Figure 2), and follow-up of these areas by mapping, rock sampling and break-of-slope sampling commenced in 1986. Results of the 1985/86 work were reported in last year's annual report. The aim of this report is to outline work carried out and results achieved since December 1986, and to summarise work planned for 1987.

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2. LAND TENURE

E.L. 41/83 was granted on 21st December, 1983, to Renison Ltd., a wholly-owned subsidiary of Renison Goldfields Consolidated (RGC). The licence was originally 112 sq. km., but was reduced to 56 sq. km., in November 1985. Exploration is being carried out by Gold Fields Exploration P/L (G.F.E.L.), the exploration arm of R.G.C.

There are two current Stone Leases (1M/83 and 2M/83) within EL 41/83 which are held by Gunns Holdings P/L. A Mineral Lease previously held by Mrs. Clark in the vicinity of the Stormont Mine was refused renewal by the Director of Mines Dept. on grounds that the labour covenant had not been complied with. The area previously held within the Mineral Lease is now part of E.L. 41/83.

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3. EXPENDITURE

Expenditure on E.L. 41/83 since the previous renewal to the 21st November 1987 amounts to \$36,224 (Appendix 1). Spending to the renewal date is expected to reach \$55,000.

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4. WORK COMPLETED 1987

Work during 1987 was restricted to the northeastern part of E.L. 41/83 around the Stormont Mine - Fletchers Adit area. This area was previously gridded by Comalco as part of work carried out on E.L. 7/74. Comalco carried out geological mapping, ground magnetics (fluxgate and proton precession), ground I.P., soil sampling, and minor rock-chip sampling. Their data has been compiled onto standard G.F.E.L. 1:5,000 sheets.

G.F.E.L. has partially refurbished and extended the original Comalco Lea River grid. G.F.E.L. has carried out a ground magnetic proton precession survey over the entire grid. Detailed mapping and channel sampling of the Stormont Mine open cut and underground workings has been completed. Mapping has commenced at a scale of 1:1,000 around the Stormont Mine and Fletchers Adit areas with the remainder of the grid to be mapped at 1:5,000 scale. Details and discussion of the Comalco compilation and the work completed to date by G.F.E.L. are given below.

4.1 GRIDDING

The 100-metre-spaced lines of the original Comalco grid from line 2200W to 3400W were recut and pegged. Apart from line 3150W the intermediate lines (at 50 metre spacings) have not been re-established. The grid lines were also extended southwards, with three of the lines (2200W, 2600W, 3000W) cut to the top of the Mt. Stormont ridge. The grid has also been extended to the northwest of Stormont Mine.

4.2 GEOLOGY

The geology as mapped by R.A. Poltock for Comalco is shown at 1:5,000 scale on Figures 3 and 4. The Ordovician sequence on the grid has been contact

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metamorphosed by an apparent underlying granite (Dolcoath Granite). The rocks vary from quartzites, metagreywackes and metasiltstones of the Moina Sandstone Formation through to mixed calc-silicate hornfels and skarns representing the contact metamorphic and metasomatic alteration of the Gordon Limestone Formation. The calc-silicate rocks appear to be of three types. Psammitic rocks with lenses of greenish calc-silicates (typically pyroxene and amphibole), magnetite-chlorite-amphibole calc-silicate/skarn often containing pyrrhotite and chalcopyrite, and garnet-actinolite skarn. Bismuthinite is often visibly present in the garnet skarns which are host to gold mineralisation at the Stormont Mine. The garnet skarn probably represents altered original limestone whereas the other calc-silicates may represent altered marly carbonate-bearing transition beds. The magnetite-bearing rocks appear to occur directly beneath the garnet skarns, and although wriggilite occurs at the Shepherd and Murphy Mine prospect drilled out by Comalco, the magnetite-bearing rocks on the Lea River grid are not wriggilites.

There has been extensive Tertiary Basalt cover down the Lea River valley which has severely hindered geological interpretation. Tertiary gravels, often cemented to greybilly, underlie the basalt. In places the greybilly can be difficult to distinguish from sandstones and conglomerates of the Moina Sandstone and Roland Conglomerate Formations.

The present distribution of Ordovician sediments has resulted from the combination of two main periods of folding, with a major east-west folding episode being overprinted by northwest-southeast folding. The regional distribution of the sediments is controlled by the early folding, but local structures on the grid are more obviously related to the northwest-southeast folds. Faulting/shearing has also occurred sub-parallel to

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the axial trends of the latter episode.

Cross sections based on the Comalco geology are included as Figures 5 - 8. Section lines are shown on Figures 3 and 4. Sections X-Y and Y<sup>1</sup>-Z depict the open style of northwest-southeast folding, with skarns exposed in the synclines. The folding is disrupted by faults in the Stormont Mine and Fletchers Adit areas. Downfaulting against these faults has been important in preserving the mineralised skarns in the present topography. The faults may also have acted as conduits for mineralising fluids in these areas. Cross sections A-B and C-D are northwest-southeast sections through the Stormont Mine and Fletchers Adit areas respectively, and demonstrate the untested potential for mineralised skarns beneath the basalt.

#### 4.2.1 STORMONT MINE GEOLOGY

Geology of the Stormont Mine is shown in Figure 9. The open cut and underground workings consist almost totally of garnet-actinolite skarn with visible bismuthinite. The skarn often contains idioblastic garnets several millimetres across. Banded magnetite-bearing calc-silicates occur in the southern end of cross-cut 2 and a calc-silicate hornfels occurs on the end face of cross-cut 1. These occurrences define the across strike width which is approximately 17 metres. Pale-green calc-silicate-bearing hornfels with minor magnetite also occurs along the tunnel entrance to the northwest of the open cut. Faults lie along the length of the mine and are especially apparent at the southeast end. Rocks along and between the faults are typically altered and soft, which may have aided selective mining. A soft dark-green oxidised coating is also present on much of the skarn. The faults dip between 65° and 75° to the southwest whereas bedding in the banded magnetite is

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55° to the northeast. If these orientations continue to depth a relatively shallow wedge of skarn is indicated as shown in Figure 5.

#### 4.3 MAGNETICS

Comalco carried out a fluxgate ground magnetic survey over the original Lea River grid. Readings were taken every 25 metres on a 50 metre line spacing, though readings were closed up to 12.5 metres on a 25 metre spaced grid in the vicinity of the Stormont Mine. Contoured results of the survey are shown on Figures 10 and 11. Magnetic susceptibility measurements on basalt from drill core at the Shepherd and Murphy area showed the basalt to have a low susceptibility (less than 200 c.g.s. units). This was confirmed by the fluxgate survey which showed the basalt to be magnetically relatively dead.

In the fluxgate survey the Stormont Mine was indicated by a +2,500 gamma magnetic anomaly which corresponds with the banded magnetite calc-silicate mapped at the southern end of cross cut 2. A similar size anomaly occurs to the northeast of the mine. Localised high intensity magnetic anomalies occur to the south-west of Stormont Mine and to the west of Fletchers Adit. These have been related to small shallow occurrences of magnetite skarn, with patchy outcrops of magnetite skarn being mapped in both these areas. Although tonnages are likely to be small Comalco recommended drilling at 3125W/1575S and 3075W/1650S. A low-order broad magnetic anomaly at 2750W/1575S was considered as a possible skarn target below basalt and a drill hole was proposed. None of the above targets were drilled. Patchy magnetic anomalies also occur on the eastern edge of the basalt cover. No skarn has been mapped in

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this area, but the anomalies may represent magnetite-bearing rocks below a thinning basalt edge and are targets for further follow-up.

Comalco also carried out proton precession ground magnetic surveys over sections of the grid to better define possible drill targets. Readings were taken every 25 metres on a 50 metre line spacing. Contoured results of the survey are shown on Figures 12 and 13. The proton precession survey confirmed the presence of the magnetic anomaly within the basalt to the east of Stormont Mine and enhanced the outline of spotty magnetic anomalies around and to the northwest of Fletchers Adit.

G.F.E.L. carried out a proton precession magnetic survey over the expanded Lea River grid to give a wider and more complete coverage of proton precession magnetics than previously achieved. Readings were taken every 25 metres on a 100 metre line spacing. Contoured results are shown on Figures 14 and 15. Results are broadly similar to those achieved by the Comalco fluxgate and proton precession surveys. However, close examination reveals minor discrepancies between stations at which individual anomalies have been recorded. This may indicate extremely local effects caused by shallow or near-surface sources.

Although the G.F.E.L. survey gives the widest coverage a closer line spacing was used in both Comalco surveys. To enhance the data all three surveys will be colour image processed by Dr. J. Bishop. It is emphasised that although closely associated with magnetite-bearing rock, gold mineralisation at Stormont Mine occurs within non-magnetic garnet skarn. Consequently, although the magnetic anomalies may be areally small, suggesting local occurrences of magnetite, groups of such anomalies may delineate areas with potential for significant tonnages of gold-bearing non-magnetic skarn.

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#### 4.4 INDUCED POLARISATION

Comalco conducted a gradient array electrical induced polarisation survey in 1976 over the original Lea River grid using a Scintrex 2.5KW time domain transmitter and IPR7 receiver. A 25 metre dipole was used and the distance between stations was 25 metres. Trends were determined from profiles, and trends of resistivity and chargeability highs and lows are plotted on Figures 16 and 17. The pre-basalt rocks all have relatively high resistivity and chargeability, with the sandstones and siltstones being more resistive and chargeable than the skarns and calc-silicate rocks. A series of coincident chargeability and resistivity highs occurs in the Ordovician sediments, which probably reflect the sandstone-rich units. This may prove to be an aid to geological interpretation. The basalt masks the chargeability effects of the underlying rocks.

#### 4.5 SOIL GEOCHEMISTRY

Comalco collected C-horizon soil samples at 50 metre intervals over the Lea River grid using hand augers where necessary. The -80# fraction was analysed for Cu, Pb, Zn, F, Bi and Mo. Results have been collated onto 1:5,000 sheets in Figures 18 - 29.

The Stormont Mine has an associated Bi-Pb anomaly. Individual Bi-Pb-Cu-F anomalies occur to the south of Stormont Mine which correspond with known localised outcrops of magnetite-bearing skarn. Smaller Bi-Pb-F anomalies also occur immediately north of Stormont Mine associated with an apparent thin skin of calc-silicate rocks. A major Bi-F-Mo-Cu anomaly occurs to the west of Fletchers Adit from line 2900W to 3000W (?3100W) and from 1100S to 950S.

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Again this anomaly corresponds with outcropping occurrences of calc-silicate/skarn. The soil anomalies are clearly indicating known skarn outcrops, but do not appear to have located further hidden occurrences of skarn.

The basalt has a distinctive Cu-Zn soil anomalism compared with the sediments. The basalt has effectively masked any geochemical signature from the underlying sediments even where the basalt is apparently quite thin.

Fluorine soil anomalies are indicative of the calc-silicates, but fluorine is also anomalous over areas mapped as alluvium. Soils over areas of sandstone are typically low in all elements. A low-grade Pb-F-Mo anomaly occurs in the north-eastern part of the sampled grid where no calc-silicate rocks have been mapped. The area needs further investigation, but may be related to quartz veining in the Lea River to the northwest described by Burns (1959).

Soil sampling was not carried out over the entire grid and further sampling, especially for gold, may be warranted.

#### 4.6 ROCK GEOCHEMISTRY

Minimal rock sampling was undertaken by Comalco over the Lea River grid. Assay results are summarised on Figures 30 and 31. Two reconnaissance samples collected from the Stormont Mine open cut returned greater than 2g/t Au. This was followed by two-metre-wide channel sampling down the length of the open cut and 10 metres into the adit. However, only three of these samples, 3124W, 3144W, and 3164W, appear to have been assayed and recorded 1.95, 2.10 and 5.10 g/t Au respectively. Two samples from Fletchers Adit did not return a value above 0.10 g/t Au.

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A number of grab samples were collected and assayed during mapping of the grid. A few minor values of greater than 0.1g/t Au and less than 1.0g/t Au were obtained from outcropping skarn/calc-silicate around Stormont Mine and west of Fletchers Adit.

G.F.E.L. has carried out extensive channel sampling of the Stormont Mine open cut and underground workings. Areas sampled and sample location numbers are shown on Figure 32. 66 samples were collected and all were assayed for Au (fire assay), Cu, Pb, Zn, Ag, Bi, Mo, As (AAS) W, Sn (XRF). Results for Au, Cu, Pb, Zn, Ag, Bi and As are shown on Figures 33 to 39. A full list of results is included as Appendix 2. High-grade gold results were achieved throughout the workings. 37 samples taken from the underground workings, excluding those sampled down the fracture, returned the following average:

9.53 g/t Au, 0.47%Bi, 4.4g/t Ag and 945ppm Pb.

Cu averaged less than 50ppm and Zn less than 500ppm. Sampling along the prominent fracture from 36 to 43 metres did result in a higher than average gold grade of 28.1g/t Au.

Assays from 22 to 54 metres along the southern wall of the open cut averaged

4.79g/t Au, 0.56%Bi, 7.6g/t Ag and 1790ppm Pb.

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Again Cu values were less than 50ppm and Zn less than 500ppm. Calc-silicate hornfelses along the tunnel entrance west of the open cut assayed around 0.1g/t Au. Generalised transformations and correlation coefficients were performed on assays from the Stormont Mine. High correlations ( $>0.8$ ) occur between Bi, Pb and Ag and good correlations between Bi and Cu, and Bi and Au.

#### 4.7 PETROLOGY

Two samples of gold-bismuth-bearing skarn from the Stormont Mine were included in a group of twenty two rocks sent to Central Mineralogical Services for petrological description. Descriptions of the two samples are included as Appendix 3.

5. PROPOSED WORK FOR 1988

The following work is planned for the twelve months to December 22nd 1988.

Lea River Grid

- 1) 1:1000 base sheets will be prepared around the Stormont and Fletchers Adit areas.
- 2) The above areas will be geologically mapped at 1:1000, with the remainder of the grid mapped at 1:5000.
- 3) The Upper Stormont workings (the old Stormont gold workings) will be cleared and channel sampled.
- 4) Fletchers Adit and the exposed skarn/calc-silicates along the Lea River west of Fletchers Adit will be chip/channel sampled.
- 5) Rock sampling will be undertaken during mapping, possibly leading to further channel sampling.
- 6) Assessment of the Comalco data combined with the mapping, channel sampling and proton precession magnetics carried out by G.F.E.L. should justify a series of short diamond drill holes to test the gold-bearing potential of the skarns in the Stormont-Fletchers Adit area. It is anticipated that several of these holes will be completed within the next twelve months.

Other Areas

Follow-up of the anomalies identified by the 1985/86 stream sediment anomalies will continue. The following work is recommended

- 1) Mapping and rock sampling in the Mt. Stormont region.
- 2) Mapping and rock sampling of the Northwest region.
- 3) Mapping and chip/channel sampling of the Devonport Adit.
- 4) Mapping and chip/channel sampling of Black's Adit (Mariner 6).
- 5) Soil sampling for gold over the Mariner 4 grid plus petrographic examination of altered rocks on the grid.

It is anticipated that this work will lead to construction of further grids, which would be geologically mapped, soil sampled and possibly covered by some geophysics. Encouragement in these areas could result in definition of further drill targets in the next twelve months.

The above programme is estimated to cost \$100,000.

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APPENDIX 1

G.F.E.L. EXPENDITURE UNTIL OCTOBER 28TH, 1987

G.F.E.L. EXPENDITURE IN 1987 UNTIL OCTOBER 28TH

<u>Item</u>	<u>Cost</u>
Salaries Wages and On-Costs	\$12,285
Travel and Accommodation	\$ 30
Consultants and Contractors	\$15,223
Sample Preparation and Assays	\$ 5,074
Stores	\$ 1,223
Vehicle/Plant Hire	\$ 840
Office	\$ 1,549
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TOTAL	\$36,224
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APPENDIX 2

CHANNEL SAMPLE RESULTS

GOLDFIELDS EXPLORATION PTY.LTD.

DATA SHEET

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MAP-PHOTO:LEA 3-5

PROJECT:LAKE LEA SCALE:5000  
 SAMT:CHANNEL SAMPLE  
 REF.:STORMONT MINE

SAMPLER:R. H. ROBERTS  
 GRID:LEA RIVER

SAMPLE IDENT.	SPARE1	SPARE2	AU PPM	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	BI PPM	MO PPM	SN PPM	W PPM
T 6807	0	2	4.190	15	305	360	1.0	5	730	20	43	13
	REMARKS:NTH WALL											
T 6808	2	4	38.170	40	1900	230	9.0	12	7000	20	44	-10
	REMARKS:NTH WALL											
T 6809	4	6	11.070	20	720	160	3.5	3	2900	30	24	10
	REMARKS:NTH WALL											
T 6810	6	8	8.510	25	1600	150	4.5	2	5200	30	13	-10
	REMARKS:NTH WALL											
T 6811	8	10	15.760	90	1200	180	4.5	1	13500	40	22	22
	REMARKS:NTH WALL											
T 6812	10	12	2.970	25	140	120	0.5	3	2200	30	15	17
	REMARKS:NTH WALL											
T 6813	12	14	2.550	60	385	130	1.5	3	7500	20	29	20
	REMARKS:NTH WALL											
T 6814	14	17	4.850	70	650	115	2.5	3	8300	30	14	-10
	REMARKS:NTH WALL											
T 6815	17	19	4.590	105	5000	280	7.5	4	22000	30	37	-10
	REMARKS:NTH WALL											
T 6816	19	22	13.930	100	1250	470	4.5	8	16300	10	23	-10
	REMARKS:NTH WALL											
T 6817	22	24	18.630	45	1550	180	5.5	4	6900	10	20	-10
	REMARKS:NTH WALL											
T 6818	24	26	4.510	15	405	220	1.5	8	1200	10	27	-10
	REMARKS:NTH WALL											
T 6819	26	28	1.150	10	220	1050	1.0	35	410	10	50	23
	REMARKS:NTH WALL											
T 6821	28	30	5.840	20	1900	1200	7.0	45	2700	40	39	13
	REMARKS:NTH WALL											
T 6822	30	32	8.800	70	5000	130	21.0	7	16000	10	13	-10
	REMARKS:NTH WALL											
T 6823	32	34	4.510	20	430	375	5.0	26	1400	10	33	-10
	REMARKS:NTH WALL											
T 6824	34	36	12.730	15	665	250	9.5	20	2100	10	28	-10
	REMARKS:NTH WALL											
T 6825	36	38	7.870	15	615	305	10.0	8	1900	-10	36	-10
	REMARKS:NTH WALL											

Laboratory:	ANALAB										
Instrument:	310	103	103	103	103	103	114	103	103	401	401
Det. Limit:	0.005	5.000	5.000	5.000	0.500	1.000	10.000	10.000	10.000	3.000	10.000

831028

## GOLDFIELDS EXPLORATION PTY. LTD.

## DATA SHEET

MAP-PHOTO:LEA 3-5

PROJECT:LAKE LEA SCALE:5000

SAMPLER:R. H. ROBERTS

SMT:CHANNEL SAMPLE

GRID:LEA RIVER

REF.:STORMONT MINE

SAMPLE IDENT.	SPARE1	SPARE2	AU PPM	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	BI PPM	MO PPM	SN PPM	W PPM
T 6826	38	40	12.900	20	650	225	5.5	5	2500	10	31	13
	REMARKS:NTH WALL											
T 6827	40	43	15.460	10	595	260	1.5	68	1800	20	34	17
	REMARKS:NTH WALL											
T 6828	28		3.440	10	350	425	1.5	13	690	20	16	-10
	REMARKS:ACROSS ROOF											
T 6829	30		3.710	10	465	605	2.5	30	1300	20	25	-10
	REMARKS:ACROSS ROOF											
T 6830	32		8.480	15	905	470	6.5	65	2500	20	49	-10
	REMARKS:ACROSS ROOF											
T 6831	34		11.200	35	665	280	3.0	33	4700	20	35	11
	REMARKS:ACROSS ROOF											
T 6832	36		6.290	10	810	360	2.5	260	2400	20	51	13
	REMARKS:ACROSS ROOF											
T 6833	38		12.460	30	1200	315	2.0	20	5000	20	21	23
	REMARKS:ACROSS ROOF											
T 6834	40		36.470	25	1250	530	5.0	44	5300	-10	21	30
	REMARKS:ACROSS ROOF											
T 6835	43		36.530	45	1500	320	6.0	10	11000	10	27	37
	REMARKS:ACROSS ROOF											
T 6836	36	38	18.550	30	1850	2900	9.0	460	6800	20	51	27
	REMARKS:ALONG SHEAR											
T 6837	38	40	48.470	40	1000	3350	9.0	560	6600	10	31	53
	REMARKS:ALONG SHEAR											
T 6838	40	43	17.230	25	350	15500	2.5	580	3500	20	40	16
	REMARKS:ALONG SHEAR											
T 6839	0	2	5.790	25	925	240	3.0	32	3500	20	23	15
	REMARKS:NTH CROSS CUT											
T 6841	2	4	0.410	5	100	90	0.5	12	220	-10	63	13
	REMARKS:NTH CROSS CUT											
T 6842	4	5	0.090	-5	45	825	-0.5	19	30	10	102	-10
	REMARKS:NTH CROSS CUT											
T 6843	0	2	1.190	10	300	375	4.0	27	2100	-10	95	-10
	REMARKS:STH CROSS CUT											
T 6844	2	4	2.590	15	280	345	2.5	18	1700	-10	82	11
	REMARKS:STH CROSS CUT											

Laboratory:	ANALAB										
Instrument:	310	103	103	103	103	114	103	103	401	401	
Det. Limit:	0.005	5.000	5.000	5.000	0.500	1.000	10.000	10.000	3.000	10.000	

028

831029

GOLDFIELDS EXPLORATION PTY. LTD.

DATA SHEET

MAP-PHOTO:LEA 3-5

PROJECT:LAKE LEA SCALE:5000  
 SAMT:CHANNEL SAMPLE  
 REF.:STORMONT MINE

SAMPLER:R. H. ROBERTS  
 GRID:LEA RIVER

029

SAMPLE IDENT.	SPARE1	SPARE2	AU PPM	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	BI PPM	MO PPM	SN PPM	W PPM
T 6845	4	6	3.790	35	405	360	7.5	14	6300	-10	65	-10
REMARKS:STH CROSS CUT												
T 6846	6	8	12.530	15	390	335	6.0	14	4000	10	75	-10
REMARKS:STH CROSS CUT												
T 6847	8	10.5	6.640	15	380	320	4.0	36	1400	20	106	23
REMARKS:STH CROSS CUT												
T 6848	10.5	12.5	0.510	75	135	250	-0.5	14	660	10	139	20
REMARKS:STH CROSS CUT												
T 6849	0	2	0.150	5	155	190	0.5	10	160	30	134	24
REMARKS:OPEN CUT												
T 6850	2	4	0.050	-5	105	250	-0.5	15	80	40	131	-10
REMARKS:OPEN CUT												
T 6851	4	6	-0.008	10	70	320	-0.5	7	40	30	25	-10
REMARKS:OPEN CUT												
T 6852	6	8	0.140	15	75	430	-0.5	12	130	20	159	18
REMARKS:OPEN CUT												
T 6853	8	10	0.080	25	85	220	-0.5	6	370	30	210	-10
REMARKS:OPEN CUT												
T 6854	10	12	0.060	15	95	250	-0.5	5	140	20	170	23
REMARKS:OPEN CUT												
T 6855	12	14	0.060	10	225	290	1.0	7	200	20	42	-10
REMARKS:OPEN CUT												
T 6856	14	16	0.110	10	715	190	3.0	8	640	30	14	-10
REMARKS:OPEN CUT												
T 6857	16	18	0.120	10	1350	245	4.0	10	1350	20	18	-10
REMARKS:OPEN CUT												
T 6858	20	22	0.160	10	370	230	3.0	10	530	30	18	-10
REMARKS:OPEN CUT												
T 6859	22	24	0.730	5	2000	170	7.0	6	3850	10	34	-10
REMARKS:OPEN CUT												
T 6861	24	26	4.610	10	2800	155	9.0	5	5400	20	12	-10
REMARKS:OPEN CUT												
T 6862	26	28	2.250	35	5400	175	10.5	4	21500	20	27	-10
REMARKS:OPEN CUT												
T 6863	28	30	2.420	35	1650	300	7.0	3	6400	20	62	-10
REMARKS:OPEN CUT												

Laboratory:	ANALAB										
Instrument:	310	103	103	103	103	114	103	103	401	401	
Det. Limit:	0.005	5.000	5.000	5.000	0.500	1.000	10.000	10.000	3.000	10.000	

831030

GOLDFIELDS EXPLORATION PTY. LTD.

DATA SHEET

MAP-PHOTO:LEA 3-5

PROJECT:LAKE LEA SCALE:5000  
 SAMT:CHANNEL SAMPLE  
 REF.:STORMONT MINE

SAMPLER:R. H. ROBERTS  
 GRID:LEA RIVER

030

SAMPLE IDENT.	SPARE1	SPARE2	AU PPM	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	BI PPM	MO PPM	SN PPM	W PPM
T 6864	30	32	9.460	15	1900	280	10.5	11	3600	10	98	-10
	REMARKS: OPEN CUT											
T 6865	32	34	0.450	5	130	205	1.5	12	190	20	120	-10
	REMARKS: OPEN CUT											
T 6866	34	36	5.460	10	845	180	4.0	7	2250	10	90	-10
	REMARKS: OPEN CUT											
T 6867	36	38	2.880	20	820	135	5.0	7	2650	-10	34	-10
	REMARKS: OPEN CUT											
T 6868	38	40	21.130	20	3100	165	18.0	4	7400	-10	26	11
	REMARKS: OPEN CUT											
T 6869	40	42	11.830	20	3200	185	14.5	5	11000	10	35	-10
	REMARKS: OPEN CUT											
T 6870	42	44	1.240	15	510	230	6.0	8	1600	10	40	9
	REMARKS: OPEN CUT											
T 6871	44	46	3.920	30	1700	235	6.0	8	6500	40	25	20
	REMARKS: OPEN CUT											
T 6872	46	48	2.880	25	960	200	3.5	7	3450	20	20	10
	REMARKS: OPEN CUT											
T 6873	48	50	4.160	20	2350	280	9.0	4	6800	30	38	-10
	REMARKS: OPEN CUT											
T 6874	50	52	2.380	25	1050	210	9.0	4	4150	20	37	15
	REMARKS: OPEN CUT											
T 6875	52	54	0.910	30	240	305	1.5	3	3200	10	27	26
	REMARKS: OPEN CUT											

Laboratory:	ANALAB										
Instrument:	310	103	103	103	103	114	103	103	401	401	
Det. Limit:	0.005	5.000	5.000	5.000	0.500	1.000	10.000	10.000	3.000	10.000	

831031

031

APPENDIX 3

PETROLOGY

032

DATE: 19 OCT 1987
FILE No.: 9003/5
INITIALS:

831033

Central Mineralogical Services



39 Beulah Road  
Norwood, S.A. 5067  
Telephone 42 5659  
FAX. 08-363 1820

Mr. P.A. Roberts  
Senior Regional Geologist  
Gold Fields Exploration Pty. Ltd.  
P.O. Box 835  
BURNIE / TAS. 7320

15th October, 1987

REPORT CMS 87/8/15

YOUR REFERENCE: Letter dated 12.8.1987  
DATE RECEIVED: 14th August, 1987  
SAMPLE NOS.: 22 Samples  
SUBMITTED BY: P.A. Roberts  
WORK REQUESTED: Petrology/Mineralogy

*H.W. Fander*

H.W. Fander, M. Sc.

T 4888 - Stormont Au-Bi Mine (P.T.S. 58456)

This rock may be classified as a garnet-actinolite rock or skarn. It consists essentially of medium-grained (mean 750  $\mu$ ) complexly growth-zoned and sector-twinned pale yellow grossular-andradite with semi-pervasive included fine-grained actinolite. Sporadic relatively massive lenses and crude bands of actinolite are present. Accessory poikilitic quartz occurs within the actinolite aggregates and intergranular to garnet. Minor discontinuous quartz veinlets exhibit selvages of garnet. Isolated flakes of dark green biotite occur in the relatively massive actinolite aggregates. These are partly altered to microcrystalline cloudy calcite and chlorite and are partly weathered, with associated secondary Fe-stainings.

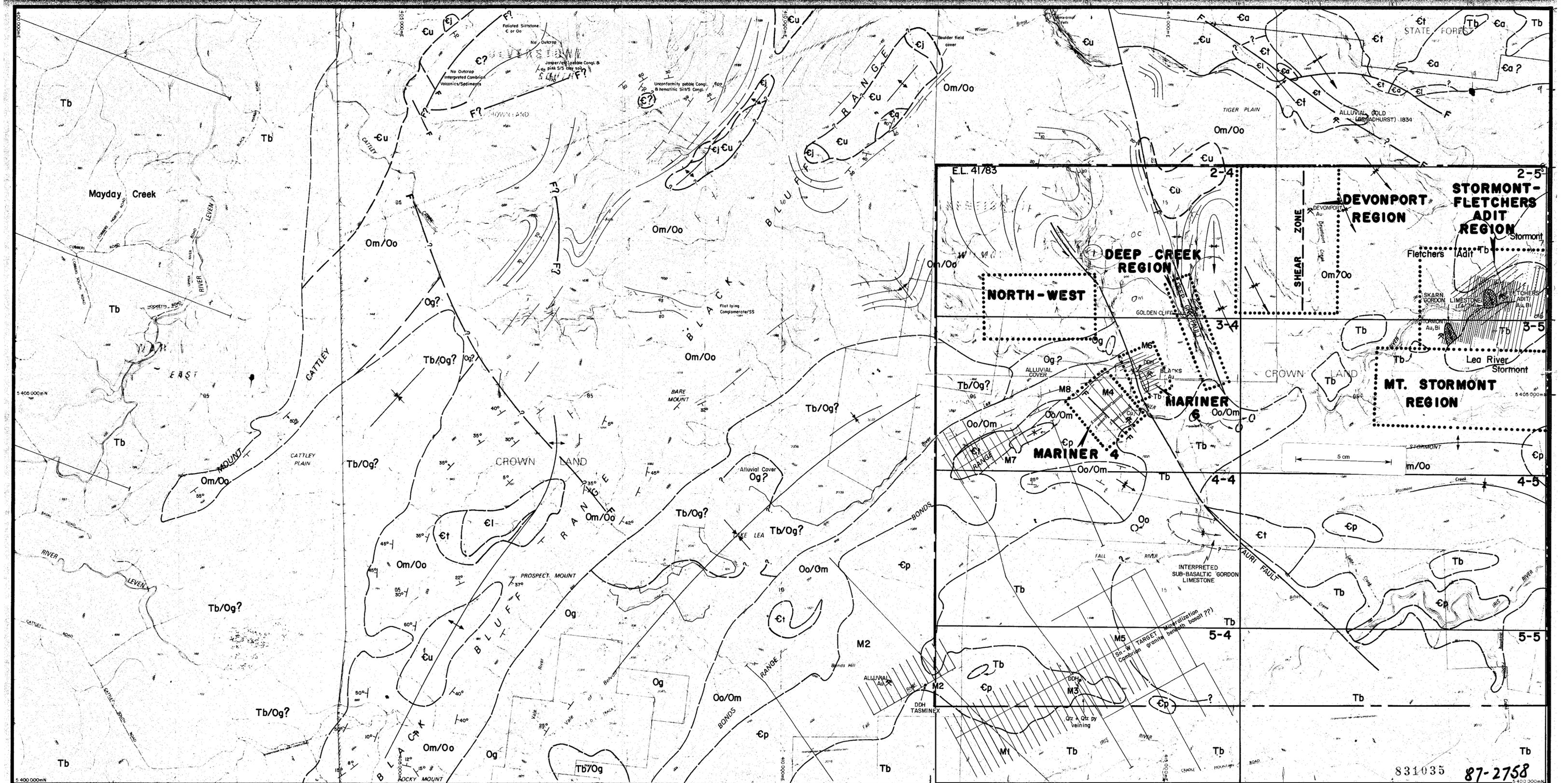
One actinolite aggregate includes a 2x4 mm ovoid aggregate, and subordinate actinolite-interstitial fine-grained disseminations of, bismuthinite. The coarse aggregate is granular-textured, with disseminated bismuthinite-intergranular patches of bismuth ranging to 160  $\mu$  diameter. Both bismuthinite and bismuth exhibit very thinly dispersed included blebs of gold ranging to 25  $\mu$  diameter (ovoid bleb in bismuth), but typically < 10  $\mu$ . Bismuth including gold is largely untwinned and these composites may represent degraded maldonite.

T 4889 - Stormont Au-Bi Mine (P.T.S. 58657)

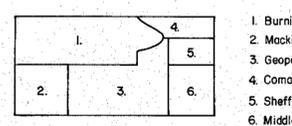
This is a garnet-actinolite skarn with close affinities to T 4888. This rock exhibits a breccia-like fabric with aggregates of variably actinolite-stained, medium-grained grossular-andradite in a matrix of semi-massive actinolite aggregates carrying thinly disseminated relatively fine garnet euhedra.

In common with T 4888, the garnet is complexly zoned and sector-twinned. Poikilitic quartz is relatively conspicuous within the finer-grained garnet aggregate-hosted amphibole aggregates. Amphibole, particularly where fine-grained, is partly replaced by Fe-stained microcrystalline calcite aggregates.

Mineragraphic examination revealed traces of magnetite s thinly disseminated microscopic (< 20  $\mu$ ) euhedra in the actinolite aggregates. Close examination revealed no detectable Bi-minerals or gold.



**GEOLOGICAL RESPONSIBILITY DIAGRAM**



1. Burnie 1:250,000 sheet : D.B. Seymour, R.P. unpublished mapping
2. Mackintosh 1 mile sheet
3. Geopelo mapping (1978-1982)
4. Comalco mapping (Weste, 1978)
5. Sheffield 1 mile sheet, R.P. unpublished mapping
6. Middlesex 1 mile sheet, R.P. unpublished mapping

**TERTIARY**

- Tb** Basalt, locally underlain by greybill
- Tb/Og?** Basalt over interpreted Gordon Limestone
- ORDOVICIAN**
- Og** Gordon Limestone
- Oo/Oo** Moira Sandstone/Owen Conglomerate undifferentiated  
Predominantly bioturbated sandstone

**CAMBRIAN**

- Cj** Volcanoclastic Conglomerate - Jukes Equivalent(?)
- Cq** Quartz phric volcanics
- Ct** Fine-medium grained volcanoclastics, clastics
- Cf** Rhyolite-dacite volcanics, probably lavas
- Ca** Andesite lavas
- Cp** Quartz-feldspar-biotite porphyry, partly intrusive, local sericitic alteration
- Cu** Undifferentiated volcanics and sediments

**LEGEND**

**ALTERATION**

- Magnetite, garnet skarns
- Silicification with corundum sericite-specularite alteration

**CULTURE**

- Grid Lines
- Mariner 1 (Geopelo grid)
- Diamond drill hole
- Strike with dip of bedding
- Bedding trend line
- Anticline
- Syncline

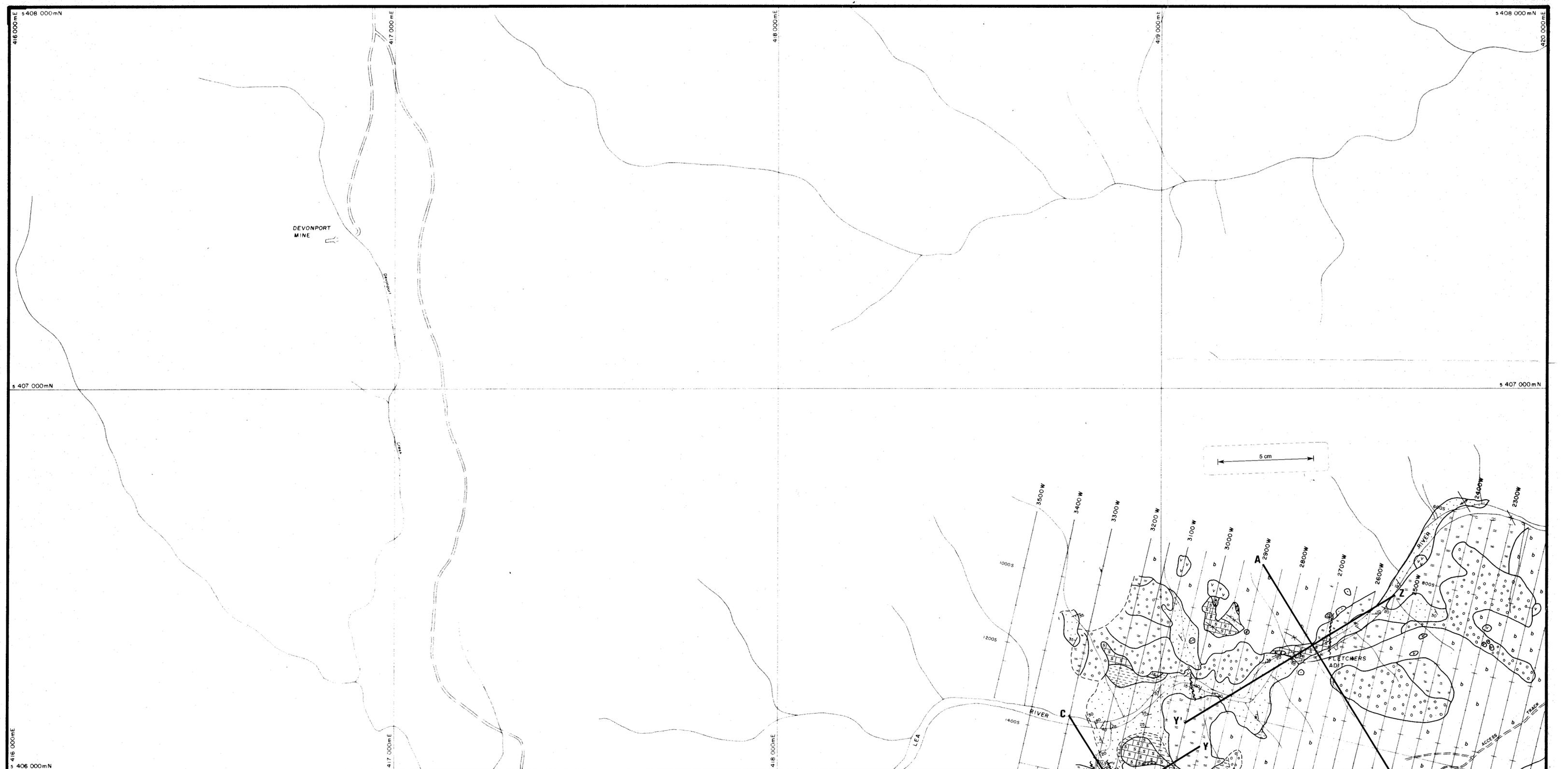
**2-4 LEA 1:5000 SHEETS**

**AREAS DESIGNATED FOR FOLLOW-UP**

- Old mines and prospects, name and contained metals
- Fault with movement shown
- Possible margin of concealed granitic cupola

**GOLD FIELDS EXPLORATION PTY. LIMITED**

E.L. 41/83		DRAWN BY R.P.	
LAKE LEA AREA		DRAFTSMAN TGDS/S.F.	
FACTUAL AND INTERPRETIVE GEOLOGY		DATE Dec. '87	
WITH AREAS FOR FOLLOW-UP		REVISIONS	
SCALE 1:25000		R.P./D.S.-Oct.85	
FILE NO.		R.R.-DEC.86	
6153		FIG 2	



- ORDOVICIAN**
- Magnetite-Chlorite skarn with Sulphides
  - Calc-silicates with Wrigglite and minor Siltstones
  - Metasilstone
  - Sandstone (Moina)/Quartzite

- LEGEND**
- Alluvium
  - Basalt soil cover
  - Outcropping Tertiary Basalt
  - Tertiary Greybill

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

87-2758

831036

GOLD FIELDS EXPLORATION PTY. LIMITED

**LAKE LEA  
MOINA AREA - E.L.41/83  
LEA RIVER GRID  
GEOLOGY**

6154

SCALE 1:5000

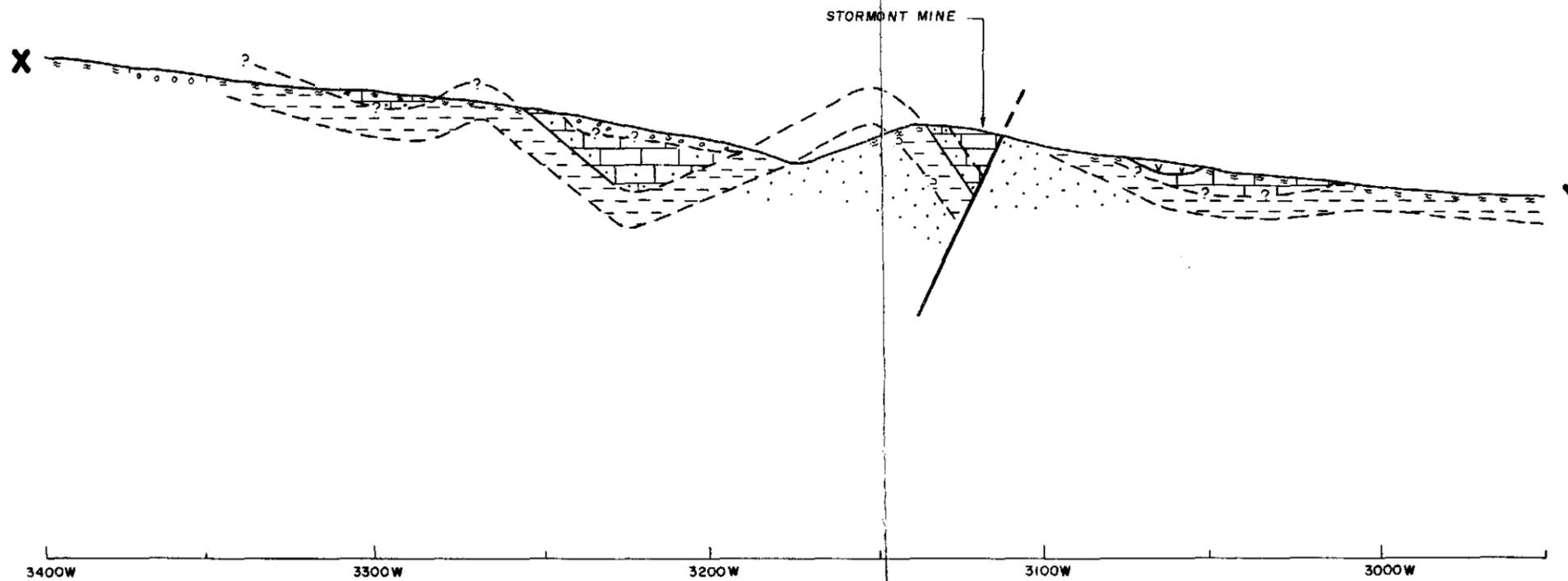
DRAWN BY	DATE Dec. '87
DRAFTSMAN	REVISIONS
FILE NO.	FIG. 3



700m R.L. —

600m R.L. —

500m R.L. —



**LEGEND**

- ALLUVIUM
- TERTIARY BASALT (Tb)  
b = Basalt Soil. v = Basalt Outcrop
- SKARN
- GREYBILLY

- MAGNETITE-BEARING  
CALC-SILICATE/SKARN
- METASILTSTONE
- QUARTZITE/SANDSTONE

- FAULT
- GEOLOGICAL CONTACT OR  
FORM LINE.  
(Inferred: - - - -)

5 cm

831038

87-2758

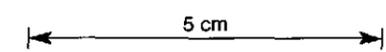
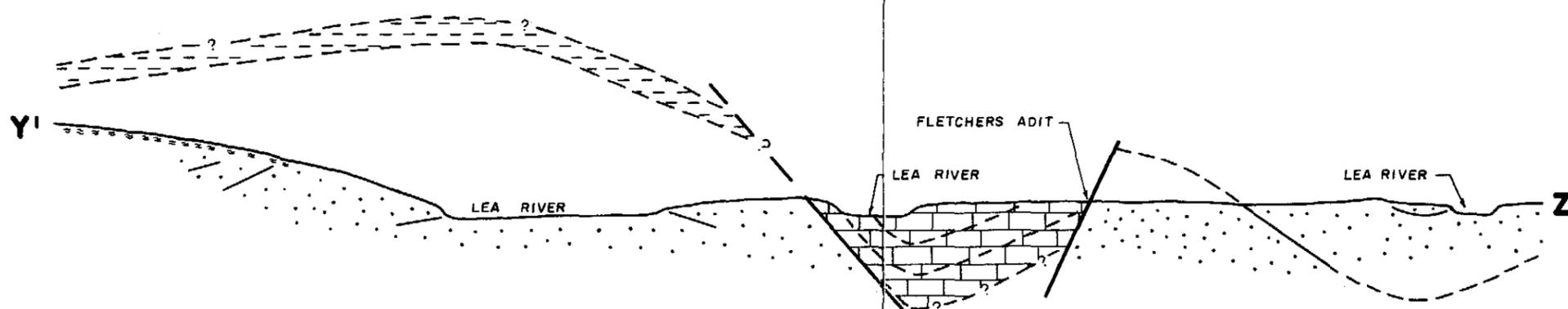
6156

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/83	
<b>GEOLOGICAL CROSS SECTION X-Y</b>	
(3400W/1800S - 2950W/1350S)	
SCALE 1: 2500	FILE NO.
	FIG 5

DRAWN BY	R.H.R.
DRAFTSMAN	G.B.
DATE	DEC. '87
REVISIONS	

700m R.L. —

600m R.L. —



**LEGEND**

- |  |   |  |  |  |  |
|--|---|--|--|--|--|
|  | ALLUVIUM  |  | MAGNETITE-BEARING<br>CALC SILICATE / SKARN |  | FAULT  |
|  | TERTIARY BASALT (Tb)<br>b = Basalt Soil. v = Basalt Outcrop |  | METASILTSTONE                              |  | GEOLOGICAL CONTACT OR<br>FORM LINE<br>(Inferred - - - - -) |
|  | SKARN   |  | QUARTZITE / SANDSTONE                      |  |  |
|  | GREYBILLY   |  |  |  |  |

831039

87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/83	
GEOLOGICAL CROSS SECTION Y' - Z	
( 3000W / 1300S - 2550W / 850S )	
SCALE 1 2500	25 0 50 Metres
DRAWN BY R.H.R.	FILE NO.
DRAFTSMAN G.B.	FIG. 6
DATE DEC. '87	
REVISIONS	

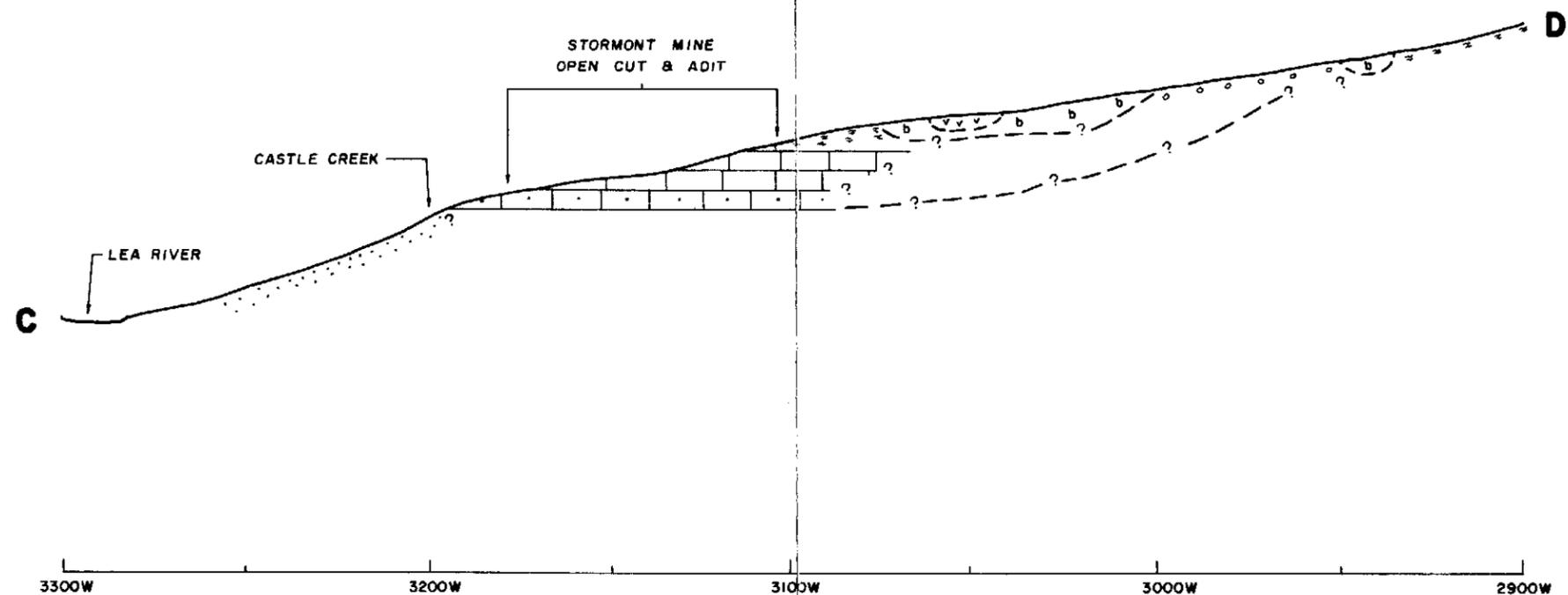
6157



700m R.L. —

600m R.L. —

500m R.L. —



**LEGEND**

-  ALLUVIUM
-  TERTIARY BASALT (Tb)  
b = Basalt Soil. v = Basalt Outcrop
-  SKARN
-  GREYBILLY

-  MAGNETITE-BEARING  
CALC-SILICATE / SKARN
-  METASILTSTONE
-  QUARTZITE / SANDSTONE

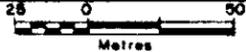
-  FAULT
-  GEOLOGICAL CONTACT OR  
FORM LINE.  
(Inferred - - - - -)

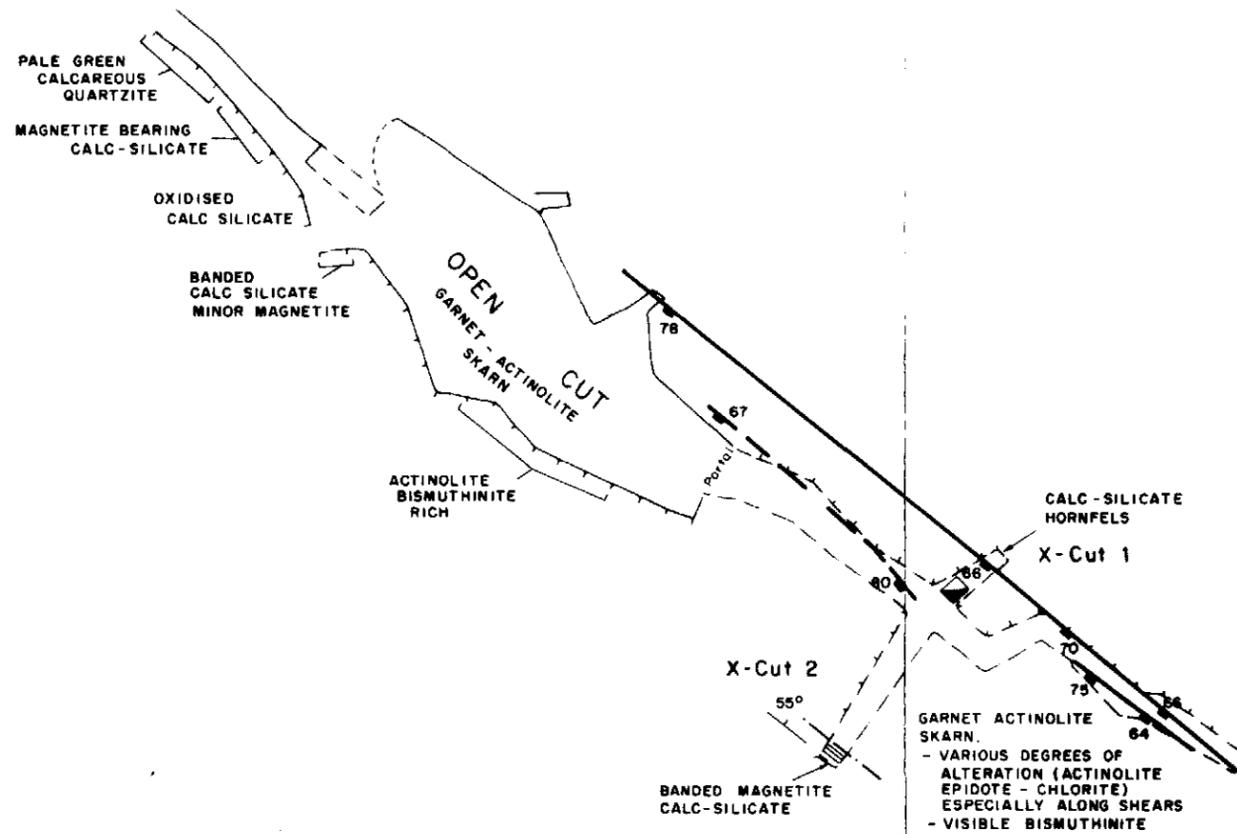
5 cm

6159

831041

87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/83	
<b>GEOLOGICAL CROSS SECTION C - D</b>	
(3400W/1350S - 2900W/1750S)	
SCALE 1:2,500	
FILE NO	FIG. 8
DRAWN BY: R.H.R.	
DRAFTSMAN: G.B.	
DATE: DEC. '87	
REVISIONS:	



**LEGEND**

- FAULT (DIP)  
66°
- INFERRED FAULT
- GEOLOGICAL CONTACT
- BEDDING STRIKE DIP  
50°

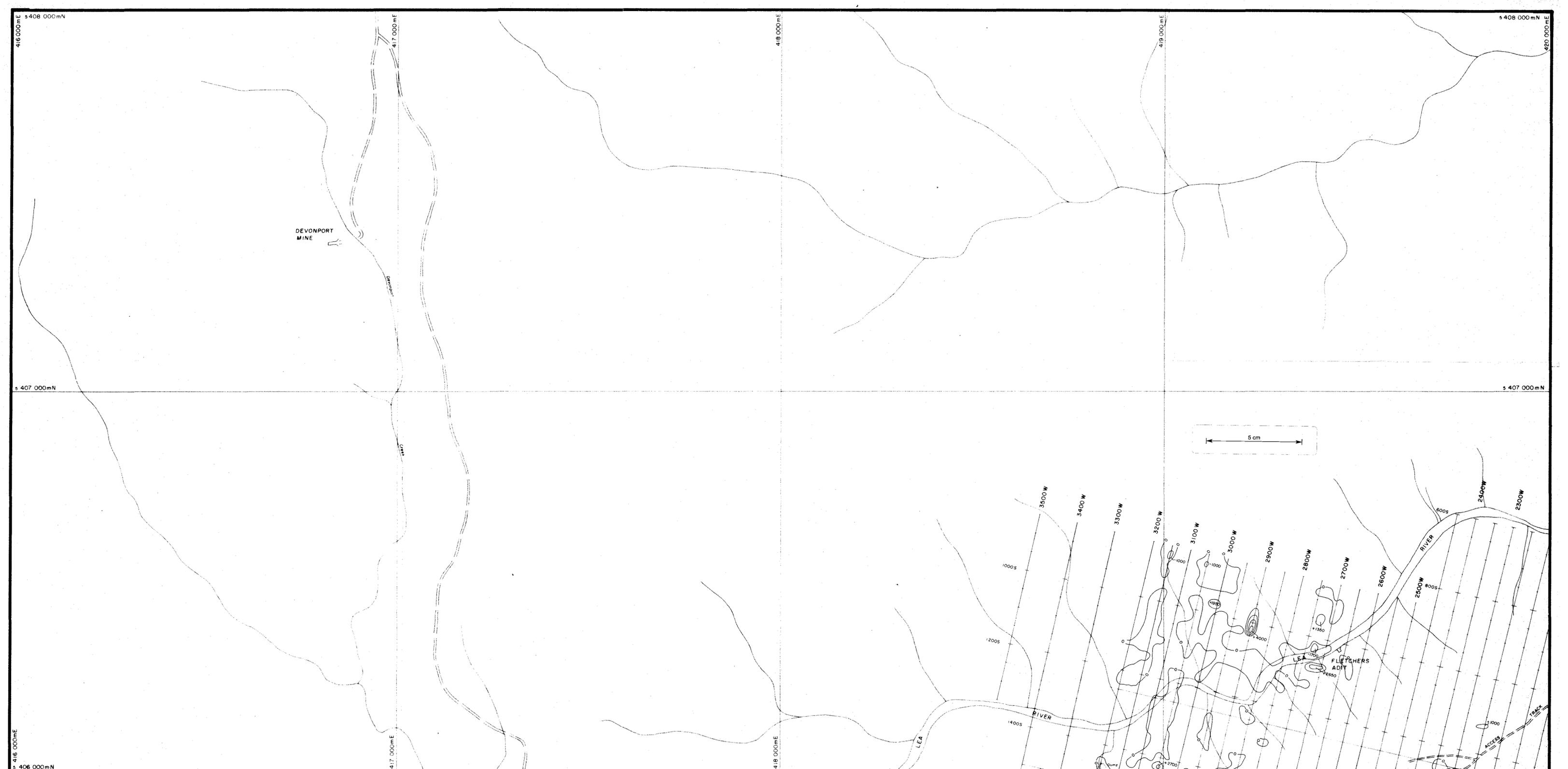
5 cm

831042

87-2758

6160

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/83	DRAWN BY: R.H.R.
STOREMONT MINE	DRAFTSMAN: G.B.
<b>GEOLOGY</b>	DATE: DEC. '87
	REVISIONS:
	FILE NO.
SCALE 1:500	
	FIG. 9



**LEGEND**

 MAGNETIC HIGH - GREATER THAN 5000 GAMMAS

CONTOURS AT 1000 GAMMA INTERVALS

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

831043

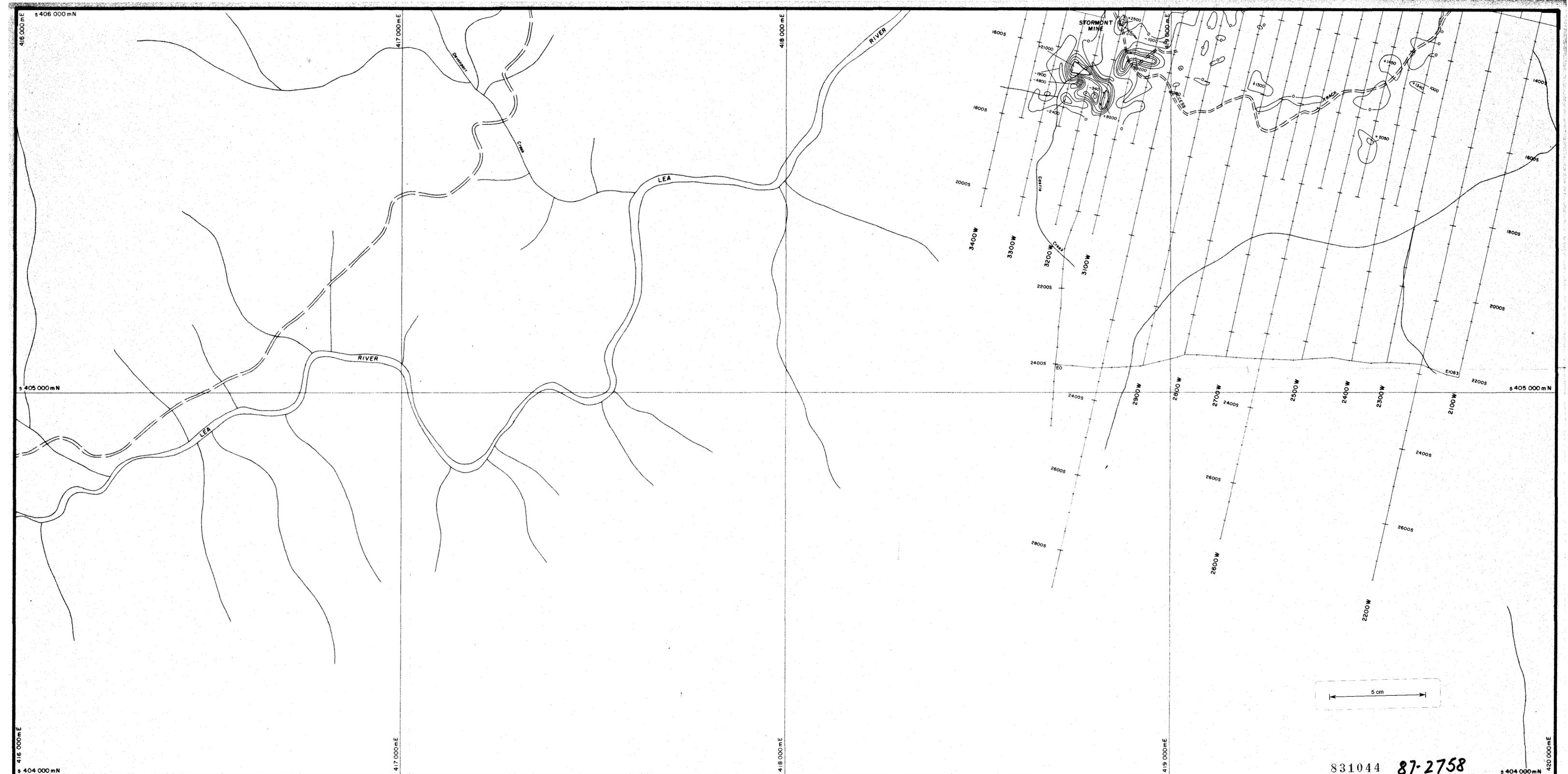
GOLD FIELDS EXPLORATION PTY LIMITED

**LAKE LEA**  
**MOINA AREA - E.L.41/83**  
**GROUND MAGNETIC CONTOURS**  
**FLUXGATE**  
**LEA RIVER GRID 6161**

DRAWN BY :  
 DRAFTSMAN :  
 DATE Nov. '87  
 REVISIONS :  
 FILE NO.

SCALE 1:5000 

FIG 10



**LEGEND**

MAGNETIC HIGH - GREATER THAN 5000 GAMMAS

CONTOURS AT 1000 GAMMA INTERVALS

**INDEX TO ADJOINING MAPS**

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

831044 **87-2758**

GOLD FIELDS EXPLORATION PTY. LIMITED

**LAKE LEA**  
MOINA AREA - E.L. 41/83  
**GROUND MAGNETIC CONTOURS**  
**FLUXGATE**  
**LEA RIVER GRID 6162**

DRAWN BY	
DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	

SCALE 1:5000



FIG. 11



87-2758

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

GOLD FIELDS EXPLORATION PTY. LIMITED

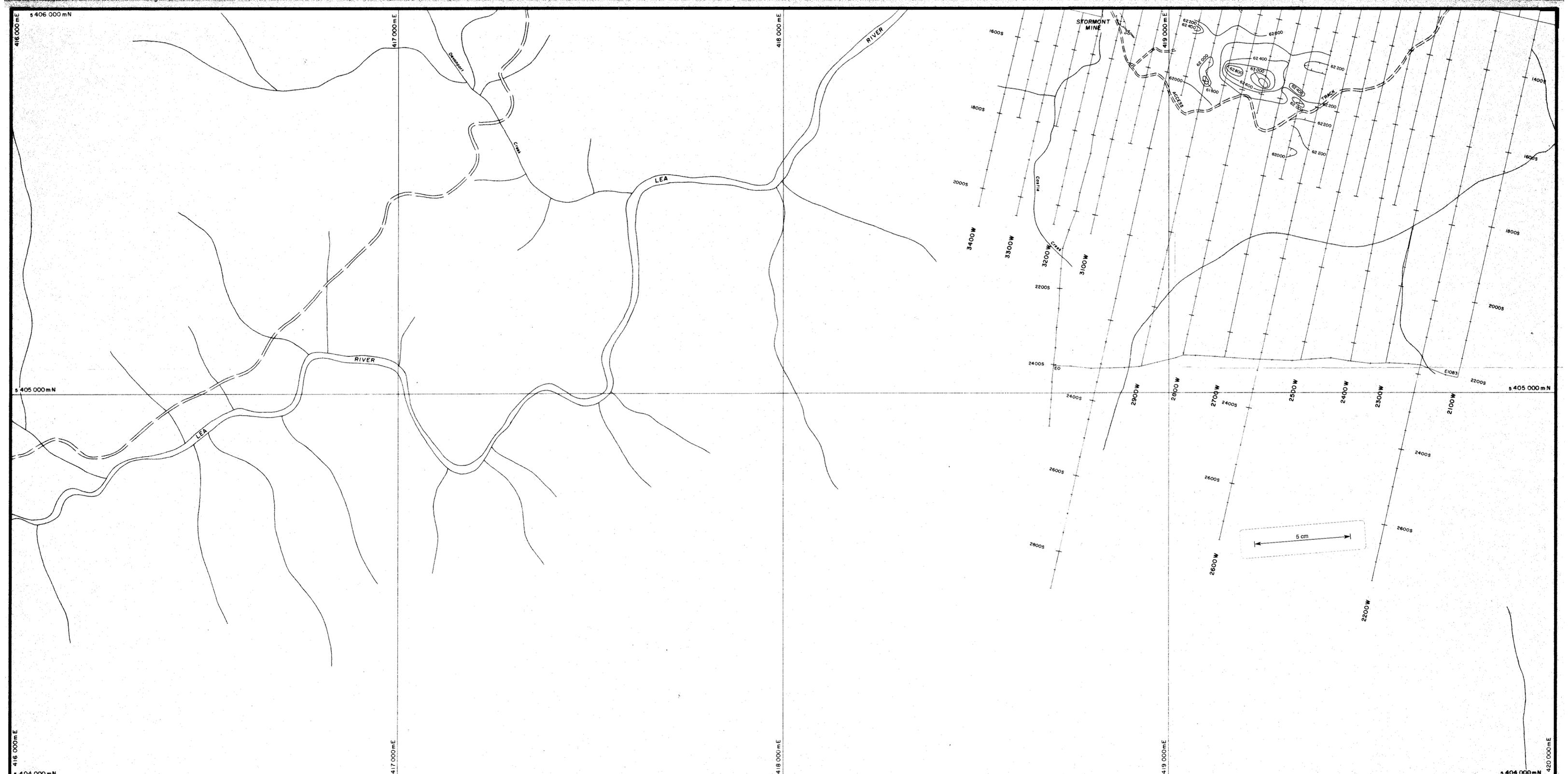
**LAKE LEA**  
 MOINA AREA - E.L. 41/83  
**GROUND MAGNETIC CONTOURS**  
**PROTON PRECESSION**  
**LEA RIVER GRID 6163**

DRAWN BY  
 DRAFTSMAN  
 DATE Nov. '87  
 REVISIONS  
 FILE NO.

831045

SCALE 1:5000

FIG 12



87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
GROUND MAGNETIC CONTOURS  
PROTON PRESSION  
LEA RIVER GRID

DRAWN BY :  
DRAFTSMAN :  
DATE : Nov '87  
REVISIONS :  
FILE NO. : 6164

831046

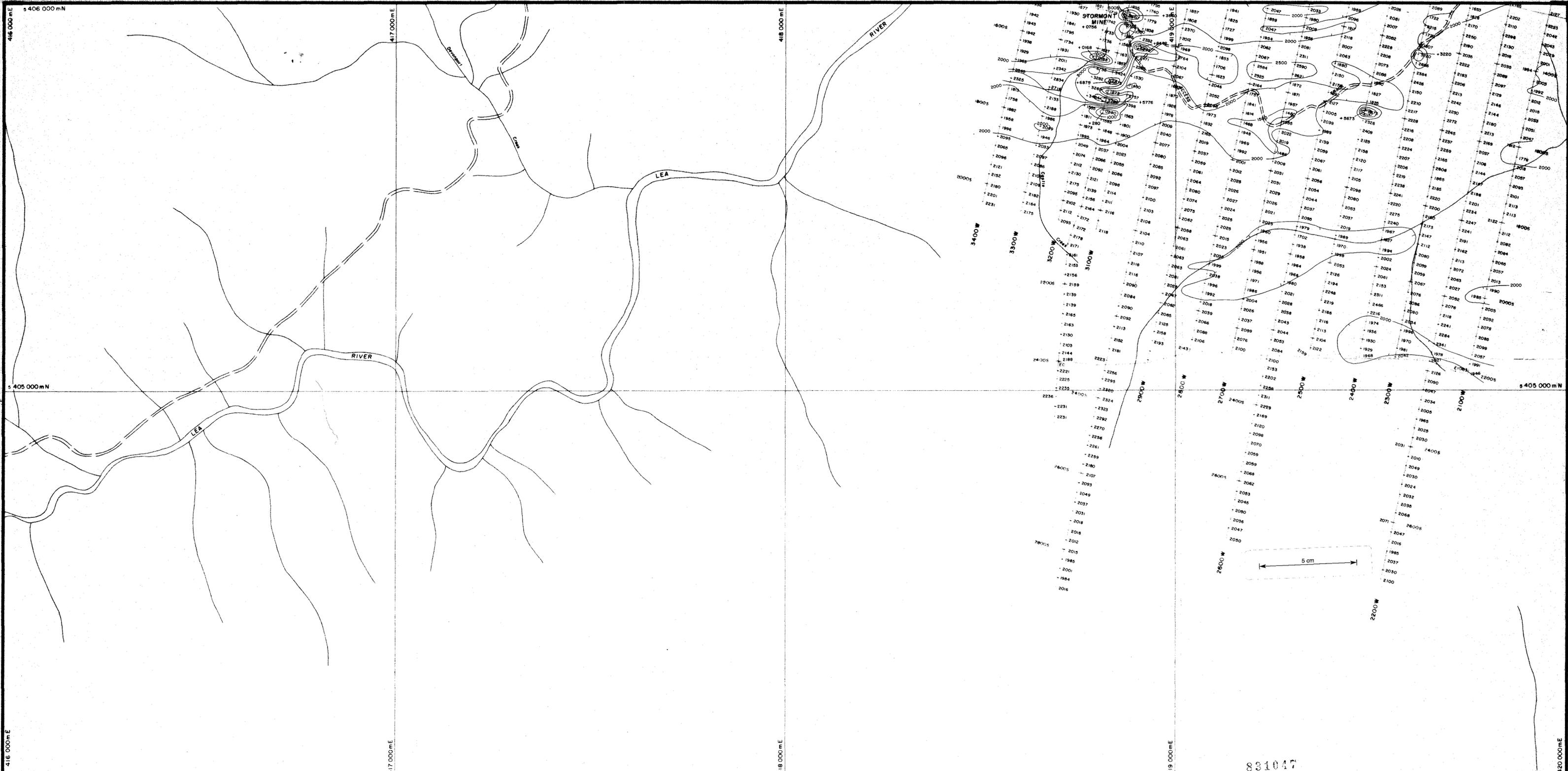
SCALE 1:5000



FIG. 13

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1



416 000mE 417 000mE 418 000mE 419 000mE 420 000mE

406 000mN 405 000mN 404 000mN

**LEGEND**  
 MAGNETIC HIGH - GREATER THAN 64500

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

TOTAL COUNT EQUALS READING PLUS 60,000 GAMMAS

87-2738

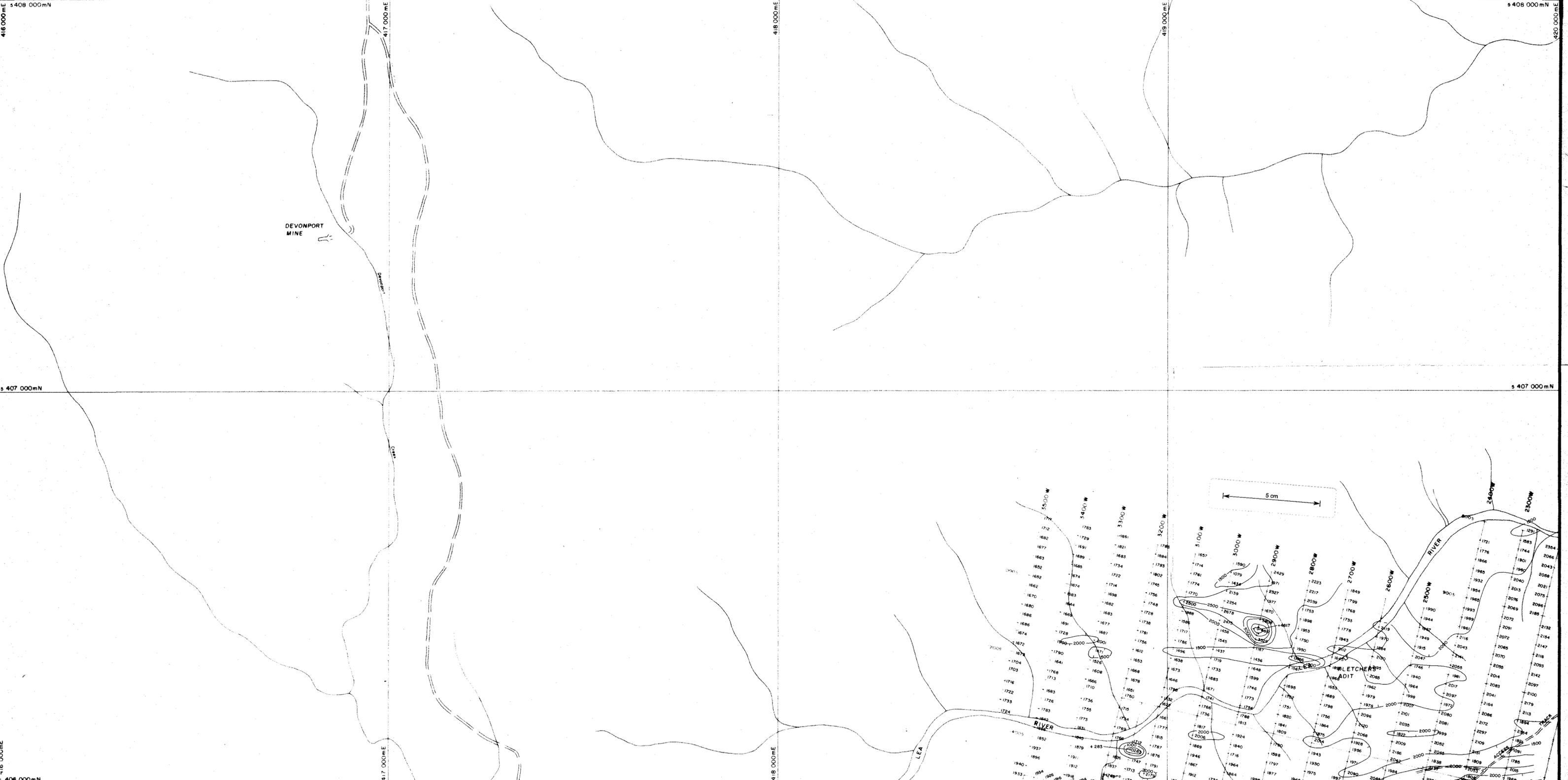
GOLD FIELDS EXPLORATION PTY LIMITED

LAKE LEA  
 MOINA AREA - E.L. 41/83  
**GROUND MAGNETIC CONTOURS**  
**GFEL PROTON PRESSION**  
**LEA RIVER GRID 6165**

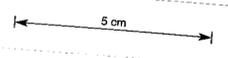
DRAWN BY R.H.R.  
 DRAFTSMAN G.B.  
 DATE Nov. '87  
 REVISIONS  
 FILE NO.

SCALE 1:5000 METRES

FIG. 14



DEVONPORT MINE



LEGEND  
 MAGNETIC HIGH - GREATER THAN 64500 GAMMAS

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

TOTAL COUNT EQUALS READING PLUS 60000 GAMMAS

87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
 MOINA AREA - E.L.41/83  
 GROUND MAGNETIC CONTOURS  
 GFEL PROTON PRECESSION  
 LEA RIVER GRID

DRAWN BY	R.H.R.
DRAFTSMAN	G.B.
DATE	Nov. '87
REVISIONS	
FILE NO.	6166

831048

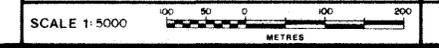
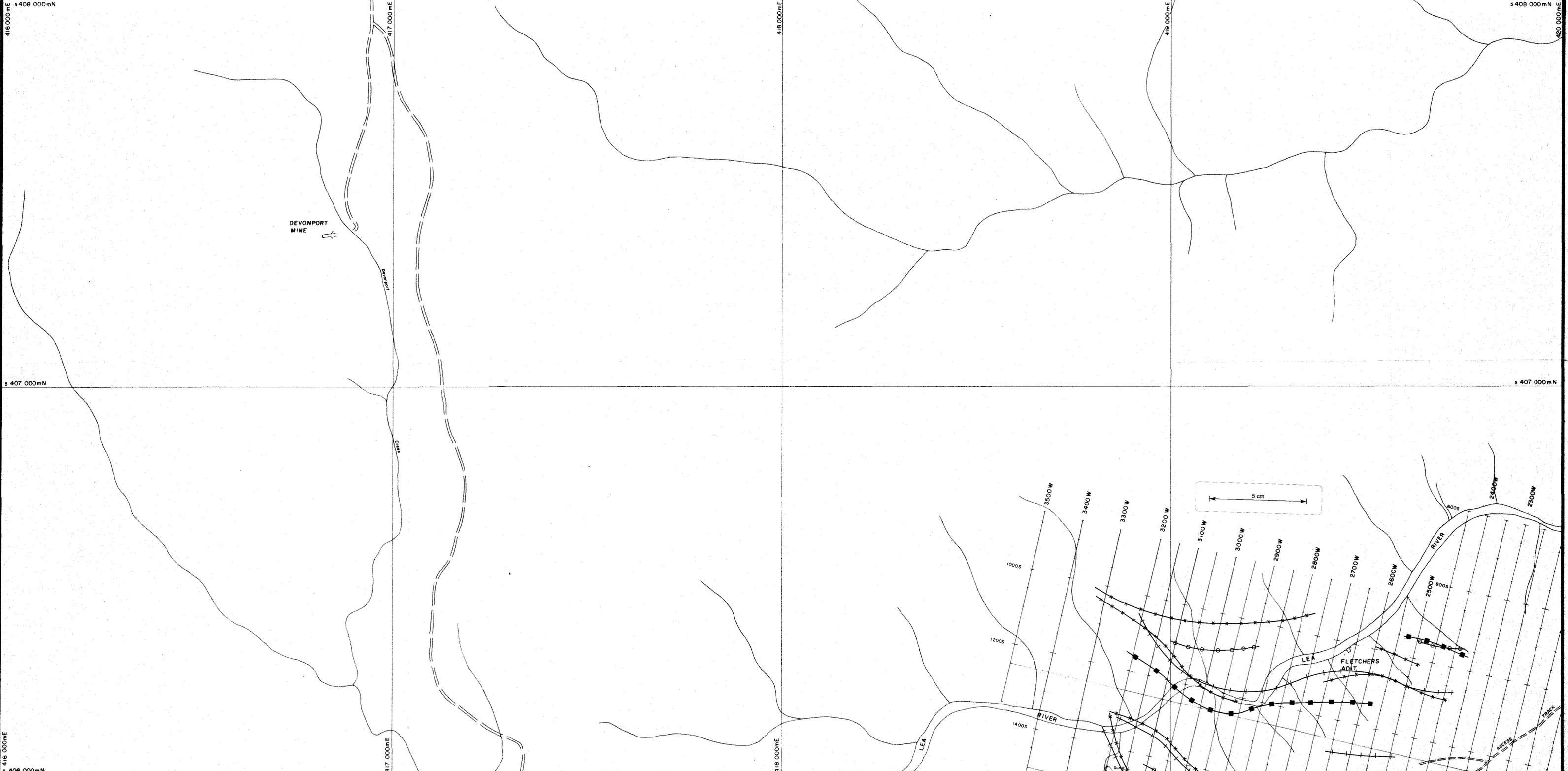


FIG. 15



- LEGEND**
- Resistivity Low
  - +—+—+ Resistivity High
  - x—x—x Chargeability Low
  - o—o—o Chargeability High

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED

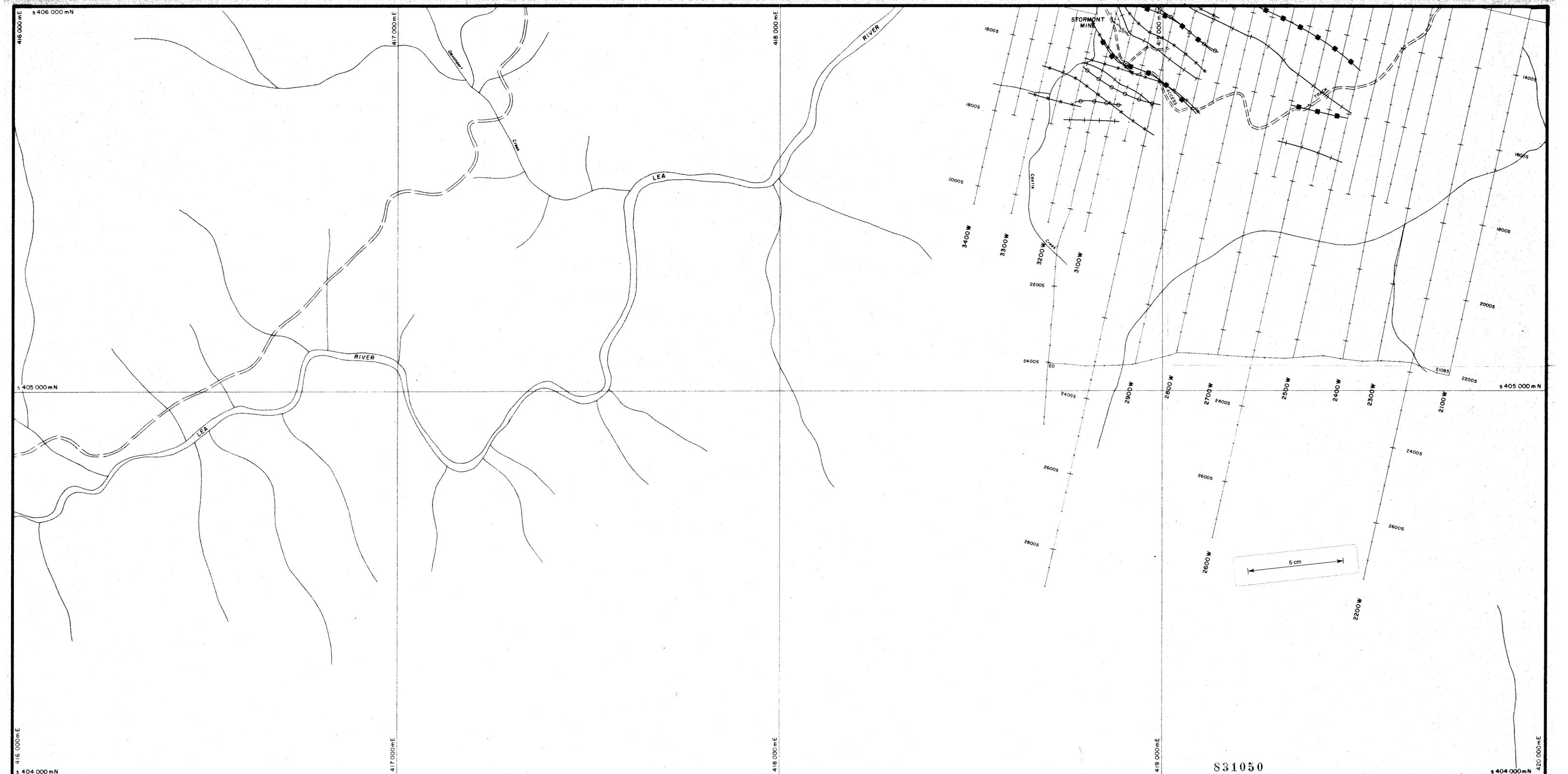
**LAKE LEA**  
**MOINA AREA - E.L.41/83**  
**LEA RIVER GRID**  
**IP TRENDS**

DRAWN BY	
DRAFTSMAN	
DATE	Nov '87
REVISIONS	
FILE NO.	6167

831049

SCALE 1:5000

FIG. 16



831050  
87-2758

- LEGEND**
- ■ ■ ■ ■ Resistivity Low
  - + + + + + Resistivity High
  - x x x x x Chargeability Low
  - o o o o o Chargeability High

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	GETHANA 3-1
4-4	4-5	4-1

GOLD FIELDS EXPLORATION PTY. LIMITED

**LAKE LEA**  
MOINA AREA - E.L.41/83

**LEA RIVER GRID**  
**IP TRENDS**

6168

SCALE 1:5000

FIG. 17

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DRAFTSMAN	
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FILE NO.	



87-2758

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

GOLD FIELDS EXPLORATION PTY LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
COPPER (in p.p.m.)

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DATE	Nov. '87
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FILE NO.	

831051

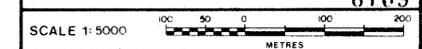
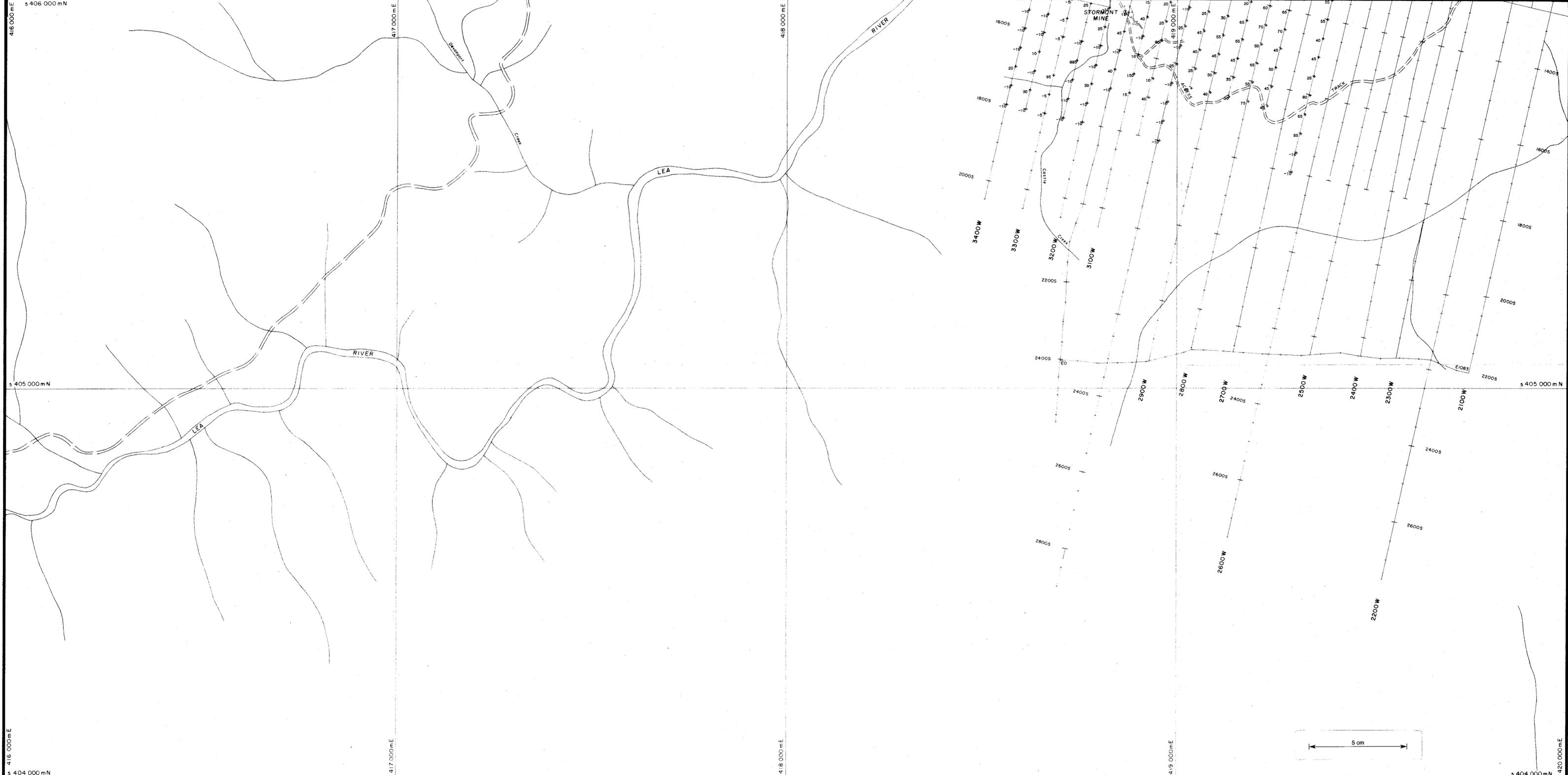


FIG. 18



87-2758

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

831052

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
COPPER (in p.p.m.)

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DRAFTSMAN	
DATE	Nov '87
REVISIONS	
FILE NO.	6170

SCALE 1:5000

FIG. 19



INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L.41/83  
COMALCO  
SOIL GEOCHEMISTRY  
LEAD (in p.p.m.)

DRAWN BY	
DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	

6171

831053

SCALE 1:5000



FIG. 20



87-2758

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

GOLD FIELDS EXPLORATION PTY LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
LEAD (in p.p.m.)

DRAWN BY	
DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	

6172

831054

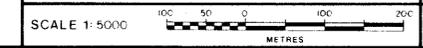
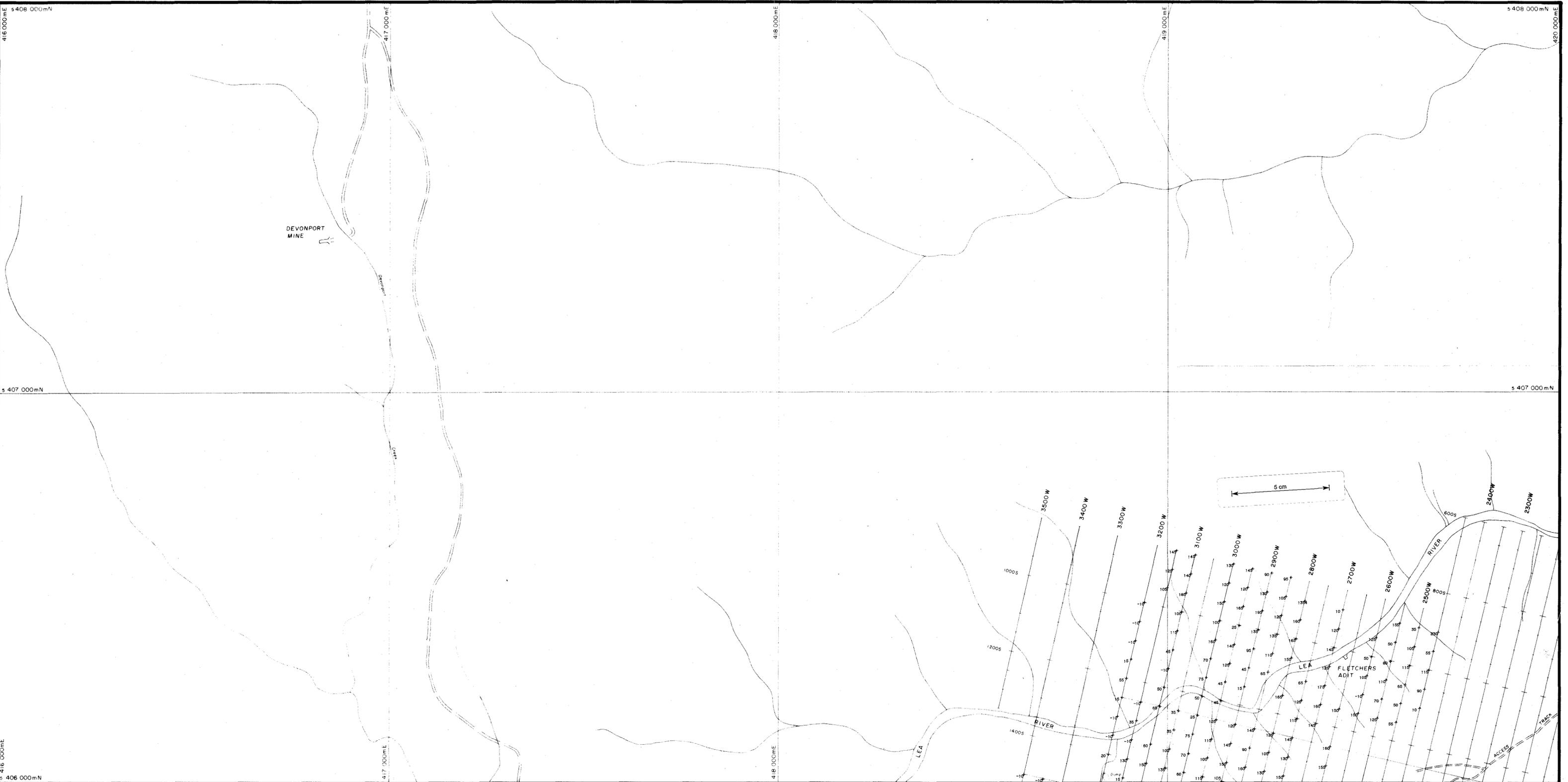
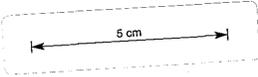


FIG 21



DEVONPORT  
MINE



INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

87-2758

831055

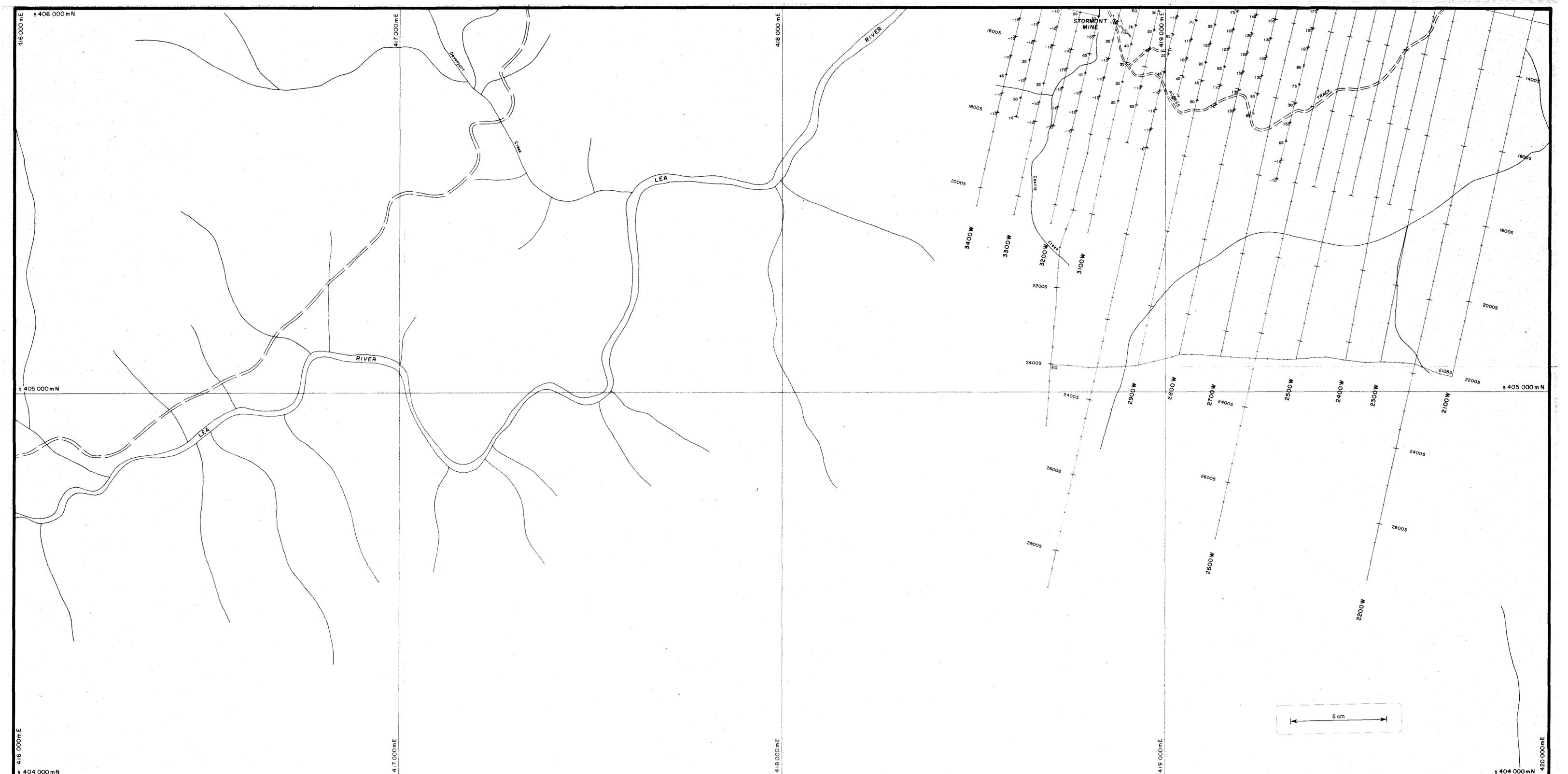
GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
ZINC (in p.p.m.)

DRAWN BY	
DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	6173

SCALE 1:5000

FIG. 22



87-2758

INDEX TO ADJOINING MAPS

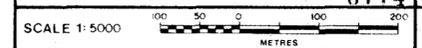
2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

GOLD FIELDS EXPLORATION PTY. LIMITED

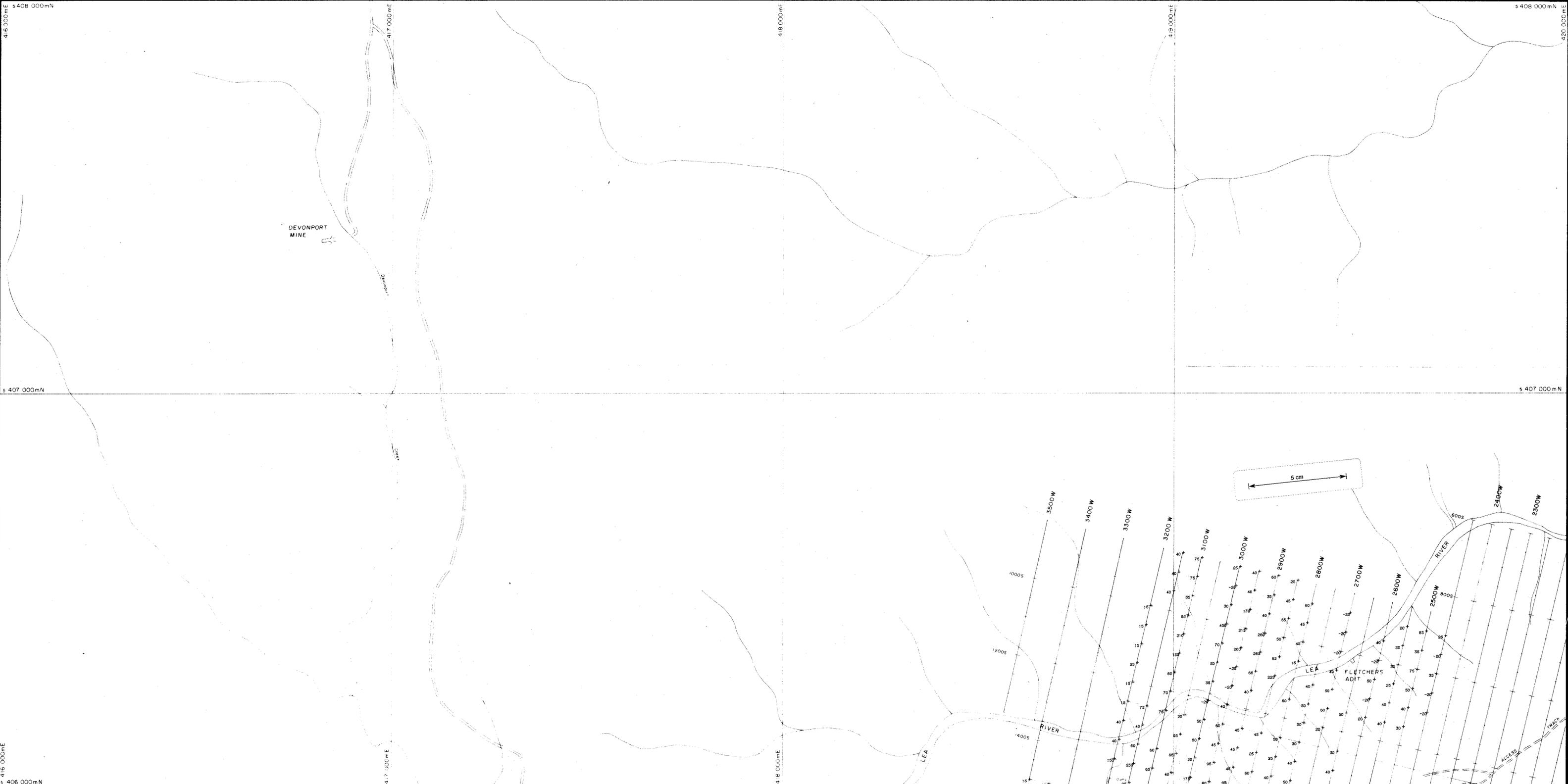
LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
ZINC (in p.p.m.)

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REVISIONS	
FILE NO.	

831056



6174  
FIG. 23



DEVONPORT  
MINE

87-2758

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

GOLD FIELDS EXPLORATION PTY LIMITED

LAKE LEA  
MOINA AREA - E.L.41/83  
COMALCO  
SOIL GEOCHEMISTRY  
BISMUTH (in p.p.m.) 6175

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DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	

831057

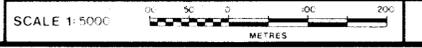


FIG 24



87-2758

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

GOLD FIELDS EXPLORATION PTY LIMITED

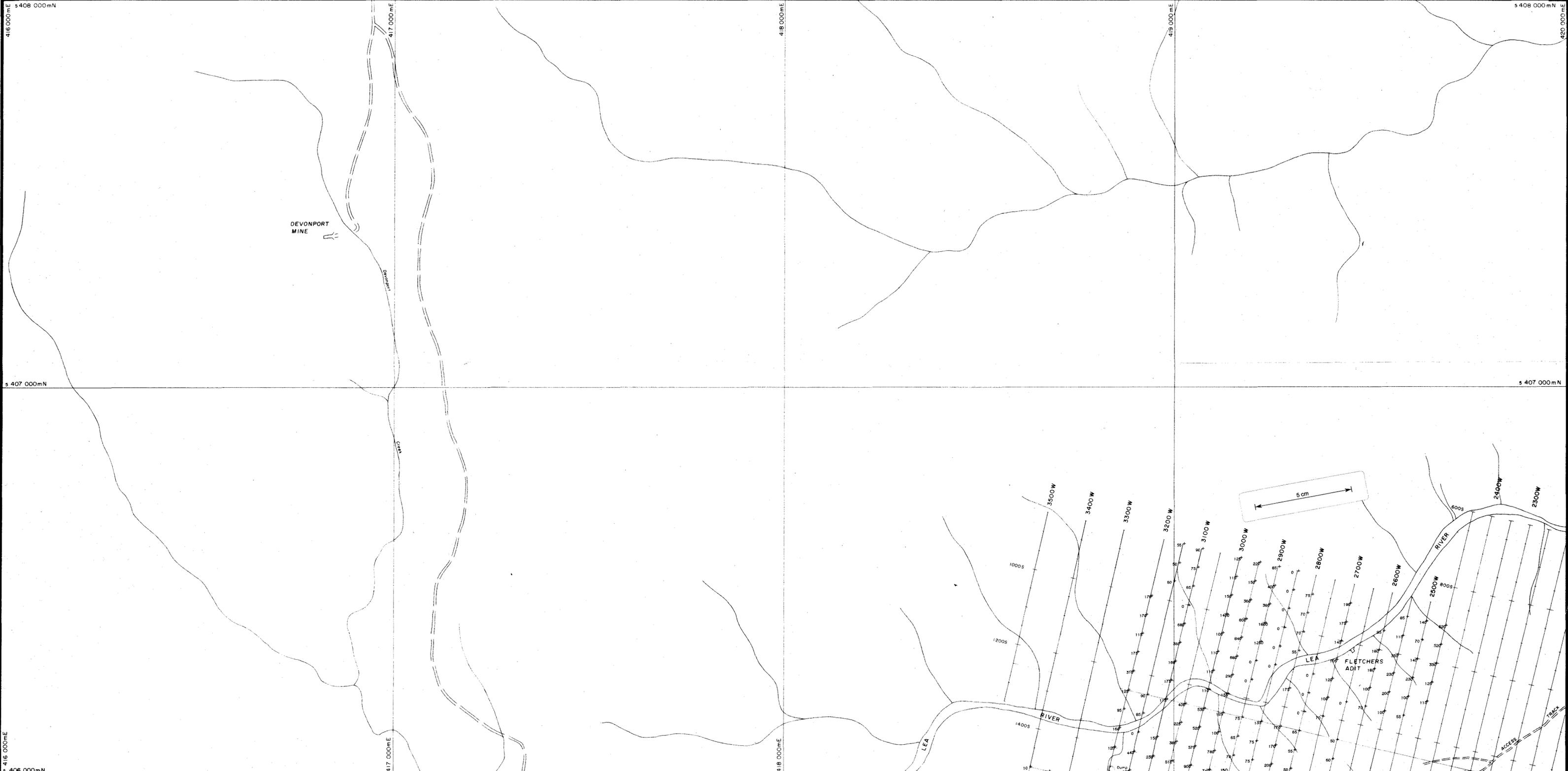
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MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
BISMUTH (in p.p.m.) 6176

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DRAFTSMAN  
DATE Nov. '87  
REVISIONS  
FILE NO.

831058



FIG 25



416 000mE 5 408 000mN  
 417 000mE  
 418 000mE  
 419 000mE  
 420 000mE  
 5 407 000mN  
 5 406 000mN

DEVONPORT MINE



INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

87-2758

GOLD FIELDS EXPLORATION PTY LIMITED

LAKE LEA  
 MOINA AREA - E.L.41/83

COMALCO  
 SOIL GEOCHEMISTRY  
 FLUORINE (in p.p.m.) 6177

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DATE	Nov. '87
REVISIONS	
FILE NO.	

831059

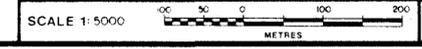
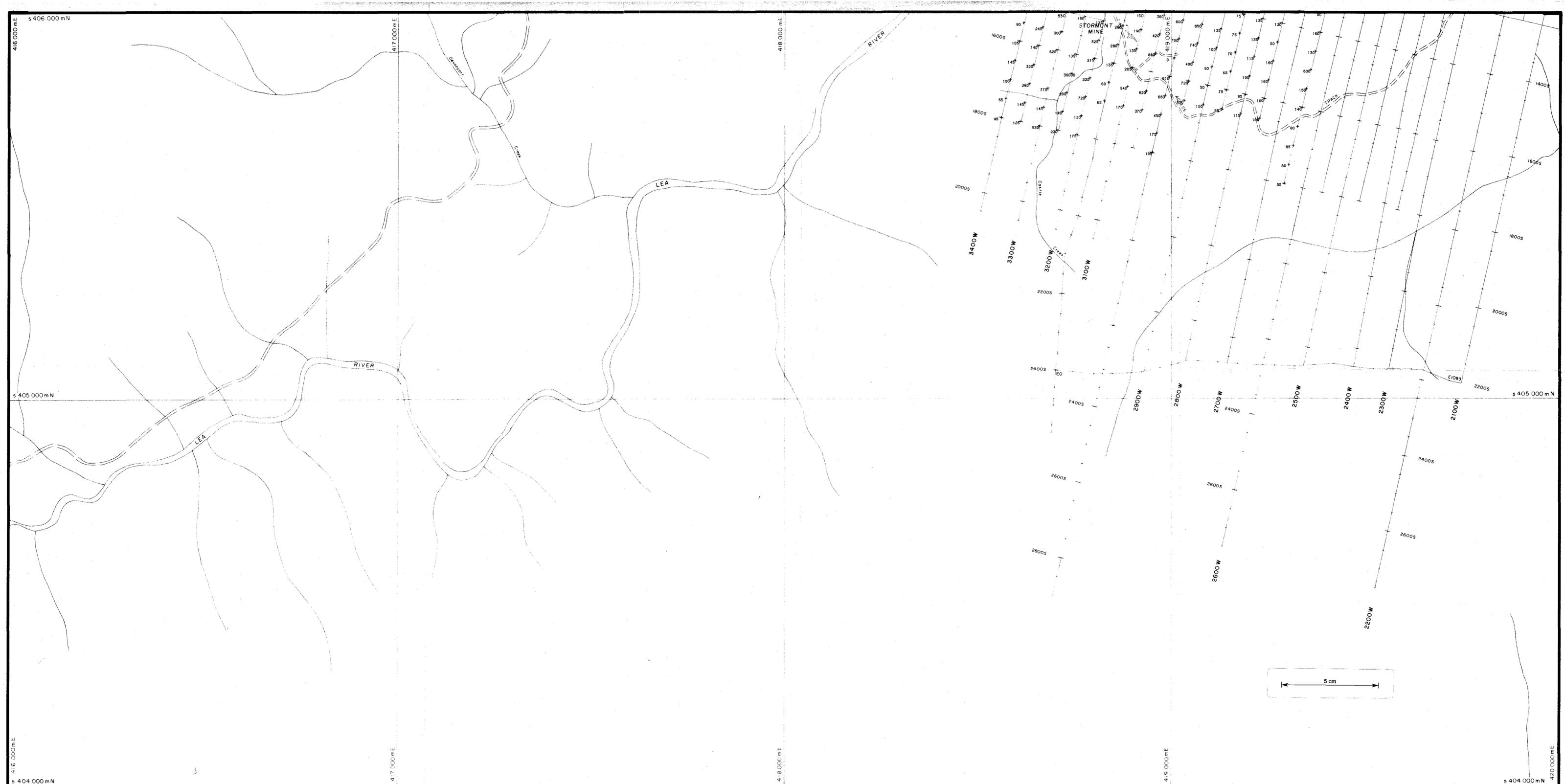


FIG 26



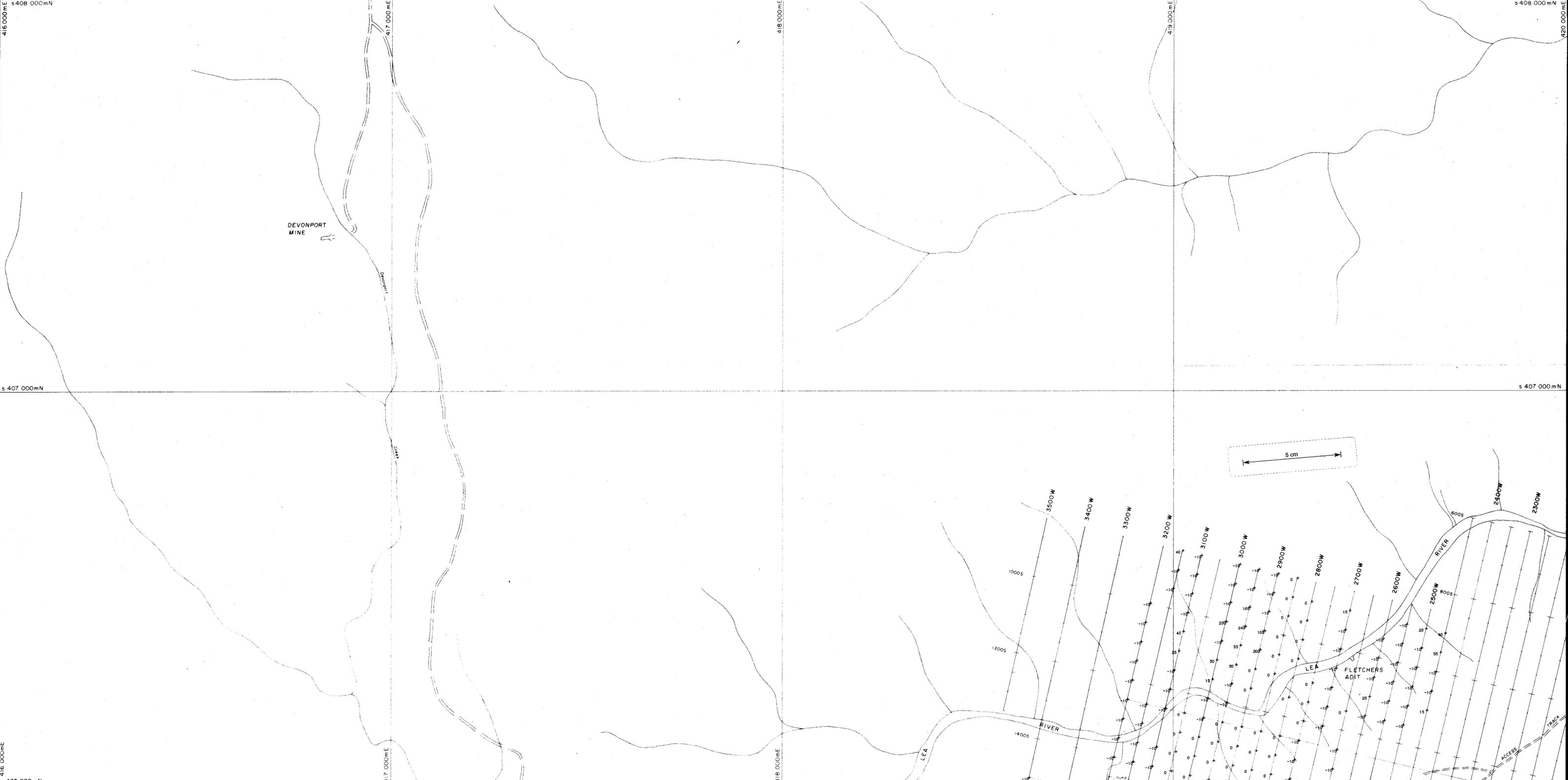
87-2758

INDEX TO ADJOINING MAPS

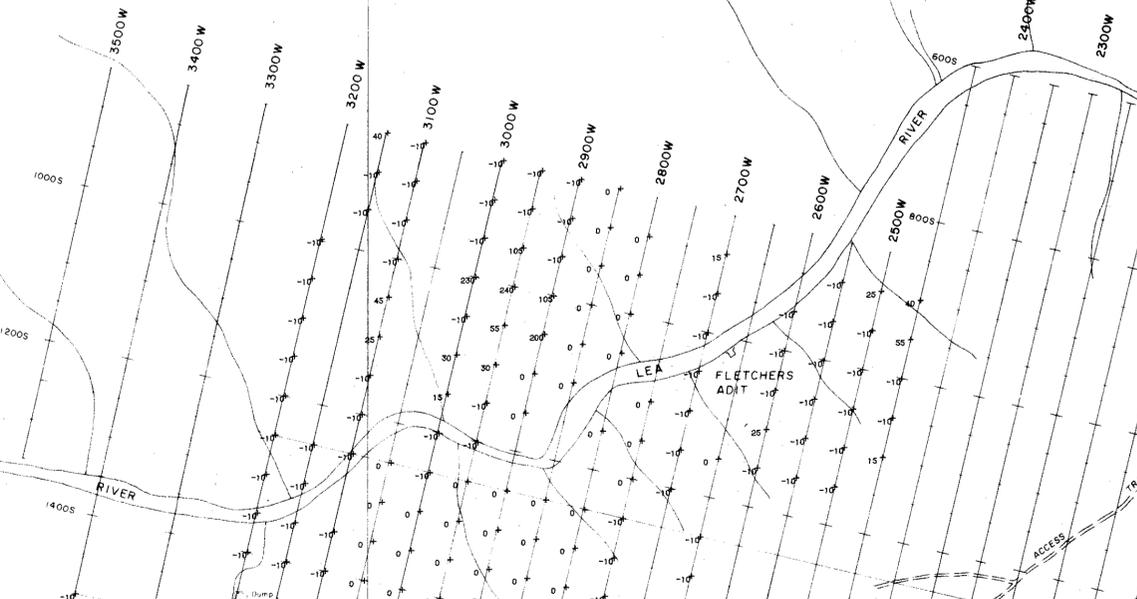
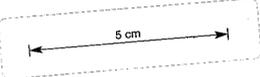
2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

831060

GOLD FIELDS EXPLORATION PTY. LIMITED	
LAKE LEA MOINA AREA - EL. 41/83	
COMALCO SOIL GEOCHEMISTRY	
FLUORINE (in p.p.m.) 6178	
DRAWN BY	DRAFTSMAN
DATE	Nov. '87
REVISIONS	
FILE NO.	
SCALE 1:5000	
FIG. 27	



DEVONPORT  
MINE



87-2758

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

GOLD FIELDS EXPLORATION PTY LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
MOLYBDENUM (in pp.m.)

DRAWN BY	
DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	

831061

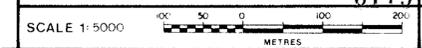
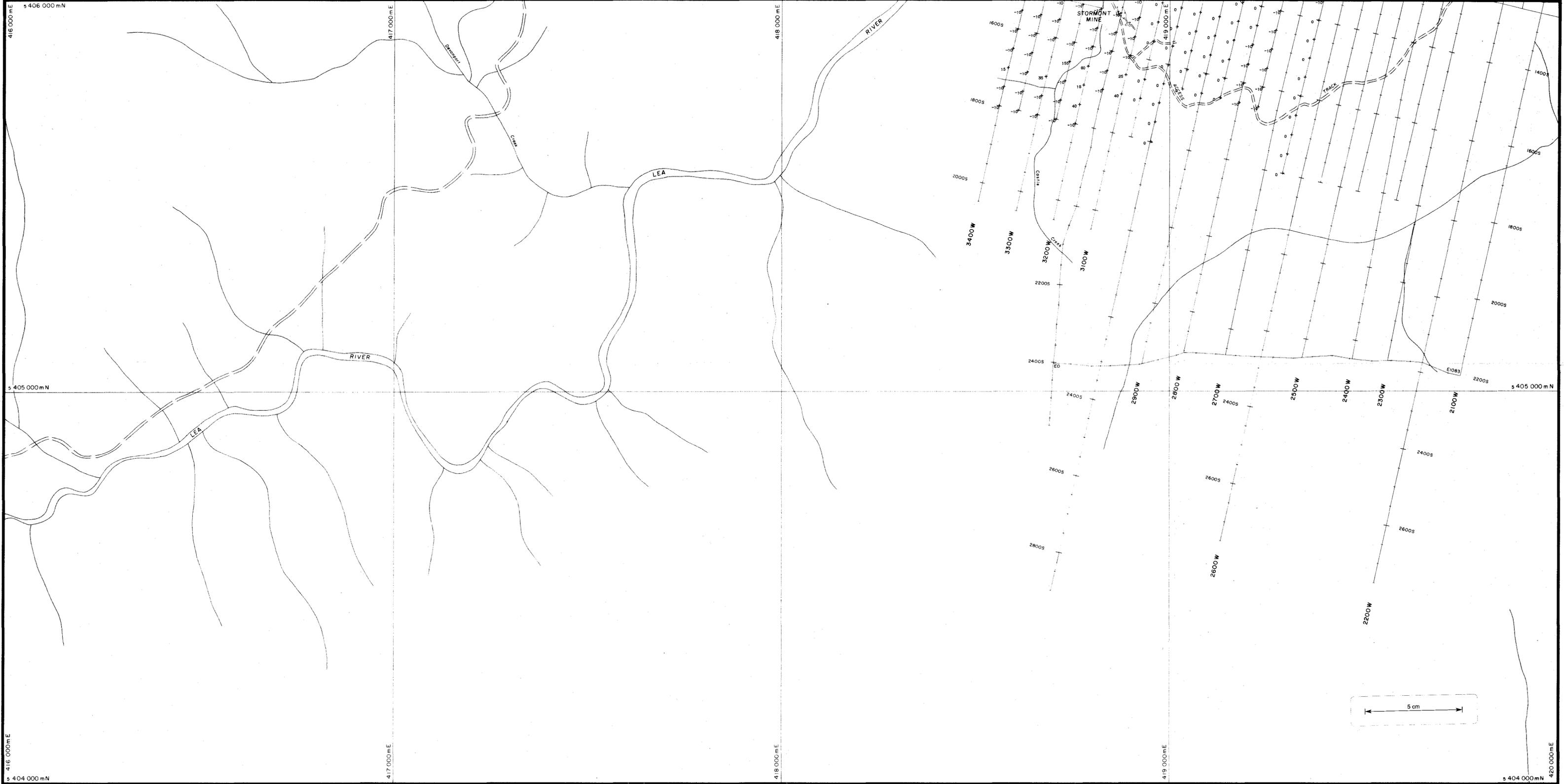


FIG. 28



87-2758

INDEX TO ADJOINING MAPS

2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
COMALCO  
SOIL GEOCHEMISTRY  
MOLYBDENUM (in p.p.m.)  
6180

DRAWN BY	
DRAFTSMAN	
DATE	Nov. '87
REVISIONS	
FILE NO.	

831062

SCALE 1:5000

FIG. 29



**KEY**

Au	Bi
Sn	W

INDEX TO ADJOINING MAPS

1-4	1-5	1-1
2-4	LEA 2-5	CETHANA 2-1
3-4	3-5	3-1

**87-2758**

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L.41/83

**COMALCO**  
**ROCK CHIP SAMPLES**

DRAWN BY :
DRAFTSMAN :
DATE Nov. '87
REVISIONS :
FILE NO.

831063

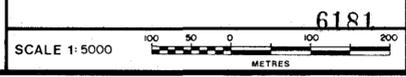


FIG. 30



SAMPLING NEAR STORMONT (WEST)

Track	No.	Au	Cu	Pb	Zn	Ag	Bi	F
	18	< 1	< 10	70	1-1	165	4600	
	19	0-1	< 10	115	1-3	125	2200	
	20	< 1	25	90	1-1	270	5200	
OPEN CUT	21	2-30	< 10	85	70	1-8	275	1400
	22	2-57	10	868	50	4-0	2635	1100
	23	0-53	< 10	365	50	2-4	800	500

	Au	Bi	Sn	W
3124 W	1-95	1000	30	< 50
3144 W	2-10	5000	30	< 50
3184 W	5-10	10	1	< 50

831064  
87-2758

KEY

Au | Bi  
— | —  
Sn | W

INDEX TO ADJOINING MAPS

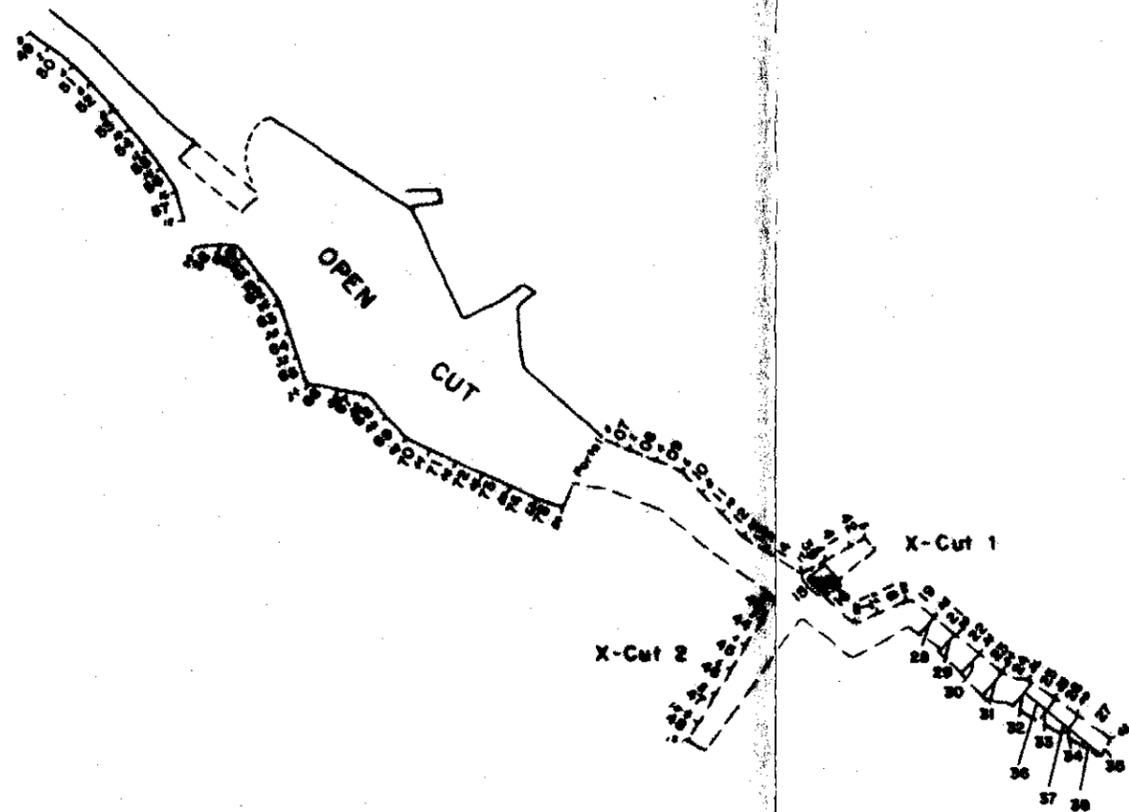
2-4	2-5	2-1
3-4	LEA 3-5	CETHANA 3-1
4-4	4-5	4-1

GOLD FIELDS EXPLORATION PTY. LIMITED

LAKE LEA  
MOINA AREA - E.L. 41/83  
**COMALCO**  
**ROCK CHIP SAMPLES**

DRAWN BY :  
DRAFTSMAN :  
DATE Nov. '87  
REVISIONS :  
FILE NO.

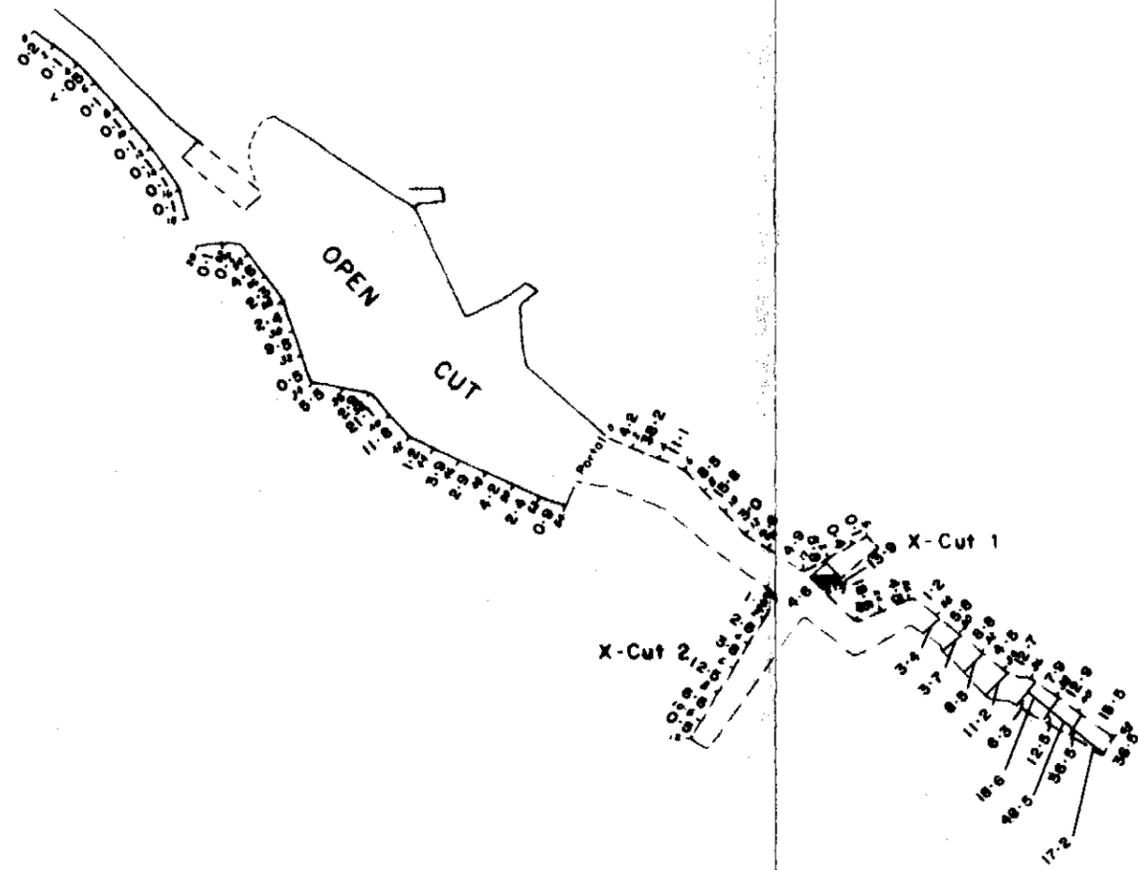
6182  
SCALE 1:5000  
100 50 0 100 200  
METRES  
FIG. 31



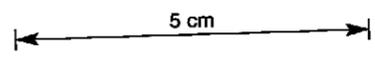
5 cm

831065  
87-2758

GOLD FIELDS EXPLORATION PTY LIMITED	
E.L. 41/68	
STOREMENT MINE	
SAMPLE NUMBERS 6183	
SCALE 1:500	F/S 32



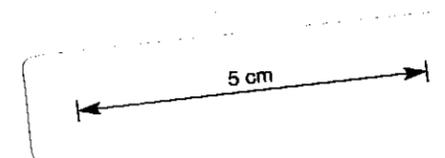
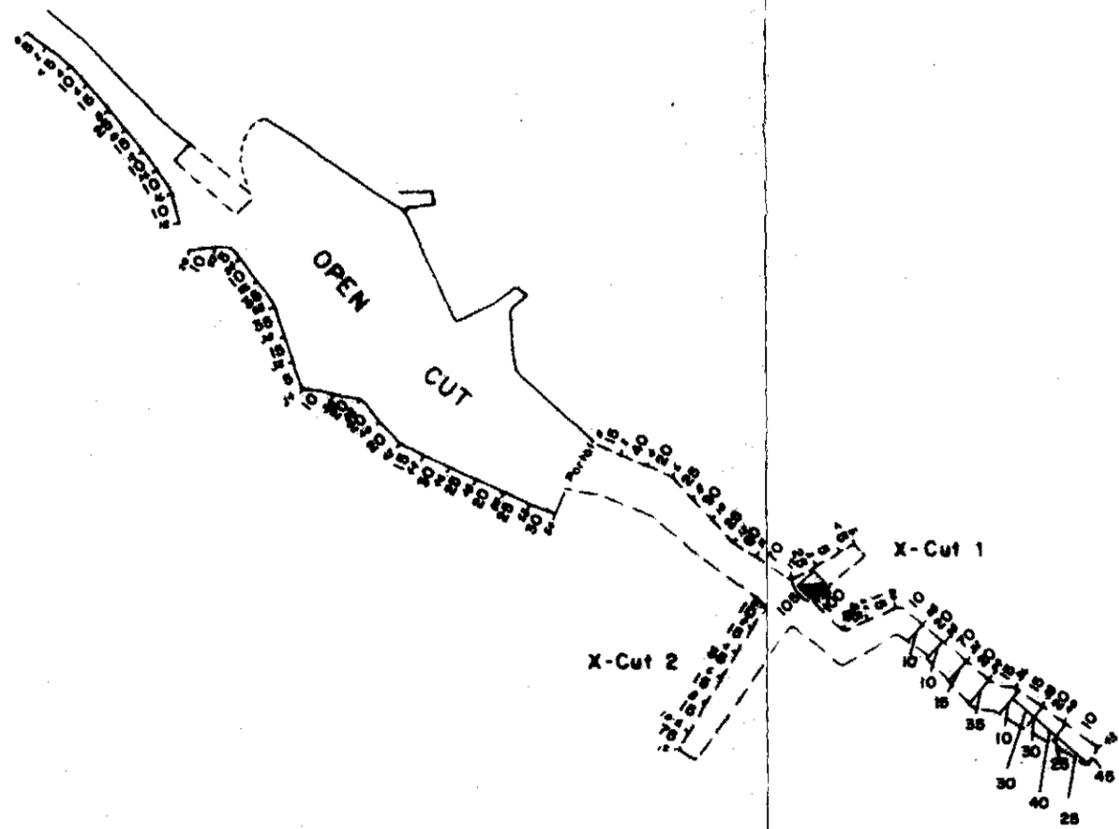
831066



87-2758

6184

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/83	DRAWN BY: R.H.J.
STOREMONT MINE	DRAFTSMAN: G.S.
ROCK GEOCHEMISTRY	DATE: Nov. 87
GOLD (in p.p.m.)	APPROVED:
SCALE 1:500	FILE NO.
	FIG. 33

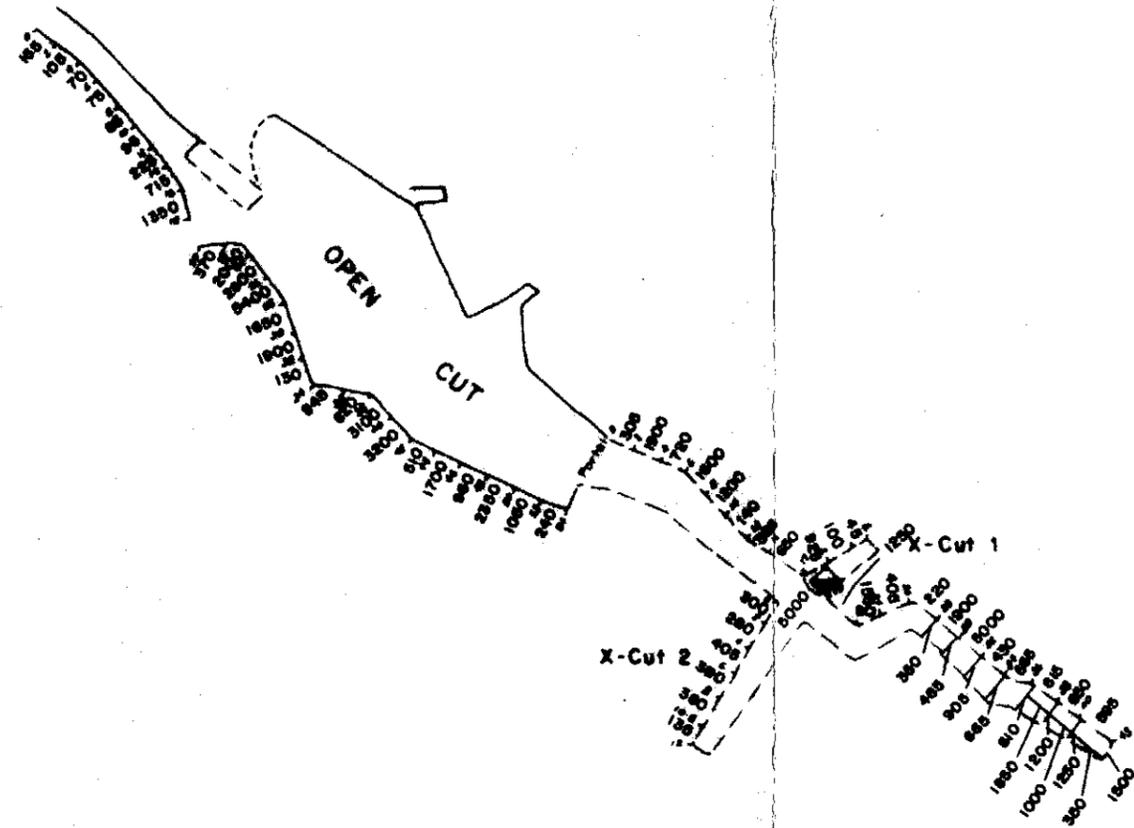


831067

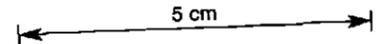
87-2758

6185

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/88	
STOREMONT MINE	
ROCK GEOCHEMISTRY	
COPPER (In p.p.m.)	
SCALE 1:500	FILE NO.
	FIG. 34



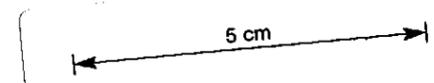
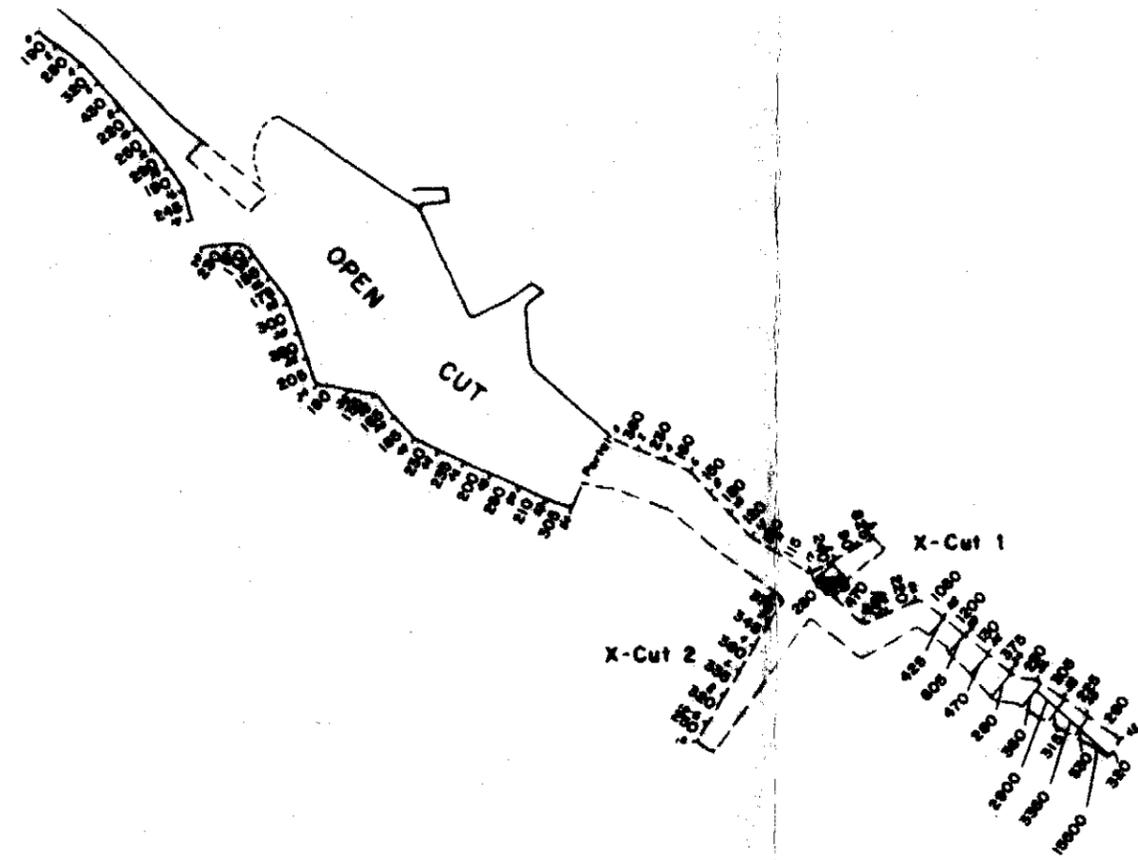
831068



87-2758

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/88	
STOREMONT MINE	
ROCK GEOCHEMISTRY	
LEAD (in p.p.m.)	
SCALE 1:500	FILE NO.
	FIG. 25

6186

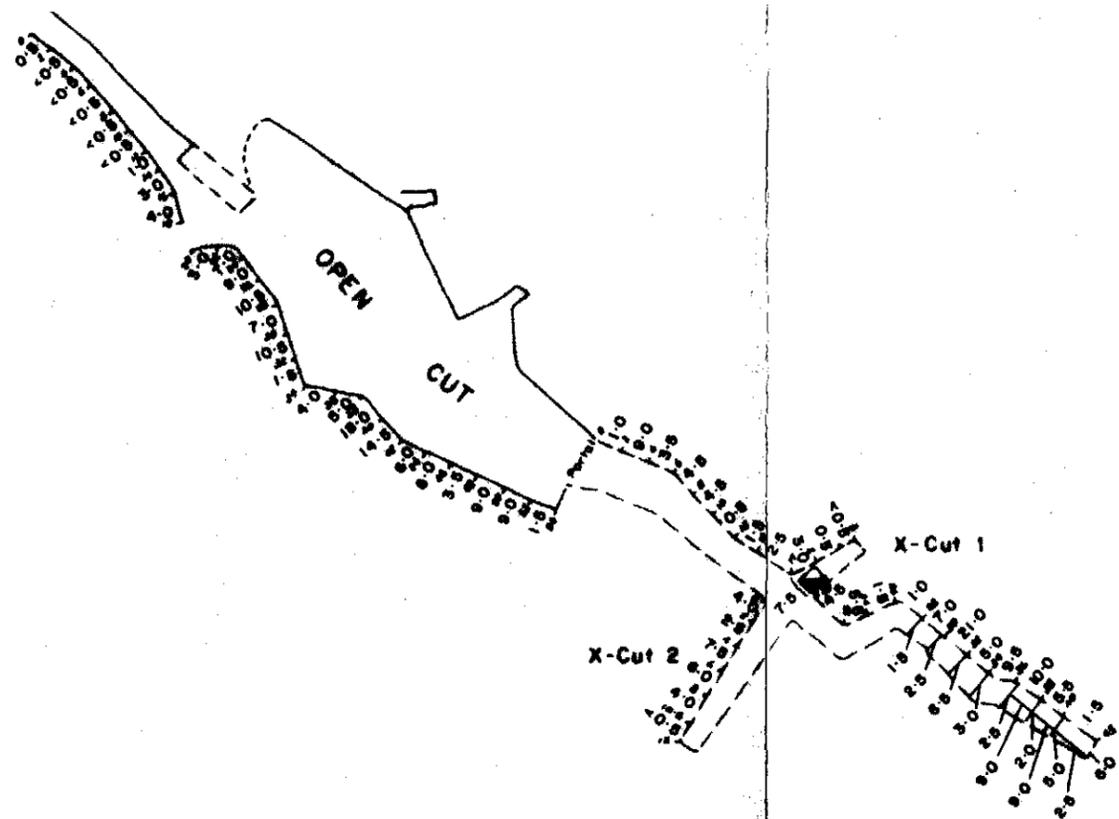


831069

87-2758

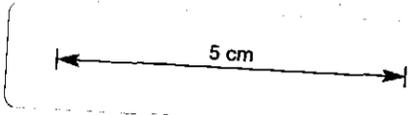
6187

GOLD FIELDS EXPLORATION PTY LIMITED	
E.L. 41708	
STOREMONT MINE	
ROCK GEOCHEMISTRY	
ZINC (in p.p.m.)	
SCALE 1:500	FILE NO.
	FIG. 30



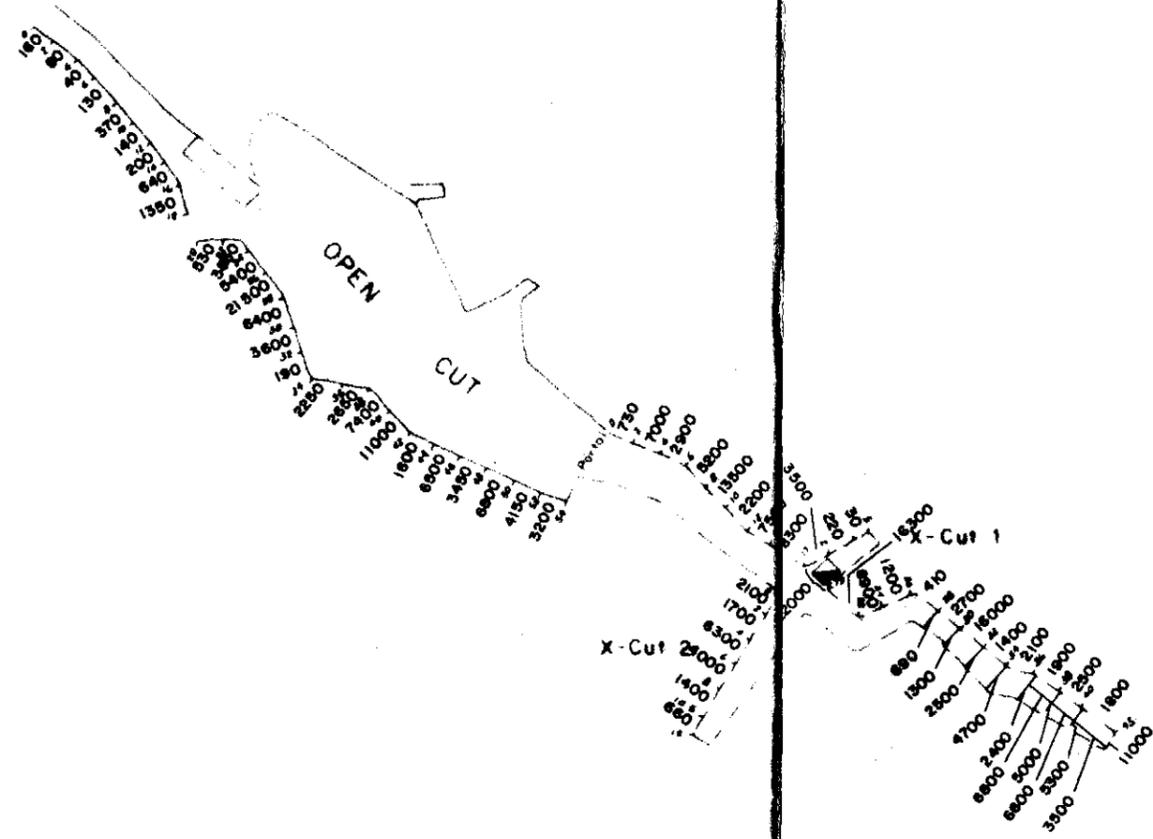
831070

87-2758



6188

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/88	
STOREMONT MINE	
ROCK GEOCHEMISTRY	
SILVER (in p.p.m.)	
SCALE 1:500	FIG. 37

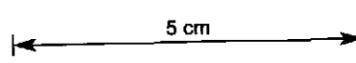
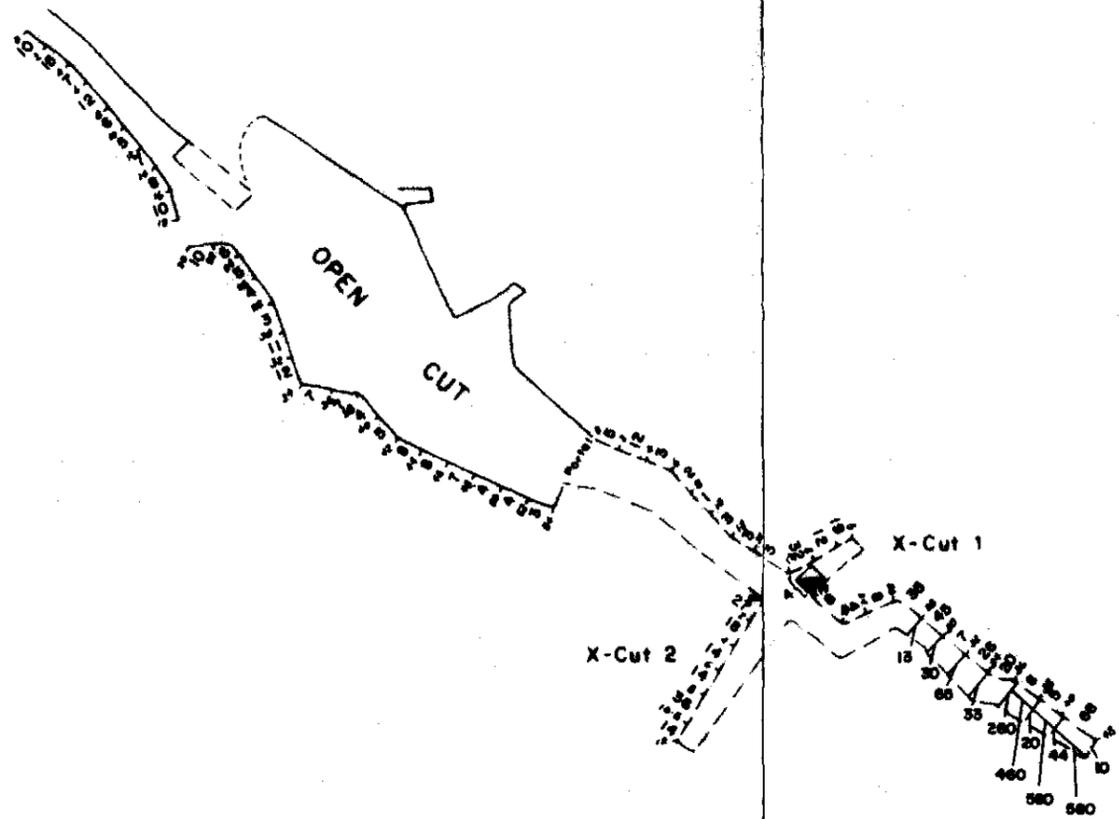


5 cm

831071  
87-2758

6189

GOLD FIELDS EXPLORATION PTY. LIMITED	
E. L. 41/83	DRAWN BY: S.M.S.
STOREMONT MINE	DRAFTSMAN: S.D.
ROCK GEOCHEMISTRY	DATE: NOV. '87
BISMUTH (in p.p.m.)	REVISIONS:
SCALE 1:500	FILE NO.
	FIG. 38



831072

87-2758

6190

GOLD FIELDS EXPLORATION PTY. LIMITED	
E.L. 41/83	DRAWN BY
STOREMONT MINE	DRAFTSMAN
ROCK GEOCHEMISTRY	DATE
ARSENIC (in p.p.m.)	REVISIONS
SCALE 1:800	FILE NO.
	FIG. 39