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PROJECT A-84-111

AMOCO MINERALS AUSTRALIA COMPANY

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D. DIR. | 13 AUG 1985 | Tas. R.

DEPT. OF MINES

No. 8517/85

# PROGRESS REPORT

## TWELVE MONTHS TO SEPTEMBER 1985

MICROFILMED

## SORELL PENINSULA

## EXPLORATION LICENCES 35/83, 36/83 AND 37/83

## TASMANIA

GREG KARY

JUNE 1985

REPORT 454

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# Project Location

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(Omitted from previous report)

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## SUMMARY AND CONCLUSIONS

The primary exploration target on the Sorell Peninsula tenements has been a volcanic hosted massive sulfide deposit of the Rosebery or Que River/Hellyer style. Work during the past two field seasons has resulted in thorough assessment of 85 percent of the licences. The only remaining prospective area for a volcanogenic massive sulfide target is the Muddy Cove Volcanics.

The 1984-1985 program was designed to test a number of targets generated during work in early 1984 and upgrade some to a drillable state. Results of the program were generally negative and no drill targets were generated. Any future program would involve assessing the Muddy Cove Belt by airborne electomagnetics.

007 The results from radiometric profiles (from data collected during the 1984 airborne magnetometer survey) suggest a detailed survey would be useful for regional geological mapping. Trial image processing of the airborne magnetic data was undertaken by Mitre Geophysics at the Bureau of Mineral Resources in Canberra. Results indicate the technique will greatly aid magnetic interpretation.

Amoco has directed minor emphasis towards exploration for tin and gold mineralization. The potential for these types of deposits has not been properly assessed in the tenements.

RECOMMENDATIONS

Future work should entail a DIGHEM electromagnetic survey over the Muddy Cove Volcanic Belt.

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EXPLORATION TARGETS

The three exploration licences protect a prospective section of Cambrian volcanics and volcano sedimentary units and carbonates equivalent to the Dundas Group.

The main target for exploration is a polymetallic volcanogenic massive sulfide orebody with minimum reserves of 15 million tonnes of 20% lead-zinc with gold plus silver credits similar to the Rosebery and Que River/Hellyer deposits 70 kilometers to the north.

An important secondary target is an epithermal type gold deposit with minimum contained reserves of 30 million grams gold. No significant deposits of this type have yet been outlined on the west coast however gold is recorded in association with mineralization and alteration in the area.

The carbonate rich formations of the Cambrian Dundas Group are prospective for replacement type tin deposits similar to Renison (24 million tonnes of 1.1% tin). While this type of deposit is not a high priority target for the current exploration program there are a number of localities within the tenements which could host such a deposit.

DESCRIPTION OF THE PROPERTY AND OWNERSHIP

The tenements comprise three exploration licences held by Placer Development Ltd:-

EL35/83 - 240 square kilometers
EL36/83 - 240 square kilometers
EL37/83 - 230 square kilometers

All three tenements were granted on September 20, 1983 and have been renewed to September 20, 1985.

Amoco Minerals has negotiated agreements with Placer Development and Poseidon Ltd whereby Amoco will operate exploration within the tenements and the equity structure will be:

| | |
|---|---|
| Amoco Minerals | 50% |
| Poseidon Ltd | 50% |
| Placer Development | 5% net profit |

## LOCATION AND ACCESS

The tenements are located over the Sorell Peninsula on the southwest coast of Tasmania and south of Macquarie Harbor (Figure 1). The area has a high annual rainfall (approximately 1750 millimeters) and the geologically prospective units are covered by dense myrtle rainforest and swampy bauera scrubland. Exploration is generally confined to the summer season from November to March.

Access is by helicopter from Queenstown with boat and barge support from Strahan. A limited network of tracks from previous exploration exist but are substantially overgrown. Extreme difficulty of access is experienced by ground crews particularly in bauera and ti-tree scrubland. Ground movement beneath the

EL 35/83

EL 36/83

EL 37/83

# Figure 1

# Location

10 km

5 cm

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tall myrtle canopy is easier. Movement of ground crews is improved dramatically by the cutting of rough foot tracks and opening out of the smaller streams and gullies filled with horizontal scrub. Most areas are only accessible by foot from short term camps located close to the target.

The tenements are located within the Southwest Conservation Area and all mineral exploration and associated activity is regulated and monitored by a working committee chaired by the Department of Mines with representation from the Forestry Commission, Department of Environment and National Parks and Wildlife Service. Exploration programs and alterations must be approved by the committee prior to the granting or renewal of licences.

## HISTORY AND PREVIOUS EXPLORATION

In 1959 a joint venture between Mt Lyell and Electrolytic Zinc Company (Lyell EZ Explorations or LEE) was granted Exploration Licences 1/59 and 3/59. A subsequent airborne magnetic and electromagnetic survey of the tenements included the Cape Sorell area. Average line spacing was 500 to 700 meters and ground clearance averaged 160 meters. Recovery on photomosaics was poor.

Ground follow up of airborne anomalies entailed of geologic mapping, geochemistry and geophysical surveys (magnetometer, gravity, AFMAG and IP). Six diamond drillholes at Pelias Cove were designed to test a gossanous hematite outcrop with anomalous copper values. Maximum depth achieved was 37 meters while recovery was poor averaging about 7%. The best intercept was 1.42 meters of 2.59% copper at the surface in hole L4.

BHP conducted exploration in the mid to late 1960's under Exploration Licences 1/64 and 13/65 initially covering 10,000 square kilometers. Work was conducted over five field seasons between 1965 and 1969. Initially most activity was in the east outside the current licences with reconnaissance mapping and geochemical sampling along the west coast. By the end of the third field season (October 1966 to May 1967) this work had located an area of anomalous copper and zinc in streams between the Mainwaring and Urquhart Rivers (Cypress Creek) and had located the main ultrabasic belt in the Noddy Creek area which was interpreted as sills intruded into the enclosing sediments prior to deformation.

The bulk of BHP exploration took place within the next two field seasons, 1967/68 and 1968/69 over three areas, the Double Cove, Hibbs and Mainwaring Belts. The main regional technique was stream sediment sampling at approximately 400 meter intervals. No assaying for gold or tin was undertaken.

Double Cove Belt

1 An area southeast of Double Cove drained by Lucas Creek exhibited anomalous copper, nickel and zinc in streams coincident with aeromagnetic anomaly 123. Follow up detailed stream, bank and ridge soil sampling in the vicinity of sample GR620104 returned values of 50-270 ppm copper in streams and maximum 348 ppm copper in banks which were considered explained by background copper in rocks of 120 ppm. Unexplained lead assays of 105, 109 and 178ppm were detected in a stream bank at sample GR620105.

2 At aeromagnetic anomalies 128 and 129 detailed ground work was conducted. High copper, nickel, cobalt, zinc values in soils at Anomaly 128 were concluded to reflect rock geochemistry and the aeromagnetic anomaly was considered caused by a gabbro dike.

Ground work at Anomaly 129 (Deep Creek Hematite) culminated in one diamond drillhole to 100 meters which intersected one meter of 70% pyrite, 30% hematite after passing through pyritic quartzites, schists and argillites. Base and precious metal assays for the hole were all very low. A follow up hole was recommended but not drilled.

3 Some soil sampling was conducted at Pelias Cove based on the inconclusive drilling results of LEE. Results confirmed the LEE anomaly but of lower tenor. More sampling was recommended inland.

Hibbs Belt

Exploration activity in this area investigated the asbestos mineralization and pentlandite occurrences in banded pyroxenite, gabbro and serpentinites of the ultrabasic belt. Considerable effort was expended on ground evaluation by geophysical surveys, costeaning, bulldozing tracks and diamond drilling culminating in the outlining of 8.5 million tonnes of 2.3% asbestos. Most drillholes were targeted on asbestos mineralization though one was designed to test an EM anomaly at Noddy Creek. The anomaly was explained by an intersection of 3.4 meters of pyritic graphite.

Mainwaring Belt

Initial regional sampling along streams at 400 meter intervals returned higher values for copper, nickel and zinc than other areas. Most BHP activity was generated by high copper values particularly in the vicinity of Cypress Creek where detailed soil sampling, stream geochemistry, mapping and ground geophysical surveys conducted along bulldozed tracks in the area. Little work was achieved away from these tracks due to the dense undergrowth. A and B horizon soils were analyzed for copper, nickel and silver and initially for lead and zinc. A costean was bulldozed at GR727579 in an interbedded siltstone, conglomerate, tuff and andesite sequence. A massive pyrite horizon up to 10

centimeters thick and assaying 150 ppm copper, 300 ppm lead, 500 ppm zinc and 400 ppm nickel was located along the contact between this unit and greywacke/argillite to the west. This contact is approximately north-south of the present Cypress Creek helipad. The maximum copper assay in the costean was 1300 ppm and a recommendation was made to test this further at depth by drilling. The most significant nickel anomaly corresponded to the strike extent of a sheared gabbro unit passing through GR748575. A 'first class' airborne EM anomaly was reported along a zone north of the Mainwaring River although this was not tested.

A limited airborne survey was conducted over Cypress Creek to infill a gap in the LEE survey of 1959. This small block formed a part of a much larger survey covering areas to the east. Ground clearance was 150 meters on lines spaced at 500 meter intervals.

In February 1968 an airborne scintillometer survey was conducted over selected areas mainly with the aim of testing Precambrian and Ordovician conglomerates for uranium. Only one first order anomaly was located (outside the current tenements) along with 14 second order anomalies. One of these occurred over the Deep Creek ironstone (Anomaly 129) and five others over the coast at Cypress Creek were attributed to ground water effects.

After the fifth field season ended in April 1969 exploration activity declined. A short ground survey was conducted in February/March 1971 over ultrabasic rocks at Spero River and Hibbs Lagoon mainly oriented towards asbestos mineralization but potential for basemetal mineralization associated with the ultrabasics was considered.

Details of previous work by Amoco is included in Amoco Report 401, Progress Report for 12 months to September 1984.

## REGIONAL GEOLOGY AND MINERALIZATION

The regional geological setting is related to Paleozoic volcanic and sedimentary processes in a linear trough (the Dundas Trough) along the western margin of the Precambrian Tyennan nucleus composed of metamorphosed siltstones and quartzites. Early Cambrian sedimentation includes sandstone, shale and carbonates (Success Creek Group) followed by mudstones, greywacke and basic volcanics (Crimson Creek Formation) and in the middle to late Cambrian mudstones conglomerate and minor volcanics of the Dundas Group. The associated calc-alkaline Mt Read Volcanics developed on the shallow water eastern margin of the trough sediments adjacent to the Precambrian nucleus. The volcanics interfinger with or are faulted against the Cambrian sediments (Upper Dundas Group) to the west and are composed of rhyolite, dacite, intermediate rocks and basalt in the form of lava flows, breccias, tuffs and plugs. Crustal processes during this latter

period resulted in serpentinized ophiolitic material being thrust into the sediments of the trough. Tectonic interpretations of these ophiolitic mafic complexes are conjectural and include subduction and rifting.

Sedimentation continued in the late Cambrian to Ordovician with deposition of siliceous sands and gravels (Owen Conglomerate) then shallow water limestones and shales (Gordon Limestone). In the Silurian and Devonian sandstones and siltstones of the Eldon Group were deposited.

Folding and faulting of the above sequences and post tectonic granitoid intrusives occurred during the mid Devonian Tabberabberan Orogeny and the resulting sedimentary - intrusive complex is overlain by subhorizontal Carboniferous - Triassic successions intruded by Jurassic dolerite sills and dikes.

All known metal mines and prospects in the region occur in late Precambrian to late Devonian rocks. Basemetal and gold production is dominated by the Mt Lyell, Rosebery and Que River mines (Table 1). These are volcanogenic massive sulfide deposits hosted by the central parts of the Cambrian Mt Read Volcanics, a sequence of felsic breccias, tuffs and lavas with minor siltstone. The deposits are characterized by large tonnage and area and are finely layered with generally high zinc-copper ratios. Typical mineral assemblage is pyrite, sphalerite, galena and chalcopyrite with silica and barite gangue minerals. They have extremely variable conductivity and chargeability properties. Airborne EM systems have been successfully used to detect massive sulfides, for example the Que River S lens, however the much larger Que River P lens is nonconductive and lacked an EM response but was strongly responsive to the induced polarization technique. Other favored ground techniques include stream sediment and soil geochemical sampling especially in areas where outcrop and access is poor. However stream sediment dispersion trains may be short (less than a few hundred meters)

due to rapid dilution caused by high rainfall and the acid reducing environment caused by thick vegetation. In rapid flowing streams where there is an absence of - 80 mesh silt consideration should be given to cold extraction geochemistry to detect trace metals fixed by manganese and iron coatings on gravels. This technique can enhance anomaly to background contrasts and give longer dispersion trains around mineralization.

TABLE 1 - BASEMETAL AND GOLD PRODUCTION - TASMANIA WEST COAST

| Mine | Gross Reserves million tonnes | Grade |
|---|---|---|
| Rosebery | 18.4 | 5.6% Pb, 18.2% Zn, 0.7% Cu, 187g/t Ag, 3.4g/t Au |
| Mount Lyell | 147 | 1.5% Cu, 8g/t Ag, 0.4g/t Au |
| Que River | 3 | 7% Pb, 12.5% Zn, 171g/t Ag, 3.5g/t Au |
| Hellyer | 15+ | Similar grades to Que River |
| Renison | 24 | 1.1% Sn |
| Mt Bishoff | 18 | 0.8% Sn |
| Cleveland | 6 | 0.8% Sn, 0.3% Cu |
| Queen Hill (Group) | 7 | 0.7% Sn |

Another important deposit type is sediment hosted replacement tin associated with granitoids. A major example is the world's largest underground tin orebody at Renison with smaller deposits at Mt Bishoff, Cleveland and Queen Hill. Host rocks are Cambrian dolomitic sediments intruded by Devonian to Carboniferous tin bearing granites which do not necessarily outcrop. The mineral assemblage is cassiterite-pyrrhotite and the most useful initial exploration technique is magnetic surveying.

Also associated with Devonian granitoid intrusives are the scheelite skarn deposits examples of which are mined at King Island and Kara.

Exploration and small scale mining indicate possibilities for discovery of economic deposits in a number of other environments notably stratabound lead-zinc mineralization in Gordon Limestone and nickel/platinum/asbestos mineralization in serpentinized ophiolitic masses. Gold bearing quartz vein deposits are of minor importance in Western Tasmania to date.

## GEOLOGY AND MINERALIZATION OF THE PROPERTY

Geological control within the joint venture area is poor due to its remoteness and mapping is based on the work conducted by BHP in the mid to late 1960's (Enclosure 1).

Large blocks of Precambrian clastic sediments form the basement complex in the northwest portion of the joint venture area.

During the Cambrian period the basement was cut by a series of broad north to northeasterly trending graben structures into which volcanic derived sediments (greywackes, argillites and siltstones) intermediate volcanics and carbonates (dolomites - Mines Department XRF studies) were deposited. The carbonate/dolomite suites may be equivalents of the Success Creek and Crimson Creek Formations which are host to the major tin deposits in Western Tasmania. Upper Devonian granites are known

to occur in the area principally on the northwestern tip of Cape Sorell and also to the south of Port Davey at South West Cape and Cox's Bight. Outcrops of microgranite to diorite have been located within the tenements in the Timbertops area just west of Birch's Inlet. The syenitic granite reported on the coast near Birthday Bay is now thought to be more lamprophyric in composition. Mines Department work suggests a Devonian granite occurs just off the coast near Sloop Point in the northwest corner of Exploration Licence 35/83. As mapping to date has been sketchy further possible tin bearing plutons may exist within the tenements. Others may also lie at depth and may be tapped by major linears similar to the Federal Bassett Fault at Renison.

The southern and southeastern portions of the joint venture area are underlain by the uppermost predominantly intermediate to basic Mainwaring Volcanics suite of the Mount Read Volcanic (MRV) Arc. The Mainwaring Volcanics are thought to occur within a discrete vent area due to the abnormal amount of explosive volcanic rocks (agglomerates and breccias) interbedded with tuffaceous sediments compared to other suites of the same stratigraphic position further north. The basic to intermediate (with minor acid) sequence within the Mainwaring Formation has numerous recorded occurrences of native copper, chalcopyrite, bornite and malachite staining occasionally with massive 'stratiform' pyrite lenses up to ten centimeters in width.

A narrow band of Cambrian ultrabasic rocks up to 600 meters wide extends along a zone of thrusting from south of Hibbs Lagoon to Asbestos Point on the shore of Macquarie Harbor. It consists largely of highly sheared serpentinite with minor proxenite, gabbro and hartzburgite. Asbestos, chrome, nickel and copper occurrences have been recorded, associated with the ultrabasic rocks.

Ordovician to Devonian sediments occur in the Timbertops Syncline and as possibly obducted slices within the ultrabasic thrust zone. They consist of quartz sandstones, grits, minor conglomerates and siltstones and limestone.

Reworked Permian tillite and siltstone occur at Point Hibbs and are faulted against Jurassic dolerite to the west.

Cambrian granitic to basic igneous bodies intrude the sequences. A number of the more basic intrusives are controlled by the major thrust zones.

No previous production from the area is recorded. A number of alluvial gold occurences are noted in the southern tenement where rivers drain the predominantly basaltic to andesitic volcanics of the Mainwaring Group and acid rocks of the Lewis River Volcanics.

WORK CONDUCTED BY AMOCO

Work in the 1984-1985 field season was centered on follow-up of anomalies (geophysical and geochemical) generated in the previous season. Walking tracks and minor grids were established at each prospect in December and January by contract cutting crews. Field examination commenced in mid-January from campsites established at each area. The crew consisted of four geologists, three field assistants, one geophysicist and a cook. An approximate schedule of six working days and one rest day was followed. The work program involved geophysics, soil and stream sampling and geological mapping. Daily radio contact was maintained with the Amoco base in Zeehan. All access was by helicopter from Queenstown except on two coastal traverses on the western shore of Macquarie Harbor which were accessible by boat from Strahan.

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Radiometric profiles for the area (from data collected during the 1984 airborne magnetometer survey - Enclosure 5) were plotted at 1:50000 scale (Enclosures 3 and 4). The results suggest a detailed survey would be useful for regional geological mapping. Trial image processing of the airborne magnetic data was undertaken by Mitre Geophysics at the Burea of Mineral Resources in Canberra. Results indicate the technique will greatly aid magnetic interpretation.

All reconnaissance areas are located on Enclosure 1 and on preliminary base maps showing minor geology, sample locations and copper, lead, zinc, gold/tin assays have been prepared for each area (Enclosures 6 thru 21).

Thin section descriptions of selected samples as detailed in Appendix 1. A Mitre Geophysics evaluation of the program is included as Appendix 2. All assay results are included as Appendix 3. Geophysical profiles are presented in Appendix 4.

The following is a summary of each prospect visited.

DOUBLE COVE _____ Enclosures 6 and 7

Purpose

To locate a DIGHEM anomaly not found in 1984 due to a plotting error, which lies close to where BHP reported anomalous lead (up to 178ppm) in a stream bank.

Work Completed

The original Double Cove Grid was extended to the south with the addition of two lines (Traverses A and B). These lines were surveyed with GENIE ground EM, using a 100 meter coil spacing and ground magnetics. Soil sampling was completed at 100 meter spacings, infilled to 25 meters over geophysical anomalies. A

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short stream traverse was completed to the approximate area of BHP's anomalous lead value.

Results

No significant assays were obtained over the grid. Copper values of up to 570 ppm represent background levels for the Lucas Creek Volcanics. Possibly anomalous gold values (0.1ppm to 0.2ppm) were reported in early assays, however checks indicated

laboratory errors and subsequent assays were all less than 0.04ppm. The target DIGHEM gave no GENIE response, however the lack of coinicident significant geochemistry indicates no further work is warranted.

ALBINA NORTH _____ Enclosures 8 and 9

Purpose

To check for a possible southern extension of the Lucas Creek Volcanics.

Work Completed

One line (Traverse A) was soil sampled at 50 meter spacings (infilled to 25 meters over geophysical anomalies) with minor rockchips and stream samples taken. VLF, EM and ground magnetic surveys were completed.

Results

No volcanic sequences were identified from limited outcrop available and low copper assays (less than 100 ppm) indicate no Lucas Creek Volcanics are present. Assay results are all low except two stream sediment gold results of 0.08 ppm and 0.1 ppm draining the volcanics to the north. No further work is planned for this area.

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Panning, Albina Creek

Anomaly 128 campsite

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ALBINA SOUTH _____ Enclosures 8 and 9

Purpose

To follow up anomalous gold (0.25 ppm) and barium (2300 ppm) assays from pyritic siltstones and to check an area of different magnetic character.

Work Completed

Two lines (Traverses B and C) plus the 1983-1984 access track were soil sampled at 50 meter spacings (with some 25 meter infills) and numerous rock chip samples taken. Albina Creek was rockchip, panned concentrate and stream sediment sampled at approximately 100 meter intervals. VLF and ground magnetics were completed on all lines and a minor GENIE survey was implemented on part of Traverse B.

Results

Several samples assayed from 0.1 to 0.27 ppm gold indicating high background levels for this area. As found previously, high barium (up to 3450 ppm) was associated with gold (up to 0.14 ppm) in rockchips. The geology of the area is comprised largely of shales and siltstones, variably pyritic and dolomitic with some interbedded quartzites and minor dolerite sills or dikes. The concentration of pyrite was not related to the amount of gold in samples. The sediments are generally quite cleaved but show very little folding.

Traverses B and C straddle the area of different magnetic character. A third traverse between B and C had been recommended by Mitre Geophysics, however poor stream drainage assays for the area indicated the additional line was not warranted. The magnetic character is apparently due to variable amounts of basic volcanic units. The strong GENIE response on traverse B is

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probably due to graphitic shales. High copper (up to 485 ppm) assays are due to trace amounts of chalcopyrite within the shales and siltstones. No further work is planned for this area.

BIRTHDAY BAY _____ Enclosures 10 and 11

Purpose

To assess the tin potential of two magnetic anomalies occurring near mapped carbonates.

Work Completed

Two reconnaissance lines were completed over the anomalies. Soil samples were taken every 50 meters and infilled to 25 meters over the magnetic centers. Minor rockchips and stream samples were taken. Ground magnetics were completed on both lines.

Results

Line A (1250 meters) provided coverage over the larger of the two anomalies. Thick sand cover over the magnetic center negated complete geochemical coverage with the hand auger. A later attempt to sample the area using the portable Wacker sampling system also proved unsuccessful. The Wacker penetrated to 10 meters still in sand cover.

Line B (500 meters) located over a small anomaly to the northeast was completely sampled. No obvious source for the magnetic anomaly was found, however a dike rock described a syenite in the field was petrographically identified as highly altered dolerite and occurs near the center of the anomaly. An unaltered dolerite at depth may be the magnetic source. Pillowed basalts occur on

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the shore near Birthday Bay along strike from the two anomalies, however magnetic susceptibilities for these rocks were very low.

Ground EM may be useful to help determine the source of these anomalies, however no further work is planned at this stage as tin assays for the area are all very low (less than 10 ppm).

ANOMALY 128 _____ Enclosures 12 and 13

Purpose

To assess the gold potential of the ironstone, following analysis of a sample provided by the Mines Department (0.15 ppm gold) and to determine its magnetic character. A traverse was also designed to locate a discrete magnetic anomaly within Precambrian sediments.

Work Completed

The ironstone was located and sampled at approximately 25 meter centers over a strike length of 800 meters. A 3000 meter cross line (Line 300W) was sampled at 100 meter centers and infilled to 50 and 25 meter centers over anomalies. This line provided coverage over both the ironstone and Precambrian magnetic-anomaly. A second 400 meter line (1000E) crossed the inferred ironstone location approximately 1200 meters northeast of its last mapped location. Ground magnetics and VLF EM were completed on both lines.

Results

Assays from the ironstone were generally low with only one sample being slightly anomalous (0.14 ppm gold). Two soil samples on line 300W very close to a gabbro on the Cambrian-Precambrian contact assayed 0.26 and 0.22 ppm gold. Ground magnetics on line 300W indicated the ironstone has a very minor response. This was

not evident on line 1000E indicating the ironstone was not present.

The magnetic anomaly within the Precambrian is probably due to a gabbroic intrusive. Minor gabbro was reported near the anomaly center. (Marcus McClenaghan pers comm). Within the Precambrian, a single stream sediment assay of 3.24 ppm gold occurs within Noddy Creek (a later check assay on the +80 mesh sample residue assayed 0.02 ppm gold). Follow up work is covered under the

Noddy Creek section. No further work is planned at Anomaly 128, however four samples of ironstone collected from Anomaly 129 (four kilometers to the southwest) by the Mines Department have been sent for analysis. Assay results were all low.

Tin assays of up to 75 ppm were reported from rockchip samples of the ironstone at Anomaly 128.

BUTLER CREEK _____ Enclosures 14 and 15

Purpose

Reconnaissance geological traverse to check linear magnetic trends for the presence of ironstone similar to Anomaly 128.

Work Completed

One 2500 meter line was surveyed with ground magnetics and soil or rockchip sampled at 25 meter centers over anomalies.

Results

No ironstone was located and the magnetic anomalies are apparently due to basic volcanics or volcanic derived sediments. No significant geochemistry was reported. No further work is warranted.

NODDY CREEK _____ Enclosures 16 and 17

Purpose

Follow up of the 3.24 ppm gold stream sediment sample from Anomaly 128 and to check reported alluvial gold (former BHP contractor) near the old BHP camp (Camp Sorell).

Work Completed

Reconnaissance stream samples were taken on Noddy Creek and its tributaries plus all creeks near Camp Sorell. A short soil traverse was completed across the ultramafic - sediment contact to sample a siliceous pyritic hornfelsed shale previously drill tested by BHP.

Results

No visible gold was recorded and assays were very low, the best being 0.2 ppm gold from a stream sediment sample near Camp Sorell. One of the soil samples over Cambrian sediments assayed 1840 ppm zinc, however this is probably due to quartz-sphalerite veins which were reported in the area. No further work is planned.

THOMAS CREEK _____ Enclosures 18 and 19

Purpose

To follow up the 0.97 ppm gold soil assay (check assay 1.7 ppm) collected in 1984.

Work Completed

A grid was established over the area and soil samples taken at 50 meter spacings (infilled to 25 and 12.5 meters around the

anomalous site). VLF and ground magnetics were completed over the entire grid. Two lines were surveyed using the GENIE EM system.

Results

Gold assays were all very low, the highest being 0.12 ppm. Two samples were taken adjacent (within 20 centimeters) to the 1984 samples: one at the same depth (0.8 meters) and one at the maximum possible depth (1.3 meters) with both assays being very low. A zone of anomalous copper extends over the grid assaying up to 3360 ppm. At this stage the source of the copper is unknown as there is no outcrop and geological information was only obtained from sub-crop in soil auger sites. Available data indicates the grid is underlain by variably altered pyritic intermediate extrusive or intrusive volcanics. (Pontifex thin section description Appendix 1). Visible pyrite was evident at several sites but no copper minerals were identified. No correlation is evident between the ground magnetics, VLF and geochemistry. The high copper values are interesting, however a lack of supporting lead, zinc and gold indicates further work is not warranted at this stage. The proposed Dighem survey would provide coverage over the Thomas Creek area.

URQUHART SOUTH _____ Enclosures 20 and 21

Purpose

To investigate DIGHEM anomalies within the Mainwaring Volcanics and to follow up gold reported from the south fork of the Urquhart River in 1984.

Work Completed

Two lines (300S and 600S) were surveyed by GENIE EM and ground magnetics with soil sampling at 100 meter centers (infilled to 25 meters over EM anomalies). The southern fork was sampled at

approximately 1200 meter centers. An access track connecting Urquhart South and Urquhart East was soil sampled at 100 meter spacings.

Results

No definite GENIE responses were obtained but correlation of ground and DIGHEM magnetics indicates the DIGHEM anomalies were covered. As only background geochemistry was obtained no further work is warranted. Visible gold was reported from several locations up the Urquhart River with assays confirming its presence (up to 1.04 ppm gold). The source of the gold is apparently further upstream within Geopeko's EL 27/76 - Elliot Bay. Minor spot gold anomalies (0.30 ppm) were reported from soil samples between Urquhart South and East.

URQUHART EAST _____ Enclosures 20 and 21

Purpose

To investigate a DIGHEM anomaly within the Mainwaring Volcanics and to check for gold in the eastern fork of the Urquhart River.

Work Completed

Two lines (2000N and 2350N) were surveyed by GENIE EM and ground magnetics, then sampled at 100 meter centers (infilled to 25 meters over EM anomalies). The eastern fork was sampled at approximately 200 meter centers.

Results

No definite GENIE responses were obtained, however possible responses at 700E:2350N and 800E:2000N were detail sampled. No significant coincident basemetal geochemistry was delineated, however an anomalous soil response of 0.32 ppm gold was recorded at 700E:2350N. A stream sediment sample of 0.12 ppm gold drains the same area.

037

The low tenor of results indicates the area does not warrant further work. No gold was reported from the eastern fork of the Urquhart River.

URQUHART NORTH _____ Enclosures 20 and 21

Purpose

To investigate two adjacent DIGHEM anomalies within possible interbedded Cambrian sediments and Mainwaring Volcanics near an anomalous (530 ppm) copper stream sediment sample obtained in 1984.

Work Completed

Two lines (A and B) were surveyed by GENIE EM and ground magnetics, then soil sampled at 100 meter centers (infilled to 25 meters over magnetic and EM anomalies). All major streams were mapped and sampled in detail.

Results

Minor GENIE responses were obtained on both lines associated with graphitic shales. No coincident significant geochemistry was delineated. The copper is apparently due to minor chalcopyrite in quartz veins along fractures in calcareous sediments. Minor gold (0.6 ppm and 0.32 ppm) was obtained from separate soil samples along line B. They are not coincident with any geophysical response. Mapping in streams established the geology as mainly unaltered shales and siltstones with a minor basic volcanic component. The lack of significant geochemistry and prospective geology indicates no further work is warranted on this prospect.

038

106039

Stream traverse at
Urquhart North

Boarding hovering
helicopter to avoid
phytophthera contamination
at Urquhart North

DOUBLE COVE - MUDDY COVE COASTAL TRAVERSE __ Enclosures 16 and 17

Purpose

Reconnaissance geological traverses along the shore of Macquarie Harbor to investigate -

1 Double Cove Volcanics
2 Pelias Cove Copper Prospect
3 Muddy Cove Volcanics

Work Completed

Forty four geological and stream samples were collected and despatched for assay.

Results

Sampling at Double Cove confirmed the belt is composed of intermediate to basic volcanics. Geochemistry was low with the exception of one andesitic volcanic which assayed 0.2 ppm gold. This is possibly representative of the high background level of gold in this area.

Sampling at Pelias Cove was to test for gold potential only, no significant assays were returned from pyritic ironstones outcropping on the beach. The copper potential of the area has been thoroughly investigated by Lyell-EZ and BHP.

Sampling at Muddy Cove confirmed the presence of acid volcanics in this belt. Amoco sampling plus work by Marcus McCleneghan of the Mines Department (Appendix 1) indicates acid volcanics are present south to at least Camp Sorell. The percentage of acid volcanics is unknown, however it is probably at least 5-10%. Geochemistry from the coastal area was generally low excepting two rockchips which assayed 310 ppm lead and 98 ppm lead. The first is from a ferricrete occurring in a creek bed, the second from chloritic basalt. The presence of acid rocks in the Muddy

Cove Belt indicates a DIGHEM survey over the area is warranted as the 1983-1984 program did not properly assess the area.

EXPLORATION POTENTIAL

Work by Amoco has focussed on the massive sulfide potential of volcanic terrains on Cape Sorell. All belts, excepting the Muddy Cove Volcanics have been thoroughly tested and shown to have little potential for hosting volcanogenic style deposits.

The Muddy Cove Volcanics occur over a strike length of approximately 25 kilometers between Asbestos Point and Feen Creek. Their width varies from over two kilometers to only a few hundred meters. A number of soil-geological reconnaissance traverses were completed across the volcanics during the 1983-1984 field season. Soil geochemistry was generally low with copper values to 390 ppm, lead to 80 ppm, and zinc to 350 ppm. The only signficant result was the 2000 ppm copper, 0.97 ppm gold soil assay at Thomas Creek. Outcrop for the area is very poor.

The available mapping has identified mainly intermediate volcanics with some basic and minor acid sequences, however it should be noted that one sample described as fine grained dolerite in the field was identified as dacite in thin section.

Initially only a few rocks were assayed, however during the 1984-1985 field season two additional specimens were submitted. Base metal geochemistry was very low, however a rhyodacite sample assayed slightly anomalous arsenic (600 ppm), tin (55 ppm) and gold (0.04 ppm). It should be noted that the reconnaissance lines during the 1983-1984 field season were not testing any geophysical anomalies, their purpose was to test for the presence of acid volcanics.

Two areas within the Muddy Cove Volcanics have undergone detailed survey. These areas are Thomas Creek and a large magnetic anomaly approximately one kilometer to the north. Soil sample results for the Thomas Creek area defined an extensive area of anomalous copper associated with andesitic volcanics. The large magnetic anomaly to the north was investigated by BHP in early 1972 (BHP Report CR 1168). Approximately 4700 meters (14000 feet) of lines were cut and soil sampled with minor rock chips collected. Ground magnetics were completed on all lines. BHP defined four separate units:

1 Shales with minor sandstones
2 Andesitic lavas and pyroclastics
3 Basaltic, andesitic lavas
4 Mainly acid volcanics and possible sub-volcanic rocks

Soil geochemistry was very low, though BHP did not consider the results reliable because of a lack of B-horizon and soil development in several areas. Whole rock analysis of several specimens (designed to test visible sulfide disseminations) were completed. Assays are all quite anomalous, one of the best

043

samples (an acid volcanic) assayed 1000 ppm lead, 640 ppm copper, 120 ppm zinc and 6 ppm silver. The source of the magnetic anomaly is thought to be concentrations of magnetite within the acid volcanic sequences.

The results of these two detailed surveys indicates the Muddy Cove Volcanics should be thoroughly assessed. An airborne electromagnetic survey would be the best method of generating a number of targets for detail follow-up.

It has been shown that gold ocurs at high background levels in several areas on the licences. The potential for gold deposits produced by concentration into structural or lithological traps represents a secondary exploration target.

Mapping by Amoco and the Mines Department has shown carbonates and calcareous sediments are more wide spread than previously reported. The potential for replacement style tin deposits represents a tertiary exploration target.

While not specifically sought in the current exploration program, deposits of nickel-platinum may be associated with the serpentine belt between Asbestos Point and Hibbs Bay. This area has been actively explored by previous companies though mainly for asbestos.

044

PROPOSED PROGRAM

Two blocks of Muddy Cove Volcanics should be flown with Dighem survey. The first area (9 by 3 kilometers) covers the northern half of the belt, the second area (8 by 3 kilometers) covers the southern portion surrounding Thomas Creek. The area of volcanics between the two areas is too narrow for efficient coverage by Dighem due to the minimum flight line length of three kilometers. The survey should be completed in late 1985 so that field investigation of any anomalies could start in early 1986.

Signed .....
Greg Kary for

045

106046

AMOCO MINERALS AUSTRALIA COMPANY 37

EXPENDITURE FOR THE PERIOD SEPTEMBER 1, 1984 TO JULY 31, 1985

EXPLORATION LICENCES 35/83, 36/83 AND 37/83

| | |
|---|---|
| Salaries and Wages | 45,857.72 |
| Drafting | 9,384.90 |
| Cookery | 11,540.70 |
| Field Office Rent | 422.30 |
| Field Supplies | 6,589.72 |
| Freight | 4,426.29 |
| Aircraft Charter | 39,192.50 |
| Travel | 4,889.04 |
| Communications | 2,598.10 |
| Geophysics | 10,603.30 |
| Consultants/Contractors | 25,800.31 |
| Drilling | - |
| Assays | 15,735.55 |
| Legal Fees | - |
| Equipment Rental | 6,985.55 |
| Equipment Operation & Maintenance | 6,574.81 |
| Property Payments | 5,347.50 |
| Outside Services | - |
| | 195,948.29 |
| Overhead | 19,594.85 |
| | $215,543.14 |

T.J. CONQUEST
ACCOUNTANT 278

046

106047

APPENDIX 1

PETROGRAPHIC REPORTS

by Pontifex & Associates

106048

047

# Pontifex & Associates Pty. Ltd.

TEL. 332 6744
A.H. 31 3816

26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

## MINERALOGICAL REPORT NO. 4519

25th March, 1985

| | |
|---|---|
| TO: | Mr. Greg Kary<br>Amoco Minerals Australia Co.<br>61 Counsel St.,<br>ZEEHAN Tasmania 7469 |
| YOUR REFERENCE: | Order No. 14706 |
| MATERIAL: | Rock samples |
| IDENTIFICATION: | 150569, 594, 631,<br>113832, 849, 848, 855, 856 |
| WORK REQUESTED: | Thin section and description |
| SAMPLES & SECTIONS: | Returned to you with this report. |

PONTIFEX & ASSOCIATES PTY. LTD.

COMMENTS

This batch contains lavas and pyroclastic rocks mostly of andesitic to trachytic or dacitic character (150569, 150594, 113832, 113849, 113855) as well as dolerites and gabbro (1505631, 113856) and altered mafic/ultramafic rocks (113848). Alteration and low grade metamorphism (prehnite-actinolite grade), i.e. 250 - 300°C, are ubiquitous and may be of a regional nature. Samples 150569 and 150594 may represent a breccia pipe or a partly brecciated broadly andesitic intrusive body.

LOCATION THOMAS CREEK

106050

049

INDIVIDUAL DESCRIPTIONS

150569 : fragmental volcanic rock with andesitic to trachyandesitic fragments in a felspathic matrix and minor pyrite, (?breccia pipe).

Field note: diorite Cambrian ?intrusive within Cambrian sediments and volcanic Cape Sorell, Tasmania.

The texture of this rock is defined by fragments up to 15 mm x 10 mm, of porphyritic, fine grained volcanic or high level intrusive ?dyke rock, with phenocrysts of plagioclase, uralitised pyroxene and rarely, brown-hornblende. The plagioclase is partly replaced by sericite or alkali felspar and the groundmass is rich in extremely fine magnetite and in alkali felspar. Small vesicles containing tremolite and/or quartz are common. In some fragments the groundmass is at least partly replaced by poikilitic pyrite grains.

The whole rock matrix is distinguishable from the fragments mainly by lacking magnetite and in having a more heterogeneous texture. Some patches of fine grained quartz are present but most of the interstitial areas in the matrix are felspathic. Similar types of crystal (plagioclase, uralitised pyroxene) occur in the matrix and, as phenocrysts in the fragments.

If the field data indicates that this rock is an intrusive it may well be a breccia pipe.

050

150594 : andesite, similar to the fragments in 150569

Field note: Cambrian intrusive within sediment at Cape Sorrell.

This rock is similar to the fragments in 150569, but appears to be generally richer in pyroxene phenocrysts and poorer in felspar. The groundmass is fine grained and crowded with extremely fine magnetite but lacks alkali felspar, which suggests that the alkali felspar in 150569 may be of secondary origin.

Felspar phenocrysts (30%) are common and altered to clays and/or sericite. They are mostly less than 2 mm long, whereas the uralitised pyroxene phenocrysts (25%) are up to 3 mm.

A lens of vein quartz also 4 mm wide is present and has a selvedge of fibrous amphibole. It passes into diffuse lenses of fine quartz, locally enclosing opaque oxides.

150631 : uralitised, chloritised and albitised coarsely ophitic dolerite;
abundant, coarse, skeletal, opaque oxides.

Field note: syenite? intruding into Cambrian siltstones and limestone on West Coast Cape Sorell.

The syenitic appearance of this rock is the result of pale tremolitic amphibole forming cream-coloured replicas of coarse ophitic pyroxene grains, commonly 10 mm or more in size. In hand specimen these could easily be mistaken for late magmatic alkali felspar. They enclose, and are separated by, albitised plagioclase crystals about 3 mm long. Patches of chlorite to 10 mm in diameter generally enclose minor epidote and albite.

Leucoxenised skeletal opaque oxide grains (ex magnetite?) to 3 mm in length are common (7%). Some of the uralite patches are cut by chlorite-epidote veins.

052

113832 : vaguely layered, lithic lapilli tuff (pyroclastic); of uncertain but intermediate to basic composition; extensive prehnite alteration.

Field note: Intermediate Volcanic breccia (epiclastic) Cambrian Volcanic Belt, Double Cove area, East Coast of Cape Sorell

The angular unsorted nature of the fragments in this rock, considered together with primary (?deuteric) patchy prehnite alteration, characterises it as a probably pyrocalstic (primary), rather than an epiclastic (reworked) fragmental rock.

The fragments are up to 20 mm long and are cryptocrystalline with rare fresh pyroxenes and altered felspar crystals and scattered prehnite patches possibly representing vesicles, 0.2 - 1 mm in diameter. The mineralogy of the fragments is obscure but may include tremolite and ?pumpellyite. The original composition is also obscure and could only be established on the basis of whole rock geochemistry. The fragments are clearly not typical andesites, however, as these are generally more highly porphyritic

The matrix is rich in prehnite and contorted ptygmatic veins of prehnite cut across the rock. These are probably of low grade metamorphic origin but may be of deuteric-fumarolic origin if restricted to small areas.

113848 : carbonate-chlorite -?talc schist with minor quartz; sheared and extensively retrogressed basalt or ultramafic ?tuff.

Field name: talc-chlorite schist, ultramafic belt, Cape Sorell, Tasmania.

The hand specimen of this rock is relatively soft but not quite soft enough to be definitely talcose. There may be other colourless sheet silicate present, besides talc and chlorite.

In thin section it is seen to be strongly schistose, with lenses to 8 x 2 mm. Lenses of carbonate and small patches of quartz are scattered.

The overall texture of the rock appears to be fragmental with suggestions of both crystal and lithic fragments, represented by chlorite rich and chlorite poor lenses respectively and by quartz grains and quartz rich, slightly cherty patches. These may be original fragments from a tuff, or possibly formed during tectonism. Octahedral opaque oxides, and leucoxene are scattered.

It is not entirely clear what the original rock type was - e.g. ultramafic rock or basalt, or even more fractionated rock. The opaque oxides may be chromiferous suggesting an ultramafic rock os a magnesian basalt.

113849 : leucocratic probable albitised trachyte
with vesicles filled by quartz;
minor chlorite and sericite;
typically trachytic texture.

Field note: Acid volcanic, fine grained matrix, variably chloritised, Muddy Cove Cambrian Volcanic Belt Cape Sorell Tasmania

Although this rock contains scattered small (0.3 mm) quartz grains (5%), the groundmass is almost entirely felspathic, with minor chlorite and sericite, and is quartz-free. The most likely explanation of this is that the rock is an albitised trachyte with the quartz as micro-xenoliths and/or as vesicle fillings composite with chlorite and minor sericite. The rock may have originally been a leucocratic andesite but this is less likely.

The groundmass texture is typically trachytic, with flow-aligned felspar laths and interstitial sheet-silicates, mostly chlorite but with some sericite. The few felspar phenocrysts have mostly only simple twins and may be albitised sanidine crystals. They are also strongly sericitised.

As noted, the quartz in the rock occurs in lenses to 2 mm long with chlorite and/or sericite and appears to be filling vesicles. Some grains of quartz are more euhedral and have optically continuous overgrowths interfingering with the groundmass felspar. These may be xenocrysts, but no definite quartz phenocrysts are present.

055

113855 : acid pyroclastic:
coarse tuff or ignimbrite ? (quartz-sericite schist).

Field note: highly altered felspar porphyry
Muddy Cove Volcanic Belt, Cape Sorell, Tas.

This is texturally a schistose, altered pyroclastic rock with most fragments < 4 mm in size, and therefore classified as coarse ash. The more angular, paler fragments no doubt give the appearance of felspar crystals in hand specimen, but no felspar is evident in the thin section.

The fragments are of two types:

1) angular to rounded silicified and/or argillised fragment, locally with vesicular or spherulitic textures;

2) elongate, ragged and attenuated, schistose, sericitic fragments, similar in shape to the fiamme of welded ignimbrites.

These rarely exceed 4 mm in length and thus include a few lapilli. Lapilli-sized rounded, silicified fragments are also visible in the hand specimen but not in the thin section. There are scattered bypyramidal (volcanic) quartz crystals, to 1 mm in size. The matrix is fine clay, quartz and sericite.

056

113856 : uralitised and saussuritised two-pyroxene gabbro (noritic-gabbro) or hornblende-norite.

Field note: ultramafic intrusion (felspar-pyroxene? rock)
Muddy Cove Volcanic Belt, Cape Sorell Tasmania

The felspar content of this rock was originally about 50% making the rock mafic rather than ultramafic. The grainsize appears to have ranged from 2 - 6 mm, although individual grains are difficult to define in the saussuritised clouded clinozoisite + prehnite + sericite + albite which completely replaces the original felspar.

The amphibole in this rock occurs in domains 3 - 6 mm in size with a somewhat skeletal outline. Two types are present:

a fibrous type generally considered to represent former orthopyroxene, and a "smooth" type with broad simple twins.

It is not clear whether or not any of this second type of amphibole is of primary origin, as some of it has a pale-olive to green colour. Much or all of it may represent former clinopyroxene (2 pyroxene gabbro alternative), or it may be essentially primary (hornblende-norite alternative).

Opaque oxides, now leucoxene, make up less than 1% of this rock, suggesting that:

1) it is a cumulate or,
2) it is derived from a relatively unfractionated, and/or titanium-poor (e.g. boninitic) magma.

057

106058

# Pontifex & Associates Pty. Ltd.

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26 KENSINGTON ROAD, ROSE PARK
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SOUTH AUSTRALIA 5067

## MINERALOGICAL REPORT NO. 4525

27th March, 1985

| | |
|---|---|
| TO: | Mr. Greg Kary,<br>Amoco Minerals Aust. Co.<br>61 Counsel St.,<br>ZEEHAN Tasmania 7469 |
| YOUR REFERENCE: | Order E14483<br>Project A84-111B |
| MATERIAL: | Rock samples (10) |
| IDENTIFICATION: | 150255 to 150521 (various intermediate numbers) |
| WORK REQUESTED: | Full petrographic description, but including examination of opaque oxides, sulphides and check for Au which also required polished section examination. |
| SAMPLES & SECTIONS: | Returned to you with this report. |

PONTIFEX & ASSOCIATES PTY. LTD.

058

COMMENTS

Three groups of rock types are represented in the suite described.

1. Fine metasediment, manifest as very fine schist, or shale, and metasiltstone (150297A, 297B, 300, 521). Interest was expressed in your field notes, re a possible tuffaceous content in these, but the petrography failed to find any evidence of tuffaceous material. They are basically meta-argillites and/or siltstones, variably with extremely fine albite, quartz, sericite, chlorite and leucoxenitic material. Abundant rhombs of ferroan dolomite occur in 150300.

The pyrite seen in several of these samples appears to be syngenetic, it must have crystallised before the peak of metamorphism since most crystals have fine columnar recrystallised quartz in pressure shadows adjacent to them, and many of the pyrite crystals are microfractured. Trace chalcopyrite occurs in 150300.

Small quartzose lenses ± pyrite which probably segregated out during metamorphism in 150297A, does produce a (pseudo) sparsely tuffaceous appearance in hand specimen.

Sample 150521 is different from the other fine meta sediments, and it may be an impure chert.

2. Hematite rocks + quartz (150255, 262, 301, 315). These are seen as massive aggregates of quite coarse granular hematite, gradational to coarse distorted bladed hematite mostly in disruption zones. Stressed vein quartz may occur as veins or filling irregular intergranular areas within these hematite aggregates. Minor pyrite, or boxwork after pyrite occurs in several of these samples.

These rocks as now seen, appear to be essentially "metamorphic", but the exact nature of the premetamorphic facies is not certain. There is no distinctive, primary, "alteration" phase, but moderate tectonic disruption has effected these rocks.

3. Dolerite (150520) and basalt (150374), may be related, or indeed the basalt may be a chilled margin of the microdolerite. Both rocks have fairly extensive uralitic, chlorite and epidote alteration. Scattered, quite coarse, skeletal oxide grains, extensively leucoxenised in 150520 are characteristic of dolerites.

060

INDIVIDUAL DESCRIPTIONS

150297A : compact fine (quartz) sericite schist or shale, (meta silty argillite), abundant fine to medium sized crystals of pyrite oxidised and largely leached out, with small tails of recrystallised quartz;
minor lenses of recrystallised quartz enclosing pyrite.

Field note: pale-dark green siltstone, tuffaceous? Cambrian argillite sequence, check on tuff content, alteration, pyrite.

At least 65% of this rock consists of a compact extremely fine sericite schist or shale, i.e. essentially a meta-argillite, with minor discrete grains of quartz 0.03 mm, which may be regarded as original silt, locally in very small lenses.

Possibly up to 20% of the rock consists of cubic-form voids after pyrite, some now filled by quartz, and some cubic form limonite pseudomorphs after pyrite, ranging in size from 0.03 mm to rarely 1 mm. These appear to be syngenetic, scattered along an original bedding-lamination. They are complexed with small tails of recrystallised quartz in adjacent pressure-shadows.

Limonite staining defines different layers and lenses, this is derived from the oxidised pyrite, but the intensity of limonite does not necessarily reflect the different concentrations of pyrite.

A third discrete component in this rock is several small lenses of recrystallised quartz, up to 2 x 5 mm, incorporating oxidised pyrite cubes. These appear to have formed during metamorphism, by recrystallisation of indigenous components.

There is no positive evidence of a tuffaceous component.

LOCATION ALBINA GRID

106062

061

150297B : (quartz) sericitic shale, (meta argillite) contact with a bed, and incorporating lenses of, oxidised very fine chlorite quartz schist (meta siltstone) numerous voids after syngenetic pyrite, with adjacent quartz;
lenses in pressure shadow areas, also minor associated chloritoid.

Field note: siltstone (tuffaceous?);
any evidence of volcanic component?
relationship of sulphide to host rock.

This rock has a more complex composition and texture than other sediments in the suite. It includes abundant pyrite but there is no evidence of volcanic component.

At least half of it consists of extremely fine (quartz) sericite schist, or shale, with dispersed leucoxene, partly limonite-stained in one poorly-defined layer, and partly clear. This is essentially the same as 150297A. Minor threads of recrystallised metamorphic quartz occurs along the schistosity. This is basically a meta argillite.

About one third of the host rock (to the pyrite), consists of a bed and a lens of slightly coarser meta-sediment, probably a meta-quartz siltstone, but crowded with very fine limonitised foliae and minor oxidised limonitised, more or less decussate chlorite, and minor fine leucoxene. The bedding contact is irregular and stepped, due to cleavage planes oblique to the bedding.

Minor small lenses of one of these facies, occur within beds of the other, which may give a (pseudo) sheared tuffaceous appearance in hand specimen.

The other component of this rock is pyrite (10 - 15%), as

original cubes to 6 mm; but these have been oxidised and leached to cubic form voids, some of which are partly occupied by quartz. Fine columnar quartz occurs on the margins of these voids, in pressure shadow areas. Minor small prisms of chloritoid accompanies some of this quartz and occurs in some voids.

LOCHNAGAR ALBUM GRID

063

106064

150300 : extremely fine quartz albite (?chlorite) sericite schist;
incorporating abundant rhombs of ferroan-dolomite;
minor coarse and fine pyrite in localised lenses;
rare scattered fine grains of chalcopyrite.

Field note: grey black shale with fine dolomite, minor pyrite; note any alteration and significance of pyrite.

About 60% of this rock consists of compact, extremely fine schistose, colourless chlorite, cryptocrystalline quartz and/or albite, incorporating slightly coarser, but still very fine, shredded schistose sericite. The quartz ± albite ± colourless chlorite, all with very low and non-descript birefringence, are really too fine to resolve optically. Minute crystals (0.01 mm) of rutile (5%), and even finer leucoxene are disseminated.

Carbonate rhombs, average and fairly consistent size of about 0.5 mm have a vaguely layered distribution to form about 35% of the rock. Staining indicates that these have a ferroan dolomite composition; they are oxidised to limonite and partly leached out nearer the weathered surface.

Coarse (to 5 mm), and some finer (0.5 mm), subhedral to euhedral pyrite crystals occur in localised lenses in the plane of the schistosity. The coarser crystals are weakly microfractured and have recrystallised quartz in pressure shadow areas. Rare fine chalcopyrite accompanies a much smaller lens of finer pyrite, and rare, small chalcopyrite grains are also scattered independently.

There is no graphite, thus the darkish colour is probably due to the finely dispersed titaniferous phases, and the chlorite.

064 LOCATION ALBINI GRID 106065

150521 : vaguely layered microcrystalline cryptocrystalline quartz rock; impure chert? or siliceous siltstone? minor dispersed minute crystals of ferruginised carbonate, and flakes of sericite.

Field note: pink siliceous siltstone; Cambrian siltstones, and argillites.

In this section this rock is seen to consist of a homogeneous mass of partly diffuse microcrystalline to almost cryptocrystalline (0.01 to 0.05 mm) quartz mosaic. There are no clearly defined discrete grains which may be positively identified as detrital.

Minor, extremely fine (0.005 to 0.02 mm) grains of hematite limonite (5%) are dispersed throughout the quartz (to produce the pinkish colour). There is a sufficient proportion of these grains which have a rhombic outline to indicate that they were original carbonate. Sparse extremely fine sericite is also disseminated.

This mass is vaguely laminated by virtue of a minor parallel threads of limonite along ?bedding. Few stringers of limonite ± quartz cut across this layering, and almost certainly some of this limonite replaces extremely fine crystalline carbonate.

The genesis of this rock is difficult to determine as:

(1) a possible impure chert
(2) a homogeneous siliceous siltstone
(3) a silicified pelitic or silty rock

150255 : massive aggregate of medium to coarse granular, and lesser bladed hematite;
incorporating scattered subhedral crystals of pyrite.

Field note: (pyritic) hematitic-ironstone;
check pyrite and possible presence of gold

The massive opaque nature of this sample dictated that it be examined in polished section. At least 85% of the sample consists of a massive aggregate of granular (granuloblastic) hematite, with grain size variations from 0.3 mm to 1.5 mm. All grains are quite strongly twinned; some are weakly deformed and microfissured. Locally the granular hematite merges into clusters of bladed hematite mainly in areas of disruption.

Subhedral to anhedral crystals of pyrite up to 5 mm, some loosely clustered, are incorporated in the aggregate, some with small inclusions of hematite; and some are weakly microfissured.

Detailed examination failed to reveal any gold.

150262 : texturally heterogeneous aggregate of distorted bladed hematite, with interstitial areas and veins of stressed vein quartz; no sulphides.

Field note: hematitic quartz iron stone, check vugs as possible sulphides.

Most of this rock consists of a texturally heterogeneous, massive aggregate of distorted bladed hematite, in which the blades are contorted and microfractured. There is no evidence of sulphide, either existing or pre-existing.

Irregular areas between blades and aggregates of hematite are occupied by vein-quartz, and some by voids; but relatively more continuous thin (2 mm) and thick (10 mm) quartz veins are present. All of this vein quartz is stressed, and contains abundant minute fluid inclusions.

067

150301 : massive aggregate of stressed and locally disrupted granular to bladed hematite; minor small voids after scattered small crystals of pyrite.

Field note: massive hematitic quartz iron stone, check for sulphide and alteration.

This is a texturally heterogeneous coarse grained aggregate of hematite; mostly inequigranular, partly bladed, thus very similar to 150255, but this sample lacks quartz and lacks sulphide. The granular hematite is stressed. The bladed hematite is bent and distorted and appears to occur in disruptions zones.

It does however contain minor scattered voids up to 0.8 mm in size, enclosed in (not between) hematite, with the same subhedral shape as pyrite in 150255. Limonite replicas after pyrite partly occupy some of these voids. Total pyrite content was about 3%.

068

106069

150315 : texturally heterogeneous aggregate of fine to coarse bladed hematite, incorporating patchy "vein" quartz;
cut by a quartz vein;
trace very fine pyrite.

Field note: massive limonite-quartz ironstone.
vuggy; in Cambrian siltstone and argillite.

This rock consists essentially of a texturally heterogeneous aggregate of fine to coarse bladed, hematite and rare micaceous hematite, commonly distorted. This aggregate incorporates abundant highly irregular voids, enclosed by randomly interlocking hematite blades. Some of these are occupied by patchy fine crystalline 'vein' quartz, others remain as voids (which are not after sulphides).

Rare very small crystals of pyrite occur in some hematite laths. A vein of quartz 7 mm wide, incorporates small fragments of contorted hematite blades. All quartz is dusted by minute fluid inclusions.

069

106070

150520 : microdolerite;
extensive (deuteric?) uralitic and chlorite-epidote alteration;
minor skeletal opaque oxides completely leucoxenised.

Field note: dolerite

This is a massive holocrystalline rock, with an average grain size of about 0.6 mm, but up to 1.5 mm. About 40% of the crystalline aggregate consists of randomly oriented, evenly distributed, fibrolamellar form laths of actinolitic-hornblende ± chlorite replicas after original pyroxene. Rare residual cores of pyroxene occur locally. These are intergrown with generally slightly smaller random laths of plagioclase (40%), which are fairly extensively altered to chlorite and/or epidote.

Skeletal crystals of Fe/Ti oxide grains, extensively altered to leucoxene (3 - 5%), are randomly scattered, and highly characteristic of dolerites. Small interstitial voids are occupied by microcrystalline epidote.

070

Albina area

150374 : basalt, extensive uralitic and chloritic alteration, minor epidote; several veins of chlorite-epidote; (possibly an extrusive, or dyke rock, related to, or possibly a chilled margin of, 150520).

Field note: sandy tuffaceous sandstone, coarse fragments in a fine matrix.

In the sample submitted, this author could not see the fragments mentioned in the field notes, although several heterogeneities are manifest as differential limonite-staining, and several discontinuous veins. (It is possible however that it represents just one of the coarse fragments from the outcrop).

The whole rock has a reasonably uniform, holocrystalline, basaltic or microdoleritic texture.

Basically it consists of a mass of randomly interlocking plagioclase laths, extensively chloritised; and former pyroxene laths altered to amphibole ± chlorite. Accessory altered microphenocrysts of plagiocclase, pyroxene (?and olivine), also several crystals and very small clusters of epidote are scattered. Accessory leucoxene-limonite replicas after primary magnetite are disseminated.

Several irregular veinlets of chlorite, crowded with extremely fine granular epidote, and a stronger of quartz, occur at random.

106072

071

# Pontifex & Associates Pty. Ltd.

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26 KENSINGTON ROAD, ROSE PARK
SOUTH AUSTRALIA

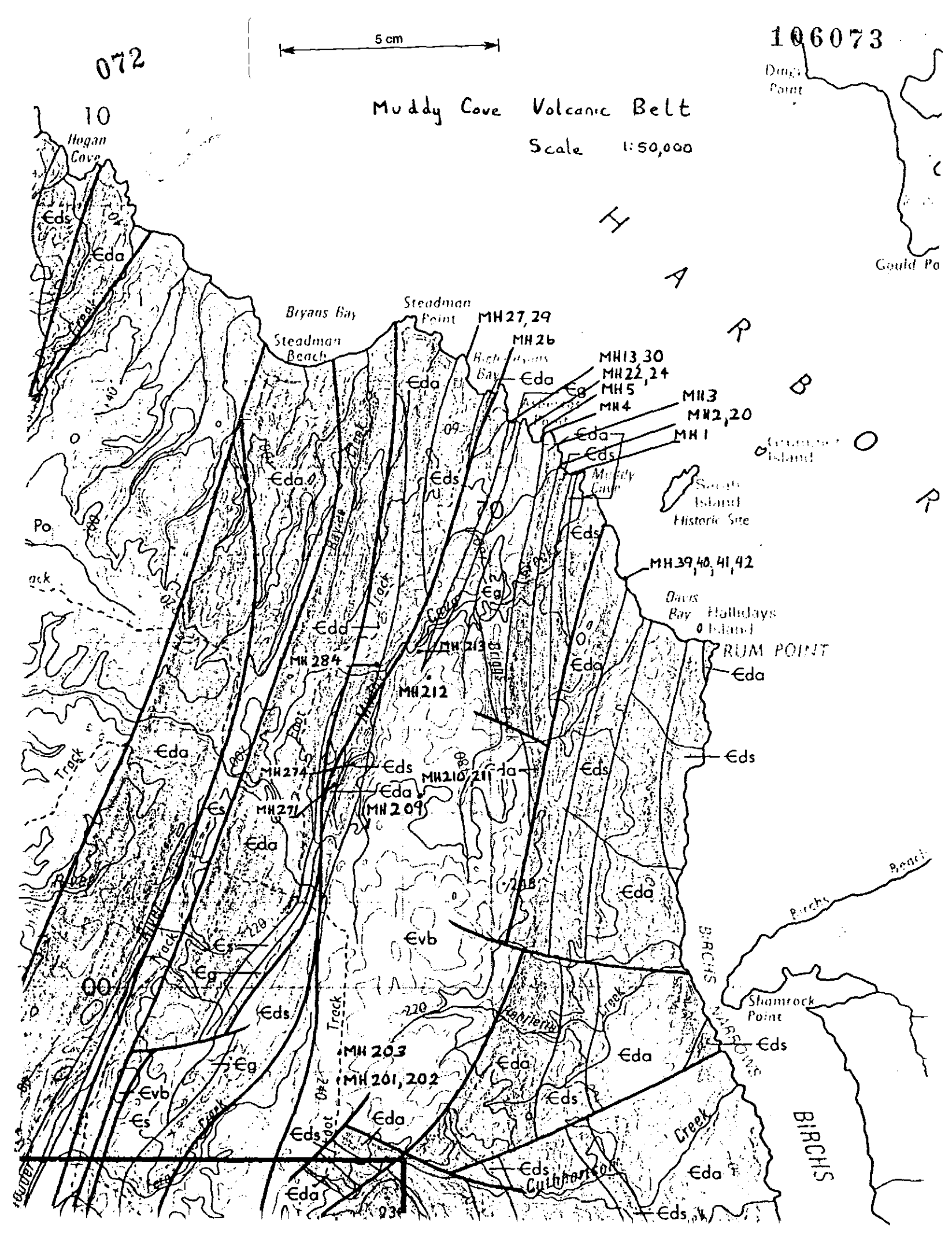
P.O. BOX 91, NORWOOD
SOUTH AUSTRALIA 5067

## MINERALOGICAL REPORT NO. 4536

17th April 1985

| | |
|---|---|
| TO: | Mr. Greg Kary<br>Amoco Minerals Aust. Co.<br>61 Counsel St.,<br>ZEEHAN Tasmania 7469 |
| YOUR REFERENCE: | Your letter received 9.4.85 |
| MATERIAL: | Thin sections from Cape Sorrell Area |
| IDENTIFICATION: | MH series, 28 in all, numbers range from MH5 to MH284 |
| WORK REQUESTED: | Examination of thin sections, brief descriptions, and sumary, of petrographic groupings. |
| SECTIONS: | Returned to you with this report. |

PONTIFEX & ASSOCIATES PTY. LTD.


072
5 cm
106073
Muddy Cove Volcanic Belt
Scale 1:50,000
10
Hogan Cove
Bryans Bay
Steadman Beach
Steadman Point
Gould Po
HARBOR
MH27,29
MH26
MH13,30
MH22,24
MH5
MH4
MH3
MH2,20
MH1
Muddy Cove
Island Historic Site
MH39,40,41,42
Davis Bay
Hallidays Island
RUM POINT
MH213
MH212
MH284
MH274
MH271
MH210,211
MH209
MH203
MH201,202
Shamrock Point
BIRCHS
Creek
Track
Eda
Eds
Edd
Eg
Es
Evb

073

LOCATION: REFER TO ACCOMPANYING MAP

SUMMARY COMMENTS

The 28 thin sections submitted have the following numbers:

MH1 to MH5
MH13, 20, 22, 24, 26, 27, 29, 30, 39 to 42.
MH201 to 203, 209 to 213
MH271, 274, 284

They are allocated to the following broad lithological groupings:

(1) sediments MH1, 4, 5(chert), 42(?tuffaceous), 271

(2) acid tuffs, possible tuffs, and tuffaceous claystones
MH2, 3, 22, 24, 26, 30, 213

(3) dacites MH209, 211, 212

(4) andesitic tuffs (mostly lapilli tuffs) MH201, 202, 203, 210

(5) andesites MH27, 29, 39

(6) basic igneous rocks; basalt MH274
dolerite MH284
gabbro MH13
gabbro/norite MH40

(7) ultramafic rocks pyroxenite MH20
chlorite-talc-carbonate schist MH41

Low temperature metamorphism and alteration are evident throughout the suite.

Brief destriptive notes of individual samples follows:

074

(1) SEDIMENTS

MH1 : lithic micaceous quartz sandstone : quartz grains as single crystals and lithic detritus to 0.4 mm, abundant retrogressed biotite (chlorite, clays, leucoxene), some muscovite, some chlorite, not ex biotite, accessory graphite? Suggestions of metamorphic textures (undulose extinction recrystallisation in quartz; fracture cleavage in micaceous minerals.) Oxidised pyrite (trace).

MH4 : appears to be weakly graphitic pelitic siltstone, with accessory leucoxene, weak schistosity with 20% mica at $90^{\circ}$ to prevailing schistosity.

MH5 : patchy, heterogeneous, chert; minor quartz veinlets, accessory limonite after pyrite, and clouds of diffuse limonite.

MH42 : schistose sericite with silt sozed quartz grains silty shale, possibly gradational towards MH2, 3 lithology (?tuffaceous component?).

MH271 : weakly folded, graphitic, shaly siltstone, crosscutting strongers of quartz and of chalcedony. Essentially composed of graphite + quartz + minor sericite. Kinked lamination-layering.

075

(2) SERICITIC TUFFS AND TUFFACEOUS SEDIMENTS

MH2: compact, sericite, strongly schistose, with 5% angular quartz grains 0.2 mm in size. Thin lensoidal quartz veins and diffuse extremely small cryptocrystalline quartz lenses sandy or tuffaceous claystone.

MH3 : mostly compact sericite with contorted schistosity, 5 - 7% angular quartz grains and small lithic fragments scattered, tuffaceous claystone.

MH26 : sericite with a contorted schistosity and minor scattered quartz grains to 0.5 mm. Abundant small lithic fragments altered to sericite + chlorite felsic tuff carbonate veins.

MH30 : sericite schist with quartz grains 0.2 mm and limonite + quartz or sericite after ?felspar or ferromagnesian crystals. Probable crystal tuff.

MH22 : sericitised silicified coarse lithic tuff with some quartz grains and some quartz-porphyritic lithic fragments (silicified, weakly sericitised). Some ?silty shale fragments (cf. MH42). Sericite schist matrix. Limonite stained.

MH24 : sericitised silicified coarse lithic tuff, similar to MH22, but less abundant quartz crystals, similar with sericite schist matrix and limonite staining, very similar. No sedimentary fragments.

MH213 : heterogeneous quartz-chlorite-carbonate rock derived from tuff. Perlitic textures in some areas suggest former acid glass fragments. May have been an acid coarse vitric tuff. Irregular development of limonite: carbonate commonly in irregular patchy veins ± lesser quartz.

(3) DACITES

MH211 : sericitised silicified dacite : sericite after felspar phenocrysts and/or possible fiamme to 2 mm, recrystallised quartz (1 - 2%) ?microphenocrysts, in a silicified groundmass crowded with extremely fine sericite. Accessory blue-green tourmaline and leucoxenised magnetite microphenocrysts.

MH203, 212 : dacite porphyries sparsely plagioclase and quartz-phyric rocks, with 20% total phenocrysts, mostly plagioclase in a microgranular, quartzofelspathic groundmass grainsize 0.2 mm. Sericite and chlorite relatively abundant in 212; less abundant sericite in 209 which is cut by a thin carbonate vein (?siderite). Both rocks probably represent the same igneous body.

## (4) ANDESITIC TUFFS

MH201, 202, 203 : Andesitic tuffs lapilli

MH201 : diffuse lapilli to 10 mm of altered felspar-porphyritic lava in fine possibly epithermal quartz. Mineralogy: quartz, sericite, limonite, opaque oxides.

MH202 : pyroxene andesite lapilli to 20 mm in size in a fine grained matrix. Secondary chlorite, veining pyroxene; albite after plagioclase, trace epidote. Quartz veins with chlorite and epidote. Some fragments heavily limonitised (glassy clasts?).

MH203 : scattered andesitic lapilli to 20 mm with abundant chert matrix. Secondary epidote-chlorite (mostly in groundmass) and sericite (mostly in felspar). Minor epidote, sericitised felspars in matrix.

MH210 : sericitised chloritised tuff (?andesitic) abundant altered (mostly silicified, some chloritised) fragments to 6 mm size in chlorite schist matrix. The fragments are mostly plagioclase porphyritic (albitised). Scattered limonite.

## (5) ANDESITES

MH27, 29, 39 : all of these rocks are similar, they are flow textured and plagioclase-porphyritic with minor chlorite (in 27), epidote (in 29), or carbonate (in 39). Plagioclase phenocrysts are about 1 mm long. The flow texture is relatively weak in MH39.

The groundmass in all samples is dominated by small plagioclase laths and microlites, minor (?secondary) very fine quartz; sericite and carbonate in MH39. Minor pyrite, oxidised, in MH27, and is fresh in MH39. Epidote lined shear zones occur in MH27.

(6) BASIC IGNEOUS ROCKS

MH274 : very fine chlorite-albite aggregate, with relict textures indicative of a fine grained aphyric basalt, with disseminated discrete leucoxene grains after magnetite, and a leached out lenticular vein.

MH284 : uralitised, saussuritised dolerite, minor disseminated opaque oxides and a vein of clinozoisite. Some remaining felspar grainsize 0.5 mm. Uralite after pyroxenes 0.5 - 1.5 mm with an ophitic texture. Some clays (?vermiculite/ smectite).

MH13 : uralitised, saussuritised gabbro, original grainsize 2 - 5 mm. Some chlorite, ?epidote in pyroxene sites; clouded? clinozoisite and rare residual felspar in felspar sites. Trace pyrite. Originally 40 - 45% plagioclase, 55-60% pyroxene.

MH40 : granular gabbro/norite, grainsize 1 mm; fresh clinopyroxene (25%) fibrous amphibole after orthopyroxene (40%) clouded clinozoisite after plagioclase (35%).

## (7) ULTRAMAFIC ROCKS

MH20 : uralitised pyroxenite, grainsize about 2 mm, 15% fine grained carbonate possibly ex plagioclase (post cumulus).

MH41 : chlorite-talc-carbonate schist with ?septechlorite after pyroxene and carbonate, locally retaining textures of olivine, may have been originally a pyroxene-bearing peridotite or dunite. Traces of opaque oxides.

082

106083

APPENDIX 2

# EVALUATION OF THE RESULTS FROM THE 1984-85 FIELD SEASON PROGRAM OVER THE SORELL PENINSULA

by J Bishop, Mitre Geophysics

# EVALUATION OF THE RESULTS FROM THE 1984/85 FIELD SEASON PROGRAM OVER THE SORELL PENINSULA.

The exploration program for the 1983/84 field season at Sorell Peninsula included aeromagnetic and Dighem surveys as well as a number of geological/geochemical traverses. Twenty six prospects were listed by Bishop (1984) and the most promising of these were chosen for follow up in the 1984/85 season. An evaluation of the results from the surveys conducted over these prospects is given below (in roughly geographical order, starting from the north), with a comment on the radiometrics.

## DOUBLE COVE

This area was originally (1983/84 field season) chosen from the Dighem analog records. VLF was used to (successfully) locate the anomalies, however there was no encouragement from the soil sampling along the traverses.

Interest in the area immediately to the south east of the Double Cove grid was generated by the proximity of two high grade Dighem anomalies to an unexplained Pb geochem anomaly (obtained by BHP from a stream bank sample). The Dighem responses were of low amplitude and ascribed to culture in Dighem's interpretation report. False anomalies were not unexpected.

The original Double Cove grid was extended with the addition of two lines (Traverses A & B) to the south of the original grid lines. These lines were surveyed with Genie using a 100m coil spacing and with ground magnetics.

The Genie survey recorded three anomalies on each line, however the target Dighem responses were not located and it seems likely that these are false*, although the Genie survey did not properly cover the area of the Dighem anomalies. (Comparison between the Dighem magnetics and the ground magnetics confirms that the Dighem EM anomalies have been plotted close to their true position.)

Geochemistry was the main reason for following up these dubious Dighem anomalies and since re-sampling of the creek has failed to repeat BHP's anomalous geochem values, it is not recommended that the Dighem anomalies be further pursued.

## ALBINA (NORTH) (traverse A of Albina Ck).

A single line was chosen for ground examination to see if the Lucas Creek volcanics extended this far to the south west. The

---

* The Genie anomalies are indicative of poor conductors, whereas the high-grade Dighem responses (if real) suggest good conductors

ground magnetics confirms the location of the traverse (relative to the aeromagnetics). A VLF survey was also made, but no significant responses were obtained. (NWC was used -at right angles to the desired direction -since Japan was not detectable.)

Sediments were found along this traverse, indicating that the volcanics do not extend this far to the south.

ALBINA SOUTH (traverses B & C of Albina Ck).

These lines were sited over an area of different magnetic character with the southernmost line (C) over a discrete magnetic anomaly. Anomalous gold (0.25g/t) had been found in a rock chip taken from the area during the 1983/84 field season. Magnetics and VLF were read over both lines and Genie over part of line B.

The ground magnetic results confirm the locations of the traverses relative to the aeromagnetics.

A well defined Genie response was obtained at 400E on traverse B. A moderate conductivity is indicated. The response is very close (within 140m when plotted at 1:20,000 scale) to the (possible bedrock) Dighem conductors defined by the grade 1 and 2 anomalies 52C to 47A (recorded over a distance of 450m). This conductive zone is one of several in the area (the others being mostly better conductors). A graphitic shale is the likely source.

The direction of the VLF transmittter used (NWC) was at right angles to the desired direction and the VLF results should be disregarded (poorly defined responses at the eastern ends of line B may correlate with good 'formational' Dighem conductors).

Sampling of the area for gold failed to confirm the original values or to find any other potentially anomalous areas. Thus this prospect is now of little interest. (Although the original anomalous gold value remains.)

BUTLER CREEK

This prospect was chosen as a possible northern extension of ironstones which lie close to the Cambrian/PreCambrian contact (eg anomalies 128 and 129). One line of magnetics was surveyed (subparallel to, and 1.2 to 1.5kms south west of, a profile taken from the aeromagnetic data and used for quantitative interpretation in Bishop, 1984).

The results show excellent agreement with the aeromagnetic data. The contact is indicated at ~525mW which is also in agreement with the geological map. (However G. Kary has identified Cambrian limestone east of this point and he suggests that the boundary is at 325mW.)

The magnetically high areas were sampled and assayed for gold

with disappointing results.

ANOMALY 128

A Mines Dept assay of an ironstone near this area returned a value of 0.15g/t gold.

One long traverse (of 3000m) and one short traverse (of 400m) were surveyed by magnetics and VLF. A strong magnetic anomaly (of 2000nt) was obtained over a gabbro on the Cambrian/PreCambrian contact. A barely noticeable response (compared with the background noise) of 100nt was recorded over the ironstone (at 375N on line 300W). A broad VLF response was centred on 300W/575N; no attempt has been made to find or interpret the source.

Further sampling of the ironstone has failed to find any better values. A value of 3.24 g/t Au was obtained from a stream sediment sample in Noddy Creek (draining PreCambrian rocks) at the eastern end of the longer traverse, but follow up sampling has failed to reproduce this anomalous assay.

ANOMALY 129

Anomaly 129 is at the southern end of the Cambrian/PreCambrian contact and was previously investigated by BHP. The area was covered by two lines of the Dighem survey and several anomalies were recorded. (The plans and profiles for this area were received much later than the rest of the data.)

The prospect was not part of the 1984/85 field program, however the core from BHP's DDH was re-assayed for gold: no anomalous values were recorded.

BIRTHDAY BAY

This prospect had been designated as a possible tin target, given a magnetic anomaly in proximity to a sequence of carbonates. Two traverses were surveyed with magnetics; traverse 'A' confirmed the presence of a buried magnetic source (traverse 'B' indicated shallower material).

Geochemical sampling (including the nearby creeks) failed to find any significant tin (maximum assay 10ppm), however the (portable percussion) sampling indicated a sand cover of more than 10m. Basic volcanics, close to the probable strike of the Birthday Bay prospect, have been mapped along the coast line and these are a likely source of the magnetic anomaly.

Although the potential of this area has not been thoroughly disproved (an EM survey is suggested for this), there is little encouragement.

THOMAS CREEK

This prospect lies within an area mapped as sediments, but re-interpreted (from the aeromagnetics) as Hibbs River volcanics. Anomalous gold was returned from a soil sample taken in the 1983/84 field season.

Four lines spaced 200m apart were surveyed with magnetics and VLF plus three intermediate lines (50m spacing) which were centred on the gold-bearing soil sample. The ground magnetics agrees roughly with the aeromagnetic (the ground data showing more detail), but the prospect location has been determined by the original sampling and any geophysical data is ancillary. The traverse lines were run approximately NNW and (assuming this was close to perpendicular to strike) thus NWC should have been at a useable direction for the VLF. Reasonable VLF responses were obtained on four of the lines. However, as occurred at Albina, re-sampling failed to detect any anomalous gold (maximum value 0.12g/t).

URQUHART (NORTH)

This prospect consists of two adjacent weak, bedrock Dighem anomalies (nos 105C & 106C) on the flank of a magnetic anomaly and lying within 500m of a high copper stream sediment sample.

Two grid lines were pegged, 400m apart and surveyed with magnetics and Genie. On the northernmost traverse, a 300nt magnetic anomaly was defined. Weak Genie EM responses were recorded on either side of the peak of this response which was similar in character to the magnetic anomaly defined by the Dighem survey. The westernmost one coincided with the Dighem EM anomaly. Ground mapping located graphitic shales and these are the likely source of the anomalies.

The cause of the high copper geochem anomaly is thought to be due to minor chalcopyrite which occurs within quartz veining in the sediments. This is considered to be unprospective.

URQUHART (EAST)

This prospect was defined by a single weak, possible bedrock Dighem conductor (no. 112E).

Two lines were pegged, either side of the anomaly (350m apart) and surveyed with Genie and magnetics. Although the ground magnetic data was more noisy than either of the airborne results, the location of the traverses with respect to the Dighem EM anomaly was confirmed.

No definite Genie response was obtained, although a slight 'kick' can be seen in the expected position (700E/2350N). This indicates that the zone is weak and very strike limited. The lack of any

geochemical encouragement, down-grades the prospect to the point of 'no further interest'.

URQUHART (SOUTH)

This prospect was defined by two conductive zones within the volcanics. (Dighem responses 125D to 129F & 125E to 128XC.)

Two traverses, 300m apart, were pegged and magnetics and Genie surveys were carried out. Correlation of the Dighem and ground magnetics verified the positioning of the traverses and suggested (at 1:20,000 scale) that the northern traverse (300S) should have intersected the middle of the western EM zone and have crossed the southern tip of the eastern zone. The southern traverse (600S) would have passed to the south of both zones.

No good Genie responses were obtained: a weak anomaly on 300S at 010W lies between the expected locations of the two Dighem zones. These zones were generally poorly defined by the low frequency (900Hz) channels and it is possible that the highest Genie frequency (3037Hz) was not high enough to detect the largely 7200Hz Dighem responses.

The lack of any encouraging geochem results means that there is no incentive to try and accurately locate the Dighem zones.

RADIOMETRICS

Four channels of radiometric data were recorded (since the equipment was already installed in the aircraft), however the instruments were not calibrated and the data was not processed.

An attempt was made to produce stacked profiles of the raw total count radiometric data at 1:50,000 scale. The results were most unsatisfactory, however there was enough information to show that there were definite trends and to suggest that a detailed radiometric survey over the area would be worthwhile and would provide a good mapping aid. In particular, the magnetic highs within the sediments (eg, Gaps West) appeared to be radiometric.

The prospects listed in Bishop (1984) are appended with updated comments.

J.R. Bishop
June, 1985.

Bishop, J.R., 1984. An interpretation of the aeromagnetic and Dighem surveys over the Cape Sorell Peninsula (E.L.'s 35/83, 36/83 & 37/83). Mitre Geophysics report 84/08 for Amoco.

088

106089

A List of Prospects arising from the 1984 Aeromagnetic and Dighem Surveys over the Sorell Peninsula (In order of priority).

With comments arising from the 1984/85 field season.

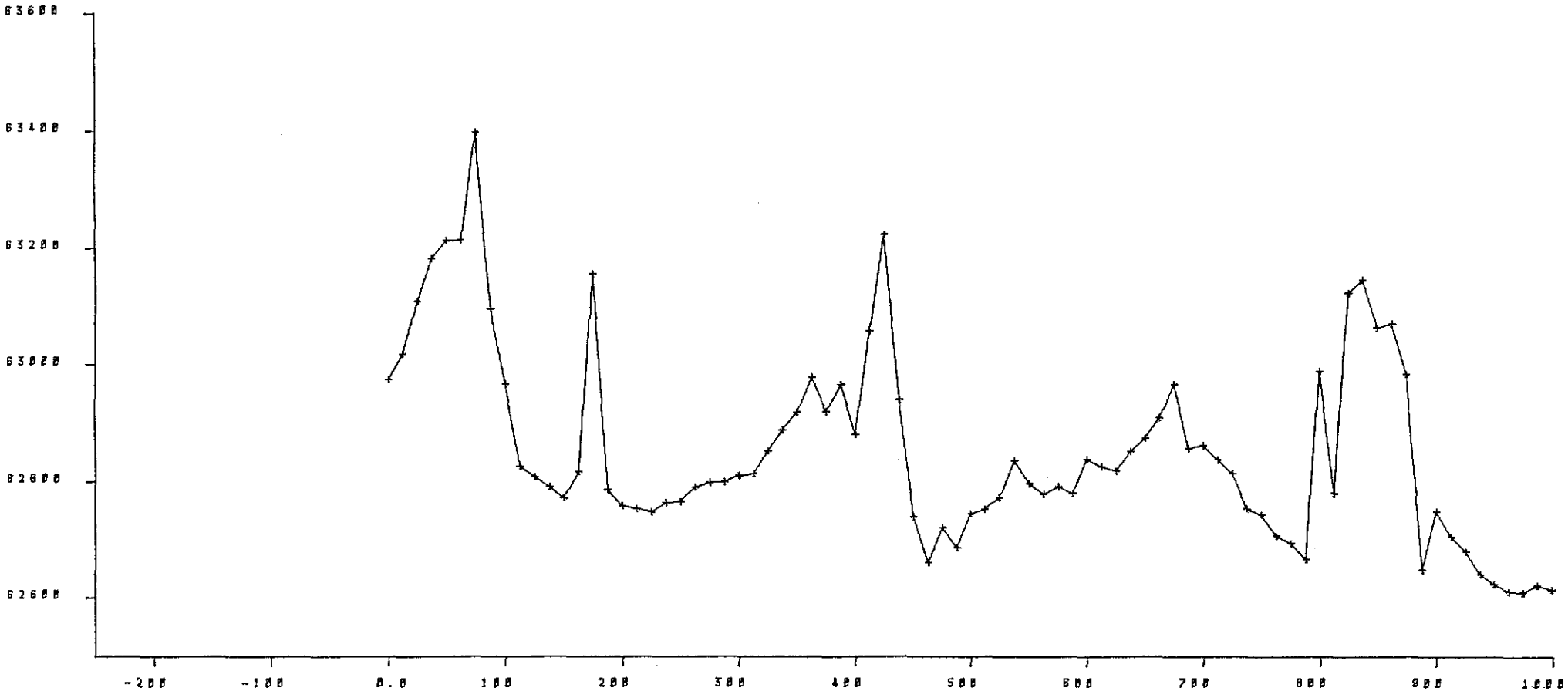
| PROSPECT | COORDINATES | DESCRIPTION | TARGET | COMMENT/CONCLUSIONS-RECOMMENDATIONS |
|---|---|---|---|---|
| Muddy Cove | 5,295,000mN/368,000mE to 5,306,000mN/371,000mE | Unexplored belt of (more acidic) volcanics. | VMS | Not tested: Dighem still recommended. |
| Double Cove | 5,310,500mN/361,500mE | Two Dighem anomalies (8G & 9E) (high grade but ?culture) close to BHP Pb anomaly in stream bank. | VMS | Dighem not located by Genie (false?), but geochem not repeatable Of no further interest. |
| Urquhart (north) | 5,264,500mN/373,000mE | Bedrock Dighem anomalies (105C & 106C) on adjacent lines (grade 1), with assoc. high stream sed. Cu anomaly (500m to the east). | VMS | Dighem over graphitic shales. Geochem over minor chalco. veins. Of no further interest. |
| Thomas Ck | 5,285,500mN/369,500mE | High soil Cu/Au in ?volcanics overlying diorite intrusive | gold | Gold values not repeatable. |
| Albina (south) | 5,305,000mN/357,500mE | Anomalous magnetic character over limonitic siltsts. Au in rk chip. | gold | " |
| Anomaly 128 | 5,303,500mN/362,000mE | Magnetic anomaly at PreCamb-Camb. contact. Interpreted by BHP as gabbro, but area to be checked for ironstones. | gold | Ironstones found, but low in gold. |
| Anomaly 129 | 5,300,000mN/358,500mE | Magnetic anomaly drilled by BHP: ironstones with 0.7m of pyrite/ hematite. | gold | Drill core assayed for gold: no significant values. |
| Hibbs River | 5,280,000mN/368,000mE to 5,295,500mN/366,500mE | Largely unexplored area of intermediate to mafic volcanics. | VMS | Not tested: Dighem still recommended. |
| Karneburyer Ck | 5,287,000mN/374,000mE to 5,298,000mN/370,000mE | " | " | " |
| Wanderer River | 5,263,500mN/378,000mE | Previously reported Pb/Zn min. in veins. | VMS | Not tested: geol/geochem recommended. |
| Thomas Ck (west) | 5,287,500mN/367,000mE | Convergence of trends on magnetic map. | gold | " |
| Birthday Bay | 5,301,000mN/356,500mE | Magnetic anomaly + carbonates. | tin | No encouragement from geochem, but EM required for thorough testing. |

089

106090

| PROSPECT | COORDINATES | DESCRIPTION | TARGET | COMMENT/CONCLUSIONS-RECOMMENDATIONS |
|---|---|---|---|---|
| Timbertops | 5,295,500mN/368,000mE | Weak Pb/Ag in soils adjacent to dioritic intrusive. | ? | Not tested: dependant on results of Dighem survey |
| Butler Ck | 5,306,000mN/364,000mE | Possible ironstone formations similar to Anomalies 128 & 129. | gold | No significant gold over mag. highs. |
| Urquhart (south) | 5,361,000mN/375,000mE | Dighem anomalies (125D to 129F & 125E to 128XC)in Mainwaring volcs (source likely to be formational). | VMS | Traverses well located, but Genie did not locate zones. No geochem. Of no further interest. |
| Urquhart (east) | 5,263,500mN/375,500mE | Isolated Dighem anomaly (112E) (possibly bedrock) in Mainwaring volcanics. | VMS | " |
| Commandant Ck | 5,295,500mN/372,000mE | Deep-seated magnetic anomaly beneath seds. (Diorite intrusive likely source). | tin | Not tested: magnetics and geochem recommended. |
| Gaps (south) | 5,291,000mN/368,000mE | magnetic high over diorite | ? | " |
| Dunes Ck | 5,311,500mN/355,000mE & 5,313,000mN/357,000mE | Magnetic anomalies within Pre-Cambrian sediments. | ?tin | " |
| Albina (north) | 5,306,500mN/357,500mE | Possible southern extension of Lucas Ck volcanics. | VMS | Shown to be seds Of no further interest. |
| Hibbs Lagoon | 5,284,500mN/362,000mE | Area mapped as seds with similar magnetic character to volcanics. | VMS | Not tested: geol/geochem recommended. |
| Lowren Hill | 5,278,000mN/364,000mE | A thick plug of serpentinite | nickel & platinoids | " |
| McCarthy Ck | 5,280,000mN/369,000mE | A series of offset magnetic highs within Cambrian seds. | geol. | Not examined: magnetics VLF recommended. |
| Gaps (west) | 5,292,000mN/365,500mE | Linear magnetic highs within Camb. seds. | geol. | Not examined: magnetics, VLF,(& scintillometer) recommended. |
| Mainwaring (south) | 5,251,000mN/374,000mE | Weak, ?formational Dighem and magnetic highs in Camb. seds | geol. | Not examined: magnetics Genie or VLF recommende |
| Warounrim | 5,274,000mN/367,000mE | Complex magnetic anomalies suggesting a fold structure. | geol. | Not examined: magnetics VLF recommended. |

090



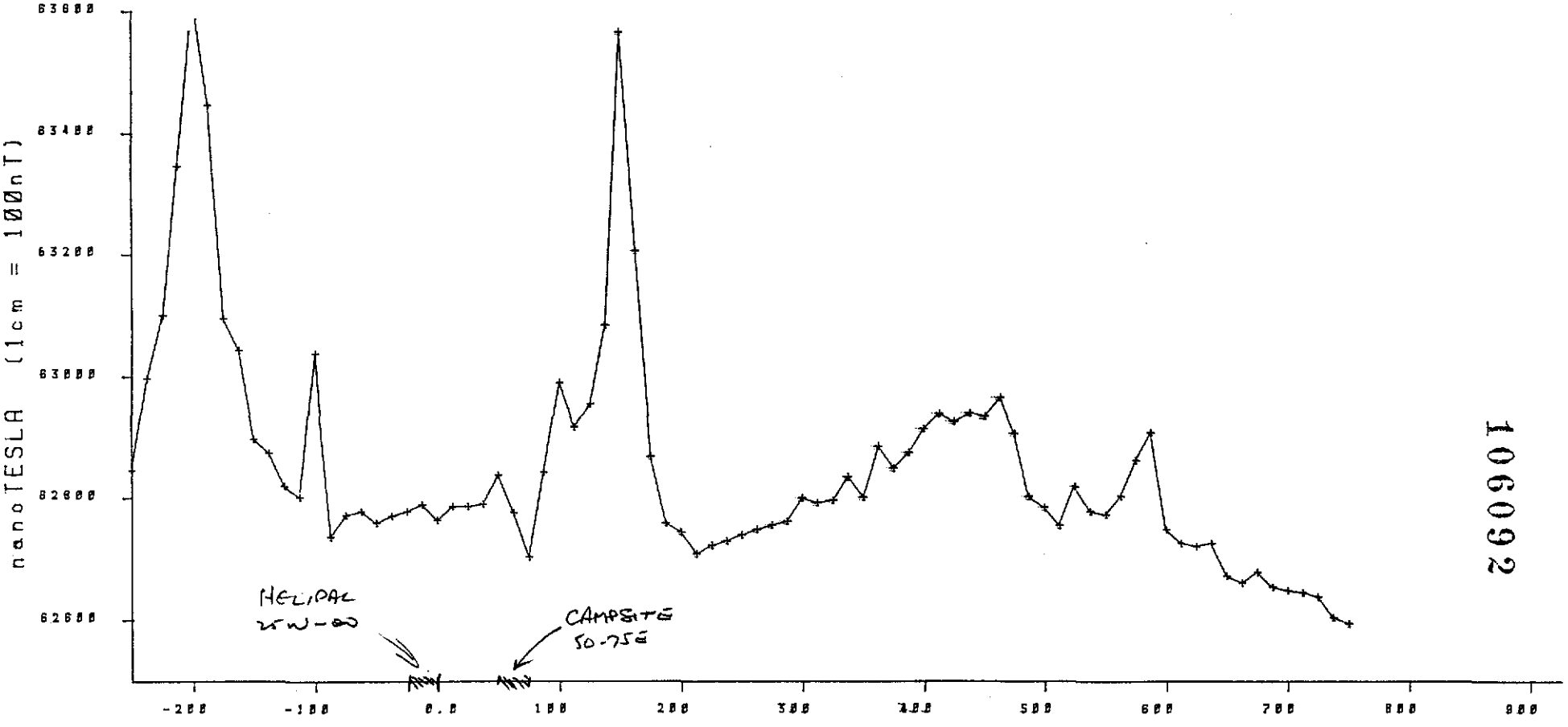

DOUBLE COVE MAGNETICS - 12JANUARY1985 - PLM

LINE "A" SCALE 1:5000.0

5 cm

1060091

T60




106092

DOUBLE COVE MAGNETICS - 12JANUARY1985 - PLM

LINE "B" ~~[illegible]~~ SCALE 1:5000.0

5 cm

# APPENDIX 3

## ANALYTICAL RESULT SHEETS

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106094

OUT RESULTS FOR NUMBERS 113806 → 113813. THEY ARE FROM MACINTOSH EAST !!

The Australian Mineral Development Laboratories

Flemington Street, Frewville,
South Australia 5063
Phone Adelaide (08) 79 1662
Telex AA82520

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

amdel

3/786/0 - AC 3683/85
SPT 6/85

29 March 1985

Mr. P. Jones,
Amoco Minerals Australia Limited,
61 Counsel Street,
ZEEHAN TASMANIA 7469

REPORT AC 3683/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14704<br>Despatch No. 4945 |
| REPORT COMPRISING: | Cover Sheet<br>Page 1<br>Pages G1 - G2<br>Pages X1 - X2 |
| DATE RECEIVED: | 11 March 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. B. Roxburgh,
Amoco Minerals Australia Limited,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

ij

Head Office:
Flemington Street, Frewville
South Australia 5063
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
Osman Place
Thebarton, S.A.
Telephone (08) 43 5733
Telex: Amdel AA82725
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.
Telephone (09) 325 7311
Telex: Amdel AA94893
Sydney, N.S.W.
Telephone (02) 439 7735
Telex: Amdel AA20053

094

# Classic Laboratories Pty Ltd

106095

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Report AC 3683/85
Page 1

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE SA

Your Ref. No. A 94407 spt6/85

Our Ref. No. 8759/85

Date 25/3/85

Sample Received 11/3/85

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3758

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 26 | 113831 | tr | | |
| | | | | | 27 | 32 | 0.20 | | |
| | | | | | 28 | 33 | 0.08 | | |
| | | | | | 29 | 34 | tr | | |
| | | | | | 30 | 35 | * | | |
| | | | | | 31 | 36 | tr | | |
| | | | | | 32 | 37 | * | | |
| | | | | | 33 | 38 | * | | |
| 9 | 14 | tr | | | 34 | 39 | * | | |
| 10 | 15 | tr | | | 35 | 40 | * | | |
| 11 | 16 | * | | | 36 | 41 | tr | | |
| 12 | 17 | tr | | | 37 | 42 | tr | | |
| 13 | 18 | tr | | | 38 | 43 | tr | | |
| 14 | 19 | * | | | 39 | 44 | tr | | |
| 15 | 20 | * | | | 40 | 45 | tr | | |
| 16 | 21 | * | | | 41 | 46 | tr | | |
| 17 | 22 | tr | | | 42 | 47 | tr | | |
| 18 | 23 | tr | | | 43 | 48 | * | | |
| 19 | 24 | tr | | | 44 | 49 | * | | |
| 20 | 25 | 0.03 | (0.04 | tr) | 45 | 50 | tr | | |
| 21 | 26 | * | | | 46 | 51 | tr | | |
| 22 | 27 | * | | | 47 | 52 | tr | | |
| 23 | 28 | tr | | | 48 | 53 | 0.04 | | |
| 24 | 29 | tr | | | 49 | 54 | * | | |
| 25 | 30 | * | | | 50 | 113857 | 0.04 | | |

095 amdel

106096

Analysis code A1/1,2 Report AC 3683/85 Page G1

NATA Certificate Order No. 14704 Results in ppm

| Sample | Cu | Zn | Ni | Fe | Mn | Ag |
|---|---|---|---|---|---|---|
| ROCK 113816 | 29 | 84 | 26 | 3.85% | 890 | <1 |
| ROCK 113818 | 29 | 56 | 335 | 5.12% | 950 | <1 |
| ROCK 113819 | 38 | 58 | 330 | 4.61% | 680 | <1 |
| ROCK 113820 | 70 | 56 | 490 | 7.04% | 930 | <1 |
| ROCK 113823 | 19 | 28 | 20 | 3.46% | 330 | <1 |
| ROCK 113824 | 155 | 82 | 120 | 11.6% | 1260 | <1 |
| ROCK 113825 | 2.12% | 125 | 60 | 44.7% | 520 | 8 |
| ROCK 113826 | 820 | 135 | 72 | 24.6% | 3180 | <1 |
| ROCK 113827 | 170 | 64 | 30 | 5.60% | 1.48% | <1 |
| ROCK 113828 | 390 | 360 | 160 | 3.80% | 37.7% | <1 |
| ROCK 113829 | 29 | 12 | 10 | 1.18% | 850 | <1 |
| ROCK 113830 | 105 | 52 | 80 | 8.24% | 1320 | <1 |
| ROCK 113831 | 70 | 56 | 155 | 6.54% | 780 | <1 |
| ROCK 113832 | 125 | 49 | 105 | 7.38% | 1120 | <1 |
| ROCK 113833 | 205 | 68 | 100 | 8.56% | 920 | <1 |
| ROCK 113834 | 325 | 74 | 62 | 10.1% | 1280 | <1 |
| ROCK 113835 | 270 | 78 | 46 | 8.08% | 550 | <1 |
| ROCK 113836 | 70 | 45 | 32 | 7.60% | 265 | <1 |
| ROCK 113837 | 195 | 74 | 76 | 9.46% | 990 | <1 |
| ROCK 113840 | 125 | 335 | 130 | 22.4% | 455 | <1 |
| ROCK 113845 | 13 | 46 | 1020 | 13.1% | 5650 | <1 |
| ROCK 113846 | 105 | 125 | 44 | 8.22% | 790 | <1 |
| ROCK 113847 | 730 | 100 | 52 | 16.4% | 3220 | <1 |
| ROCK 113848 | 43 | 37 | 195 | 4.80% | 3660 | <1 |
| ROCK 113849 | 24 | 27 | 78 | 5.06% | 550 | <1 |
| ROCK 113852 | 28 | 62 | 44 | 17.7% | 2.16% | <1 |
| ROCK 113857 | 280 | 120 | 78 | 38.5% | 910 | 2 |
| P CONC 113813 | 8 | 32 | 6 | 1.92% | 1060 | <1 |
| P CONC 113814 | 38 | 125 | 72 | 6.42% | 530 | <1 |
| P CONC 113822 | 110 | 135 | 440 | 6.18% | 2280 | <1 |
| P CONC 113839 | 80 | 210 | 66 | 14.2% | 2380 | <1 |
| P CONC 113842 | 78 | 145 | 92 | 11.0% | 1180 | <1 |
| P CONC 113844 | 43 | 98 | 82 | 6.04% | 650 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

096 amdel 106097

Analysis code A1/1,2 Report AC 3683/85 Page G2

NATA Certificate Order No. 14704 Results in ppm

| Sample | Cu | Zn | Ni | Fe | Mn | Ag |
|---|---|---|---|---|---|---|
| P CONC 113851 | 21 | 125 | 180 | 9.12% | 1000 | <1 |
| P CONC 113854 | 34 | 74 | 42 | 7.04% | 730 | <1 |
| S. SED 113815 | 78 | 150 | 84 | 6.96% | 1480 | <1 |
| S. SED 113817 | 120 | 175 | 125 | 7.46% | 2620 | <1 |
| S. SED 113821 | 33 | 49 | 90 | 3.44% | 690 | <1 |
| S. SED 113838 | 125 | 175 | 100 | 6.66% | 2380 | <1 |
| S. SED 113841 | 115 | 155 | 180 | 6.18% | 1320 | <1 |
| S. SED 113843 | 54 | 94 | 100 | 5.02% | 810 | <1 |
| S. SED 113850 | 28 | 98 | 160 | 3.77% | 730 | <1 |
| S. SED 113853 | 47 | 90 | 68 | 4.43% | 2140 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

097

amdel

106098

Analysis code X3 Report AC 3683/85 Page X1

NATA Certificate Order No. 14704 Results in ppm

| Sample | As | Pb | Sn | W | Sb | Ba |
|---|---|---|---|---|---|---|
| ROCK 113816 | 4 | 6 | 4 | <10 | <4 | 180 |
| ROCK 113818 | <2 | 5 | <4 | <10 | <4 | 320 |
| ROCK 113819 | <2 | 2 | <4 | <10 | <4 | 20 |
| ROCK 113820 | <2 | 8 | 10 | <10 | <4 | 45 |
| ROCK 113823 | 4 | 7 | 4 | 10 | <4 | 320 |
| ROCK 113824 | 250 | 8 | 6 | <10 | 14 | <10 |
| ROCK 113825 | 480 | 90 | 14 | <10 | 36 | <10 |
| ROCK 113826 | 260 | 25 | 6 | <10 | 22 | 35 |
| ROCK 113827 | 19 | 4 | 6 | <10 | 6 | 55 |
| ROCK 113828 | 41 | 13 | <4 | 20 | 18 | 1.76% |
| ROCK 113829 | 13 | 19 | 8 | <10 | 4 | 820 |
| ROCK 113830 | 6 | 6 | 4 | 10 | <4 | 280 |
| ROCK 113831 | <2 | <2 | <4 | <10 | <4 | 130 |
| ROCK 113832 | 8 | 8 | <4 | <10 | 4 | 390 |
| ROCK 113833 | <2 | <2 | 4 | <10 | <4 | 110 |
| ROCK 113834 | 7 | 6 | 4 | <10 | 4 | 120 |
| ROCK 113835 | 20 | 12 | 6 | <10 | <4 | 330 |
| ROCK 113836 | 11 | 12 | 4 | <10 | <4 | 120 |
| ROCK 113837 | 6 | 2 | 6 | <10 | <4 | 200 |
| ROCK 113840 | 36 | 48 | 8 | 20 | <4 | 200 |
| ROCK 113845 | 26 | 4 | 4 | <10 | 32 | 15 |
| ROCK 113846 | <2 | 4 | <4 | <10 | 6 | 530 |
| ROCK 113847 | 10 | <2 | 6 | <10 | 12 | 140 |
| ROCK 113848 | 3 | <2 | <4 | <10 | <4 | 25 |
| ROCK 113849 | <2 | 9 | <4 | <10 | <4 | 60 |
| ROCK 113852 | 66 | 310 | <4 | <10 | <4 | 65 |
| ROCK 113857 | 135 | 98 | <4 | 10 | 16 | <10 |
| P CONC 113813 | 7 | 86 | <4 | <10 | <4 | 230 |
| P CONC 113814 | 22 | 16 | 4 | <10 | <4 | 280 |
| P CONC 113822 | 7 | 18 | 6 | <10 | <4 | 180 |
| P CONC 113839 | 19 | 12 | <4 | <10 | <4 | 190 |
| P CONC 113842 | 15 | 13 | <4 | 10 | 4 | 230 |
| P CONC 113844 | 9 | 7 | <4 | <10 | <4 | 320 |
| Detn limit | (2) | (2) | (4) | (10) | (4) | (10) |

098 amdel

106099

Analysis code X3 | Report AC 3683/85 | Page X2

NATA Certificate | Order No. 14704 | Results in ppm

| Sample | As | Pb | Sn | W | Sb | Ba |
|---|---|---|---|---|---|---|
| P CONC 113851 | 22 | 12 | <4 | <10 | <4 | 65 |
| P CONC 113854 | 8 | 4 | 8 | <10 | <4 | 35 |
| S SED 113815 | 23 | 26 | <4 | <10 | 8 | 330 |
| S SED 113817 | 29 | 27 | 8 | <10 | <4 | 550 |
| S SED 113821 | 2 | 7 | 4 | <10 | <4 | 140 |
| S SED 113838 | 6 | 27 | <4 | 10 | <4 | 290 |
| S SED 113841 | 6 | 22 | <4 | <10 | 4 | 210 |
| S SED 113843 | 8 | 13 | <4 | <10 | <4 | 290 |
| S SED 113850 | 3 | 14 | 4 | <10 | 4 | 130 |
| S SED 113853 | 7 | 15 | <4 | <10 | <4 | 70 |
| Detn limit | (2) | (2) | (4) | (10) | (4) | (10) |

05 099

106100

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 3576/85
SPT 5/85

29 March 1985

# NATA CERTIFICATE

SOREL
#112072 (ONLY)

Mr P Jones
Amoco Minerals Australia Company
61 Counsel Street
ZEEHAN TASMANIA 7469

REPORT AC 3576/85

| | |
|---|---|
| YOUR REFERENCE: | Order No. 114496<br>Despatch No. 4943 |
| REPORT COMPRISING: | Cover sheet<br>Pages 1 - 2 |
| DATE RECEIVED: | 27 February 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr B Roxburgh
Amoco Minerals Australia Company
P.O. Box 493
NORTH SYDNEY NSW 2060

hy

Pilot Plant: Osman Place
Thebarton S.A.,
Telephone 43 8053
Branch Laboratories:
Perth W.A.
Telephone 325 7311

ANALYSIS

ppm

| SAMPLE MARK | MUDDY COVE 1983-1984 112072 |
|---|---|
| Copper Cu | 45 |
| Lead Pb | <50 |
| Zinc Zn | 100 |
| Manganese Mn | 740 |
| Iron Fe | 6.5% |
| Nickel Ni | 40 |
| Barium Ba | 780 |
| Tin Sn | 55 |
| Arsenic As | 0.06% |
| Antimony Sb | <100 |
| Tungsten W | <100 |
| Silver Ag | 1 |

Method: I2

101

106102

# Classic Laboratories Pty Ltd

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS; 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE 27E JOHNSTON ST
TELEPHONE (0901 21 7554



Your Ref. No. A94406

Our Ref. No. 8717/85

Date 6/3/85

Sample Received 1/3/85

THE MANAGER
AMDEL
FLEMINGTON STREET
FREWVILLE SA 5063

## REPORT ON FIRE ASSAY

Method:

Invoice No.:

| | | Grams per Tonne | |
|---|---|---|---|
| 6 | 112072 | 0.04 | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |
| 21 | | | |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | | | |

106103

102

ANALABS
A division of Macdonald Hamilton Pty. Ltd.
Perth Head Office.
52 Murray Road Welshpool, Western Australia 6106.
Tel: (09) 458 7999, 458 7154. Telex: Analab AA92560.
P.O. Box 210 Bentley, W.A. 6102.

GDM:sc

12 March 1985

Amoco Minerals Aust Co
61 Counsel Street
ZEEHAN TAS 7469

ATTENTION : Mr P. Jones
OUR REF : 4.1.01.37418

Dear Sir

Following an earlier telephone conversation we have carried out a screen analysis of six samples, selected at random, which were supplied to us for analysis of Au, Cu, Pb, Zn and As.

The results follow :-

| SAMPLE | 150320 | 150401 | 150470 | 150475 | 150479 | 150488 |
|---|---|---|---|---|---|---|
| +70 mesh | 52.2 | 41.6 | 39.1 | 42.5 | 38.8 | 38.5 |
| -70+100 | 12.6 | 12.8 | 8.0 | 8.8 | 6.8 | 4.7 |
| -100+150 | 11.7 | 9.8 | 7.6 | 8.4 | 8.1 | 4.9 |
| -150+200 | 7.5 | 7.1 | 6.9 | 6.7 | 8.4 | 3.7 |
| -200 | 16.0 | 28.7 | 38.4 | 33.6 | 37.9 | 48.2 |

We are of the opinion that the sample preparation is inadequate because of the large amount of retained +70 fraction. Our analysis for these samples was obtained on repulverised material.

Yours faithfully

NB Amdel sent the +80 sample residue, not the -200 residue (assayed portion). This explains the apparent problem

Greg Kary
AMOCO

G.D. MOORE
Operations Manager

c103

# COMLABS Pty. Ltd.

COMPUTERISED ANALYTICAL LABORATORIES

106104

Head Office and Central Laboratory
305 SOUTH ROAD,
MILE END SOUTH
STH. AUST. 5031
TEL.: (08) 43 5722
TELEX: AA89323

NATA REGISTERED No. 1526

THOMAS CK. CHECK

OUR REF.: COM 840947 (Amended)

YOUR REF.: 4907

Mr. J. Suppree,
Amoco Minerals Australia Co.,
61 Counsel Street,
ZEEHAN TAS 7469,

27.9.84

Dear Jonathon,

RE: JOB COM 840947

Enclosed are the amended results requested on your Job Com 840947.

We apologise for any inconvenience this may have caused you.

Yours sincerely,
COMLABS PTY LTD

per :

104

106105

COMLABS Pty. Ltd.
COMPUTERISED ANALYTICAL LABORATORIES

This Laboratory is registered by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its terms of registration. This document shall not be reproduced except in full.

# ANALYTICAL REPORT

JOB COM840947 O/N : Amended Assay

Results in ppm

| SAMPLE | Cu | Au |
|---|---|---|
| 112127 | 1500 | 1.70 |

Method of Analysis : Cu : AAS1
Au : FAS1

105

ALBINA 106106

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 2741/85

16 January 1985

# NATA CERTIFICATE

ALBINA

Mr. G. Kary
Amoco Minerals Australia Company
61 Counsel Street
ZEEHAN TAS 7469

REPORT AC 2741/85

| | |
|---|---|
| YOUR REFERENCE: | Order number 14458 |
| REPORT COMPRISING: | Cover sheet<br>Page 1<br>Page X1 |
| DATE RECEIVED: | 7 January 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

c.c. Mr. B. Roxburgh
Amoco Minerals Australia Company
P.O. Box 949
NORTH SYDNEY NSW 2060

fs

Head Office:
Flemington Street, Frewville
South Australia 5063,
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
Osman Place
Thebarton, S.A.
Telephone (08) 43 8053
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.

Report AC 2741/89



ANALYSIS

ppm

| | SAMPLE MARK | COPPER Cu | LEAD Pb | ZINC Zn | NICKEL Ni | SILVER Ag | GOLD Au |
|---|---|---|---|---|---|---|---|
| Albina Trav. 60m from Albina CR. along trav. | 112001 | 500 | < 5 | 125 | 90 | <1 | 0.20 |
| " between circles at 105m & 185m from helipad | 03 | 38 | 6 | 100 | 130 | <1 | 0.10 |
| " 53m S. of heli-pad | 05 | 18 | 6 | 85 | 72 | <1 | <0.10 |
| " 30m ↑ from Albina CR. | 09 | 42 | <5 | 105 | 245 | <1 | 0.10 |
| " 140 m. from Albina CR along trav. | 13 | 40 | <5 | 150 | 260 | <1 | 0.10 |
| " 212 m. from CR on trav. | 14 | 16 | <5 | 185 | 340 | <1 | 0.10 |
| | METHOD: | A1/1,2 | A1/1,2 | A1/1,2 | A1/1,2 | A1/1,2 | A7/1 |

106

amdel

106108

Analysis code X3 Report AC 2741/85 Page X1

NATA Certificate Order No. 4933 Results in ppm

| Sample | Sn | Sb | Te | Ba | As |
|---|---|---|---|---|---|
| 112001 | 4 | <4 | <10 | 40 | 4 |
| 112003 | 8 | <4 | <10 | 120 | 5 |
| 112005 | <4 | <4 | <10 | 510 | 3 |
| 112009 | <4 | 10 | <10 | 1300 | <2 |
| 112013 | 14 | <4 | <10 | 1480 | 15 |
| 112014 | <4 | <4 | <10 | 1160 | 2 |
| Detn limit | (4) | (4) | (10) | (10) | (2) |

108

The Australian
Mineral Development
Laboratories

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

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

106109

URQUHART SOUTH
URQUHART NORTH

amdel

3/786/0 - AC 2990/85

21 February 1985

DOUBLE COVE
URQUHART SOUTH
← NORTH

## NATA CERTIFICATE

REPORT COMPLETE

Mr. Greg Kary,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

REPORT AC 2990/85

| | |
|---|---|
| YOUR REFERENCE: | Despatch Number 4934 ~~4935-4935~~<br>Order Number E14473 |
| REPORT COMPRISING: | Cover Sheet<br>Pages 1 - 4<br>Pages G1 - G2 |
| DATE RECEIVED: | 22 January 1985 |
| NOTE: | Sample 150193 was listed but not received. |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

ij

Pilot Plant: Osman Place
Thebarton S.A.,
Telephone 43 8053
Branch Laboratories:
Perth W.A.

ANALYSIS - ppm

| SAMPLE MARK | SILVER Ag | COPPER Cu | LEAD Pb | ZINC Zn | NICKEL Ni | BARIUM Ba |
|---|---|---|---|---|---|---|
| 150151 | <1 | 215 | <5 | 66 | 90 | 54 |
| 150153 | <1 | 41 | <5 | 240 | 235 | 24 |
| 150154 | <1 | 155 | 16 | 120 | 240 | 24 |
| 150155 | <1 | 68 | <5 | 64 | 400 | <10 |
| 150156 | <1 | 52 | 10 | 58 | 175 | <10 |
| 150157 | <1 | 175 | <5 | 68 | 340 | 31 |
| 150158 | <1 | 33 | 14 | 66 | 54 | 190 |
| 150159 | <1 | 395 | <5 | 98 | 80 | 21 |
| 150160 | <1 | 265 | 6 | 58 | 88 | 27 |
| 150161 | <1 | 98 | 8 | 82 | 170 | 66 |
| 150162 | <1 | 130 | 26 | 120 | 105 | 548 |
| 150163 | <1 | 56 | 14 | 74 | 68 | 652 |
| 150164 | <1 | 70 | 22 | 70 | 64 | 588 |
| 150165 | <1 | 24 | 12 | 82 | 60 | 634 |
| 150166 | <1 | 43 | 8 | 185 | 120 | 148 |
| 150167 | <1 | 78 | 10 | 130 | 185 | 170 |
| 150169 | <1 | 250 | 20 | 145 | 98 | 51 |
| 150170 | <1 | 310 | 6 | 120 | 94 | 21 |
| 150171 | <1 | 195 | 12 | 36 | 28 | 25 |
| 150172 | <1 | 43 | 10 | 185 | 76 | 166 |
| 150173 | <1 | 190 | <5 | 105 | 295 | 45 |
| 150174 | <1 | 235 | <5 | 115 | 660 | 49 |
| 150175A | <1 | 54 | 29 | 136 | 30 | 836 |
| 150178 | <1 | 80 | 10 | 130 | 180 | 154 |
| 150179 | <1 | 60 | 10 | 110 | 115 | 282 |
| 150180 | <1 | 125 | 8 | 160 | 125 | 965 |
| 150181 | <1 | 62 | <5 | 145 | 455 | 3990 |
| 150182 | <1 | 265 | 20 | 110 | 125 | 71 |
| 150184 | <1 | 465 | 6 | 110 | 76 | 66 |
| 150185 | <1 | 475 | <5 | 105 | 82 | 32 |
| METHOD: | A1/1,2 | A1/1,2 | A1/1,2 | A1/1,2 | A1/1,2 | X3 |

ANALYSIS - ppm

| SAMPLE MARK | SILVER Ag | COPPER Cu | LEAD Pb | ZINC Zn | NICKEL Ni | BARIUM Ba |
|---|---|---|---|---|---|---|
| 150186 | <1 | 94 | 12 | 80 | 46 | 626 |
| 150187 | <1 | 110 | 14 | 36 | 80 | 178 |
| 150188 | <1 | 160 | 6 | 44 | 40 | 18 |
| 150189 | <1 | 120 | 14 | 175 | 195 | 268 |
| 150190 | <1 | 47 | 10 | 96 | 175 | 25 |
| 150191 | <1 | 78 | <5 | 64 | 395 | 12 |
| 150192 | <1 | 98 | <5 | 62 | 415 | <10 |
| URQUHART STH 112620 | <1 | 19 | <5 | 26 | 84 | 38 |
| " 112625 | <1 | 20 | <5 | 28 | 42 | 31 |
| " 112633 | <1 | 25 | <5 | 38 | 48 | 30 |
| " 112636 | <1 | 28 | <5 | 38 | 60 | 34 |
| 112640 URQUHART NTH 113022 | <1 | 25 | 10 | 32 | 70 | 53 |
| 113023 | <1 | 19 | <5 | 38 | 46 | 16 |
| 113024 | <1 | 7 | <5 | 18 | 12 | 18 |
| 113025 | <1 | 9 | 6 | 18 | <5 | <10 |
| 113026 | <1 | 64 | <5 | 105 | 320 | 40 |
| 113027 | <1 | 42 | 8 | 70 | 200 | <10 |
| METHOD: | A1/1,2 | A1/1,2 | A1/1,2 | A1/1,2 | A1/1,2 | X3 |

DOUBLE CORE

ANALYSIS

ppm

| SAMPLE MARK | COPPER Cu | LEAD Pb | ZINC Zn | BARIUM Ba |
|---|---|---|---|---|
| 133064 Check | 50 | 210 | 990 | 100 |

NOTE: Please delete results previously reported

METHOD: I2

112

106113 URQUHART SOUTH
URQUHART NORTH

The Australian Mineral Development Laboratories

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

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

amdel

3/786/0 - AC 2990/85

8 February 1985

# NATA CERTIFICATE

DOUBLE COVE
URQUART SOUTH
+ NORTH

PART REPORT 1

Mr. Greg Kary
Amoco Minerals Australia Company
61 Counsel Street
ZEEHAN TAS 7469

REPORT AC 2990/85

YOUR REFERENCE: Dispatch Number 4934-~~4935~~
Order Number E14473

REPORT COMPRISING: Cover sheet
Pages 1 - 5

DATE RECEIVED: 22 January 1985

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Amoco Minerals Australia Company
P.O. Box 949
NORTH SYDNEY NSW 2060

Attention: Mr. B. Roxburgh

Head Office:
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South Australia 5063,
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
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Thebarton, S.A.
Telephone (08) 43 8053
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.

ANALYSIS

g/tonne

| SAMPLE MARK | GOLD Au | SAMPLE MARK | GOLD Au | SAMPLE MARK | GOLD Au |
|---|---|---|---|---|---|
| | | | | CYPRUS CRK. URQ. R. St. | |
| Double Cove B. 200W. 150151 | 0.10 | Double Cove Line A 150 E 150173 | 0.05 | Trav 37 1200N 112633 | 0.15 |
| " " 100W 150153 | <0.05 | " " 200E 150174 | 0.05 | " 2000N 112636 | 0.10 |
| " " 100W S/S 150154 | 0.25 | " A Line 70m E of 1000E 150175A | 0.10 | " 2550N 112640 | 0.20 |
| " 00m Hist Road 150155 | <0.05 | W. bank of Crk. 150175B | 0.10 | CYPRUS CR URQ. R. Nth. 320 m. S/S 113022 -80# | 0.10 |
| " " 25E Creek 150156 | 0.20 | " " 140 N. on Crk as 178 150178 | 0.10 | " " 320 P/C 113023 | 0.15 |
| " " 100E 150157 | 0.10 | Same 178 150179 | 0.10 | " " 560 S/S m 113024 | 0.05 |
| " " 140E 150158 | 0.10 | " " 161 N. as 0175CR Loc. 150180 | 0.20 | " " 560 P/C 113025 | 0.10 |
| " " 200E 150159 | 0.05 | " " 190N CRK 175 Loc. 150181 | 0.05 | " " 940 S/S 113026 | 0.15 |
| " " 300E 150160 | 0.05 | " " 1000E 150182 | 0.10 | " " 920m S/S. 113027 | 0.05 |
| " " 400E 150161 | 0.05 | " " 900 E 150184 | 0.15 | | |
| " " 425 E 150162 | <0.05 | " " 800 E 150185 | 0.20 | | |
| " " 450E 150163 | 0.15 | " " 700 E 150186 | 0.15 | | |
| " " 475E 150164 | 0.10 | " " 600 E 150187 | 0.20 | | |
| " " 500E 150165 | 0.10 | " " 500 E 150188 | 0.25 | | |
| " " 510E Cr @ ass'm. 150166 | 0.15 | " " 400 E 150189 | 0.10 | | |
| " " 510E S/S 150167 | 0.05 | " " 330 E 150190 | 0.15 | | |
| " " 510E R/C 150168 | 0.10 | " " 300 E 150191 | 0.20 | | |
| " " 700m E 150170 | 0.10 | " " 250 E 150192 | 0.15 | | |
| | | CYPRUS CR Urquhart R. Sth | | | |
| " A 00E 150171 | 0.05 | Trav 37 865m N. 112620 | 0.10 | | |
| " " 100E 150172 | 0.10 | " " 400W Trav. 112625 | 0.15 | | |

METHOD: A7/1 D.L. 0.05 g/tonne

NOTE: These samples were listed but not received:

150152
150176
150177
150183

These samples were received but not listed:

150175A 150175B

106116

ALBINA

115

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 3108/85

8 February 1985

ANOMALY 128
ALBINA

# NATA CERTIFICATE

PART REPORT 1

Mr. J. Suppree,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

REPORT AC 3108/85

| | |
|---|---|
| YOUR REFERENCE: | Despatch No. 4936<br>Order No. 14474 |
| REPORT COMPRISING: | Cover Sheet<br>Pages G1 - G3<br>Pages X1 - X3 |
| DATE RECEIVED: | 30 January 1985 |

D. Patterson

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. B. Roxburgh,
Amoco Minerals Australia Company,
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ij

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Telephone (03) 645 3093
Perth, W.A.

116 amdel

106117

Analysis code A1/1,2 | Report AC 3108/85 | Page G1

NATA Certificate | Order No. 14474 | Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| 150194 | <1 | 13 | <5 | 16 | 12 | 56 | 4.80% |
| 150195 L300w, 525mw | <1 | 8 | 6 | 16 | 8 | 12 | 5.02% |
| 150196 L300w. 550 w | <1 | 31 | 6 | 13 | 22 | 22 | 5.96% |
| 150197 " 475mw | <1 | 35 | <5 | 12 | 18 | 40 | 5.22% |
| 150198 " 450m W | <1 | 21 | <5 | 7 | 10 | 10 | 7.54% |
| 150199 " 425m W. | <1 | 3 | <5 | 10 | 12 | 42 | 2.83% |
| 150200 " 400m W | <1 | 3 | <5 | 12 | 22 | 64 | 5.02% |
| 150201 " 375m W | <1 | 220 | <5 | 16 | 26 | 120 | 10.7% |
| 150202 " 350m W. | <1 | 33 | <5 | 11 | 16 | 56 | 9.78% |
| 150203 " 325m W | <1 | 3 | <5 | 12 | 24 | 72 | 4.30% |
| 150204 " 300 mW | <1 | 19 | <5 | 12 | 8 | 6 | 1.48% |
| 150205 " 275mW. | <1 | 2 | <5 | 5 | 6 | 26 | 7500 |
| 150206 " 250 mW. | <1 | <2 | <5 | 5 | <5 | <5 | 1040 |
| 150207 " 225mW. | <1 | 40 | 14 | 24 | 8 | 8 | 3.81% |
| 150208 " 200mW | <1 | 2 | <5 | 6 | <5 | 6 | 2420 |
| 150209 " 175m W. | <1 | 37 | 8 | 10 | 14 | <5 | 4900 |
| 150210 " 150mW. | <1 | <2 | <5 | 4 | <5 | 16 | 2840 |
| 150211 " 125m W | <1 | 11 | 12 | 1600 | 550 | 560 | 4.10% |
| 150212 " 100mW | <1 | 76 | 10 | 88 | 82 | 105 | 3.65% |
| 150213 " 00 m | <1 | 4 | <5 | 30 | 10 | 12 | 3380 |
| 150214 " 500m S. | <1 | 2 | <5 | 8 | <5 | 46 | 4800 |
| 150215 " " 10m S of Soil 0214 | <1 | 4 | <5 | 6 | <5 | 28 | 1.07% |
| 150216 " 400m S. | <1 | <2 | <5 | 6 | <5 | <5 | 770 |
| 150217 " 300mS. | <1 | <2 | <5 | 2 | <5 | 6 | 950 |
| 150218 " 178m. S. | <1 | <2 | <5 | <2 | <5 | 18 | 2360 |
| 150219 " 178m S. in Crk | <1 | 3 | <5 | 11 | <5 | 44 | 5200 |
| 150220 " 100m S | <1 | <2 | <5 | 7 | <5 | 48 | 6000 |
| 150251 4m chip samp. | <1 | 8 | <5 | 14 | <5 | 42 | 25.3% |
| 150252 10m S of 251 | <1 | 8 | <5 | 9 | <5 | 28 | 25.7% |
| 150253 | <1 | 3 | <5 | 8 | 10 | 80 | 5.26% |
| 150254 | <1 | 4 | <5 | 11 | <5 | 68 | 19.8% |
| 150255 | <1 | 5 | <5 | 11 | 18 | 28 | 20.2% |
| 150256 | <1 | 5 | <5 | 14 | 6 | 82 | 22.2% |
| 150257 | <1 | 7 | <5 | 14 | <5 | 88 | 21.4% |
| 150258 | <1 | <2 | <5 | 11 | <5 | 48 | 23.0% |
| 150259 | <1 | 4 | <5 | 10 | <5 | 54 | 27.3% |
| 150260 | <1 | 15 | <5 | 11 | <5 | 66 | 23.7% |
| 150261 | <1 | 6 | <5 | 8 | <5 | 36 | 22.4% |
| 150262 | <1 | 6 | <5 | 9 | <5 | 50 | 23.2% |
| 150263 L 300W 1500N | <1 | 96 | 62 | 43 | <5 | 12 | 2.84% |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

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106118

amdel

Analysis code A1/1,2 | Report AC 3108/85 | Page G2

NATA Certificate | Order No. 14474 | Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| 150264 L300w 1390N | <1 | 7 | <5 | 4 | <5 | 54 | 9950 |
| 150265 " 1300N. | <1 | 6 | <5 | 2 | <5 | 34 | 5700 |
| 150266 " 1250N | <1 | 30 | 16 | 4 | 24 | 86 | 1.56% |
| 150267 " 1200N | <1 | 225 | <5 | 105 | 92 | 430 | 13.6% |
| 150268 " 1118N. | <1 | 58 | <5 | 50 | 48 | 240 | 8.66% |
| 150269 " 1100 N. | <1 | 110 | <5 | 125 | 110 | 720 | 11.4% |
| 150270 " 1000N. | <1 | 19 | <5 | 12 | 12 | 82 | 2.82% |
| 150271 " 900N. | <1 | 160 | <5 | 58 | 125 | 485 | 16.9% |
| 150272 " 860N | <1 | 13 | 6 | 8 | 6 | 72 | 1.39% |
| 150273 " 840N. | <1 | 8 | <5 | 6 | 6 | 62 | 1.28% |
| 150274 " 800N. | <1 | 54 | <5 | 94 | 86 | 590 | 15.1% |
| 150275 " 750N. | <1 | 125 | 86 | 180 | 60 | 360 | 9.66% |
| 150276 " 700N. | <1 | 180 | <5 | 64 | 34 | 190 | 11.8% |
| 150277 " 600N | <1 | 41 | <5 | 15 | 10 | 42 | 3.26% |
| 150278 " 572m (calc) | <1 | 10 | <5 | 17 | 6 | 165 | 1.12% |
| 150279 " 578N(calc) | <1 | 9 | <5 | 20 | 10 | 225 | 3.41% |
| 150301 | <1 | 7 | <5 | 9 | <5 | 56 | 17.9% |
| 150302 | <1 | 4 | <5 | 9 | <5 | 46 | 20.3% |
| 150303 | <1 | 6 | <5 | 11 | <5 | 38 | 22.4% |
| 150304 | <1 | 7 | <5 | 9 | <5 | 46 | 23.3% |
| 150305 | <1 | 5 | <5 | 10 | <5 | 74 | 9.20% |
| 150306 | <1 | 10 | <5 | 10 | <5 | 42 | 22.0% |
| 150307 | <1 | 11 | <5 | 10 | <5 | 32 | 21.5% |
| 150308 | <1 | 15 | <5 | 8 | <5 | 38 | 21.7% |
| 150309 | <1 | 6 | <5 | 10 | <5 | 22 | 24.6% |
| 150310 | <1 | 4 | <5 | 8 | <5 | 180 | 2.03% |
| 150311 | <1 | 8 | <5 | 26 | 12 | 300 | 1.24% |
| 150312 | <1 | 8 | <5 | 8 | <5 | 64 | 18.4% |
| 150313 | <1 | 10 | <5 | 8 | <5 | 34 | 20.4% |
| 150314 | <1 | 74 | <5 | 8 | <5 | 46 | 16.4% |
| 150315 | <1 | 36 | <5 | 9 | <5 | 44 | 24.0% |
| 150316 L300w 1500S | <1 | 4 | <5 | 4 | <5 | 32 | 9000 |
| 150317 " 1500 S. | <1 | 4 | <5 | 11 | 6 | 26 | 4240 |
| 150318 " 1400S | <1 | 16 | 10 | 23 | 16 | 220 | 3.16% |
| 150319 " 1400S | <1 | 4 | <5 | 3 | <5 | 40 | 5000 |
| 150320 " 1400S | <1 | 12 | <5 | 9 | 6 | 40 | 4840 |
| 150321 " 1400 S etc | <1 | 4 | <5 | 3 | <5 | 94 | 1.34% |
| 150322 " 1300S | <1 | 6 | 8 | 5 | <5 | 10 | 2.34% |
| 150323 " 1200S | <1 | 2 | <5 | 4 | <5 | 34 | 4260 |
| 150324 " 1100S. | <1 | 4 | <5 | 7 | <5 | 20 | 2660 |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

106119

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Analysis code A1/1,2 Report AC 3108/85 Page G3

NATA Certificate Order No. 14474 Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| anom 128 150325 L300W 1000mS | <1 | 3 | <5 | 6 | <5 | 14 | 2340 |
| " " 150326 950S | <1 | 2 | <5 | 5 | <5 | 30 | 3420 |
| " " 150327 900S | <1 | 2 | <5 | 3 | <5 | 18 | 2320 |
| " " 150328 " 850mS | <1 | 2 | <5 | 7 | <5 | 16 | 2340 |
| " " 150329 " 800mS | <1 | <2 | <5 | 4 | <5 | 24 | 2440 |
| " " 150330 " 700mS | <1 | 3 | <5 | 3 | <5 | 44 | 5650 |
| " " 150331 " 640S | <1 | 22 | <5 | 54 | 80 | 530 | 3.89% |
| " " 150332 " 620S | <1 | 10 a/o upstream | <5 | 5 | 6 | 62 | 8950 |
| " " 150333 Line 300W 600S | <1 | 4 | <5 | <2 | <5 | 28 | 3600 |
| " " 150334 45cm along base line to L 1000E | <1 | 3 | <5 | 6 | 10 | 78 | 7600 |
| " " 150335 as for 0334 | <1 | 5 | 6 | 16 | 30 | 98 | 7200 |
| " " 150336 as for 0334 | <1 | 9 | <5 | 105 | 840 | 750 | 8.58% |
| " " 150337 " 5m. N. | <1 | 4 | <5 | 4 | 10 | 60 | 4760 |
| " " 150338 " 5m. N. | <1 | 6 | <5 | 7 | <5 | 42 | 3640 |
| " " 150339 " 100 N. | <1 | 11 | <5 | 7 | <5 | 14 | 2240 |
| " " 150340 " 100 N. | <1 | 7 | <5 | 17 | <5 | 16 | 2140 |
| " " 150341 " 200 N. | <1 | 36 | <5 | 5 | 6 | 26 | 4840 |
| " " 150342 " 300 N. | <1 | 4 | <5 | 5 | 6 | 8 | 2160 |
| " " 150343 Line 1000E 400 N | <1 | 3 | <5 | <2 | <5 | 22 | 2720 |
| 150344 as for 150343 | <1 | 6 | <5 | 14 | <5 | 20 | 3480 |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

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Analysis code X3 | Report AC 3108/85 | Page X1

NATA Certificate | Order No. 14474 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150194 | 2 | 4 | 6 | <10 | 20 |
| 150195 | 5 | 4 | 8 | 10 | <10 |
| 150196 | 5 | <4 | 4 | 10 | 100 |
| 150197 | 4 | 6 | 6 | <10 | 240 |
| 150198 | 4 | 4 | 6 | <10 | 330 |
| 150199 | 4 | <4 | <4 | <10 | <10 |
| 150200 | 5 | <4 | 8 | <10 | 30 |
| 150201 | 6 | <4 | 6 | 10 | 15 |
| 150202 | 20 | <4 | <4 | <10 | 40 |
| 150203 | <2 | 4 | <4 | 10 | 20 |
| 150204 | <2 | <4 | 4 | <10 | 60 |
| 150205 | <2 | <4 | 4 | 10 | 65 |
| 150206 | 2 | 4 | 8 | <10 | 85 |
| 150207 | 24 | <4 | 8 | <10 | 50 |
| 150208 | 4 | 4 | <4 | <10 | 200 |
| 150209 | 26 | 6 | 6 | <10 | 130 |
| 150210 | 2 | <4 | <4 | <10 | 140 |
| 150211 | 6 | 4 | <4 | 10 | <10 |
| 150212 | 26 | <4 | 8 | <10 | 10 |
| 150213 | 3 | 6 | <4 | <10 | 100 |
| 150214 | <2 | <4 | <4 | <10 | 40 |
| 150215 | 4 | <4 | 4 | <10 | 190 |
| 150216 | <2 | <4 | <4 | <10 | 150 |
| 150217 | <2 | <4 | 4 | 10 | 70 |
| 150218 | <2 | 6 | 6 | <10 | 35 |
| 150219 | 3 | <4 | 4 | <10 | 25 |
| 150220 | 4 | 4 | <4 | <10 | 40 |
| 150251 | 3 | 6 | 38 | 60 | 10 |
| 150252 | 25 | 14 | 48 | 70 | <10 |
| 150253 | 3 | 4 | <4 | <10 | <10 |
| 150254 | <2 | 4 | 38 | 20 | <10 |
| 150255 | 23 | 8 | 42 | 60 | <10 |
| 150256 | 5 | 4 | 4 | <10 | <10 |
| 150257 | 15 | 12 | 14 | 10 | <10 |
| 150258 | 7 | 12 | 6 | 20 | 15 |
| 150259 | 5 | <4 | <4 | 40 | <10 |
| 150260 | 3 | 14 | <4 | <10 | <10 |
| 150261 | 3 | <4 | 8 | 25 | 15 |
| 150262 | <2 | <4 | <4 | <10 | <10 |
| 150263 | 20 | 4 | 6 | <10 | 10 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

Analysis code X3 | Report AC 3108/85 | Page X2

NATA Certificate | Order No. 14474 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150264 | 2 | 4 | <4 | <10 | 10 |
| 150265 | <2 | 4 | <4 | 10 | 70 |
| 150266 | 10 | 6 | 8 | 10 | 540 |
| 150267 | 22 | <4 | 4 | <10 | 95 |
| 150268 | 23 | <4 | <4 | <10 | 570 |
| 150269 | 12 | <4 | 6 | <10 | 45 |
| 150270 | 11 | <4 | 6 | 10 | 160 |
| 150271 | 20 | <4 | 8 | 10 | 230 |
| 150272 | 11 | <4 | <4 | <10 | 100 |
| 150273 | 5 | <4 | 4 | <10 | 80 |
| 150274 | 16 | 6 | <4 | <10 | 65 |
| 150275 | 9 | 6 | 4 | <10 | 25 |
| 150276 | 44 | <4 | <4 | <10 | 240 |
| 150277 | 6 | <4 | 6 | <10 | 45 |
| 150278 | 5 | <4 | 6 | <10 | 40 |
| 150279 | 5 | <4 | 6 | <10 | 50 |
| 150301 | 3 | 14 | 48 | 25 | 10 |
| 150302 | 11 | <4 | 74 | 10 | <10 |
| 150303 | 5 | 6 | 44 | 35 | <10 |
| 150304 | 13 | 18 | 54 | 45 | <10 |
| 150305 | 4 | <4 | 4 | <10 | 10 |
| 150306 | 16 | 12 | 46 | 65 | <10 |
| 150307 | 7 | <4 | 22 | 50 | <10 |
| 150308 | 18 | 8 | 18 | 10 | <10 |
| 150309 | 8 | 10 | 32 | 55 | <10 |
| 150310 | 2 | 10 | 4 | <10 | 30 |
| 150311 | 2 | <4 | <4 | <10 | 30 |
| 150312 | 14 | <4 | 18 | 30 | <10 |
| 150313 | 5 | 6 | 32 | 35 | <10 |
| 150314 | 4 | <4 | <4 | <10 | <10 |
| 150315 | 12 | 10 | 14 | <10 | 20 |
| 150316 | <2 | <4 | 6 | <10 | 40 |
| 150317 | 5 | <4 | 6 | <10 | 65 |
| 150318 | 12 | <4 | 12 | <10 | 320 |
| 150319 | <2 | <4 | <4 | <10 | 45 |
| 150320 | 7 | <4 | 8 | 10 | 55 |
| 150321 | 5 | <4 | 4 | <10 | <10 |
| 150322 | 26 | <4 | 12 | <10 | 320 |
| 150323 | <2 | 4 | 4 | <10 | 35 |
| 150324 | 2 | <4 | <4 | <10 | <10 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

amdel

106122

Analysis code X3 | Report AC 3108/85 | Page X3

NATA Certificate | Order No. 14474 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150325 | 2 | <4 | <4 | <10 | 260 |
| 150326 | <2 | <4 | 10 | <10 | <10 |
| 150327 | <2 | <4 | 6 | <10 | 20 |
| 150328 | <2 | <4 | 6 | <10 | 15 |
| 150329 | <2 | <4 | <4 | <10 | <10 |
| 150330 | 2 | 4 | <4 | <10 | 15 |
| 150331 | <2 | <4 | 4 | <10 | 440 |
| 150332 | <2 | 6 | 4 | <10 | 30 |
| 150333 | 2 | <4 | 4 | <10 | 45 |
| 150334 | 2 | <4 | <4 | <10 | 65 |
| 150335 | <2 | <4 | <4 | <10 | 45 |
| 150336 | <2 | <4 | <4 | <10 | 20 |
| 150337 | <2 | <4 | 8 | <10 | 25 |
| 150338 | 2 | <4 | 4 | <10 | 25 |
| 150339 | <2 | <4 | <4 | <10 | 130 |
| 150340 | 4 | <4 | <4 | 10 | 30 |
| 150341 | <2 | <4 | 8 | <10 | 230 |
| 150342 | 2 | <4 | 6 | <10 | 100 |
| 150343 | <2 | 4 | 4 | 10 | 20 |
| 150344 | 3 | <4 | <4 | 10 | 30 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

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# Classic Laboratories Pty Ltd

36 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
AFTER HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

ALBINA 106123

ANOMALY 128, ALBINA

Your Ref. No. 3108/85

Our Ref. No. 8594/85

Date 14/2/85

Sample Received

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE SA 5063

TELEX 1242

ATTENTION: DON PATTERSON

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3572

| | Sample Ref. | GOLD, GRAMS PER TONNE | | | | | Sample Ref. | GOLD, GRAMS PER TONNE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MEAN | ASSAY 1 | ASSAY 2 | | | | MEAN | ASSAY 1 | ASSAY 2 | |
| 1 | 150194 | 0.04 | | | | 26 | 150219 | tr | | | |
| 2 | 95 | 0.04 | | | | 27 | 20 | tr | ( tr | * ) | |
| 3 | 96 | 0.06 | | | | 28 | 150251 | tr | | | |
| 4 | 97 | 0.04 | | | | 29 | 52 | * | | | |
| 5 | 98 | tr | | | | 30 | 53 | * | | | |
| 6 | 99 | * | | | | 31 | 54 | * | | | |
| 7 | 150200 | tr | ( 0.04 | * ) | | 32 | 55 | * | | | |
| 8 | 01 | 0.04 | | | | 33 | 56 | tr | | | |
| 9 | 02 | 0.10 | | | | 34 | 57 | tr | | | |
| 10 | 03 | * | | | | 35 | 58 | * | | | |
| 11 | 04 | 0.06 | | | | 36 | 59 | * | | | |
| 12 | 05 | 0.06 | | | | 37 | 60 | tr | ( tr | * ) | |
| 13 | 06 | * | | | | 38 | 61 | * | | | |
| 14 | 07 | 0.26 | | | | 39 | 62 | * | | | |
| 15 | 08 | 0.04 | | | | 40 | 63 | * | | | |
| 16 | 09 | 0.22 | | | | 41 | 64 | * | | | |
| 17 | 10 | * | | | | 42 | 65 | * | ( * | * ) | |
| 18 | 11 | * | | | | 43 | 66 | tr | | | |
| 19 | 12 | tr | | | | 44 | 67 | * | | | |
| 20 | 13 | 0.04 | | | | 45 | 68 | 0.04 | | | |
| 21 | 14 | tr | | | | 46 | 69 | * | | | |
| 22 | 15 | 0.04 | | | | 47 | 70 | * | | | |
| 23 | 16 | * | | | | 48 | 71 | * | | | |
| 24 | 17 | * | | | | 49 | 72 | 0.10 | | | |
| 25 | 18 | tr | | | | 50 | 73 | * | ( * | * ) | |

106124

# Classic Laboratories Pty Ltd

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
ANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Your Ref. No. 3108/85

Our Ref. No. 8594/85

Date.....

Sample Received.....

2/2

## REPORT ON FIRE ASSAY

METHOD:

INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE | | | | | Sample Ref. | GOLD, GRAMS PER TONNE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MEAN | ASSAY 1 | ASSAY 2 | | | | MEAN | ASSAY 1 | ASSAY 2 | |
| 1 | 150274 | * | | | | 26 | 150320 | 3.24 | | | |
| 2 | 75 | 0.04 | ( tr | 0.06 ) | | 27 | 21 | tr | | | |
| 3 | 76 | * | | | | 28 | 22 | tr | | | |
| 4 | 77 | * | | | | 29 | 23 | tr | | | |
| 5 | 78 | * | | | | 30 | 24 | 0.08 | | | |
| 6 | 79 | tr | | | | 31 | 25 | tr | | | |
| 7 | 150301 | * | | | | 32 | 26 | tr | | | |
| 8 | 02 | * | | | | 33 | 27 | * | | | |
| 9 | 03 | tr | | | | 34 | 28 | tr | | | |
| 10 | 04 | * | | | | 35 | 29 | * | | | |
| 11 | 05 | * | | | | 36 | 30 | tr | | | |
| 12 | 06 | tr | | | | 37 | 31 | * | | | |
| 13 | 07 | 0.04 | | | | 38 | 32 | tr | | | |
| 14 | 08 | 0.08 | | | | 39 | 33 | 0.06 | | | |
| 15 | 09 | tr | | | | 40 | 34 | tr | | | |
| 16 | 10 | 0.04 | | | | 41 | 35 | tr | ( tr | tr ) | |
| 17 | 11 | 0.18 | | | | 42 | 36 | tr | | | |
| 18 | 12 | tr | | | | 43 | 37 | tr | | | |
| 19 | 13 | 0.04 | | | | 44 | 38 | tr | | | |
| 20 | 14 | 0.14 | | | | 45 | 39 | tr | ( tr | tr ) | |
| 21 | 15 | * | | | | 46 | 40 | tr | ( * | tr ) | |
| 22 | 16 | 0.08 | | | | 47 | 41 | tr | | | |
| 23 | 17 | 0.04 | | | | 48 | 42 | tr | | | |
| 24 | 18 | 0.08 | | | | 49 | 43 | tr | ( tr | tr | * ) |
| 25 | 19 | 0.04 | | | | 50 | 44 | * | | | |

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106125

DOUBLE COVE
BUTLER CREEK

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 3109/85

8 February 1985

# NATA CERTIFICATE

ALBINA
DOUBLE COVE
BUTLER CREEK

PART REPORT 1

Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

Attention: Mr. Phil Jones

REPORT AC 3109/85

| | |
|---|---|
| YOUR REFERENCE: | Despatch No. 4937<br>Order No. 14475 |
| REPORT COMPRISING: | Cover Sheet<br>Pages G1 - G3 |
| DATE RECEIVED: | 30 January 1985 |

D. Patterson

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

ij

Head Office:
Flemington Street, Frewville
South Australia 5063,
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
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Thebarton, S.A.
Telephone (08) 43 8053
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.

125

106126

amdel

Analysis code A1/1.2 Report AC 3109/85 Page G1

NATA Certificate Order No. 14475 Results in ppm

| Sample | | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|---|
| albina ck 50m | 150280 from helipad to S.E | <1 | 10 | 20 | 43 | 18 | 145 | 5.22% |
| " 100m | 150281 " " | <1 | 100 | 12 | 25 | 38 | 130 | 2.75% |
| " 150m | 150282 " " | <1 | 115 | 20 | 155 | 415 | 455 | 14.6% |
| " 250m | 150283 " " | <1 | 375 | <5 | 130 | 62 | 590 | 18.2% |
| " 250m | 150284 " " 4m N.E of track | <1 | 485 | <5 | 160 | 70 | 540 | 17.2% |
| " 300m | 150285 " " | <1 | 285 | 8 | 72 | 50 | 290 | 14.9% |
| " 350m | 150286 " " | <1 | 225 | 6 | 40 | 34 | 220 | 13.4% |
| " 350m | 150287 " " | <1 | 225 | <5 | 44 | 52 | 260 | 13.5% |
| " 380 | 150288 " " 20m E of Line | <1 | 425 | 8 | 70 | 36 | 485 | 16.2% |
| " 400m | 150289 " " | <1 | 290 | 8 | 35 | 32 | 400 | 19.6% |
| " 450m | 150290 " " | <1 | 295 | 8 | 32 | 36 | 140 | 17.9% |
| " 500 | 150291 " " | <1 | 370 | 6 | 94 | 84 | 475 | 11.3% |
| " 550m | 150292 " " | <1 | 230 | 6 | 105 | 92 | 435 | 12.3% |
| " 600 | 150293 " " | <1 | 92 | 16 | 125 | 235 | 500 | 12.5% |
| " 650 | 150294 " " | <1 | 260 | 44 | 70 | 115 | 190 | 15.7% |
| " 80m | 150295 @ 220° mag from 150294 | <1 | 130 | <5 | 140 | 92 | 890 | 9.80% |
| " 700m | 150296 from helipad to S E | <1 | 105 | 20 | 31 | 105 | 210 | 5.24% |
| " 750 | 150297 " " 10m W of L | <1 | 62 | 22 | 110 | 165 | 740 | 8.78% |
| " 785 | 150298 " " | <1 | 105 | 14 | 80 | 125 | 275 | 10.4% |
| " " | 150299 40m @ 230° mag from 785m | <1 | 72 | 20 | 130 | 205 | 550 | 12.5% |
| " 910m | 150300 " " at ck | <1 | 135 | 6 | 140 | 120 | 1280 | 9.60% |
| albina ck. | 150345 Line @ 0m. | <1 | 29 | 6 | 52 | 44 | 395 | 5.56% |
| " | 150346 " 50m | <1 | 300 | 12 | 92 | 34 | 30 | 3880 |
| " | 150347 " 100m. | <1 | 17 | 8 | 56 | 28 | 225 | 4.62% |
| " | 150348 " 150m. | <1 | <2 | <5 | 6 | 8 | 22 | 1980 |
| " | 150349 " 200m. | <1 | 47 | 16 | 120 | 40 | 750 | 4.77% |
| " | 150350 " 250m | <1 | 6 | <5 | 10 | <5 | 50 | 3860 |
| " | 150351 " 300m. | <1 | 10 | 16 | 40 | 18 | 205 | 1.94% |
| " | 150352 LA @ 350m. | <1 | 19 | 8 | 45 | 88 | 140 | 3.18% |
| " | 150353 " 400m. | <1 | 35 | <5 | 20 | 16 | 98 | 1.63% |
| " | 150354 " 450m. | <1 | 52 | 6 | 86 | 70 | 370 | 6.50% |
| " | 150355 " 500m. | <1 | 40 | 24 | 24 | 20 | 62 | 6.66% |
| " | 150356 " 550m. | <1 | 10 | 6 | 72 | 38 | 480 | 8.30% |
| " | 150357 " 600m. | <1 | 41 | 14 | 255 | 125 | 115 | 2.24% |
| " | 150358 " 610m. | <1 | 8 | <5 | 15 | 6 | 140 | 1.18% |
| " | 150359 " 610m. | <1 | 6 | <5 | 13 | 6 | 46 | 4400 |
| albina ck. | 150401 910m from helipad | <1 | 12 | <5 | 12 | 12 | 280 | 2.96% |
| dnom 128 | 150402 5m up ck from 150254 | <1 | 4 | <5 | 8 | <5 | 80 | 21.4% |
| albina ck | 150451 Line 8 on Baseline | <1 | 135 | 10 | 41 | 42 | 110 | 12.3% |
| " | 150452 " 50m E | <1 | 355 | <5 | 110 | 70 | 255 | 13.6% |
| Detn limit | | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

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amdel

106127

Analysis code A1/1,2 Report AC 3109/85 Page G2

NATA Certificate Order No. 14475 Results in ppm

| | Sample | | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|---|---|
| Albany Ck. | 150453 | Line B ⓐ 100m E | <1 | 205 | <5 | 48 | 48 | 140 | 14.0% |
| | 150454 | " ⓐ 150m E | <1 | 90 | 12 | 45 | 70 | 135 | 9.84% |
| | 150455 | " ⓐ 200m E | <1 | 270 | <5 | 58 | 76 | 220 | 14.2% |
| | 150456 | " 250m E | <1 | 400 | 6 | 92 | 100 | 325 | 15.7% |
| | 150457 | " 300m E | <1 | 275 | 24 | 76 | 110 | 340 | 14.3% |
| | 150458 | " 350m E | <1 | 245 | 6 | 76 | 80 | 325 | 14.8% |
| | 150459 | " 400m E | <1 | 74 | 24 | 26 | 52 | 14 | 6.28% |
| | 150460 | " 450m E | <1 | 125 | 16 | 60 | 68 | 78 | 9.16% |
| | 150461 | " ⓓ 500m E | <1 | 100 | 20 | 100 | 78 | 720 | 8.78% |
| | 150462 | " ⓓ 550m E | <1 | 74 | 18 | 70 | 56 | 630 | 10.4% |
| | 150463 | " ⓓ 600m E | <1 | 70 | 10 | 135 | 78 | 870 | 9.84% |
| | 150464 | " 560m E in Ck. | <1 | 58 | 10 | 105 | 64 | 740 | 5.92% |
| | 150465 | " ⓓ 560m E " | <1 | 42 | 12 | 74 | 28 | 165 | 19.7% |
| | 150466 | " ⓓ 600m E | <1 | 4 | 8 | 9 | <5 | 20 | 2.17% |
| | 150467 | " ⓓ 650m E | <1 | 5 | <5 | 4 | <5 | 88 | 1.21% |
| | 150468 | " ⓓ 700m E | <1 | 5 | <5 | 4 | <5 | 90 | 1.17% |
| | 150469 | " ⓓ 750E | <1 | 13 | 12 | 21 | 16 | 86 | 1.68% |
| | 150470 | " 765m E Albany Ck | <1 | 13 | <5 | 26 | 14 | 160 | 4.75% |
| | 150471 | " " " | <1 | 3 | <5 | 4 | 6 | 30 | 2320 |
| | 150472 | " " " | <1 | 15 | 8 | 28 | 18 | 145 | 3.00% |
| Double Cove | 150522 | Line A ⓓ 675m E | <1 | 64 | 16 | 88 | 72 | 670 | 9.62% |
| | 150523 | " ⓓ 650m E | <1 | 62 | 8 | 26 | 18 | 58 | 10.6% |
| | 150524 | " ⓓ 625m E | <1 | 260 | 12 | 120 | 150 | 400 | 15.2% |
| | 150525 | " ⓓ 575mE | <1 | 125 | <5 | 34 | 40 | 280 | 13.1% |
| | 150526 | " ⓓ 375m E | <1 | 170 | 28 | 56 | 36 | 280 | 18.6% |
| | 150527 | " ⓓ 350m E | <1 | 115 | 22 | 50 | 140 | 165 | 12.1% |
| | 150528 | " ⓓ 325m E | <1 | 46 | <5 | 39 | 210 | 255 | 6.70% |
| | 150529 | " ⓓ 125m E | <1 | 120 | <5 | 105 | 305 | 290 | 11.6% |
| | 150530 | " ⓓ 75m E | <1 | 49 | 12 | 41 | 38 | 300 | 8.00% |
| | 150531 | " ⓓ 50m E | <1 | 110 | 16 | 96 | 115 | 730 | 8.62% |
| | 150532 | Line B ⓓ 175W. | <1 | 195 | 6 | 54 | 70 | 1180 | 13.6% |
| | 150533 | " ⓓ 150W. | <1 | 125 | 6 | 38 | 130 | 98 | 12.1% |
| | 150601 | " ⓓ 325W. | <1 | 435 | 6 | 100 | 135 | 1.42% | 16.4% |
| | 150602 | " ⓓ 150 E | <1 | 460 | 6 | 140 | 94 | 430 | 17.6% |
| | 150603 | " ⓓ 125 E | <1 | 145 | 18 | 135 | 265 | 770 | 7.66% |
| | 150604 | " ⓓ 75m E | <1 | 125 | <5 | 140 | 690 | 465 | 8.00% |
| | 150605 | " ⓓ 50m E | <1 | 155 | <5 | 74 | 350 | 340 | 8.86% |
| | 150606 | " ⓓ 125m W | <1 | 94 | 8 | 30 | 74 | 100 | 7.24% |
| Double Cove | 150397 | Line B ⓓ 550m E | <1 | 560 | 10 | 125 | 66 | 590 | 16.1% |
| | 150398 | " ⓓ 525m E | <1 | 325 | 24 | 170 | 44 | 1120 | 9.62% |
| | Detn limit | | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

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amdel

106128

Analysis code A1/1,2 | Report AC 3109/85 | Page G3

NATA Certificate | Order No. 14475 | Results in ppm

| | Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|---|
| Double Cove | 150399 Line B @ 375m E | <1 | 88 | 38 | 31 | 42 | 550 | 8.18% |
| " | 150400 " @ 350m E | <1 | 145 | 18 | 36 | 66 | 2100 | 9.78% |
| Butlers CR | 150441 Line A @ 350m in CR | <1 | 4 | 8 | 24 | <5 | 1960 | 6500 |
| " | 150442 as 150441 | <1 | 3 | <5 | 6 | <5 | 70 | 4140 |
| " | 150443 " " | <1 | 2 | 8 | 12 | <5 | 12 | 3140 |
| " | 150444 Line A 1375m W. | <1 | 34 | 6 | 92 | 125 | 710 | 13.6% |
| " | 150445 " 1400m. W. | <1 | 22 | 6 | 78 | 125 | 510 | 12.5% |
| " | 150446 " @ 1425 W. | <1 | 26 | 6 | 115 | 130 | 790 | 12.7% |
| " | 150447 " @ 1450 W | <1 | 90 | 6 | 96 | 110 | 510 | 16.1% |
| " | 150448 " @ 2375m N. | <1 | 170 | <5 | 38 | 125 | 20 | 14.1% |
| " | 150449 " @ 2350m W | <1 | 235 | 8 | 50 | 62 | 20 | 11.4% |
| " | 150450 " @ 2325m W. | <1 | 50 | 6 | 19 | 52 | 115 | 4.72% |
| " | 150551 " @ 2280m W. | <1 | 60 | 10 | 66 | 64 | 550 | 5.96% |
| " | 150552 " @ 2260m. W. | <1 | 48 | 6 | 64 | 68 | 490 | 7.44% |
| " | 150553 " @ 2250m W. | <1 | 72 | <5 | 68 | 74 | 410 | 12.0% |
| " | 150554 " @ 2220m W | <1 | 250 | <5 | 36 | 40 | 130 | 8.70% |
| " | 150555 " @ 2225m. W. | <1 | 74 | 10 | 76 | 82 | 500 | 12.8% |
| " | 150556 " @ 2200m W | <1 | 12 | <5 | 64 | 46 | 550 | 10.1% |
| " | 150557 " @ 2155m W | <1 | 66 | 10 | 58 | 56 | 540 | 5.72% |
| " | 150558 " @ 1325m N. | <1 | 56 | 12 | 48 | 84 | 285 | 6.62% |
| | Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

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106129

DOUBLE COVE
BUTLER CREEK

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 3109/85

13 February 1985

ALBINA
DOUBLE COVE
BUTLER CREEK

# NATA CERTIFICATE

PART REPORT 2

Amoco Minerals Australia Company
61 Counsel Street
ZEEHAN TASMANIA 7469

Attention: Mr. Phil Jones

REPORT AC 3109/85

| | |
|---|---|
| YOUR REFERENCE: | Despatch No. 4937<br>Order No. 14475 |
| REPORT COMPRISING: | Cover sheet<br>Pages X1 - X3 |
| DATE RECEIVED: | 30 January 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

c.c. Mr. B. Roxburgh
Amoco Minerals Australia Company
PO Box 493
NORTH SYDNEY NSW 2060

fs

Head Office:
Flemington Street, Frewville
South Australia 5063,
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
Osman Place
Thebarton, S.A.
Telephone (08) 43 8053
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.

amdel

106130

Analysis code X3 | Report AC 3109/85 | Page X1

NATA Certificate | Order No. 14475 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150280 | 5 | <4 | <4 | <10 | 370 |
| 150281 | 6 | <4 | 6 | <10 | 220 |
| 150282 | 8 | 4 | 10 | <10 | 50 |
| 150283 | 14 | 12 | <4 | <10 | 35 |
| 150284 | 4 | <4 | 4 | <10 | 15 |
| 150285 | 11 | <4 | <4 | <10 | 15 |
| 150286 | 4 | 6 | 6 | <10 | <10 |
| 150287 | 5 | 6 | 4 | <10 | 10 |
| 150288 | 6 | <4 | 6 | 10 | 40 |
| 150289 | 13 | 6 | 4 | <10 | 45 |
| 150290 | 11 | <4 | 6 | <10 | 35 |
| 150291 | 6 | <4 | 6 | <10 | 25 |
| 150292 | 7 | <4 | <4 | <10 | 25 |
| 150293 | 3 | <4 | 4 | <10 | 510 |
| 150294 | 11 | 4 | 4 | 20 | 65 |
| 150295 | 7 | <4 | 6 | 10 | 75 |
| 150296 | 14 | 4 | 6 | 15 | 570 |
| 150297 | 60 | <4 | <4 | <10 | 1480 |
| 150298 | 47 | <4 | 8 | 10 | 2000 |
| 150299 | 14 | <4 | 6 | <10 | 460 |
| 150300 | 31 | 8 | <4 | 15 | 200 |
| 150345 | 2 | <4 | 6 | <10 | 360 |
| 150346 | 6 | <4 | 4 | <10 | 720 |
| 150347 | <2 | 4 | 6 | <10 | 440 |
| 150348 | 2 | <4 | 6 | <10 | 330 |
| 150349 | 7 | <4 | 4 | <10 | 650 |
| 150350 | 2 | 4 | 6 | <10 | 220 |
| 150351 | 2 | <4 | <4 | <10 | 460 |
| 150352 | 3 | 4 | 10 | <10 | 390 |
| 150353 | 4 | <4 | 8 | <10 | 390 |
| 150354 | <2 | 4 | 6 | 10 | 470 |
| 150355 | 7 | <4 | 12 | <10 | 420 |
| 150356 | 17 | <4 | <4 | <10 | 600 |
| 150357 | 14 | 4 | <4 | <10 | 570 |
| 150358 | <2 | <4 | <4 | <10 | 95 |
| 150359 | 3 | <4 | <4 | 15 | 85 |
| 150401 | 2 | <4 | <4 | <10 | <10 |
| 150402 | 3 | 6 | <4 | <10 | 15 |
| 150451 | 17 | 6 | 4 | <10 | 150 |
| 150452 | 12 | <4 | 10 | <10 | 40 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

Analysis code X3 | Report AC 3109/85 | Page X2

NATA Certificate | Order No. 14475 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150453 | 16 | <4 | 6 | <10 | 60 |
| 150454 | 13 | <4 | <4 | <10 | 40 |
| 150455 | 10 | <4 | 6 | 15 | 30 |
| 150456 | 2 | 4 | <4 | <10 | 120 |
| 150457 | 10 | <4 | 6 | <10 | 70 |
| 150458 | 7 | 8 | 12 | <10 | 45 |
| 150459 | 16 | 6 | 4 | <10 | 1540 |
| 150460 | 32 | <4 | 4 | 10 | 310 |
| 150461 | 13 | <4 | 6 | <10 | 4060 |
| 150462 | 23 | <4 | <4 | <10 | 1160 |
| 150463 | 25 | <4 | 12 | <10 | 930 |
| 150464 | 14 | <4 | 8 | 10 | 340 |
| 150465 | 31 | <4 | <4 | <10 | 250 |
| 150466 | 12 | <4 | 6 | <10 | 670 |
| 150467 | 2 | 6 | <4 | <10 | 10 |
| 150468 | <2 | <4 | 4 | <10 | <10 |
| 150469 | 3 | <4 | <4 | <10 | 150 |
| 150470 | 10 | <4 | <4 | <10 | 90 |
| 150471 | <2 | <4 | <4 | <10 | 55 |
| 150472 | 6 | 4 | 6 | <10 | 500 |
| 150522 | 8 | <4 | 6 | <10 | 200 |
| 150523 | 11 | <4 | <4 | <10 | 300 |
| 150524 | 12 | <4 | <4 | 10 | 120 |
| 150525 | 5 | <4 | 4 | <10 | 25 |
| 150526 | 3 | 12 | 4 | <10 | 300 |
| 150527 | 5 | <4 | <4 | <10 | 75 |
| 150528 | 2 | <4 | <4 | <10 | 30 |
| 150529 | 4 | <4 | 4 | <10 | 75 |
| 150530 | 6 | <4 | 4 | <10 | 390 |
| 150531 | 4 | <4 | 6 | <10 | 100 |
| 150532 | 6 | <4 | 8 | <10 | 70 |
| 150533 | 6 | <4 | 8 | <10 | 35 |
| 150601 | 4 | <4 | 10 | <10 | 410 |
| 150602 | 15 | <4 | <4 | 10 | 55 |
| 150603 | 8 | <4 | 4 | <10 | 170 |
| 150604 | 3 | 6 | 6 | <10 | 40 |
| 150605 | 2 | <4 | <4 | <10 | 25 |
| 150606 | 7 | 4 | 4 | <10 | 35 |
| 150397 | 3 | <4 | 8 | <10 | 50 |
| 150398 | 11 | 6 | 4 | 15 | 220 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

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106132

Analysis code X3 | Report AC 3109/85 | Page X3

NATA Certificate | Order No. 14475 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150399 | 10 | 6 | 8 | 20 | 210 |
| 150400 | 2 | <4 | 8 | <10 | 15 |
| 150441 | 2 | <4 | 4 | <10 | 75 |
| 150442 | 3 | <4 | <4 | <10 | 90 |
| 150443 | 8 | <4 | 4 | 10 | 70 |
| 150444 | 26 | 4 | <4 | <10 | 250 |
| 150445 | 15 | <4 | 8 | <10 | 600 |
| 150446 | 28 | 4 | <4 | 10 | 780 |
| 150447 | 19 | <4 | 6 | 15 | 330 |
| 150448 | 13 | <4 | 4 | <10 | 140 |
| 150449 | 23 | 12 | 4 | <10 | 30 |
| 150450 | 58 | <4 | <4 | 10 | 420 |
| 150551 | 12 | <4 | 10 | <10 | 180 |
| 150552 | 14 | <4 | <4 | 10 | 180 |
| 150553 | 17 | 12 | 4 | 15 | 240 |
| 150554 | 26 | <4 | 8 | <10 | 170 |
| 150555 | 17 | <4 | <4 | 15 | 140 |
| 150556 | 13 | <4 | 6 | <10 | 340 |
| 150557 | 11 | <4 | <4 | <10 | 480 |
| 150558 | 14 | <4 | 4 | <10 | 630 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

132.

# Classic Laboratories Pty Ltd

106133

DOUBLE COVE
BUTLER CREEK
ALBINA.

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Your Ref. No. 3109/85

Our Ref. No. 8595/85

Date 14/2/85

Sample Received

TELEX: 1245

THE MANAGER
AMDEL
FLEMINGTON STREET
FREWVILL SA 5063

ATTENTION: DON PATTERSON

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3571

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150280 | 0.04 | | | 26 | 150349 | tr | | | |
| 2 | 81 | 0.08 | | | 27 | 50 | * | | | |
| 3 | 82 | 0.08 | | | 28 | 51 | tr | ( tr | tr ) | |
| 4 | 83 | * | | | 29 | 52 | tr | | | |
| 5 | 84 | * | | | 30 | 53 | tr | ( tr | tr ) | |
| 6 | 85 | * | | | 31 | 54 | * | ( * | * ) | |
| 7 | 86 | tr | | | 32 | 55 | * | | | |
| 8 | 87 | * | | | 33 | 56 | * | | | |
| 9 | 88 | * | | | 34 | 57 | * | | | |
| 10 | 89 | * | | | 35 | 58 | tr | ( tr | tr ) | |
| 11 | 90 | * | ( * | * ) | 36 | 59 | 0.10 | | | |
| 12 | 91 | 0.18 | | | 37 | 150397 | tr | | | |
| 13 | 92 | tr | | | 38 | 98 | * | | | |
| 14 | 93 | * | | | 39 | 99 | * | | | |
| 15 | 94 | * | | | 40 | 150400 | * | ( * | * ) | |
| 16 | 95 | * | | | 41 | 01 | 0.27 | | | |
| 17 | 96 | * | | | 42 | 02 | tr | | | |
| 18 | 97 | tr | | | 43 | 150441 | tr | | | |
| 19 | 98 | tr | | | 44 | 42 | tr | ( tr | tr) | |
| 20 | 99 | 0.10 | | | 45 | 43 | * | ( * | * ) | |
| 21 | 150300 | tr | ( tr | * ) | 46 | 44 | * | | | |
| 22 | 150345 | * | | | 47 | 45 | * | | | |
| 23 | 46 | * | | | 48 | 46 | * | | | |
| 24 | 47 | 0.04 | | | 49 | 47 | * | | | |
| 25 | 48 | * | | | 50 | 48 | * | | | |

133

# Classic Laboratories Pty Ltd

106134

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Your Ref. No. 3109/85

Our Ref. No. 8595/85

Date.....

Sample Received.....

2/2

## REPORT ON FIRE ASSAY

METHOD:

INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 150449 | tr | | | 26 | 150523 | * | | |
| 2 | 50 | * | | | 27 | 24 | * | ( * | * ) |
| 3 | 51 | * | | | 28 | 25 | * | | |
| 4 | 52 | * | | | 29 | 26 | * | | |
| 5 | 53 | tr | | | 30 | 27 | * | | |
| 6 | 54 | * | | | 31 | 28 | 0.04 | | |
| 7 | 55 | * | | | 32 | 29 | * | | |
| 8 | 56 | * | | | 33 | 30 | * | | |
| 9 | 57 | * | | | 34 | 31 | * | | |
| 10 | 58 | * | | | 35 | 32 | * | | |
| 11 | 59 | * | | | 36 | 33 | tr | | |
| 12 | 60 | * | ( * | * ) | 37 | 150551 | * | | |
| 13 | 61 | * | | | 38 | 52 | * | | |
| 14 | 62 | * | | | 39 | 53 | * | ( * | * ) |
| 15 | 63 | * | | | 40 | 54 | * | | |
| 16 | 64 -80# | * | | | 41 | 55 | * | | |
| 17 | 65 | * | | | 42 | 56 | * | | |
| 18 | 66 | * | | | 43 | 57 | * | | |
| 19 | 67 | * | | | 44 | 58 | * | | |
| 20 | 68 | * | | | 45 | 150601 | * | ( * | * ) |
| 21 | 69 | * | | | 46 | 02 | * | | |
| 22 | 70 | * | | | 47 | 03 | tr | | |
| 23 | 71 - 80# | tr | | | 48 | 04 | * | | |
| 24 | 72 | * | | | 49 | 05 | * | | |
| 25 | 150522 | * | | | 50 | 06 | * | | |

106135

134

ALBINA

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 3110/85

13 February 1985

# NATA CERTIFICATE

PART REPORT 1

Amoco Minerals Australia Company
61 Counsel Street
ZEEHAN TAS 7469

Attention: Mr. Phil Jones

REPORT AC 3110/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14476<br>Despatch Number 4938 |
| REPORT COMPRISING: | Cover sheet<br>Pages X1 - X4<br>Pages G1 - G4 |
| DATE RECEIVED: | 30 January 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

c.c. Amoco Minerals Australia Company
PO Box 493
NORTH SYDNEY NSW 2060

Attention: Mr. B. Roxburgh

fs

Head Office:
Flemington Street, Frewville
South Australia 5063,
Telephone (08) 79 1662
Telex: Amdel AA82520
Pilot Plant:
Osman Place
Thebarton, S.A.
Telephone (08) 43 8053
Branch Laboratories:
Melbourne, Vic.
Telephone (03) 645 3093
Perth, W.A.

135 amdel 106136

Analysis code X3 Report AC 3110/85 Page X1

NATA Certificate Order No. 14476 Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150360 | 4 | 4 | 6 | <10 | 40 |
| 150361 | 2 | <4 | 4 | <10 | 140 |
| 150362 | <2 | 4 | 6 | 15 | 400 |
| 150363 | <2 | <4 | 4 | <10 | 430 |
| 150364 | <2 | <4 | 6 | <10 | 660 |
| 150365 | 3 | <4 | 6 | <10 | 15 |
| 150366 | <2 | <4 | <4 | <10 | 10 |
| 150367 | <2 | <4 | 4 | <10 | 10 |
| 150368 | <2 | <4 | 4 | 10 | 1640 |
| 150369 | 125 | 22 | 8 | <10 | 340 |
| 150370 | 3 | 4 | <4 | <10 | 70 |
| 150371 | 4 | <4 | 6 | <10 | 130 |
| 150372 | <2 | 6 | 4 | <10 | 15 |
| 150373 | 9 | <4 | 6 | <10 | 40 |
| 150374 | <2 | <4 | 8 | <10 | 80 |
| 150375 | 3 | <4 | 4 | <10 | 110 |
| 150376 | 3 | <4 | <4 | <10 | 100 |
| 150377 | 14 | <4 | 6 | <10 | 330 |
| 150378 | 4 | <4 | 6 | <10 | 470 |
| 150379 | 8 | 4 | <4 | <10 | 320 |
| 150380 | <2 | 6 | 4 | 10 | 10 |
| 150381 | 2 | <4 | 4 | <10 | 460 |
| 150382 | 10 | 6 | 4 | 15 | 210 |
| 150383 | 16 | 6 | 8 | <10 | 70 |
| 150384 | 6 | <4 | 6 | 10 | 220 |
| 150385 | 13 | <4 | 12 | 10 | 150 |
| 150386 | <2 | <4 | 6 | <10 | 60 |
| 150387 | 10 | <4 | <4 | <10 | 310 |
| 150388 | 7 | 4 | <4 | 10 | 130 |
| 150389 | 11 | 4 | 4 | 10 | 100 |
| 150390 | 11 | <4 | 4 | <10 | 430 |
| 150391 | 9 | <4 | <4 | 10 | 510 |
| 150392 | 5 | <4 | 6 | <10 | 380 |
| 150393 | 6 | <4 | 14 | <10 | 210 |
| 150394 | 12 | 4 | 4 | <10 | 3540 |
| 150395 | 24 | <4 | 6 | <10 | 890 |
| 150396 | 14 | 4 | 10 | <10 | 580 |
| 150403 | 21 | <4 | <4 | 10 | 250 |
| 150404 | 5 | <4 | 4 | <10 | 95 |
| 150405 | 27 | 12 | 8 | 10 | 220 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

amdel

106137

Analysis code X3 | Report AC 3110/85 | Page X2

NATA Certificate | Order No. 14476 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150406 | 3 | <4 | 4 | <10 | 60 |
| 150407 | 9 | 8 | 6 | <10 | 2200 |
| 150408 | <2 | <4 | 6 | <10 | 95 |
| 150409 | 5 | <4 | <4 | <10 | 110 |
| 150410 | 40 | 10 | <4 | <10 | 2660 |
| 150411 | 27 | <4 | 8 | <10 | 520 |
| 150412 | 9 | 4 | 8 | <10 | 210 |
| 150413 | 25 | 8 | 6 | 10 | 1580 |
| 150414 | 44 | <4 | <4 | <10 | 1160 |
| 150415 | 18 | 6 | 6 | <10 | 1260 |
| 150416 | 4 | 6 | <4 | <10 | 70 |
| 150417 | 16 | 4 | <4 | <10 | 250 |
| 150418 | 4 | <4 | 4 | 10 | 85 |
| 150419 | 5 | <4 | 4 | 10 | 70 |
| 150420 | 9 | <4 | 6 | 10 | 600 |
| 150421 | 3 | <4 | <4 | <10 | 100 |
| 150422 | 17 | 10 | <4 | <10 | 900 |
| 150423 | 14 | <4 | 6 | 10 | 360 |
| 150424 | 50 | 12 | 8 | 10 | 890 |
| 150425 | 3 | 8 | <4 | <10 | 45 |
| 150426 | <2 | 6 | <4 | <10 | 60 |
| 150427 | 25 | 8 | 6 | <10 | 130 |
| 150428 | 5 | <4 | 4 | 10 | 80 |
| 150429 | 7 | 6 | 10 | 20 | 15 |
| 150430 | 35 | 10 | 8 | <10 | 40 |
| 150431 | 14 | <4 | 4 | 10 | 50 |
| 150432 | 21 | <4 | <4 | <10 | 90 |
| 150433 | 14 | 8 | <4 | <10 | 55 |
| 150434 | 23 | <4 | <4 | <10 | 1000 |
| 150435 | 3 | 6 | 4 | 10 | 1120 |
| 150436 | 14 | 10 | 8 | <10 | 620 |
| 150437 | 19 | <4 | <4 | 10 | 500 |
| 150438 | 6 | <4 | 8 | <10 | 780 |
| 150439 | 11 | <4 | <4 | <10 | 490 |
| 150440 | 5 | <4 | 4 | <10 | 130 |
| 150473 | 10 | 6 | 8 | <10 | 560 |
| 150474 | 14 | <4 | 4 | <10 | 95 |
| 150475 | 6 | 8 | 6 | <10 | 130 |
| 150476 | 12 | 6 | 8 | <10 | 110 |
| 150477 | 9 | 8 | 10 | <10 | 450 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

amdel

106138

Analysis code X3 | Report AC 3110/85 | Page X3

NATA Certificate | Order No. 14476 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150478 | 16 | 14 | 10 | <10 | 100 |
| 150479 | 9 | 4 | 6 | 15 | 20 |
| 150480 | 5 | <4 | <4 | <10 | 420 |
| 150481 | <2 | 8 | 6 | <10 | 85 |
| 150482 | 3 | <4 | <4 | <10 | 55 |
| 150483 | 7 | <4 | 4 | <10 | 15 |
| 150484 | 24 | <4 | <4 | <10 | 340 |
| 150485 | 3 | <4 | 4 | <10 | 310 |
| 150486 | 2 | 4 | <4 | <10 | 45 |
| 150487 | 2 | <4 | 6 | <10 | 35 |
| 150488 | 140 | 4 | 10 | <10 | 290 |
| 150489 | 210 | <4 | <4 | <10 | 280 |
| 150490 | 15 | 4 | <4 | <10 | 740 |
| 150491 | 15 | <4 | 6 | <10 | 260 |
| 150492 | 160 | <4 | <4 | <10 | 150 |
| 150493 | 58 | 6 | 6 | <10 | 620 |
| 150494 | 20 | <4 | <4 | <10 | 490 |
| 150495 | 9 | 4 | <4 | <10 | 390 |
| 150496 | 10 | <4 | 10 | <10 | 440 |
| 150497 | <2 | <4 | 8 | 15 | 730 |
| 150498 | 9 | 6 | <4 | <10 | 480 |
| 150499 | 15 | <4 | 6 | <10 | 1440 |
| 150500 | 9 | 6 | 10 | <10 | 390 |
| 150501 | 2 | 6 | <4 | <10 | 470 |
| 150502 | <2 | <4 | 6 | <10 | 330 |
| 150503 | <2 | <4 | <4 | <10 | 480 |
| 150504 | 3 | <4 | 6 | 10 | 190 |
| 150505 | 10 | 6 | 6 | 15 | 35 |
| 150506 | 10 | <4 | <4 | <10 | 180 |
| 150507 | 3 | <4 | 8 | <10 | 370 |
| 150508 | 17 | <4 | 8 | <10 | 110 |
| 150509 | 5 | 6 | 10 | 10 | 710 |
| 150510 | 18 | 4 | 8 | 15 | 65 |
| 150511 | 9 | <4 | <4 | 20 | 30 |
| 150512 | 7 | 6 | 6 | 10 | 50 |
| 150513 | 17 | <4 | 4 | <10 | 170 |
| 150514 | 16 | <4 | 6 | <10 | 1040 |
| 150515 | 5 | 4 | 6 | 20 | 70 |
| 150516 | 20 | <4 | 6 | <10 | 330 |
| 150517 | 19 | <4 | 6 | <10 | 180 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

amdel

106139

Analysis code X3 | Report AC 3110/85 | Page X4

NATA Certificate | Order No. 14476 | Results in ppm

| Sample | As | Sb | Sn | W | Ba |
|---|---|---|---|---|---|
| 150518 | 5 | 4 | 4 | <10 | 190 |
| 150519 | 9 | <4 | 6 | 10 | 120 |
| Detn limit | (2) | (4) | (4) | (10) | (10) |

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106140

Analysis code A1/1,2 Report AC 3110/85 Page G1

NATA Certificate Order No. 14476 Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| 150360 | <1 | 9 | <5 | 27 | 16 | 240 | 1.84% |
| 150361 | <1 | 41 | 12 | 145 | 28 | 52 | 6400 |
| 150362 | <1 | <2 | 12 | 10 | <5 | 16 | 2360 |
| 150363 | <1 | <2 | 120 | 3 | <5 | 8 | 1320 |
| 150364 | <1 | <2 | 44 | 46 | 28 | 12 | 2500 |
| 150365 | <1 | 7 | <5 | 3 | 8 | 365 | 1.78% |
| 150366 | <1 | <2 | <5 | 2 | <5 | 14 | 1480 |
| 150367 | <1 | <2 | 6 | 2 | <5 | 14 | 1880 |
| 150368 | <1 | <2 | <5 | 5 | <5 | <5 | 2540 |
| 150369 | <1 | 105 | 78 | 610 | 60 | 92 | 7.08% |
| 150370 | <1 | 3 | 6 | 12 | <5 | 56 | 6050 |
| 150371 | <1 | 7 | 16 | 18 | <5 | 140 | 1.49% |
| 150372 | <1 | 4 | 8 | 21 | <5 | 250 | 1.01% |
| 150373 | <1 | 115 | 12 | 31 | 48 | 68 | 22.0% |
| 150374 | <1 | 135 | 12 | 60 | 60 | 800 | 7.54% |
| 150375 | <1 | 5 | 6 | 18 | <5 | 420 | 2.40% |
| 150376 | <1 | 3 | 6 | 12 | <5 | 360 | 7700 |
| 150377 | <1 | 18 | 14 | 22 | 10 | 530 | 2.82% |
| 150378 | <1 | 4 | 6 | 42 | 26 | 510 | 3.15% |
| 150379 | <1 | 40 | <5 | 64 | 52 | 640 | 5.48% |
| 150380 | <1 | 22 | <5 | 58 | 285 | 670 | 4.30% |
| 150381 | <1 | <2 | <5 | 2 | 12 | 20 | 2400 |
| 150382 | <1 | 120 | 8 | 82 | 54 | 380 | 10.4% |
| 150383 | <1 | 145 | 16 | 96 | 230 | 910 | 16.2% |
| 150384 | <1 | 98 | 6 | 56 | 175 | 1540 | 5.92% |
| 150385 | <1 | 175 | 12 | 64 | 150 | 1960 | 10.7% |
| 150386 | <1 | 96 | <5 | 86 | 310 | 1320 | 7.82% |
| 150387 | <1 | 96 | 28 | 88 | 88 | 1020 | 9.38% |
| 150388 | <1 | 100 | 18 | 49 | 70 | 335 | 9.62% |
| 150389 | <1 | 145 | 12 | 62 | 46 | 580 | 13.1% |
| 150390 | <1 | 140 | 16 | 100 | 90 | 1060 | 6.64% |
| 150391 | <1 | 62 | 20 | 66 | 50 | 1280 | 6.72% |
| 150392 | <1 | 17 | 10 | 45 | 30 | 850 | 3.67% |
| 150393 | <1 | 30 | 16 | 68 | 44 | 730 | 2.29% |
| 150394 | <1 | 31 | 16 | 105 | 56 | 1180 | 8.00% |
| 150395 | <1 | 135 | 14 | 155 | 125 | 710 | 9.38% |
| 150396 | <1 | 115 | <5 | 160 | 70 | 850 | 11.1% |
| 150403 | <1 | 100 | 12 | 215 | 125 | 265 | 10.6% |
| 150404 | <1 | 12 | <5 | 14 | 10 | 90 | 1.31% |
| 150405 | <1 | 150 | 12 | 115 | 110 | 1260 | 12.5% |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

amdel



Analysis code A1/1,2 | Report AC 3110/85 | Page G2

NATA Certificate | Order No. 14476 | Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| 150406 | <1 | 10 | <5 | 13 | 10 | 66 | 5700 |
| 150407 | <1 | 54 | <5 | 120 | 74 | 850 | 8.08% |
| 150408 | <1 | 8 | <5 | 10 | 12 | 82 | 1.10% |
| 150409 | <1 | 12 | <5 | 11 | 10 | 44 | 5900 |
| 150410 | <1 | 140 | 40 | 60 | 185 | 195 | 5.26% |
| 150411 | <1 | 37 | 22 | 86 | 30 | 1240 | 7.72% |
| 150412 | <1 | 17 | 16 | 39 | 20 | 850 | 2.09% |
| 150413 | <1 | 96 | 30 | 40 | 100 | 280 | 4.46% |
| 150414 | <1 | 215 | 44 | 80 | 50 | 355 | 13.2% |
| 150415 | <1 | 44 | 8 | 41 | 58 | 80 | 3.89% |
| 150416 | <1 | 5 | <5 | 8 | 10 | 46 | 4600 |
| 150417 | <1 | 15 | 6 | 31 | 20 | 135 | 3.48% |
| 150418 | <1 | 7 | <5 | 9 | 8 | 70 | 1.14% |
| 150419 | <1 | 4 | <5 | 4 | 8 | 22 | 3360 |
| 150420 | <1 | 50 | 8 | 125 | 78 | 970 | 9.72% |
| 150421 | <1 | 9 | <5 | 15 | 6 | 92 | 1.70% |
| 150422 | <1 | 74 | 12 | 120 | 80 | 970 | 9.96% |
| 150423 | <1 | 58 | 12 | 115 | 58 | 720 | 5.36% |
| 150424 | <1 | 84 | 46 | 135 | 52 | 475 | 16.4% |
| 150425 | <1 | 34 | 26 | 94 | 14 | 1080 | 9.32% |
| 150426 | <1 | 8 | <5 | 9 | 8 | 86 | 1.14% |
| 150427 | <1 | 24 | 26 | 46 | 14 | 900 | 6.84% |
| 150428 | <1 | 5 | <5 | 10 | 8 | 82 | 7050 |
| 150429 | <1 | 320 | 6 | 125 | 66 | 790 | 15.0% |
| 150430 | <1 | 485 | 6 | 90 | 92 | 380 | 15.4% |
| 150431 | <1 | 120 | 14 | 40 | 62 | 105 | 14.9% |
| 150432 | <1 | 185 | 18 | 64 | 78 | 310 | 13.8% |
| 150433 | <1 | 235 | <5 | 135 | 120 | 1220 | 16.4% |
| 150434 | <1 | 76 | 36 | 54 | 50 | 385 | 10.1% |
| 150435 | <1 | 47 | 18 | 120 | 230 | 420 | 10.1% |
| 150436 | <1 | 86 | 12 | 130 | 275 | 420 | 11.8% |
| 150437 | <1 | 64 | 8 | 100 | 44 | 570 | 9.32% |
| 150438 | <1 | 175 | 14 | 78 | 40 | 610 | 7.84% |
| 150439 | <1 | 36 | 6 | 56 | 34 | 850 | 4.34% |
| 150440 | <1 | 11 | <5 | 20 | 14 | 145 | 1.94% |
| 150473 | <1 | 12 | 20 | 17 | <5 | 26 | 2.63% |
| 150474 | <1 | 250 | 8 | 80 | 36 | 320 | 10.2% |
| 150475 | <1 | 360 | 8 | 110 | 76 | 590 | 12.2% |
| 150476 | <1 | 315 | 8 | 105 | 54 | 485 | 11.3% |
| 150477 | <1 | 36 | 8 | 15 | 20 | 50 | 2.42% |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

amdel

106142

Analysis code A1/1,2 | Report AC 3110/85 | Page G3

NATA Certificate | Order No. 14476 | Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| 150478 | <1 | 275 | 8 | 94 | 42 | 740 | 11.7% |
| 150479 | <1 | 455 | <5 | 130 | 50 | 800 | 14.0% |
| 150480 | <1 | 22 | 6 | 27 | 8 | 135 | 2.25% |
| 150481 | <1 | 60 | <5 | 62 | 52 | 780 | 6.22% |
| 150482 | <1 | 37 | <5 | 8 | 12 | 165 | 3.11% |
| 150483 | <1 | 12 | <5 | 6 | 18 | 68 | 7.68% |
| 150484 | <1 | 31 | 10 | 90 | 30 | 870 | 9.04% |
| 150485 | <1 | 31 | 12 | 92 | 32 | 910 | 9.52% |
| 150486 | <1 | 22 | 6 | 37 | 26 | 395 | 2.38% |
| 150487 | <1 | 6 | <5 | 4 | <5 | 58 | 1.36% |
| 150488 | <1 | 3 | <5 | 7 | <5 | 8 | 780 |
| 150489 | <1 | 64 | <5 | 68 | 86 | 1300 | 10.5% |
| 150490 | <1 | 94 | 36 | 115 | 96 | 2000 | 8.02% |
| 150491 | <1 | 130 | 6 | 145 | 105 | 1120 | 11.1% |
| 150492 | <1 | 300 | 26 | 440 | 74 | 375 | 14.4% |
| 150493 | <1 | 135 | 30 | 315 | 155 | 880 | 13.1% |
| 150494 | <1 | 70 | 6 | 140 | 70 | 1040 | 10.8% |
| 150495 | <1 | 90 | 16 | 250 | 100 | 960 | 11.2% |
| 150496 | <1 | 72 | <5 | 135 | 86 | 890 | 10.8% |
| 150497 | <1 | 56 | 14 | 125 | 60 | 1040 | 9.48% |
| 150498 | <1 | 16 | 10 | 43 | 16 | 155 | 3.17% |
| 150499 | <1 | 29 | 16 | 62 | 28 | 240 | 4.43% |
| 150500 | <1 | 23 | 12 | 44 | 22 | 170 | 3.92% |
| 150501 | <1 | 96 | 22 | 34 | 26 | 92 | 1.97% |
| 150502 | <1 | 29 | 10 | 32 | 26 | 120 | 1.93% |
| 150503 | <1 | 32 | 22 | 22 | 8 | 34 | 7150 |
| 150504 | <1 | 31 | 14 | 44 | 24 | 265 | 2.31% |
| 150505 | <1 | 115 | 18 | 115 | 230 | 550 | 13.1% |
| 150506 | <1 | 52 | <5 | 135 | 185 | 590 | 5.46% |
| 150507 | <1 | 14 | 12 | 35 | 24 | 76 | 3.40% |
| 150508 | <1 | 110 | 18 | 155 | 440 | 96 | 18.1% |
| 150509 | <1 | 39 | <5 | 58 | 40 | 180 | 5.16% |
| 150510 | <1 | 320 | <5 | 58 | 38 | 165 | 15.3% |
| 150511 | <1 | 315 | 6 | 82 | 56 | 290 | 14.5% |
| 150512 | <1 | 240 | <5 | 50 | 42 | 150 | 14.9% |
| 150513 | <1 | 98 | 10 | 21 | 26 | 80 | 9.96% |
| 150514 | <1 | 120 | 26 | 49 | 78 | 365 | 7.46% |
| 150515 | <1 | 260 | 8 | 90 | 74 | 365 | 14.2% |
| 150516 | <1 | 145 | 14 | 48 | 68 | 180 | 13.1% |
| 150517 | <1 | 46 | 16 | 86 | 34 | 1680 | 10.3% |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

amdel



Analysis code A1/1,2 Report AC 3110/85 Page G4

NATA Certificate Order No. 14476 Results in ppm

| Sample | Ag | Cu | Pb | Zn | Ni | Mn | Fe |
|---|---|---|---|---|---|---|---|
| 150518 | <1 | 28 | 8 | 41 | 28 | 710 | 2.71% |
| 150519 | <1 | 275 | 8 | 115 | 46 | 550 | 11.6% |
| Detn limit | (1) | (2) | (5) | (2) | (5) | (5) | (5) |

106144

143

ALBINA

The Australian
Mineral Development
Laboratories

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

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

amdel

3/786/0 - AC 3110/85

22 February 1985

# NATA CERTIFICATE

REPORT COMPLETE

Amoco Minerals Australia Company
61 Counsel Street
ZEEHAN TAS 7469

Attention: Mr. Phil Jones

REPORT AC 3110/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14476<br>Despatch Number 4938 |
| REPORT COMPRISING: | Cover sheet<br>Pages 1 - 3 |
| DATE RECEIVED: | 30 January 1985 |
| NOTE: | These samples were received but not listed - 150439 and 150440 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

c.c. Amoco Minerals Australia Company
P.O. Box 493
NORTH SYDNEY NSW 2060

Attention: Mr. B. Roxburgh

fs

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

144

# Classic Laboratories Pty Ltd

106145

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Report AC 3110/85



Your Ref. No. 3110/85

Our Ref. No. 8596/85

Date 14/2/85

Sample Received

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE SA 5063

ATTENTION: DON PATTERSON

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3573

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 150360 | * | ( * | * ) | 26 | 150385 | tr | | |
| 2 | 61 | * | | | 27 | 86 | * | | |
| 3 | 62 | * | ( * | * ) | 28 | 87 | tr | | |
| 4 | 63 | * | | | 29 | 88 | * | | |
| 5 | 64 | * | | | 30 | 89 | * | | |
| 6 | 65 | tr | | | 31 | 90 | * | | |
| 7 | 66 | * | | | 32 | 91 | * | | |
| 8 | 67 | tr | | | 33 | 92 | * | | |
| 9 | 68 | * | | | 34 | 93 -80# | tr | | |
| 10 | 69 | tr | | | 35 | 94 | 0.14 | | |
| 11 | 70 | * | | | 36 | 95 | * | | |
| 12 | 71 | 0.08 | | | 37 | 96 | * | | |
| 13 | 72 | * | | | 38 | 150403 | * | | |
| 14 | 73 | * | | | 39 | 04 | * | | |
| 15 | 74 | * | | | 40 | 05 | * | | |
| 16 | 75 | * | | | 41 | 06 -80# | * | | |
| 17 | 76 -80# | * | | | 42 | 07 | * | | |
| 18 | 77 | tr | | | 43 | 08 | tr | | |
| 19 | 78 | tr | | | 44 | 09 | tr | ( * | tr ) |
| 20 | 79 | * | | | 45 | 10 | * | | |
| 21 | 80 | tr | ( tr | * ) | 46 | 11 | * | | |
| 22 | 81 | * | | | 47 | 12 -80# | * | | |
| 23 | 82 | tr | | | 48 | 13 | * | | |
| 24 | 83 | 0.06 | | | 49 | 14 | * | | |
| 25 | 84 | * | | | 50 | 15 | * | | |

145 Classic Laboratories Pty. Ltd.

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

106146

Report AC 3110/85



Your Ref. No. 3110/85

Our Ref. No. 8596/85

Date.....

Sample Received.....

2/3

# REPORT ON FIRE ASSAY

METHOD:

INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 150416 -80# | * | | | 26 | 150473 | * | | |
| 2 | 17 | * | | | 27 | 74 | tr | | |
| 3 | 18 | * | | | 28 | 75 | * | | |
| 4 | 19 -80# | * | ( * | * ) | 29 | 76 | * | | |
| 5 | 20 | * | | | 30 | 77 | * | | |
| 6 | 21 | * | | | 31 | 78 | * | | |
| 7 | 22 | * | | | 32 | 79 | * | | |
| 8 | 23 -80# | * | | | 33 | 80 | * | ( * | * ) |
| 9 | 24 | * | | | 34 | 81 | tr | | |
| 10 | 25 | * | | | 35 | 82 | * | | |
| 11 | 26 | * | | | 36 | 83 | * | | |
| 12 | 27 | * | | | 37 | 84 | * | | |
| 13 | 28 | * | | | 38 | 85 -80# | * | | |
| 14 | 29 | * | | | 39 | 86 | * | | |
| 15 | 30 | * | ( * | * ) | 40 | 87 -80# | INSUFFICIENT SAMPLE TO REPEAT. | | |
| 16 | 31 | * | | | 41 | 88 | tr | ( tr | * ) |
| 17 | 32 | * | | | 42 | 89 | * | ( * | * ) |
| 18 | 33 | 0.10 | | | 43 | 90 | * | | |
| 19 | 34 | tr | | | 44 | 91 | * | | |
| 20 | 35 | * | | | 45 | 92 | * | | |
| 21 | 36 | tr | | | 46 | 93 | * | | |
| 22 | 37 | tr | ( tr | * ) | 47 | 94 | * | | |
| 23 | 38 | * | | | 48 | 95 | * | | |
| 24 | 39 | * | | | 49 | 96 | * | | |
| 25 | 40 | * | | | 50 | 97 | tr | | |

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# Classic Laboratories Pty Ltd

106147

Report AC 3110/85

Page 3

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Your Ref. No. 3110/85

Our Ref. No. 8596/95

Date.....

Sample Received.....

3/3

## REPORT ON FIRE ASSAY

METHOD:

INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE | | | | | Sample Ref. | GOLD, GRAMS PER TONNE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MEAN | ASSAY 1 | ASSAY 2 | | | | MEAN | ASSAY 1 | ASSAY 2 | |
| 1 | 150498 | * | | | | 26 | | | | | |
| 2 | 99 | * | | | | 27 | | | | | |
| 3 | 150500 | tr | ( tr | * ) | | 28 | | | | | |
| 4 | 01 | tr | | | | 29 | | | | | |
| 5 | 02 | * | | | | 30 | | | | | |
| 6 | 03 | tr | | | | 31 | | | | | |
| 7 | 04 | tr | | | | 32 | | | | | |
| 8 | 05 | * | | | | 33 | | | | | |
| 9 | 06 | tr | | | | 34 | | | | | |
| 10 | 07 | tr | | | | 35 | | | | | |
| 11 | 08 | tr | | | | 36 | | | | | |
| 12 | 09 | tr | | | | 37 | | | | | |
| 13 | 10 | tr | | | | 38 | | | | | |
| 14 | 11 | * | | | | 39 | | | | | |
| 15 | 12 | tr | | | | 40 | | | | | |
| 16 | 13 | 0.04 | | | | 41 | | | | | |
| 17 | 14 | 0.06 | | | | 42 | | | | | |
| 18 | 15 | * | | | | 43 | | | | | |
| 19 | 16 | 0.06 | | | | 44 | | | | | |
| 20 | 17 | * | | | | 45 | | | | | |
| 21 | 18 | * | | | | 46 | | | | | |
| 22 | 19 | 0.06 | ( 0.13 | * ) | | 47 | | | | | |
| 23 | | | | | | 48 | | | | | |
| 24 | | | | | | 49 | | | | | |
| 25 | | | | | | 50 | | | | | |

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106148

THOMAS CREEK

The Australian
Mineral Development
Laboratories

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

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

amdel

## NATA CERTIFICATE

3/786/0 - AC 3194/85

6 March 1985

BIRTHDAY BAY
THOMAS CK

Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

REPORT AC 3194/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14484<br>Despatch No. 4939 |
| REPORT COMPRISING: | Cover Sheet<br>Pages 1 - 3<br>Pages G1 - G3<br>Pages X1 - X3 |
| DATE RECEIVED: | 6 February 1985 |
| NOTE: | Samples Number 150608B soil sample was lost with Broken Bag during transit. 150664 contaminated with portion (approx. 1/3) of sample no. 150665. |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. P. Jones,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

ij

Pilot Plant: Osman Place
Thebarton S.A.,
Telephone 43 8053
Branch Laboratories:
Perth W.A.

106149

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# Classic Laboratories Pty Ltd

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554



Your Ref. No. .....

Our Ref. No. 8644/85

Date 18/2/85

Sample Received .....

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE SA 5063

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3580

| | Sample Ref. | GOLD, GRAMS PER TONNE | | | | | Sample Ref. | GOLD, GRAMS PER TONNE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MEAN | ASSAY 1 | ASSAY 2 | | | | MEAN | ASSAY 1 | ASSAY 2 | |
| 1 | 150221 | tr | | | | 26 | 150572 | * | | | |
| 2 | 150534 | tr | | | | 27 | 73 | tr | | | |
| 3 | 35 | * | | | | 28 | 74 | 0.04 | | | |
| 4 | 38 | tr | | | | 29 | 75 | 0.04 | | | |
| 5 | 40 | tr | | | | 30 | 76 | 0.06 | | | |
| 6 | 44 | tr | | | | 31 | 77 | 0.08 | | | |
| 7 | 45 | tr | | | | 32 | 78 | tr | | | |
| 8 | 46 | * | | | | 33 | 79 | tr | | | |
| 9 | 47 | * | | | | 34 | 80 | tr | | | |
| 10 | 48 | tr | | | | 35 | 81 | tr | | | |
| 11 | 49 | tr | | | | 36 | 82 | tr | | | |
| 12 | 50 | * | | | | 37 | 83 | 0.06 | | | |
| 13 | 59 | tr | | | | 38 | 84 | tr | | | |
| 14 | 60 | tr | | | | 39 | 85 | 0.06 | | | |
| 15 | 61 | 0.12 | | | | 40 | 86 | tr | | | |
| 16 | 62 | tr | | | | 41 | 87 | tr | | | |
| 17 | 63 | 0.04 | | | | 42 | 88 | * | | | |
| 18 | 64 | tr | | | | 43 | 89 | tr | | | |
| 19 | 65 | tr | | | | 44 | 90 | * | | | |
| 20 | 66 | tr | | | | 45 | 91 | tr | | | |
| 21 | 67 | tr | | | | 46 | 92 | tr | | | |
| 22 | 68 | * | | | | 47 | 93 | tr | | | |
| 23 | 69 | tr | | | | 48 | 94 | tr | | | |
| 24 | 70 | tr | | | | 49 | 95 | tr | | | |
| 25 | 71 | tr | | | | 50 | 96 | tr | | | |

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106150

# Classic Laboratories Pty Ltd

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554



Your Ref. No. .....

Our Ref. No. 8644/85

Date..... .....

Sample Received.....

2/3

## REPORT ON FIRE ASSAY

METHOD: INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150597 | * | | | | 26 | 150628 | * | | | |
| 2 | 98 | 0.04 | | | | 27 | 29 | tr | | | |
| 3 | 99 | tr | | | | 28 | 30 | * | | | |
| 4 | 150600 | tr | | | | 29 | 31 | * | | | |
| 5 | 150607 | tr | | | | 30 | 32 | * | | | |
| 6 | 08 | tr | | | | 31 | 33 | tr | | | |
| 7 | 09 | tr | | | | 32 | 34 | tr | | | |
| 8 | 10 | 0.06 | | | | 33 | 150651 | tr | | | |
| 9 | 11 | * | | | | 34 | 52 | tr | | | |
| 10 | 12 | tr | | | | 35 | 53 | * | | | |
| 11 | 13 | * | | | | 36 | 54 | tr | | | |
| 12 | 14 | tr | | | | 37 | 55 | tr | | | |
| 13 | 15 | * | | | | 38 | 56 | * | | | |
| 14 | 16 | * | | | | 39 | 57 | * | | | |
| 15 | 17 | tr | | | | 40 | 58 | 0.04 | | | |
| 16 | 18 | * | | | | 41 | 59 | 0.08 | | | |
| 17 | 19 | tr | | | | 42 | 60 | 0.06 | | | |
| 18 | 20 | * | | | | 43 | 61 | tr | | | |
| 19 | 21 | 0.04 | | | | 44 | 62 | tr | | | |
| 20 | 22 | tr | | | | 45 | 63 | tr | | | |
| 21 | 23 | tr | | | | 46 | 64 | 0.08 | | | |
| 22 | 24 | tr | | | | 47 | 65 | 0.04 | | | |
| 23 | 25 | tr | | | | 48 | 66 | * | | | |
| 24 | 26 | * | | | | 49 | 67 | * | | | |
| 25 | 27 | tr | | | | 50 | 68 | tr | | | |

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150 Classic Laboratories Pty. Ltd.

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554



Your Ref. No. .....

Our Ref. No. 8644/85

Date.....

Sample Received.....

3/3

# REPORT ON FIRE ASSAY

METHOD: INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150669 | tr | | | | 26 | | | | | |
| 2 | 70 | * | | | | 27 | | | | | |
| 3 | 71 | 0.04 | | | | 28 | | | | | |
| 4 | 150751 | tr | | | | 29 | | | | | |
| 5 | 54 | * | | | | 30 | | | | | |
| 6 | 55 | tr | | | | 31 | | | | | |
| 7 | 56 | tr | | | | 32 | | | | | |
| 8 | 57 | tr | | | | 33 | | | | | |
| 9 | 58 | 0.04 | | | | 34 | | | | | |
| 10 | 59 | * | | | | 35 | | | | | |
| 11 | 60 | tr | | | | 36 | | | | | |
| 12 | 61 | tr | | | | 37 | | | | | |
| 13 | 62 | * | | | | 38 | | | | | |
| 14 | | | | | | 39 | | | | | |
| 15 | | | | | | 40 | | | | | |
| 16 | | | | | | 41 | | | | | |
| 17 | | | | | | 42 | | | | | |
| 18 | | | | | | 43 | | | | | |
| 19 | | | | | | 44 | | | | | |
| 20 | | | | | | 45 | | | | | |
| 21 | | | | | | 46 | | | | | |
| 22 | | | | | | 47 | | | | | |
| 23 | | | | | | 48 | | | | | |
| 24 | | | | | | 49 | | | | | |
| 25 | | | | | | 50 | | | | | |

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106152

Analysis code A1/1,2 Report AC 3194/85 Page G1

NATA Certificate Order No. 14484 Results in ppm

| Sample | Ag | Cu | Zn | Mn | Fe | Ni |
|---|---|---|---|---|---|---|
| SOIL 150540 | <1 | 26 | 32 | 195 | 1.89% | 70 |
| SOIL 150544 | <1 | 86 | 66 | 560 | 6.84% | 155 |
| SOIL 150545 | <1 | 45 | 39 | 175 | 9.30% | 54 |
| SOIL 150547 | <1 | 41 | 27 | 70 | 6.90% | 38 |
| SOIL 150548 | <1 | 64 | 49 | 350 | 8.58% | 24 |
| SOIL 150550 | <1 | 3 | 6 | 20 | 3480 | <5 |
| SOIL 150559 | <1 | 450 | 64 | 120 | 1.83% | 38 |
| SOIL 150560 | <1 | 610 | 105 | 54 | 1.33% | 66 |
| SOIL 150561 | <1 | 1480 | 105 | 115 | 2.28% | 160 |
| SOIL 150562 | <1 | 50 | 42 | 315 | 3.07% | 40 |
| SOIL 150563 | <1 | 890 | 16 | 300 | 5.86% | 80 |
| SOIL 150564 | <1 | 325 | 42 | 250 | 2.55% | 26 |
| SOIL 150565 | <1 | 185 | 29 | 150 | 1.95% | 30 |
| SOIL 150566 | <1 | 3360 | 38 | 130 | 2.03% | 42 |
| SOIL 150567 | <1 | 1220 | 32 | 105 | 2.79% | 78 |
| SOIL 150568 | <1 | 600 | 21 | 115 | 2.90% | 48 |
| SOIL 150569 | <1 | 54 | 18 | 235 | 3.91% | 50 |
| SOIL 150570 | <1 | 355 | 31 | 220 | 3.06% | 36 |
| SOIL 150571 | <1 | 285 | 22 | 245 | 1.08% | 38 |
| SOIL 150572 | <1 | 92 | 27 | 145 | 2.17% | 100 |
| SOIL 150573 | <1 | 2180 | 56 | 460 | 3.48% | 48 |
| SOIL 150574 | <1 | 800 | 35 | 180 | 2.06% | 52 |
| SOIL 150575 | <1 | 220 | 43 | 440 | 4.57% | 48 |
| SOIL 150576 | <1 | 2520 | 98 | 185 | 1.89% | 30 |
| SOIL 150577 | <1 | 145 | 10 | 18 | 3180 | 22 |
| SOIL 150578 | <1 | 1200 | 66 | 540 | 3.63% | 20 |
| SOIL 150579 | <1 | 480 | 31 | 200 | 2.84% | 66 |
| SOIL 150580 | <1 | 23 | 7 | 52 | 5250 | 6 |
| SOIL 150581 | <1 | 38 | 30 | 130 | 4.39% | 8 |
| SOIL 150582 | <1 | 84 | 35 | 305 | 4.20% | 24 |
| SOIL 150584 | <1 | 210 | 96 | 640 | 4.19% | 40 |
| SOIL 150585 | <1 | 375 | 18 | 88 | 3.99% | 18 |
| SOIL 150586 | <1 | 115 | 19 | 76 | 1.11% | 34 |
| SOIL 150587 | <1 | 455 | 33 | 30 | 1.75% | 18 |
| SOIL 150588 | <1 | 3440 | 74 | 475 | 4.64% | 22 |
| SOIL 150589 | <1 | 330 | 40 | 390 | 3.27% | 24 |
| SOIL 150590 | <1 | 930 | 43 | 550 | 4.08% | 26 |
| SOIL 150591 | <1 | 1200 | 33 | 320 | 3.81% | 14 |
| SOIL 150592 | <1 | 68 | 44 | 430 | 6.18% | 64 |
| SOIL 150593 | <1 | 560 | 40 | 160 | 3.42% | 90 |
| Detn limit | (1) | (2) | (2) | (5) | (5) | (5) |

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Analysis code A1/1,2 Report AC 3194/85 Page 62

NATA Certificate Order No. 14484 Results in ppm

| Sample | Ag | Cu | Zn | Mn | Fe | Ni |
|---|---|---|---|---|---|---|
| SOIL 150594 | <1 | 210 | 27 | 355 | 2.58% | 68 |
| SOIL 150595 | <1 | 425 | 30 | 220 | 3.06% | 54 |
| SOIL 150596 | <1 | 48 | 33 | 380 | 1.68% | 42 |
| SOIL 150597 | <1 | 98 | 34 | 405 | 2.59% | 105 |
| SOIL 150598 | <1 | 1640 | 12 | 30 | 1.13% | 38 |
| SOIL 150599 | <1 | 1020 | 27 | 50 | 1.51% | 40 |
| SOIL 150600 | <1 | 210 | 56 | 335 | 3.89% | 115 |
| SOIL 150608A | <1 | 4 | 3 | 26 | 3060 | <5 |
| SOIL 150610 | <1 | 19 | 12 | 70 | 7.04% | 42 |
| SOIL 150611 | <1 | 190 | 84 | 435 | 24.6% | 130 |
| SOIL 150612 | <1 | 7 | 6 | 160 | 5100 | 44 |
| SOIL 150613 | <1 | 2 | 2 | 26 | 2600 | 6 |
| SOIL 150614 | <1 | 11 | 3 | 14 | 3740 | <5 |
| SOIL 150615 | <1 | 3 | 2 | 42 | 5700 | <5 |
| SOIL 150616 | <1 | 2 | <2 | 28 | 4100 | <5 |
| SOIL 150617 | <1 | <2 | <2 | 20 | 2720 | <5 |
| SOIL 150619 | <1 | 2 | 2 | 28 | 5050 | <5 |
| SOIL 150621 | <1 | 4 | 7 | 48 | 1.55% | 8 |
| SOIL 150626 | <1 | 6 | 7 | 34 | 4.40% | 8 |
| SOIL 150628 | <1 | 2 | 3 | 26 | 3460 | <5 |
| SOIL 150629 | <1 | 12 | 38 | 175 | 2.78% | 40 |
| SOIL 150632 | <1 | 11 | 62 | 170 | 14.3% | 365 |
| SOIL 150633 | <1 | 9 | 33 | 245 | 5.10% | 660 |
| SOIL 150634 | <1 | 56 | 140 | 890 | 8.54% | 210 |
| SOIL 150651 | <1 | 76 | 15 | 105 | 1.58% | 16 |
| SOIL 150652 | <1 | 290 | 46 | 415 | 2.48% | 42 |
| SOIL 150653 | <1 | 205 | 37 | 520 | 3.25% | 135 |
| SOIL 150654 | <1 | 125 | 30 | 295 | 3.16% | 86 |
| SOIL 150655 | <1 | 245 | 31 | 325 | 2.17% | 36 |
| SOIL 150656 | <1 | 150 | 40 | 115 | 1.98% | 34 |
| SOIL 150657 | <1 | 300 | 42 | 88 | 2.53% | 52 |
| SOIL 150658 | <1 | 560 | 31 | 98 | 9700 | 42 |
| SOIL 150659 | <1 | 220 | 33 | 160 | 2.07% | 46 |
| SOIL 150660 | <1 | 300 | 22 | 145 | 1.55% | 44 |
| SOIL 150661 | <1 | 1000 | 28 | 450 | 3.45% | 50 |
| SOIL 150662 | <1 | 350 | 49 | 425 | 2.59% | 44 |
| SOIL 150663 | <1 | 440 | 33 | 130 | 1.83% | 74 |
| SOIL 150664 | <1 | 88 | 23 | 250 | 4.53% | 40 |
| SOIL 150665 | <1 | 70 | 19 | 210 | 3.75% | 48 |
| Detn limit | (1) | (2) | (2) | (5) | (5) | (5) |

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Analysis code A1/1,2 Report AC 3194/85 Page G3

NATA Certificate Order No. 14484 Results in ppm

| Sample | Ag | Cu | Zn | Mn | Fe | Ni |
|---|---|---|---|---|---|---|
| SOIL 150666 | <1 | 19 | 27 | 275 | 3.54% | 40 |
| SOIL 150667 | <1 | 630 | 45 | 28 | 7700 | 30 |
| SOIL 150668 | <1 | 140 | 38 | 380 | 3.25% | 30 |
| SOIL 150669 | <1 | 300 | 72 | 215 | 2.37% | 50 |
| SOIL 150670 | <1 | 215 | 54 | 450 | 2.89% | 36 |
| SOIL 150671 | <1 | 58 | 5 | 16 | 2480 | 16 |
| SOIL 150751 | <1 | 20 | 6 | 28 | 6550 | 6 |
| SOIL 150755 | <1 | 50 | 52 | 435 | 12.1% | 78 |
| SOIL 150756 | <1 | 105 | 82 | 580 | 11.7% | 215 |
| SOIL 150757 | <1 | 47 | 38 | 385 | 12.1% | 52 |
| SOIL 150758 | <1 | 36 | 17 | 100 | 4.75% | 46 |
| ROCK 150221 | <1 | 16 | 8 | 94 | 2.22% | 6 |
| ROCK 150535 | <1 | <2 | 2 | 105 | 2540 | <5 |
| ROCK 150538 | <1 | 2 | 4 | 230 | 5100 | <5 |
| ROCK 150546 | <1 | 70 | 60 | 445 | 5.70% | 38 |
| ROCK 150618 | <1 | 2 | <2 | 10 | 1300 | 6 |
| ROCK 150622 | <1 | 5 | 10 | 22 | 1.94% | 20 |
| ROCK 150623 | <1 | 8 | <2 | 14 | 6650 | 6 |
| ROCK 150627 | <1 | 2 | 2 | 40 | 4100 | <5 |
| ROCK 150630 | <1 | 7 | 90 | 960 | 5.22% | 260 |
| ROCK 150631 | <1 | 14 | 82 | 920 | 5.54% | 320 |
| ROCK 150754 | <1 | 88 | 38 | 410 | 10.85% | 44 |
| ROCK 150761 | <1 | 7 | 5 | 98 | 7850 | 8 |
| ROCK 150762 | <1 | 6 | 3 | 190 | 1.02% | 6 |
| P.CONC 150607 | <1 | 6 | 12 | 110 | 1.04% | 6 |
| P.CONC 150624 | <1 | 3 | 2 | 40 | 5700 | <5 |
| P.CONC 150759 | <1 | 3 | 4 | 90 | 1.19% | 6 |
| SS 150534 | <1 | 4 | 15 | 460 | 1.19% | 16 |
| SS 150549 | <1 | 22 | 54 | 1400 | 4.61% | 28 |
| SS 150583 | <1 | 9 | 7 | 68 | 3580 | <5 |
| SS 150609 | <1 | 13 | 34 | 3740 | 5.86% | 30 |
| SS 150620 | <1 | 3 | 5 | 18 | 5750 | 6 |
| SS 150625 | <1 | 5 | 13 | 155 | 1.25% | 10 |
| SS 150760 | <1 | 2 | 9 | 210 | 4560 | 6 |
| Detn limit | (1) | (2) | (2) | (5) | (5) | (5) |

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Analysis code X3 | Report AC 3194/85 | Page X1

NATA Certificate | Order No. 14484 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150221 | 105 | 35 | 14 | 8 | <10 | 440 |
| 150534 | 8 | 11 | <4 | 10 | <10 | 60 |
| 150535 | 5 | <2 | <4 | 4 | <10 | <10 |
| 150538 | 3 | <2 | <4 | <4 | <10 | <10 |
| 150540 | 14 | 16 | 6 | 4 | <10 | 130 |
| 150544 | 12 | 11 | <4 | <4 | <10 | 250 |
| 150545 | 22 | 12 | 4 | 8 | <10 | 130 |
| 150546 | 10 | 4 | <4 | 4 | <10 | 120 |
| 150547 | 13 | 14 | <4 | 6 | 10 | 300 |
| 150548 | 6 | 17 | <4 | 14 | 10 | 570 |
| 150549 | 14 | 13 | 4 | 4 | <10 | 190 |
| 150550 | <2 | 2 | 4 | 6 | <10 | 310 |
| 150559 | <2 | 6 | 4 | 6 | <10 | 520 |
| 150560 | 4 | 2 | 6 | 10 | 10 | 220 |
| 150561 | 15 | 10 | <4 | 16 | <10 | 910 |
| 150562 | <2 | 3 | <4 | 8 | <10 | 860 |
| 150563 | 33 | 3 | 4 | 28 | 35 | 60 |
| 150564 | 16 | <2 | 4 | 10 | 10 | 1360 |
| 150565 | 8 | <2 | <4 | 4 | 10 | 490 |
| 150566 | 6 | <2 | <4 | 4 | <10 | 680 |
| 150567 | 5 | 4 | 4 | 8 | <10 | 640 |
| 150568 | 11 | 4 | <4 | 16 | <10 | 430 |
| 150569 | 7 | 7 | <4 | <4 | <10 | 280 |
| 150570 | 4 | 2 | <4 | 8 | <10 | 420 |
| 150571 | 10 | 8 | <4 | <4 | <10 | 330 |
| 150572 | 11 | <2 | <4 | <4 | 10 | 490 |
| 150573 | 9 | 9 | <4 | 10 | 10 | 770 |
| 150574 | 5 | 8 | <4 | 12 | <10 | 1420 |
| 150575 | 11 | <2 | 6 | <4 | <10 | 960 |
| 150576 | 4 | <2 | 4 | 6 | <10 | 1040 |
| 150577 | 7 | 10 | <4 | 4 | 15 | 270 |
| 150578 | 7 | <2 | 4 | 4 | <10 | 700 |
| 150579 | 15 | 18 | <4 | 8 | 30 | 1300 |
| 150580 | 2 | 9 | <4 | 6 | <10 | 180 |
| 150581 | 6 | <2 | <4 | 4 | <10 | 180 |
| 150582 | 11 | <2 | 6 | 10 | <10 | 540 |
| 150583 | 6 | <2 | 4 | 4 | <10 | 370 |
| 150584 | 12 | <2 | <4 | 10 | <10 | 500 |
| 150585 | 12 | 11 | 4 | 10 | 10 | 450 |
| 150586 | 2 | 8 | <4 | 4 | <10 | 110 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

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106156

Analysis code X3 | Report AC 3194/85 | Page X2

NATA Certificate | Order No. 14484 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150587 | 26 | 2 | <4 | 4 | 15 | 760 |
| 150588 | 18 | 11 | <4 | 10 | <10 | 710 |
| 150589 | 3 | 7 | <4 | <4 | <10 | 610 |
| 150590 | 6 | <2 | <4 | <4 | <10 | 840 |
| 150591 | 7 | 15 | 8 | 6 | <10 | 2860 |
| 150592 | 6 | <2 | <4 | 4 | <10 | 2460 |
| 150593 | 5 | <2 | 4 | 12 | <10 | 270 |
| 150594 | 5 | 2 | <4 | 8 | <10 | 280 |
| 150595 | 7 | 3 | <4 | 6 | <10 | 180 |
| 150596 | 7 | 14 | <4 | 4 | <10 | 310 |
| 150597 | 20 | <2 | <4 | 8 | <10 | 230 |
| 150598 | 16 | 7 | <4 | 12 | 15 | 480 |
| 150599 | 7 | 6 | <4 | 6 | 15 | 350 |
| 150600 | 4 | 9 | <4 | 4 | <10 | 260 |
| 150607 | 3 | 4 | <4 | 8 | <10 | 75 |
| 150608A | <2 | <2 | <4 | 4 | <10 | 45 |
| 150609 | 15 | 12 | <4 | 6 | <10 | 620 |
| 150610 | 5 | <2 | <4 | 6 | <10 | 25 |
| 150611 | 32 | 7 | <4 | 10 | 15 | 870 |
| 150612 | 2 | <2 | <4 | <4 | <10 | 55 |
| 150613 | <2 | <2 | <4 | 8 | <10 | <10 |
| 150614 | 3 | <2 | <4 | 4 | <10 | 280 |
| 150615 | 2 | 9 | <4 | 4 | <10 | <10 |
| 150616 | <2 | <2 | <4 | 4 | <10 | <10 |
| 150617 | 2 | <2 | <4 | <4 | <10 | <10 |
| 150618 | <2 | 7 | <4 | 4 | <10 | 430 |
| 150619 | 2 | 9 | <4 | 6 | <10 | 420 |
| 150620 | 4 | 5 | <4 | 4 | <10 | 60 |
| 150621 | 4 | 5 | <4 | 10 | <10 | 330 |
| 150622 | <2 | 10 | <4 | 8 | 10 | 460 |
| 150623 | 7 | 2 | <4 | 4 | <10 | 260 |
| 150624 | <2 | <2 | 4 | <4 | <10 | 95 |
| 150625 | 3 | 8 | <4 | <4 | <10 | 85 |
| 150626 | 19 | 7 | 4 | 12 | <10 | 510 |
| 150627 | 5 | <2 | <4 | 4 | <10 | 45 |
| 150628 | 3 | 3 | <4 | <4 | <10 | 370 |
| 150629 | <2 | 2 | <4 | <4 | <10 | 530 |
| 150630 | <2 | <2 | <4 | 4 | <10 | 1040 |
| 150631 | 3 | 5 | <4 | 4 | <10 | 770 |
| 150632 | 12 | 4 | 12 | <4 | 10 | 25 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

amdel

106157

Analysis code X3 | Report AC 3194/85 | Page X3

NATA Certificate | Order No. 14484 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150633 | 3 | 3 | 6 | <4 | <10 | <10 |
| 150634 | 10 | <2 | <4 | 4 | <10 | 20 |
| 150651 | 16 | 4 | <4 | <4 | <10 | 130 |
| 150652 | 6 | 2 | 4 | <4 | 10 | 440 |
| 150653 | 14 | <2 | <4 | 6 | <10 | 240 |
| 150654 | 3 | 3 | <4 | 8 | <10 | 440 |
| 150655 | 6 | 4 | 8 | 4 | <10 | 150 |
| 150656 | 5 | 6 | <4 | 6 | <10 | 350 |
| 150657 | 24 | 8 | <4 | 6 | <10 | 440 |
| 150658 | 15 | 5 | <4 | 10 | 10 | 320 |
| 150659 | 4 | 2 | <4 | 6 | <10 | 210 |
| 150660 | 14 | <2 | 24 | 10 | 15 | 930 |
| 150661 | 14 | <2 | 8 | 10 | <10 | 240 |
| 150662 | 10 | <2 | <4 | 4 | <10 | 200 |
| 150663 | 9 | 6 | 6 | 10 | 15 | 170 |
| 150664 | 7 | <2 | <4 | 6 | 10 | 460 |
| 150665 | 6 | 4 | <4 | <4 | <10 | 520 |
| 150666 | 4 | 7 | <4 | <4 | <10 | 310 |
| 150667 | 3 | 5 | <4 | 6 | <10 | 400 |
| 150668 | 6 | 6 | <4 | <4 | <10 | 230 |
| 150669 | 10 | 7 | <4 | 14 | 10 | 490 |
| 150670 | 7 | 18 | <4 | 6 | 20 | 880 |
| 150671 | 4 | <2 | <4 | 10 | 30 | 1840 |
| 150751 | 25 | 6 | <4 | 4 | <10 | 55 |
| 150754 | 50 | <2 | <4 | 10 | <10 | 260 |
| 150755 | 40 | 8 | <4 | 4 | <10 | 340 |
| 150756 | 5 | 3 | <4 | 8 | 15 | 310 |
| 150757 | 13 | 10 | <4 | 12 | <10 | 360 |
| 150758 | 28 | 19 | <4 | 4 | <10 | 320 |
| 150759 | <2 | 2 | <4 | <4 | <10 | 25 |
| 150760 | 4 | <2 | <4 | 4 | <10 | 35 |
| 150761 | <2 | <2 | <4 | <4 | 10 | 45 |
| 150762 | <2 | 3 | <4 | 6 | <10 | 25 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

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# Classic Laboratories Pty. Ltd.

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

106158 URQUHART EAST

Report AC 3321/85

Page 1 URQUHART SOUTH & EAST

Your Ref. No. 3321/85

Our Ref. No. 8671/85

Date 7/3/85

Sample Received 20/2/85

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE 5053

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3678

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 150222 | INSUFFICIENT SAMPLE | | | 26 | 150246 | INSUFFICIENT SAMPLE | | |
| 2 | 23 | tr | | | 27 | 47 | tr | | |
| 3 | 24 | * | | | 28 | 48 | * | | |
| 4 | 25 | INSUFFICIENT SAMPLE | | | 29 | 49 | * | | |
| 5 | 26 | * | | | 30 | 50 | * | | |
| 6 | 27 | tr | | | 31 | 150639 | * | | |
| 7 | 28 | * | | | 32 | 40 | tr | | |
| 8 | 29 | * | | | 33 | 41 | * | | |
| 9 | 30 | * | | | 34 | 42 | * | | |
| 0 | 31 | tr | | | 35 | 43 | tr | | |
| 1 | 32a | * | | | 36 | 44 | INSUFFICIENT SAMPLE | | |
| 2 | b | tr | | | 37 | 45 | * | | |
| 3 | 33 | INSUFFICIENT SAMPLE | | | 38 | 46 | * | | |
| 4 | 34 | INSUFFICIENT SAMPLE | | | 39 | 47 | * | | |
| 5 | 35 | tr | | | 40 | 48 | * | | |
| 6 | 36 | * | | | 41 | 49 | * | ( * | * ) |
| 7 | 37 | * | | | 42 | 50 | * | | |
| 8 | 38 | * | | | 43 | 150672 | * | | |
| 9 | 39 | * | | | 44 | 73 | * | | |
| 0 | 40 | tr | | | 45 | 74 | 0.57 | | |
| 1 | 41 | * | | | 46 | 75 | tr | | |
| 2 | 42 | * | | | 47 | 76 | * | | |
| 3 | 43 | 0.11 | (0.20 | tr ) | 48 | 77 | * | ( * | * ) |
| 4 | 44 | 0.30 | | | 49 | 78 | NOT RECEIVED | | |
| 5 | 45 | * | | | 50 | 79 | * | | |

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106159

# Classic Laboratories Pty. Ltd.

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554



Your Ref. No. 3321/85

Our Ref. No. 8671/85

Date.....

Sample Received.....

2/3

## REPORT ON FIRE ASSAY

ETHOD:

INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 150680 | * | | | 26 | 150765 | * | | |
| 2 | 81 | * | | | 27 | 66 | * | | |
| 3 | 82 | * | ( * | * ) | 28 | 67 | * | | |
| 4 | 83 | tr | | | 29 | 68 | * | | |
| 5 | 84 | 1.00 | | | 30 | 69 | 1.04 | | |
| 6 | 85 | * | | | 31 | 70 | 0.95 | | |
| 7 | 86 | * | | | 32 | 71 | 0.34 | (0.58 | 0.10 ) |
| 8 | 87 | * | | | 33 | 72 | * | | |
| 9 | 88 | tr | | | 34 | 73 | * | | |
| 0 | 89 | * | | | 35 | 74 | * | | |
| 1 | 90 | tr | | | 36 | 75 | tr | | |
| 2 | 91 | * | | | 37 | 76 | * | | |
| 3 | 92 | * | | | 38 | 77 | * | | |
| 4 | 93 | * | | | 39 | 78 | tr | | |
| 5 | 94 | tr | | | 40 | 79 | tr | | |
| 6 | 95 | tr | | | 41 | 80 | tr | | |
| 7 | 96 | * | | | 42 | 81 | tr | | |
| 8 | 97 | * | | | 43 | 82 | tr | | |
| 9 | 98 | * | | | 44 | 83 | tr | | |
| 0 | 99 | * | | | 45 | 84 | tr | | |
| 1 | 150700 | * | | | 46 | 85 | tr | | |
| 2 | 01 | * | | | 47 | 86 | tr | | |
| 3 | 02 | * | | | 48 | 87 | tr | | |
| 4 | 150763 | * | | | 49 | 88 | 0.04 | | |
| 5 | 64 | * | ( * | * ) | 50 | 89 | tr | | |

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# Classic Laboratories Pty. Ltd.

106160

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554



Your Ref. No. 3321/85

Our Ref. No. 8671/85

Date.....

Sample Received.....

3/3

## REPORT ON FIRE ASSAY

ETHOD: INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150790 | tr | | | | 26 | 150853 | * | | | |
| 2 | 91 | 0.05 | | | | 27 | 54 | * | | | |
| 3 | 92 | tr | | | | 28 | 55 | * | | | |
| 4 | 93 | * | | | | 29 | 56 | * | | | |
| 5 | 94 | tr | | | | 30 | 57 | * | | | |
| 6 | 95 | * | | | | 31 | 58 | * | | | |
| 7 | 96 | * | | | | 32 | 59 | * | | | |
| 8 | 97 | 0.32 | | | | 33 | 60 | 0.12 | | | |
| 9 | 98 | 0.05 | | | | 34 | 61 | * | | | |
| 0 | 99 | tr | | | | 35 | 62 | * | | | |
| 1 | 150800 | 0.07 | | | | 36 | 63 | * | | | |
| 2 | 01 | tr | | | | 37 | 64 | tr | | | |
| 3 | 02 | tr | | | | 38 | 65 | * | | | |
| 4 | 03 | 0.08 | | | | 39 | 66 | * | | | |
| 5 | 04 | tr | | | | 40 | 67 | tr | | | |
| 6 | 05 | tr | | | | 41 | 68 | * | | | |
| 7 | 06 | tr | | | | 42 | 69 | INSUFFICIENT SAMPLE | | | |
| 8 | 07 | TR | | | | 43 | 70 | * | | | |
| 9 | 08 | * | | | | 44 | | | | | |
| 0 | 09 | * | | | | 45 | | | | | |
| 1 | 10 | * | | | | 46 | | | | | |
| 2 | 11 | * | | | | 47 | | | | | |
| 3 | 12 | * | | | | 48 | | | | | |
| 4 | 150851 | 0.14 | | | | 49 | | | | | |
| 5 | 52 | * | | | | 50 | | | | | |

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106161

URQUHART EAST
" SOUTH

3/786/0 - AC 3321/85

6 March 1985

The Australian
Mineral Development
Laboratories

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

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

amdel

# NATA CERTIFICATE

PART REPORT 1

Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY NSW 2060

REPORT AC 3321/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14487<br>Despatch 4940 |
| REPORT COMPRISING: | Cover Sheet<br>Page 1<br>Pages G1 - G4<br>Pages X1 - X4 |
| DATE RECEIVED: | 13 February 1985 |
| NOTE: | Sample No. 150770 listed as Rock Sample. Received Sample Bag 150770 marked as Stream Sediment. Contents are not rock. |

D. Patterson

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. P. Jones,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

ij

Pilot Plant: Osman Place
Thebarton S.A.,
Telephone 43 8053
Branch Laboratories:
Perth W.A.

106162



ANALYSIS

ppm

| SAMPLE MARK | COPPER Cu | ZINC Zn | NICKEL Ni | MANGANESE Mn | IRON Fe % | SILVER Ag |
|---|---|---|---|---|---|---|
| 150232B | 40 | 39 | 62 | 490 | 5.46% | <1 |

Method: A1/1,2

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amdel

106163

Analysis code A1/1,2 Report AC 3321/85 Page G1

NATA Certificate Order No. 14487 Results in ppm

| Sample | Cu | Zn | Fe | Mn | Ni | Ag |
|---|---|---|---|---|---|---|
| 150222 | 31 | 36 | 1.81% | 205 | 88 | <1 |
| 150223 | 300 | 135 | 5.90% | 590 | 185 | <1 |
| 150224 | 160 | 82 | 7.16% | 660 | 980 | <1 |
| 150225 | 44 | 49 | 3.68% | 355 | 420 | <1 |
| 150226 | 135 | 70 | 4.98% | 720 | 960 | <1 |
| 150227 | 23 | 45 | 4.26% | 600 | 600 | <1 |
| 150228 | 68 | 46 | 4.87% | 730 | 760 | <1 |
| 150229 | 110 | 42 | 6.22% | 115 | 52 | <1 |
| 150230 | 240 | 41 | 1.32% | 50 | 66 | <1 |
| 150231 | 225 | 135 | 2.33% | 190 | 190 | <1 |
| 150232A | 80 | 58 | 7.96% | 890 | 90 | <1 |
| 150233 | 27 | 46 | 3.50% | 740 | 185 | <1 |
| 150234 | 19 | 47 | 4.03% | 355 | 205 | <1 |
| 150235 | 14 | 49 | 3.72% | 570 | 580 | <1 |
| 150236 | 135 | 140 | 12.7% | 305 | 160 | <1 |
| 150237 | 420 | 115 | 14.4% | 670 | 115 | <1 |
| 150238 | 285 | 110 | 9.06% | 1560 | 110 | <1 |
| 150239 | 84 | 68 | 7.12% | 770 | 110 | <1 |
| 150240 | 54 | 64 | 8.10% | 600 | 840 | <1 |
| 150241 | 145 | 58 | 8.14% | 670 | 890 | <1 |
| 150242 | 390 | 105 | 8.96% | 1860 | 165 | <1 |
| 150243 | 21 | 44 | 3.10% | 390 | 110 | <1 |
| 150244 | 47 | 110 | 8.24% | 890 | 165 | <1 |
| 150245 | 14 | 52 | 6.84% | 860 | 580 | <1 |
| 150246 | 33 | 26 | 2.06% | 125 | 98 | <1 |
| 150247 | 150 | 34 | 1.62% | 70 | 82 | <1 |
| 150248 | 245 | 34 | 18.7% | 165 | 44 | <1 |
| 150249 | 185 | 100 | 9.60% | 305 | 90 | <1 |
| 150250 | 415 | 150 | 13.2% | 1820 | 145 | <1 |
| 150851 | 445 | 84 | 10.9% | 295 | 170 | <1 |
| 150852 | 31 | 88 | 6.90% | 570 | 1780 | <1 |
| 150853 | 8 | 94 | 8.34% | 485 | 1040 | <1 |
| 150854 | 135 | 96 | 6.72% | 650 | 120 | <1 |
| 150855 | 48 | 56 | 7.36% | 640 | 150 | <1 |
| 150856 | 54 | 78 | 7.80% | 710 | 70 | <1 |
| 150857 | 70 | 52 | 4.89% | 610 | 70 | <1 |
| 150858 | 120 | 72 | 4.80% | 570 | 52 | <1 |
| 150859 | 14 | 70 | 9.82% | 690 | 60 | <1 |
| 150860 | 19 | 16 | 1.70% | 160 | 32 | <1 |
| 150861 | 330 | 96 | 10.7% | 960 | 64 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

amdel

106164

Analysis code A1/1,2 | Report AC 3321/85 | Page G2

NATA Certificate | Order No. 14487 | Results in ppm

| Sample | Cu | Zn | Fe | Mn | Ni | Ag |
|---|---|---|---|---|---|---|
| 150862 | 245 | 56 | 15.3% | 315 | 120 | <1 |
| 150863 | 280 | 29 | 14.8% | 130 | 32 | <1 |
| 150864 | 23 | 20 | 1.76% | 210 | 22 | <1 |
| 150865 | 54 | 100 | 10.6% | 430 | 120 | <1 |
| 150866 | 36 | 54 | 7.62% | 540 | 58 | <1 |
| 150867 | 150 | 16 | 6.36% | 155 | 52 | <1 |
| 150868 | 145 | 68 | 9.54% | 460 | 92 | <1 |
| 150869 | 68 | 48 | 4.36% | 690 | 150 | <1 |
| 150870 | 110 | 34 | 5.62% | 550 | 410 | <1 |
| 150763 | 28 | 42 | 6.10% | 425 | 150 | <1 |
| 150764 | 13 | 17 | 1.34% | 160 | 62 | <1 |
| 150765 | 9 | 11 | 2.39% | 180 | 24 | <1 |
| 150766 | 52 | 21 | 5.30% | 830 | 66 | <1 |
| 150767 | 88 | 68 | 7.94% | 780 | 115 | <1 |
| 150768 | 11 | 18 | 1.07% | 140 | 50 | <1 |
| 150769 | 10 | 11 | 2.62% | 205 | 26 | <1 |
| 150770 | 8 | 14 | 8750 | 105 | 38 | <1 |
| 150771 | 9 | 10 | 1.94% | 180 | 32 | <1 |
| 150772 | 8 | 16 | 9750 | 110 | 28 | <1 |
| 150773 | 30 | 72 | 5.38% | 500 | 68 | <1 |
| 150774 | 78 | 48 | 4.28% | 580 | 660 | <1 |
| 150775 | 17 | 43 | 4.47% | 500 | 730 | <1 |
| 150776 | 155 | 60 | 5.50% | 620 | 880 | <1 |
| 150777 | 20 | 35 | 3.75% | 530 | 440 | <1 |
| 150778 | 30 | 52 | 4.60% | 700 | 730 | <1 |
| 150779 | 190 | 120 | 5.26% | 62 | 145 | <1 |
| 150780 | 11 | 34 | 2.90% | 38 | 38 | <1 |
| 150781 | 76 | 62 | 9.08% | 150 | 56 | <1 |
| 150782 | 84 | 78 | 5.56% | 740 | 1400 | <1 |
| 150783 | 115 | 92 | 9.28% | 810 | 810 | <1 |
| 150784 | 100 | 155 | 12.2% | 4860 | 340 | <1 |
| 150785 | 130 | 96 | 10.4% | 940 | 70 | <1 |
| 150786 | 68 | 48 | 6.14% | 435 | 320 | <1 |
| 150787 | 225 | 76 | 10.1% | 275 | 88 | <1 |
| 150788 | 17 | 40 | 18.3% | 365 | 38 | <1 |
| 150789 | 80 | 64 | 6.06% | 680 | 70 | <1 |
| 150790 | 550 | 110 | 13.0% | 700 | 135 | <1 |
| 150791 | 560 | 43 | 12.0% | 130 | 72 | <1 |
| 150792 | 390 | 40 | 11.1% | 130 | 50 | <1 |
| 150793 | 360 | 105 | 13.5% | 400 | 120 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

amdel

106165

Analysis code A1/1,2 Report AC 3321/85 Page G3

NATA Certificate Order No. 14487 Results in ppm

| Sample | Cu | Zn | Fe | Mn | Ni | Ag |
|---|---|---|---|---|---|---|
| 150794 | 320 | 74 | 15.5% | 340 | 96 | <1 |
| 150795 | 285 | 90 | 12.8% | 450 | 98 | <1 |
| 150796 | 285 | 62 | 14.5% | 225 | 92 | <1 |
| 150797 | 145 | 22 | 6.72% | 46 | 32 | <1 |
| 150798 | 305 | 40 | 14.5% | 74 | 58 | <1 |
| 150799 | 74 | 50 | 9.26% | 580 | 86 | <1 |
| 150800 | 54 | 120 | 8.94% | 115 | 275 | <1 |
| 150801 | 320 | 74 | 8.16% | 190 | 490 | <1 |
| 150802 | 250 | 105 | 6.92% | 335 | 570 | <1 |
| 150803 | 110 | 105 | 4.09% | 720 | 170 | <1 |
| 150804 | 52 | 68 | 4.33% | 390 | 34 | <1 |
| 150805 | 180 | 54 | 10.1% | 250 | 185 | <1 |
| 150806 | 235 | 58 | 12.3% | 215 | 88 | <1 |
| 150807 | 120 | 11 | 3.46% | 14 | 28 | <1 |
| 150808 | 135 | 82 | 5.94% | 485 | 265 | <1 |
| 150809 | 35 | 82 | 6.82% | 720 | 950 | <1 |
| 150810 | 350 | 74 | 13.1% | 410 | 255 | <1 |
| 150811 | 23 | 45 | 4.31% | 64 | 80 | <1 |
| 150812 | 8 | 6 | 7450 | 50 | 8 | <1 |
| 150639 | 24 | 110 | 9.68% | 395 | 115 | <1 |
| 150640 | 43 | 58 | 4.42% | 620 | 780 | <1 |
| 150641 | 160 | 41 | 3.65% | 570 | 530 | <1 |
| 150642 | 78 | 50 | 6.94% | 850 | 105 | <1 |
| 150643 | 10 | 66 | 5.16% | 840 | 950 | <1 |
| 150644 | 16 | 24 | 2.06% | 250 | 82 | <1 |
| 150645 | 9 | 39 | 3.85% | 560 | 530 | <1 |
| 150646 | 46 | 44 | 5.16% | 750 | 680 | <1 |
| 150647 | 180 | 52 | 6.26% | 750 | 790 | <1 |
| 150648 | 6 | 49 | 4.36% | 660 | 650 | <1 |
| 150649 | 76 | 54 | 5.98% | 820 | 740 | <1 |
| 150650 | 98 | 49 | 8.60% | 290 | 110 | <1 |
| 150672 | 2020 | 52 | 7.08% | 690 | 66 | <1 |
| 150673 | 20 | 6 | 2.40% | 220 | 12 | <1 |
| 150674 | 7 | 6 | 1.19% | 125 | <5 | <1 |
| 150675 | 5 | 7 | 1.33% | 130 | 6 | <1 |
| 150676 | 9 | 11 | 1.40% | 155 | 18 | <1 |
| 150677 | 15 | 22 | 1.41% | 205 | 86 | <1 |
| 150679 | 13 | 9 | 2.17% | 190 | 14 | <1 |
| 150680 | 13 | 15 | 1.10% | 135 | 44 | <1 |
| 150681 | 205 | 72 | 9.06% | 740 | 120 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

amdel



Analysis code A1/1,2 Report AC 3321/85 Page G4

NATA Certificate Order No. 14487 Results in ppm

| Sample | Cu | Zn | Fe | Mn | Ni | Ag |
|---|---|---|---|---|---|---|
| 150682 | 12 | 6 | 2.28% | 200 | 14 | <1 |
| 150683 | 5 | 7 | 1.72% | 165 | 16 | <1 |
| 150684 | 5 | 6 | 1.55% | 150 | 18 | <1 |
| 150685 | 9 | 14 | 1.69% | 170 | 14 | <1 |
| 150686 | 6 | 8 | 5850 | 86 | 24 | <1 |
| 150687 | 5 | 6 | 1.35% | 130 | 12 | <1 |
| 150688 | 45 | 47 | 4.89% | 760 | 710 | <1 |
| 150689 | 5 | 6 | 1.44% | 140 | 12 | <1 |
| 150690 | 13 | 13 | 2.28% | 205 | 30 | <1 |
| 150691 | 15 | 17 | 1.27% | 180 | 46 | <1 |
| 150692 | 32 | 48 | 5.76% | 820 | 60 | <1 |
| 150693 | 9 | 14 | 1.93% | 200 | 22 | <1 |
| 150694 | 15 | 16 | 1.35% | 170 | 50 | <1 |
| 150695 | 9 | 10 | 1.82% | 210 | 22 | <1 |
| 150696 | 680 | 175 | 11.2% | 1920 | 165 | <1 |
| 150697 | 19 | 13 | 1.50% | 200 | 14 | <1 |
| 150698 | 20 | 22 | 1.48% | 180 | 44 | <1 |
| 150699 | 16 | 50 | 4.66% | 600 | 390 | <1 |
| 150700 | 11 | 12 | 2.03% | 180 | 28 | <1 |
| 150701 | 14 | 19 | 1.29% | 155 | 44 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

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106167

Analysis code X3 Report AC 3321/85 33 Page X1

NATA Certificate Order No. 14487 Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150222 | 3 | 12 | <4 | <4 | <10 | 10 |
| 150223 | 4 | <2 | <4 | 4 | <10 | 10 |
| 150224 | 5 | <2 | <4 | <4 | <10 | <10 |
| 150225 | 3 | <2 | <4 | <4 | <10 | 10 |
| 150226 | <2 | <2 | <4 | <4 | <10 | 150 |
| 150227 | <2 | <2 | <4 | <4 | <10 | 15 |
| 150228 | <2 | <2 | <4 | <4 | 15 | <10 |
| 150229 | 4 | <2 | <4 | 4 | <10 | 25 |
| 150230 | 5 | 4 | <4 | 8 | <10 | 40 |
| 150231 | 2 | <2 | <4 | <4 | <10 | 65 |
| 150232A | 4 | <2 | <4 | 6 | <10 | 100 |
| 150232B | 2 | <2 | <4 | 8 | <10 | 85 |
| 150233 | <2 | 14 | <4 | 6 | <10 | 10 |
| 150234 | 6 | 3 | 4 | <4 | <10 | 10 |
| 150235 | 3 | <2 | <4 | 4 | <10 | <10 |
| 150236 | 3 | 6 | <4 | <4 | <10 | <10 |
| 150237 | 4 | <2 | <4 | <4 | <10 | <10 |
| 150238 | 4 | <2 | <4 | 12 | <10 | 45 |
| 150239 | 6 | 5 | <4 | <4 | <10 | 30 |
| 150240 | 6 | <2 | <4 | <4 | <10 | <10 |
| 150241 | <2 | <2 | <4 | <4 | <10 | <10 |
| 150242 | 3 | <2 | <4 | 4 | 15 | 230 |
| 150243 | 2 | 10 | <4 | 4 | <10 | 40 |
| 150244 | <2 | 5 | <4 | 4 | 10 | 130 |
| 150245 | <2 | <2 | <4 | 4 | <10 | <10 |
| 150246 | <2 | 6 | <4 | <4 | <10 | 10 |
| 150247 | 3 | <2 | <4 | 4 | <10 | 15 |
| 150248 | 9 | <2 | <4 | 4 | 10 | 30 |
| 150249 | 9 | 6 | 6 | 12 | <10 | 70 |
| 150250 | 11 | <2 | 10 | <4 | <10 | 90 |
| 150851 | 15 | <2 | 4 | <4 | <10 | 10 |
| 150852 | 2 | <2 | <4 | 8 | <10 | <10 |
| 150853 | <2 | <2 | <4 | <4 | <10 | <10 |
| 150854 | <2 | 8 | <4 | <4 | <10 | 40 |
| 150855 | 2 | <2 | 6 | 4 | <10 | 65 |
| 150856 | 3 | <2 | <4 | 8 | <10 | 110 |
| 150857 | <2 | 3 | <4 | <4 | <10 | 45 |
| 150858 | <2 | 2 | 8 | 4 | <10 | 30 |
| 150859 | <2 | <2 | 6 | <4 | <10 | 65 |
| 150860 | 4 | 4 | <4 | 8 | <10 | 35 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

amdel

106168

Analysis code X3 | Report AC 3321/85 33 | Page X2

NATA Certificate | Order No. 14487 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150861 | <2 | 2 | <4 | 4 | <10 | 50 |
| 150862 | 8 | 7 | <4 | 6 | <10 | 90 |
| 150863 | 7 | 2 | <4 | <4 | <10 | 10 |
| 150864 | <2 | 4 | 6 | <4 | <10 | 45 |
| 150865 | 8 | <2 | 8 | <4 | <10 | 35 |
| 150866 | 7 | <2 | <4 | <4 | <10 | 65 |
| 150867 | 4 | 8 | <4 | 12 | <10 | <10 |
| 150868 | 4 | 4 | <4 | <4 | <10 | 35 |
| 150869 | 6 | 5 | <4 | <4 | <10 | 40 |
| 150870 | 4 | 2 | 8 | <4 | 10 | 25 |
| 150763 | 5 | <2 | <4 | 8 | <10 | 40 |
| 150764 | 3 | 3 | <4 | <4 | <10 | 80 |
| 150765 | 2 | 3 | <4 | <4 | <10 | 40 |
| 150766 | 7 | <2 | 4 | <4 | <10 | 10 |
| 150767 | 5 | <2 | <4 | 4 | <10 | 45 |
| 150768 | 4 | 5 | <4 | 8 | <10 | 80 |
| 150769 | <2 | <2 | <4 | 10 | <10 | 30 |
| 150770 | 5 | 5 | 4 | <4 | <10 | 70 |
| 150771 | <2 | <2 | <4 | <4 | <10 | 25 |
| 150772 | 4 | 5 | <4 | 4 | <10 | 85 |
| 150773 | <2 | 2 | <4 | 6 | <10 | 65 |
| 150774 | <2 | <2 | 4 | 4 | <10 | <10 |
| 150775 | 3 | <2 | 6 | 10 | <10 | <10 |
| 150776 | 3 | <2 | <4 | <4 | <10 | <10 |
| 150777 | 3 | <2 | <4 | <4 | <10 | 25 |
| 150778 | <2 | 3 | <4 | 4 | <10 | <10 |
| 150779 | 23 | 14 | 6 | 8 | <10 | 320 |
| 150780 | 2 | 4 | 4 | <4 | <10 | 120 |
| 150781 | 185 | 12 | 8 | <4 | <10 | 590 |
| 150782 | 8 | <2 | <4 | <4 | <10 | 20 |
| 150783 | 24 | <2 | <4 | <4 | <10 | 45 |
| 150784 | 140 | <2 | <4 | <4 | <10 | 550 |
| 150785 | 23 | 3 | <4 | 8 | 10 | 65 |
| 150786 | 8 | 7 | <4 | <4 | <10 | 45 |
| 150787 | 3 | 9 | <4 | 6 | <10 | 40 |
| 150788 | 3 | <2 | <4 | 10 | <10 | 25 |
| 150789 | <2 | 8 | <4 | 6 | <10 | 90 |
| 150790 | 4 | 2 | <4 | <4 | <10 | 75 |
| 150791 | 5 | <2 | 6 | <4 | <10 | 40 |
| 150792 | 10 | <2 | 6 | 8 | <10 | 40 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

amdel

106169

Analysis code X3 | Report AC 3321/85 33 | Page X3

NATA Certificate | Order No. 14487 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150793 | 2 | 2 | <4 | 4 | <10 | 40 |
| 150794 | 5 | 3 | <4 | <4 | 10 | 20 |
| 150795 | 6 | 3 | 6 | 10 | <10 | 65 |
| 150796 | 5 | 4 | <4 | 4 | 10 | 40 |
| 150797 | 6 | <2 | <4 | 4 | 10 | <10 |
| 150798 | 19 | <2 | <4 | 10 | <10 | 25 |
| 150799 | 3 | <2 | 4 | 8 | <10 | 20 |
| 150800 | 12 | <2 | 6 | 4 | <10 | 35 |
| 150801 | 6 | <2 | <4 | 8 | <10 | 10 |
| 150802 | 7 | <2 | <4 | <4 | <10 | 30 |
| 150803 | <2 | 2 | <4 | <4 | <10 | 770 |
| 150804 | 2 | <2 | 4 | <4 | 10 | 90 |
| 150805 | 7 | <2 | <4 | <4 | <10 | 55 |
| 150806 | 7 | <2 | <4 | <4 | <10 | 45 |
| 150807 | 7 | 2 | <4 | 6 | 10 | 220 |
| 150808 | 5 | <2 | <4 | 4 | <10 | 45 |
| 150809 | 3 | 4 | <4 | <4 | <10 | 10 |
| 150810 | 2 | <2 | <4 | 4 | <10 | <10 |
| 150811 | 16 | 5 | <4 | <4 | <10 | 420 |
| 150812 | <2 | 14 | <4 | <4 | <10 | 70 |
| 150639 | 5 | 8 | <4 | <4 | <10 | 30 |
| 150640 | 4 | <2 | <4 | <4 | <10 | <10 |
| 150641 | 2 | 4 | 4 | 4 | <10 | 30 |
| 150642 | <2 | 2 | <4 | 6 | <10 | 75 |
| 150643 | <2 | <2 | <4 | 8 | <10 | 20 |
| 150644 | <2 | 4 | <4 | <4 | <10 | 55 |
| 150645 | <2 | <2 | <4 | <4 | <10 | <10 |
| 150646 | 4 | <2 | <4 | 6 | <10 | <10 |
| 150647 | 2 | <2 | <4 | <4 | <10 | 10 |
| 150648 | 2 | <2 | <4 | <4 | <10 | <10 |
| 150649 | 4 | <2 | 4 | 6 | <10 | <10 |
| 150650 | 3 | <2 | 6 | 6 | <10 | 85 |
| 150672 | 22 | 9 | 10 | 8 | <10 | 65 |
| 150673 | 2 | <2 | <4 | <4 | <10 | 30 |
| 150674 | 5 | <2 | <4 | 6 | <10 | 35 |
| 150675 | <2 | 4 | <4 | <4 | <10 | 40 |
| 150676 | <2 | <2 | <4 | 4 | <10 | 15 |
| 150677 | 5 | <2 | <4 | 4 | <10 | 30 |
| 150679 | <2 | 5 | 6 | 6 | 10 | 30 |
| 150680 | 6 | 5 | <4 | <4 | <10 | 95 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

amdel

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Analysis code X3 Report AC 3321/85 33 Page X4

NATA Certificate Order No. 14487 Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150681 | 24 | 6 | <4 | 8 | <10 | 35 |
| 150682 | 5 | <2 | <4 | 6 | <10 | 30 |
| 150683 | 4 | <2 | 4 | 4 | <10 | 30 |
| 150684 | <2 | 5 | 8 | 4 | <10 | 30 |
| 150685 | 2 | <2 | <4 | 4 | <10 | 20 |
| 150686 | 4 | 5 | <4 | 6 | <10 | 110 |
| 150687 | 2 | 2 | <4 | <4 | <10 | 45 |
| 150688 | 4 | <2 | <4 | 8 | <10 | <10 |
| 150689 | <2 | <2 | <4 | <4 | <10 | 35 |
| 150690 | 5 | 3 | <4 | 6 | <10 | 25 |
| 150691 | <2 | 8 | 4 | 6 | 10 | 60 |
| 150692 | 7 | 6 | 8 | 6 | <10 | 95 |
| 150693 | 3 | 2 | <4 | 8 | <10 | 20 |
| 150694 | 5 | 7 | 4 | 6 | <10 | 55 |
| 150695 | <2 | 4 | <4 | <4 | <10 | 20 |
| 150696 | 2 | <2 | <4 | <4 | <10 | 60 |
| 150697 | 6 | 5 | <4 | 4 | 10 | 20 |
| 150698 | 3 | 6 | <4 | 4 | <10 | 75 |
| 150699 | 5 | <2 | <4 | <4 | <10 | 80 |
| 150700 | <2 | 6 | 6 | 4 | <10 | 30 |
| 150701 | <2 | 7 | 8 | <4 | <10 | 40 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

106171

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The Australian
Mineral Development
Laboratories

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

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

# amdel

## NATA CERTIFICATE

3/786/0 - AC 3319/85

6 March 1985

URQUHART NORTH

Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

REPORT AC 3319/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14488<br>Despatch No. 4941 |
| REPORT COMPRISING: | Cover Sheet<br>Pages 1 - 2<br>Pages G1 - G2<br>Pages X1 - X2 |
| DATE RECEIVED: | 14 February 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. Phil Jones,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

ij

Pilot Plant: Osman Place
Thebarton S.A.,
Telephone 43 8053
Branch Laboratories:
Perth W.A.

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# Classic Laboratories Pty. Ltd.

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Report AC 3319/85
Page 1

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554

Your Ref. No. 3319/85

Our Ref. No. 8674/85

Date 28/2/85

Sample Received 21/2/85

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE SA 5063

## REPORT ON FIRE ASSAY

METHOD: EFAS 50g

INVOICE No. 3650

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150715 | 0.10 | | | 26 | 150817 | tr | | | |
| 2 | 717 | 0.32 | | | 27 | 820 | * | | | |
| 3 | 825 | tr | ( tr | * ) | 28 | 821 | tr | | | |
| 4 | 826 | tr | | | 29 | 827b | tr | | | |
| 5 | 827a | 0.66 | | | 30 | 150703 | tr | | | |
| 6 | 831 | tr | | | 31 | 704 | no sample | | | Base result given |
| 7 | 832 | 0.08 | | | 32 | 707 | tr | | | |
| 8 | 833 | 0.10 | | | 33 | 708 | 0.07 | | | |
| 9 | 835 | 0.08 | | | 34 | 712 | tr | | | |
| 10 | 836 | 0.04 | | | 35 | 716 | tr | | | |
| 11 | 838 | 0.06 | | | 36 | 814 | 0.12 | | | |
| 12 | 839 | tr | | | 37 | 818 | tr | | | |
| 13 | 871 | 0.04 | | | 38 | 819 | tr | | | |
| 14 | 872 | 0.04 | | | 39 | 822 | tr | | | |
| 15 | 873 | * | | | 40 | 824 | tr | | | |
| 16 | 875 | 0.06 | | | 41 | 828 | * | | | |
| 17 | 877 | tr | | | 42 | 834 | * | | | |
| 18 | 878 | tr | | | 43 | 837 | | | | Base metal results given? |
| 19 | 879 | tr | | | 44 | 876 | NO SAMPLE | | | |
| 20 | 880 | tr | | | 45 | 882 | | | | |
| 21 | 881 | 0.14 | | | 46 | 150702 | | | | |
| 22 | 150706 | tr | | | 47 | 705 | tr | | | |
| 23 | 710 | tr | | | 48 | 709 | tr | | | |
| 24 | 714 | 0.08 | | | 49 | 711 | 0.06 | | | |
| 25 | 815 | * | | | 50 | 713 | * | | | |

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# Classic Laboratories Pty Ltd

106173

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE:
27 E JOHNSTON ST., BOULDER
TELEPHONE: (090) 21 7554



Your Ref. No. 3319/85

Our Ref. No. 8674/85

Date.....

Sample Received.....

2/2

## REPORT ON FIRE ASSAY

METHOD: INVOICE No.

| | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | | | Sample Ref. | GOLD, GRAMS PER TONNE MEAN | ASSAY 1 | ASSAY 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150813 | tr | | | | 26 | | | | | |
| 2 | 816 | * | | | | 27 | | | | | |
| 3 | 823 | * | | | | 28 | | | | | |
| 4 | 830 | * | | | | 29 | | | | | |
| 5 | | | | | | 30 | | | | | |
| 6 | | | | | | 31 | | | | | |
| 7 | | | | | | 32 | | | | | |
| 8 | | | | | | 33 | | | | | |
| 9 | | | | | | 34 | | | | | |
| 10 | | | | | | 35 | | | | | |
| 11 | | | | | | 36 | | | | | |
| 12 | | | | | | 37 | | | | | |
| 13 | | | | | | 38 | | | | | |
| 14 | | | | | | 39 | | | | | |
| 15 | | | | | | 40 | | | | | |
| 16 | | | | | | 41 | | | | | |
| 17 | | | | | | 42 | | | | | |
| 18 | | | | | | 43 | | | | | |
| 19 | | | | | | 44 | | | | | |
| 20 | | | | | | 45 | | | | | |
| 21 | | | | | | 46 | | | | | |
| 22 | | | | | | 47 | | | | | |
| 23 | | | | | | 48 | | | | | |
| 24 | | | | | | 49 | | | | | |
| 25 | | | | | | 50 | | | | | |

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Analysis code A1/1,2 Report AC 3319/85 Page G1

NATA Certificate Order No. 14488 Results in ppm

| Sample | Cu | Zn | Ni | Fe | Mn | Ag |
|---|---|---|---|---|---|---|
| SOIL 150715 | 215 | 70 | 86 | 14.8% | 365 | <1 |
| SOIL 150717 | 195 | 42 | 125 | 8.32% | 56 | <1 |
| SOIL 150825 | 220 | 58 | 86 | 11.5% | 810 | <1 |
| SOIL 150826 | 315 | 100 | 92 | 19.2% | 680 | <1 |
| SOIL 150827A | 45 | 7 | <5 | 2.27% | 78 | <1 |
| SOIL 150831 | 165 | 64 | 82 | 4.71% | 180 | <1 |
| SOIL 150832 | 60 | 10 | <5 | 3.65% | 24 | <1 |
| SOIL 150833 | 21 | 40 | 32 | 3.89% | 130 | <1 |
| SOIL 150835 | 88 | 125 | 125 | 6.42% | 590 | <1 |
| SOIL 150836 | 7 | 52 | 36 | 4.73% | 365 | <1 |
| SOIL 150838 | 195 | 34 | 58 | 12.7% | 100 | <1 |
| SOIL 150839 | 210 | 27 | 34 | 14.0% | 285 | <1 |
| SOIL 150871 | 68 | 54 | 72 | 4.85% | 135 | <1 |
| SOIL 150872 | 195 | 15 | 22 | 1.22% | 48 | <1 |
| SOIL 150873 | 105 | 120 | 135 | 9.52% | 1060 | <1 |
| SOIL 150875 | 74 | 30 | 26 | 1.79% | 120 | <1 |
| SOIL 150877 | 180 | 76 | 34 | 6.46% | 720 | <1 |
| SOIL 150878 | 4 | 22 | 24 | 1.45% | 38 | <1 |
| SOIL 150879 | 310 | 16 | <5 | 4060 | 48 | <1 |
| SOIL 150880 | 60 | 7 | 6 | 3980 | 52 | <1 |
| SOIL 150881 | 270 | 88 | 115 | 11.8% | 1040 | <1 |
| P/CONC 150706 | 20 | 20 | 22 | 2.25% | 620 | <1 |
| P/CONC 150710 | 58 | 80 | 58 | 7.78% | 1300 | <1 |
| P/CONC 150714 | 7 | 10 | 14 | 1.18% | 155 | <1 |
| P/CONC 150815 | 4 | 8 | <5 | 1.00% | 66 | <1 |
| P/CONC 150817 | 10 | 7 | <5 | 1.07% | 92 | <1 |
| P/CONC 150820 | 10 | 8 | <5 | 2.21% | 105 | <1 |
| P/CONC 150821 | 46 | 74 | 54 | 11.3% | 465 | <1 |
| P/CONC 150827B | 10 | 8 | <5 | 1.25% | 96 | <1 |
| S/SED 150703 | 37 | 44 | 36 | 3.90% | 610 | <1 |
| S/SED 150704 | 175 | 140 | 96 | 9.20% | 770 | <1 |
| S/SED 150707 | 32 | 31 | 26 | 2.44% | 240 | <1 |
| S/SED 150708 | 125 | 78 | 84 | 6.08% | 1740 | <1 |
| S/SED 150712 | 14 | 19 | 42 | 1.07% | 125 | <1 |
| S/SED 150716 | 58 | 50 | 70 | 4.61% | 1080 | <1 |
| S/SED 150814 | 2 | 7 | <5 | 2600 | 30 | <1 |
| S/SED 150818 | 7 | 9 | <5 | 3220 | 30 | <1 |
| S/SED 150819 | 6 | 9 | <5 | 8500 | 105 | <1 |
| S/SED 150822 | 43 | 49 | 52 | 4.42% | 1200 | <1 |
| S/SED 150824 | 56 | 48 | 58 | 3.15% | 135 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

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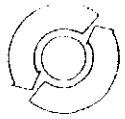
Analysis code A1/1.2 Report AC 3319/85 Page G2

NATA Certificate Order No. 14488 Results in ppm

| Sample | Cu | Zn | Ni | Fe | Mn | Ag |
|---|---|---|---|---|---|---|
| S/SED 150828 | 5 | 9 | <5 | 4480 | 36 | <1 |
| S/SED 150834 | <2 | 6 | <5 | 790 | 6 | <1 |
| S/SED 150837 | 6 | 8 | <5 | 3160 | 16 | <1 |
| S/SED 150876 | 9 | 12 | <5 | 3220 | 38 | <1 |
| S/SED 150882 | 22 | 29 | 20 | 2.35% | 325 | <1 |
| R/CHIP 150702 | 160 | 255 | 230 | 22.9% | 3140 | <1 |
| R/CHIP 150705 | 260 | 220 | 180 | 10.8% | 1.42% | <1 |
| R/CHIP 150709 | 510 | 105 | 88 | 10.6% | 5550 | <1 |
| R/CHIP 150711 | 9 | 105 | 160 | 9.54% | 1620 | <1 |
| R/CHIP 150713 | 94 | 82 | 270 | 7.68% | 1180 | <1 |
| R/CHIP 150813 | 54 | 115 | 90 | 8.58% | 190 | <1 |
| R/CHIP 150816 | 230 | 105 | 135 | 11.8% | 2760 | <1 |
| R/CHIP 150823 | 22 | 125 | 150 | 7.78% | 320 | <1 |
| R/CHIP 150830 | 50 | 135 | 150 | 8.28% | 135 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |





Analysis code X3 | Report AC 3319/85 | Page X1

NATA Certificate | Order No. 14488 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150702 | 5 | 9 | <4 | 8 | <10 | 40 |
| 150703 | <2 | 12 | 4 | <4 | <10 | 45 |
| 150704 | 12 | 30 | <4 | 4 | <10 | 130 |
| 150705 | 11 | 29 | <4 | 10 | 10 | 490 |
| 150706 | 2 | 7 | <4 | <4 | <10 | 35 |
| 150707 | 4 | 7 | <4 | 4 | <10 | 55 |
| 150708 | 20 | 15 | 4 | 4 | <10 | 65 |
| 150709 | 22 | 13 | <4 | <4 | <10 | 65 |
| 150710 | 24 | 6 | <4 | <4 | 10 | 45 |
| 150711 | <2 | 3 | 8 | <4 | <10 | 35 |
| 150712 | 4 | 8 | <4 | <4 | <10 | 120 |
| 150713 | 8 | <2 | <4 | <4 | <10 | 200 |
| 150714 | 2 | <2 | <4 | <4 | <10 | 40 |
| 150715 | 33 | 20 | 12 | 4 | <10 | 95 |
| 150716 | 7 | 8 | <4 | <4 | <10 | 75 |
| 150717 | 18 | 42 | 8 | 6 | <10 | 150 |
| 150813 | 80 | 5 | <4 | 4 | <10 | 210 |
| 150814 | 3 | 4 | <4 | <4 | <10 | 120 |
| 150815 | <2 | 2 | <4 | 8 | <10 | 40 |
| 150816 | 90 | <2 | <4 | <4 | <10 | 120 |
| 150817 | <2 | 6 | <4 | <4 | <10 | 55 |
| 150818 | 4 | 4 | <4 | 4 | <10 | 110 |
| 150819 | 19 | 4 | 4 | 6 | <10 | 100 |
| 150820 | 27 | 2 | <4 | <4 | <10 | 20 |
| 150821 | 46 | <2 | 6 | 4 | <10 | 35 |
| 150822 | 18 | 20 | 4 | <4 | <10 | 130 |
| 150823 | 7 | 5 | 6 | 4 | <10 | 140 |
| 150824 | 20 | 8 | <4 | 6 | <10 | 180 |
| 150825 | <2 | 16 | <4 | 6 | <10 | 10 |
| 150826 | 3 | 11 | 6 | 8 | <10 | 65 |
| 150827A | 88 | 35 | 74 | 6 | <10 | 990 |
| 150827B | 4 | <2 | 6 | 8 | <10 | 40 |
| 150828 | 2 | 6 | <4 | 4 | <10 | 70 |
| 150830 | 2 | 8 | 6 | 8 | <10 | 130 |
| 150831 | 7 | 27 | <4 | 6 | <10 | 210 |
| 150832 | 130 | 130 | 16 | <4 | <10 | 570 |
| 150833 | 5 | 15 | <4 | 4 | <10 | 440 |
| 150834 | 2 | 6 | <4 | 4 | <10 | 65 |
| 150835 | 17 | 14 | 6 | 8 | 10 | 310 |
| 150836 | 3 | 9 | 8 | 4 | 15 | 300 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

amdel

106177

Analysis code X3 | Report AC 3319/85 | Page X2

NATA Certificate | Order No. 14488 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150837 | 5 | 6 | <4 | 6 | <10 | 140 |
| 150838 | 4 | 20 | <4 | 6 | <10 | 140 |
| 150839 | 5 | 12 | 8 | <4 | <10 | 15 |
| 150871 | 2 | 11 | <4 | <4 | <10 | 90 |
| 150872 | 8 | 26 | <4 | <4 | <10 | 660 |
| 150873 | 7 | 11 | <4 | 4 | <10 | 70 |
| 150875 | 3 | 19 | 6 | <4 | 10 | 360 |
| 150876 | <2 | 15 | <4 | <4 | <10 | 25 |
| 150877 | 4 | 17 | <4 | <4 | 15 | 960 |
| 150878 | 4 | 5 | <4 | 6 | <10 | 320 |
| 150879 | <2 | 280 | 12 | 6 | <10 | 250 |
| 150880 | 25 | 20 | <4 | 4 | <10 | 150 |
| 150881 | 10 | 18 | <4 | <4 | <10 | 25 |
| 150882 | 18 | 23 | <4 | <4 | <10 | 60 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

The Australian
Mineral Development
Laboratories

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

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

106178

URQUHART SOUTH
" NORTH

amdel

3/786/0 - AC 3430/85
SPT 1/85

# NATA CERTIFICATE

6 March 1985

Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

REPORT AC 3430/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14493<br>Despatch No. 4942 |
| REPORT COMPRISING: | Cover Sheet, Page 1<br>Page X1<br>Page G1 |
| DATE RECEIVED: | 20 February 1985 |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. Phil Jones,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

ij

Pilot Plant: Osman Place
Thebarton S.A.,
Telephone 43 8053
Branch Laboratories:
Perth W.A.

Classic Laboratories Pty Ltd

34 BUCKINGHAM DRIVE, WANGARA ESTATE,
WANNEROO, WESTERN AUSTRALIA 6065
TELEPHONE: 409 8898 409 8221
A/HOURS: 401 6241 401 7223
TELEX: CLASAB AA95452

KALGOORLIE: 27E JOHNSTON ST.
TELEPHONE: (090) 21 7554

106179

Report AC 3430/85
Page 1

Your Ref. No. A94402, SPT1/85

Our Ref. No. 8681/85

Date 28/2/85

Sample Received 22/2/85

THE MANAGER

AMDEL

FLEMINGTON STREET

FREWVILLE SA 5063

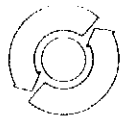
TELEX: 1277

# REPORT ON FIRE ASSAY

**Method:** EFAS 50g **Invoice No.:** 3647

| | Sample Ref. | Grams per Tonne | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | GOLD | | | | | | | | |
| 1 | 150678 | tr | | | | | | | | |
| 2 | 150718 | tr | | | | | | | | |
| 3 | 19 | tr | ( tr | tr ) | | | | | | |
| 4 | 20 | tr | | | | | | | | |
| 5 | 21 | tr | | | | | | | | |
| 6 | 22 | 0.05 | | | | | | | | |
| 7 | 23 | * | | | | | | | | |
| 8 | 24 | tr | | | | | | | | |
| 9 | 25 | * | | | | | | | | |
| 10 | 26 | * | | | | | | | | |
| 11 | 27 | * | | | | | | | | |
| 12 | 28 | * | | | | | | | | |
| 13 | 29 | * | | | | | | | | |
| 14 | 30 | tr | ( tr | tr ) | | | | | | |
| 15 | 31 | tr | | | | | | | | |
| 16 | 32 | * | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 25 | | | | | | | | | | |

* Denotes not detected
tr Denotes detected but less than g/Tonne





Analysis code X3 | Report AC 3430/85 | Page X1

NATA Certificate | Order No. 14493 | Results in ppm

| Sample | As | Pb | Sb | Sn | W | Ba |
|---|---|---|---|---|---|---|
| 150718 | <2 | 13 | <4 | <4 | <10 | 65 |
| 150719 | 7 | 16 | 6 | 4 | 10 | 300 |
| 150720 | 38 | 39 | <4 | <4 | <10 | 80 |
| 150721 | <2 | 12 | 4 | <4 | <10 | 35 |
| 150722 | 3 | 35 | 6 | 6 | 10 | 290 |
| 150723 | <2 | 10 | <4 | 4 | <10 | 350 |
| 150724 | <2 | 12 | 4 | 6 | <10 | 450 |
| 150725 | 34 | 16 | 6 | 8 | <10 | 95 |
| 150726 | 11 | 9 | <4 | 6 | <10 | 120 |
| 150727 | <2 | 9 | <4 | 8 | <10 | 440 |
| 150728 | 2 | 13 | <4 | 4 | <10 | 230 |
| 150729 | 17 | 24 | <4 | 4 | <10 | 450 |
| 150730 | 4 | 30 | 4 | 4 | <10 | 260 |
| 150731 | 9 | 9 | <4 | 6 | 15 | 40 |
| 150732 | 15 | 23 | <4 | <4 | 10 | 220 |
| 150678 | 8 | 50 | <4 | 14 | <10 | 40 |
| Detn limit | (2) | (2) | (4) | (4) | (10) | (10) |

amdel

Analysis code A1/1,2 Report AC 3430/85 Page G1

NATA Certificate Order No. 14493 Results in ppm

| Sample | Cu | Zn | Ni | Fe | Mn | Ag |
|---|---|---|---|---|---|---|
| 150678 | 31 | 66 | 16 | 7.50% | 255 | <1 |
| 150718 | 9 | 32 | 30 | 1.78% | 160 | <1 |
| 150719 | 50 | 100 | 120 | 8.36% | 900 | <1 |
| 150720 | 130 | 98 | 60 | 7.50% | 990 | <1 |
| 150721 | 11 | 45 | <5 | 3840 | 44 | <1 |
| 150722 | 9 | 16 | <5 | 790 | <5 | <1 |
| 150723 | 4 | 16 | 14 | 2720 | 10 | <1 |
| 150724 | 43 | 20 | <5 | 2080 | <5 | <1 |
| 150725 | 140 | 58 | 140 | 8.14% | 195 | <1 |
| 150726 | 64 | 78 | 120 | 6.62% | 285 | <1 |
| 150727 | 2 | 16 | <5 | 2560 | 8 | <1 |
| 150728 | 4 | 17 | <5 | 3380 | 8 | <1 |
| 150729 | 78 | 58 | 36 | 4.77% | 195 | <1 |
| 150730 | 8 | 35 | 28 | 1.57% | 40 | <1 |
| 150731 | 350 | 105 | 110 | 16.1% | 730 | <1 |
| 150732 | 20 | 72 | 64 | 3.84% | 140 | <1 |
| Detn limit | (2) | (2) | (5) | (5) | (5) | (1) |

# ANALABS

106182

181

A division of MacDonald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106
Phone (09) 458 7999
ANALAB Telex AA92560

CHECKS

## ANALYTICAL REPORT No. 4.1.01.37418

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

Amoco Minerals Aust Co
61 Counsel St

Zeehan
Tasmania 7469

| ORDER No. | PROJECT |
|---|---|
| 14497 | |

DSS 4944

| DATE RECEIVED | RESULTS REQUIRED |
|---|---|
| 05/03/85 | ASAP |

| No. OF PAGES OF RESULTS | DATE REPORTED | No. OF COPIES | TOTAL No. OF SAMPLES |
|---|---|---|---|
| 2 | 08/03/85 | 1 | 40 |

STATE OF SAMPLES

| REFER BELOW | SAMPLE NUMBERS | PRE-TREATMENT: DRY | CRUSH | SPLIT | PULVERISE | SIEVE | OTHER SEE REMARKS | NONE | ANALYSIS: REFER TO ANALYSIS SECTION | PREPARATION | METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pref:150<br>561,599,661,566<br>591,573,574,563<br>578,592,590,576<br>567,588,598,478<br>475,492,479,489<br>488,291,299,401<br>169,188,191,187<br>180,163,156,154<br>311,207,202,211<br>209,278,275,320 | | | | | | | 1 | Cu,Pb,Zn<br>As<br>Au | | 101<br>114<br>309 |

RESULTS TO: as above

RESULTS TO:

REMARKS

| STATE OF SAMPLES | | ANALYSIS — PREPARATION | | | | ANALYSIS — METHOD | |
|---|---|---|---|---|---|---|---|
| whole core | WC | perchloric acid | A1 | cold acid | CA | atomic absorbtion | AAS |
| split core | SC | hydrochloric acid | A2 | specific sulphide | SS | x-ray fluorescence | XRF |
| cutting | CU | nitric acid | A3 | other mixed acids | Ma | spectrophotometry | SPEC |
| rock | Ro | aqua regia | A4 | alkaline attack | AA | colorimetry | COL |
| soil | SO | nitric-perchloric | A5 | volatilization | VO | chromatography | CHR |
| pulp | PU | HF mixture | A6 | ignition | IG | titration | TTN |
| water | WA | HF under pressure | A7 | pressed powder (XRF) | PP | other chemicals means | CHEM |
| tissue | TI | fusion | A8 | glass fusion (XRF) | GF | miscellaneous | MISC |
| stream sediment | SS | | | | | fluorescence | FLUOR |
| heavy mineral | HM | | | | | inductively coupled plasma | ICP |

AUTHORISED OFFICER

182

106183

# ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

## ANALYTICAL DATA

| SAMPLE PREFIX | REPORT NUMBER | REPORT DATE | CLIENT ORDER No. | PAGE |
|---|---|---|---|---|
| | 4.1.01.3/418 | 06/03/85 | | 1 OF 2 |

| TUBE No. | SAMPLE No. | Cu | Zn | As | Au | Pb | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150154 | 130<br>155 | 155<br>120 | 2 | T/S<br>0.15 | 15<br>16 | | | | |
| 2 | 150156 | 60<br>52 | 75<br>58 | 2 | T/S<br>0.20 | X<br>10 | | | | |
| 3 | 150163 | 45<br>56 | 90<br>74 | 3 | 0.15 X | X<br>14 | | | | |
| 4 | 150169 | 240<br>250 | 165<br>145 | 4 | X | X<br>20 | | | | |
| 5 | 150180 | 120<br>125 | 180<br>160 | 3 | 0.008<br>0.20 | X<br>8 | | Au by | | |
| 6 | 150187 | 110<br>110 | 60<br>36 | 5 | 0.20 X | X<br>14 | | AMDEL | | D.L. |
| 7 | 150188 | 170<br>160 | 70<br>44 | 2 | 0.008<br>0.25 | X<br>6 | | | | 0.1 |
| 8 | 150191 | 80<br>78 | 80<br>64 | 1 | 0.20 X | X<br><5 | | | | |
| 9 | 150202 | 40<br>33 | 25<br>11 | 12<br>20 | 0.017<br>0.1 | X<br><5 | | ↓ Au by | | |
| 10 | 150207 | 45<br>40 | 45<br>24 | 14<br>24 | 0.008<br>0.26 | X<br>14 | | Classic Labs | | |
| 11 | 150209 | 40<br>37 | 20<br>10 | 13<br>26 | 0.025<br>~~0.022~~ | 5<br>8 | | D.L ~ 0.03 | | |
| 12 | 150211 | 20<br>11 | 1200<br>1600 | 3<br>6 | ND X | 5<br>12 | | | | |
| 13 | 150275 | 150<br>125 | 225<br>180 | 3<br>9 | 0.008<br>0.04 | 85<br>86 | | NB - Duplicate assays | | |
| 14 | 150278 | 190<br>10 | 90<br>17 | 29<br>5 | ND X | 5<br><5 | | on +80 mesh residue not | | |
| 15 | 150291 | 410<br>370 | 130<br>94 | 3<br>6 | T/S<br>0.18 | 3<br>6 | | on the -200 residue. This | | |
| 16 | 150299 | 80<br>72 | 160<br>130 | 5<br>14 | 0.1 X | 10<br>20 | | may explain the various | | |
| 17 | 150311 | 5<br>8 | 45<br>26 | 2<br>2 | 0.18 X | X<br><5 | | gold discrepancies | | |
| 18 | 150320 | 25<br>12 | 25<br>9 | 1<br>7 | 0.017<br>3.24 | X<br><5 | | | | |
| 19 | 150401 | 30<br>12 | 20<br>12 | 3<br>2 | 0.27 X | X<br><5 | | | | |
| 20 | 150475 | 350<br>360 | 135<br>110 | 7<br>6 | 0.008<br>ND | X<br>8 | | | | |
| 21 | 150478 | 330<br>275 | 130<br>94 | 5<br>16 | 0.040<br>ND | X<br>8 | | | | |
| 22 | 150479 | 450<br>455 | 140<br>130 | 4<br>9 | ND X | X<br><5 | | | | |
| 23 | 150488 | 90<br>3 | 100<br>7 | 125<br>190 | 0.032<br>TR | X<br><5 | | | | |
| 24 | 150489 | 115<br>64 | 135<br>68 | 160<br>210 | ND X | X<br><5 | | | | |
| 25 | 150492 | 260<br>300 | 400<br>440 | 170<br>160 | 0.025<br>ND | 10<br>26 | | | | |

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

106184

183

# ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

## ANALYTICAL DATA

| SAMPLE PREFIX | REPORT NUMBER | REPORT DATE | CLIENT ORDER No. | PAGE |
|---|---|---|---|---|
| | 4.1.01.37416 | 08/03/85 | | 2 OF 2 |

| TUBE No. | SAMPLE No. | Cu | Zn | As | Au | Pb | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150561 | 1500<br>1480 | 130<br>105 | 9<br>15 | 0.192<br>0.12 | X<br>10 | | | | |
| 2 | 150563 | 870<br>890 | 20<br>16 | 22<br>33 | 0.025<br>0.04 | X<br>3 | | | | |
| 3 | 150566 | 2650<br>3360 | 50<br>38 | 3<br>6 | 0.017<br>TR | X<br><2 | | | | |
| 4 | 150567 | 1200<br>1220 | 50<br>32 | 4<br>5 | X<br>TR | X<br>4 | | | | |
| 5 | 150573 | 2250<br>2180 | 75<br>56 | 5<br>9 | X<br>TR | X<br>9 | | | | |
| 6 | 150574 | 850<br>800 | 50<br>35 | 5<br>5 | 0.017<br>0.04 | X<br>8 | | | | |
| 7 | 150576 | 2350<br>2520 | 110<br>98 | 3<br>4 | 0.032<br>0.06 | X<br><2 | | | | |
| 8 | 150578 | 1000<br>1200 | 80<br>66 | 5<br>7 | 0.008<br>TR | X<br><2 | | | | |
| 9 | 150588 | 3200<br>3340 | 100<br>74 | 12<br>18 | 0.017<br>ND | 5<br>11 | | | | |
| 10 | 150590 | 1100<br>930 | 65<br>43 | 7<br>6 | X<br>ND | X<br><2 | | | | |
| 11 | 150591 | 1300<br>1200 | 50<br>33 | 2<br>7 | 0.017<br>TR | X<br>15 | | | | |
| 12 | 150592 | 75<br>68 | 65<br>44 | 5<br>6 | 0.008<br>TR | X<br><2 | | | | |
| 13 | 150598 | 1650<br>1640 | 20<br>12 | 10<br>16 | 0.058<br>0.04 | X<br>7 | | | | |
| 14 | 150599 | 1000<br>1020 | 40<br>27 | 5<br>7 | 0.032<br>TR | X<br>6 | | | | |
| 15 | 150661 | 950<br>1000 | 40<br>28 | 10<br>14 | 0.050<br>TR | X<br><2 | | | | |
| 16 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | * AMDEL RESULTS | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | X | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | DETECTION | 5 | 5 | 1 | 0.003 | 5 | | | | |
| 24 | DIGESTION | | | | | | | | | |
| 25 | METHOD | 101 | 101 | 114 | 309 | 101 | | | | |

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

184

106185

The Australian
Mineral Development
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correspondence to
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SA 5063
In reply quote:

amdel

3/786/0 - AC 3899/85
SPT 13/85

29 March 1985

NODDY CREEK

Mr. P. Jones,
Amoco Minerals Australia Company,
61 Counsel Street,
ZEEHAN TASMANIA 7469

REPORT AC 3899/85

| | |
|---|---|
| YOUR REFERENCE: | Order Number 14710, Despatch No. 4949 |
| REPORT COMPRISING: | Cover Sheet<br>Pages G1 - G2<br>Pages X1 - X2<br>Page 1 |
| DATE RECEIVED: | 25 March 1985 |
| NOTE: | Two samples received numbered 112084. These two samples have been numbered A and B. |

D. Patterson
Chief Chemist
Analytical Chemistry Division

cc Mr. B. Roxburgh,
Amoco Minerals Australia Company,
P.O. Box 493,
NORTH SYDNEY N.S.W. 2060

ij

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Telex: Amdel AA94893
Sydney, N.S.W.
Telephone (02) 439 7735

ANALYSIS
g/tonne

| SAMPLE MARK | GOLD Au | SAMPLE MARK | GOLD Au |
|---|---|---|---|
| 150883 | Trace | 150953 | Trace |
| 84 | Trace | 54 | Trace |
| 85 | Trace | 55 | Trace |
| 86 | Trace | 56 | Trace |
| 87 | Trace | 57 | Trace |
| 88 | N.D. | 58 | Trace |
| 89 | Trace | 59 | N.D. |
| 90 | N.D. | 60 | N.D. |
| 91 | Trace | 61 | N.D. |
| 92 | N.D. | 62 | Trace |
| 93 | N.D. | 63 | Trace |
| 94 | N.D. | 64 | N.D. |
| 95 | Trace | 65 | N.D. |
| 96 | Trace | 66 | Trace |
| 97 | Trace | 67 | Trace |
| 98 | N.D. | 68 | N.D. |
| 99 | N.D. | 69 | Trace |
| 150900 | Trace | 70 | Trace |
| 01 | 0.20 | 71 | Trace |
| 02 | Trace | 72 | N.D. |
| 03 | Trace | 73 | Checking |
| 04 | N.D. | 74 | Trace |
| 05 | Trace | 75 | Trace |
| 06 | Trace | 76 | Trace |
| 07 | N.D. | 77 | N.D. |
| 08 | Trace | 78 | Trace |
| 09 | N.D. | 112084 A | Trace |
| 150951 | Trace | 112084 B | Trace |
| 52 | Trace | | |

} HIBBS RIVER GRANITE 1983-84 SAMPLE

amdel



Analysis code A1/1,2 Report AC 3899/85 Page G1

NATA Certificate Order No. 14710 Results in ppm

| Sample | Cu | Zn | Ag | Ni | Mn | Fe |
|---|---|---|---|---|---|---|
| 150883 | 13 | 225 | <1 | 600 | 1420 | 9.84% |
| 150884 | 20 | 115 | <1 | 760 | 1040 | 7.84% |
| 150885 | 22 | 120 | <1 | 70 | 950 | 6.80% |
| 150886 | 11 | 170 | <1 | 325 | 1040 | 6.70% |
| 150887 | 14 | 135 | <1 | 340 | 1420 | 5.08% |
| 150888 | 8 | 74 | <1 | 890 | 1560 | 5.72% |
| 150889 | 25 | 135 | <1 | 76 | 1100 | 7.58% |
| 150890 | 21 | 110 | <1 | 195 | 570 | 5.88% |
| 150891 | 6 | 220 | <1 | 760 | 330 | 42.9% |
| 150892 | 10 | 130 | <1 | 560 | 600 | 14.9% |
| 150893 | 11 | 64 | <1 | 375 | 830 | 5.00% |
| 150894 | 19 | 180 | <1 | 560 | 1740 | 18.9% |
| 150895 | 96 | 165 | <1 | 440 | 2060 | 6.60% |
| 150896 | 7 | 33 | <1 | 295 | 770 | 3.98% |
| 150897 | 48 | 84 | <1 | 50 | 315 | 5.50% |
| 150898 | 25 | 50 | <1 | 24 | 200 | 2.00% |
| 150899 | 6 | 190 | <1 | 2680 | 1440 | 26.8% |
| 150900 | 4 | 21 | <1 | 960 | 320 | 4.34% |
| 150901 | 7 | 11 | <1 | 32 | 94 | 1.28% |
| 150902 | 6 | 58 | <1 | 4620 | 910 | 10.3% |
| 150903 | 4 | 37 | <1 | 3060 | 255 | 4.09% |
| 150904 | 8 | 58 | <1 | 730 | 1640 | 7.16% |
| 150905 | 10 | 20 | <1 | 70 | 340 | 5.12% |
| 150906 | 84 | 260 | <1 | 580 | 3580 | 10.7% |
| 150907 | 120 | 170 | <1 | 200 | 660 | 9.18% |
| 150908 | 115 | 1840 | <1 | 80 | 1320 | 12.4% |
| 150909 | 35 | 125 | <1 | 98 | 1420 | 7.16% |
| 150951 | 10 | 82 | <1 | 56 | 235 | 4.88% |
| 150952 | 19 | 54 | <1 | 52 | 360 | 2.76% |
| 150953 | 14 | 30 | <1 | 28 | 1500 | 2.93% |
| 150954 | 6 | 31 | <1 | 32 | 170 | 3.46% |
| 150955 | 9 | 25 | <1 | 24 | 215 | 1.83% |
| 150956 | 4 | 2 | <1 | <5 | 32 | 4780 |
| 150957 | 7 | 7 | <1 | <5 | 16 | 2000 |
| 150958 | 5 | 5 | <1 | 6 | 40 | 7600 |
| 150959 | 8 | 6 | <1 | <5 | 84 | 4880 |
| 150960 | 2 | 9 | <1 | 8 | 94 | 1.22% |
| 150961 | 4 | 13 | <1 | 10 | 130 | 1.10% |
| 150962 | <2 | 4 | <1 | <5 | 38 | 5700 |
| 150963 | 2 | 3 | <1 | <5 | 16 | 2560 |
| Detn limit | (2) | (2) | (1) | (5) | (5) | (5) |

amdel

106188

Analysis code A1/1,2 Report AC 3899/85 Page G2

NATA Certificate Order No. 14710 Results in ppm

| Sample | Cu | Zn | Ag | Ni | Mn | Fe |
|---|---|---|---|---|---|---|
| 150964 | <2 | 9 | <1 | <5 | 74 | 8750 |
| 150965 | <2 | 10 | <1 | 10 | 54 | 9100 |
| 150966 | <2 | <2 | <1 | <5 | 34 | 4900 |
| 150967 | <2 | 2 | <1 | <5 | 12 | 1660 |
| 150968 | <2 | 16 | <1 | 6 | 76 | 8600 |
| 150969 | 5 | 15 | <1 | 14 | 56 | 8900 |
| 150970 | <2 | <2 | <1 | <5 | 42 | 6600 |
| 150971 | 3 | 13 | <1 | <5 | 16 | 3320 |
| 150972 | <2 | 3 | <1 | 6 | 48 | 6800 |
| 150973 | 2 | 9 | <1 | 8 | 52 | 7150 |
| 150974 | <2 | 12 | <1 | <5 | 72 | 7900 |
| 150975 | 4 | 13 | <1 | 12 | 76 | 9300 |
| 150976 | 21 | 19 | <1 | 16 | 195 | 4.68% |
| 150977 | <2 | 25 | <1 | 10 | 105 | 9950 |
| 150978 | 3 | 7 | <1 | 6 | 32 | 5200 |
| 112084A | 5 | 60 | <1 | 8 | 700 | 4.16% |
| 112084B | 6 | 60 | <1 | 12 | 650 | 4.39% |
| Detn limit | (2) | (2) | (1) | (5) | (5) | (5) |

Analysis code X3 Report AC 3899/85 Page X1

NATA Certificate Order No. E 14710 Results in ppm

| Sample | Sn | W | Ba | As | Pb | Sb |
|---|---|---|---|---|---|---|
| 150883 | <4 | <10 | 75 | 18 | 17 | <4 |
| 150884 | <4 | 10 | 80 | 15 | 21 | 4 |
| 150885 | <4 | <10 | 200 | 8 | 20 | <4 |
| 150886 | 6 | <10 | 85 | 13 | 23 | 4 |
| 150887 | 8 | <10 | 130 | 7 | 31 | 4 |
| 150888 | <4 | <10 | 25 | 10 | <2 | <4 |
| 150889 | 4 | <10 | 230 | 13 | 38 | <4 |
| 150890 | 4 | <10 | 200 | 7 | 33 | <4 |
| 150891 | <4 | <10 | 20 | 20 | <2 | <4 |
| 150892 | <4 | <10 | 40 | 25 | 13 | <4 |
| 150893 | <4 | <10 | 85 | 9 | 12 | <4 |
| 150894 | <4 | 10 | 260 | 32 | 12 | 8 |
| 150895 | <4 | <10 | 770 | 62 | 25 | <4 |
| 150896 | <4 | <10 | 15 | <2 | <2 | <4 |
| 150897 | 4 | <10 | 110 | 8 | 12 | <4 |
| 150898 | <4 | <10 | 100 | 4 | 28 | <4 |
| 150899 | <4 | <10 | 40 | 17 | 12 | <4 |
| 150900 | 4 | <10 | 30 | 3 | 5 | <4 |
| 150901 | <4 | <10 | 60 | 2 | 3 | <4 |
| 150902 | <4 | <10 | <10 | 18 | <2 | <4 |
| 150903 | <4 | <10 | <10 | 3 | 3 | <4 |
| 150904 | <4 | <10 | 10 | <2 | <2 | <4 |
| 150905 | 6 | <10 | <10 | <2 | <2 | <4 |
| 150906 | 8 | 20 | 50 | 20 | 26 | 6 |
| 150907 | <4 | <10 | 60 | 13 | 27 | 8 |
| 150908 | <4 | 15 | 160 | 4 | 130 | <4 |
| 150909 | 14 | <10 | 520 | 2 | 25 | <4 |
| 150951 | 6 | <10 | 70 | 7 | 4 | <4 |
| 150952 | <4 | <10 | 120 | 5 | 15 | <4 |
| 150953 | <4 | <10 | 180 | 3 | 5 | <4 |
| 150954 | 4 | <10 | 55 | 8 | 6 | <4 |
| 150955 | 4 | <10 | 80 | 3 | 14 | <4 |
| 150956 | 4 | <10 | 70 | 2 | <2 | <4 |
| 150957 | <4 | <10 | 70 | 3 | 4 | <4 |
| 150958 | <4 | <10 | 70 | 2 | 2 | <4 |
| 150959 | <4 | <10 | 60 | 2 | 10 | <4 |
| 150960 | 4 | <10 | 35 | 3 | 3 | <4 |
| 150961 | 4 | <10 | 75 | 3 | 10 | <4 |
| 150962 | <4 | <10 | 30 | <2 | 4 | <4 |
| 150963 | 4 | <10 | 45 | 2 | 3 | <4 |
| Detn limit | (4) | (10) | (10) | (2) | (2) | (4) |

189 amdel 106190

Analysis code X3 Report AC 3899/85 Page X2

NATA Certificate Order No. E 14710 Results in ppm

| Sample | Sn | W | Ba | As | Pb | Sb |
|---|---|---|---|---|---|---|
| 150964 | 4 | <10 | 55 | <2 | 4 | <4 |
| 150965 | <4 | <10 | 75 | 4 | 3 | <4 |
| 150966 | <4 | <10 | 45 | 2 | <2 | <4 |
| 150967 | <4 | 10 | 45 | <2 | 3 | <4 |
| 150968 | 6 | <10 | 50 | 3 | 3 | <4 |
| 150969 | <4 | 10 | 70 | 3 | 4 | <4 |
| 150970 | <4 | <10 | 50 | <2 | 3 | <4 |
| 150971 | 4 | <10 | 55 | 4 | 4 | <4 |
| 150972 | 4 | <10 | 45 | <2 | 2 | <4 |
| 150973 | 4 | <10 | 50 | 2 | 6 | <4 |
| 150974 | <4 | <10 | 40 | 2 | 2 | <4 |
| 150975 | 6 | 10 | 55 | 4 | 6 | <4 |
| 150976 | <4 | <10 | 310 | 10 | 15 | <4 |
| 150977 | 6 | <10 | 50 | 2 | <2 | <4 |
| 150978 | 6 | <10 | 55 | 2 | 5 | 4 |
| 112084A | 6 | <10 | 500 | 9 | 17 | 4 |
| 112084B | <4 | <10 | 530 | 6 | 15 | <4 |
| Detn limit | (4) | (10) | (10) | (2) | (2) | (4) |

# ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106
Phone (09) 458 7999
Telex AA92560

106191

BIRTHDAY BAY

## ANALYTICAL REPORT No. 4.5 08 3018

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

Amoco Minerals Australia Coy
PO Box 949
North Sydney
N.S.W. 2060

| ORDER No. | PROJECT |
|---|---|
| 14716 | 84/111B |

| DATE RECEIVED | RESULTS REQUIRED |
|---|---|
| 3.4.85 | ASAP |

| No. OF PAGES OF RESULTS | DATE REPORTED | No. OF COPIES | TOTAL No. OF SAMPLES |
|---|---|---|---|
| | | 3 | 6 |

STATE OF SAMPLES:

| REFER BELOW | SAMPLE NUMBERS | PRE-TREATMENT: DRY | CRUSH | SPLIT | PULVERISE | SIEVE | OTHER SEE REMARKS | NONE | ANALYSIS: REFER TO ANALYSIS SECTION | PREPARATION | METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PC | 150733-34 | 1 | 2 | | 3 | | | | Cu Pb Zn | | 101 |
| RO | 150740-43 | | | 4 | 5 | | | | As | | 401 |
| | | | | | | | | | Sn | | 402 |
| | | | | | | | | | Au | | 309 |

RESULTS TO

ATTN: B. Roxburgh
As Above

RESULTS TO

P. Jones
61 Counsel St
Zeehan

REMARKS

Despatch No. 4950

| STATE OF SAMPLES | | ANALYSIS — PREPARATION | | | | ANALYSIS — METHOD | |
|---|---|---|---|---|---|---|---|
| whole core | WC | perchloric acid | A1 | cold acid | CA | atomic absorbtion | AAS |
| split core | SC | hydrochloric acid | A2 | specific sulphide | SS | x-ray fluorescence | XRF |
| cutting | CU | nitric acid | A3 | other mixed acids | Ma | spectrophotometry | SPEC |
| rock | Ro | aqua regia | A4 | alkaline attack | AA | colorimetry | COL |
| soil | SO | nitric-perchloric | A5 | volatilization | VO | chromatography | CHR |
| pulp | PU | HF mixture | A6 | ignition | IG | titration | TTN |
| water | WA | HF under pressure | A7 | pressed powder (XRF) | PP | other chemicals means | CHEM |
| tissue | TI | fusion | A8 | glass fusion (XRF) | GF | miscellaneous | MISC |
| stream sediment | SS | | | | | fluorescence | FLUOR |
| heavy mineral | HM | | | | | inductively coupled plasma | ICP |

AUTHORISED OFFICER

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# ANALABS

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## ANALYTICAL DATA

| SAMPLE PREFIX | REPORT NUMBER | REPORT DATE | CLIENT ORDER No. | PAGE |
|---|---|---|---|---|
| | 4.5 08 3018 | 15.4.85 | 14716 | 1 OF 2 |

| TUBE No. | SAMPLE No. | | Cu | Pb | Zn | As | Sn | Au | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 150733 | | 30 | X | 50 | 7 | X | X | | |
| 2 | 150734 | | 5 | X | X | 8 | X | X | | |
| 3 | 150740 | | X | X | 15 | 2 | X | X | | |
| 4 | 150741 | | 55 | X | 100 | 10 | X | X | | |
| 5 | 150742 | | 110 | X | 135 | 6 | X | X | | |
| 6 | 150743 | | 720 | X | 30 | 3 | X | X | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 25 | | | | | | | | | | |

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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192

# ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

106193

## ANALYTICAL DATA

| SAMPLE PREFIX | REPORT NUMBER | REPORT DATE | CLIENT ORDER No. | PAGE |
|---|---|---|---|---|
| | 4.5 08 3018 | 15.4.85 | 14716 | 2 OF 2 |

| TUBE No. | SAMPLE No. | | Cu | Pb | Zn | As | Sn | Au | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | STD 3036 | | 170 | 600 | 245 | | | | | |
| 2 | RPT 150733 | | 30 | X | 55 | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | DETECTION | | 5 | 5 | 5 | 2 | 3 | 0.008 | | |
| 24 | DIGESTION | | | | | | | | | |
| 25 | METHOD | | 101 | 101 | 101 | 401 | 401 | 309 | | |

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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106194

193

APPENDIX 4

GROUND GEOPHYSICAL PROFILES - EM, MAGNETIC AND VLF

by Peter Mewkill

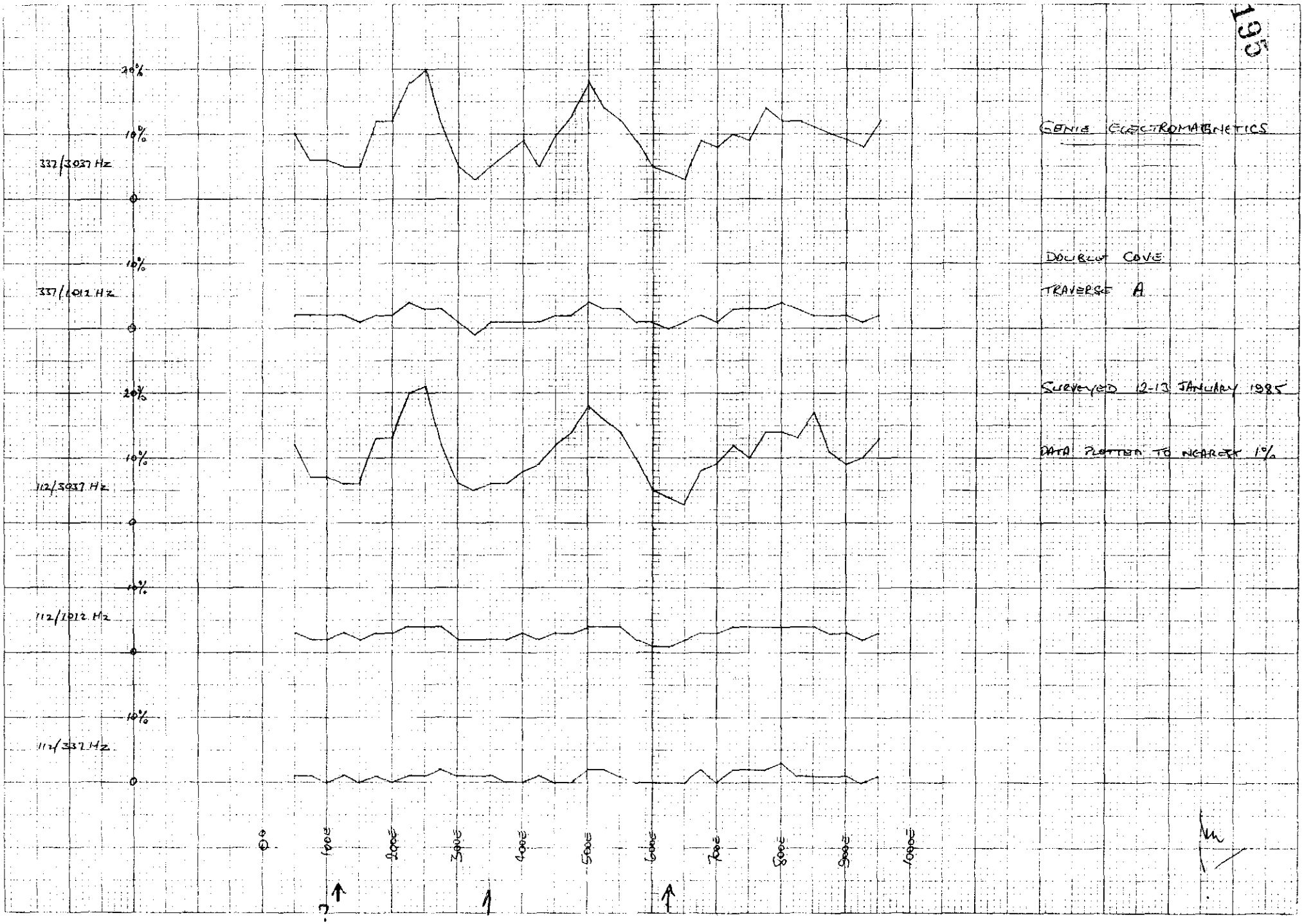
106195

0 194

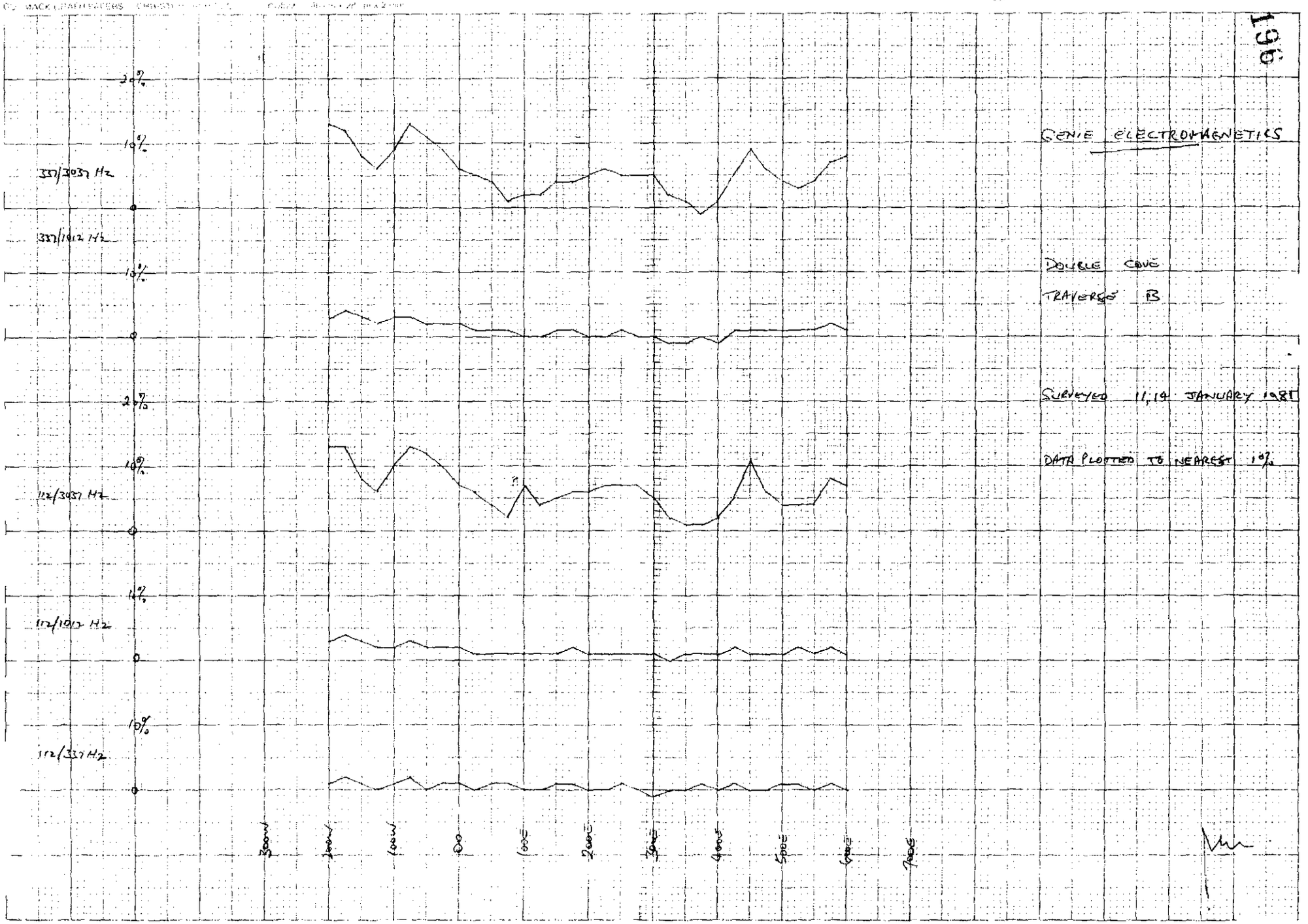
DOUBLE COVE

106196

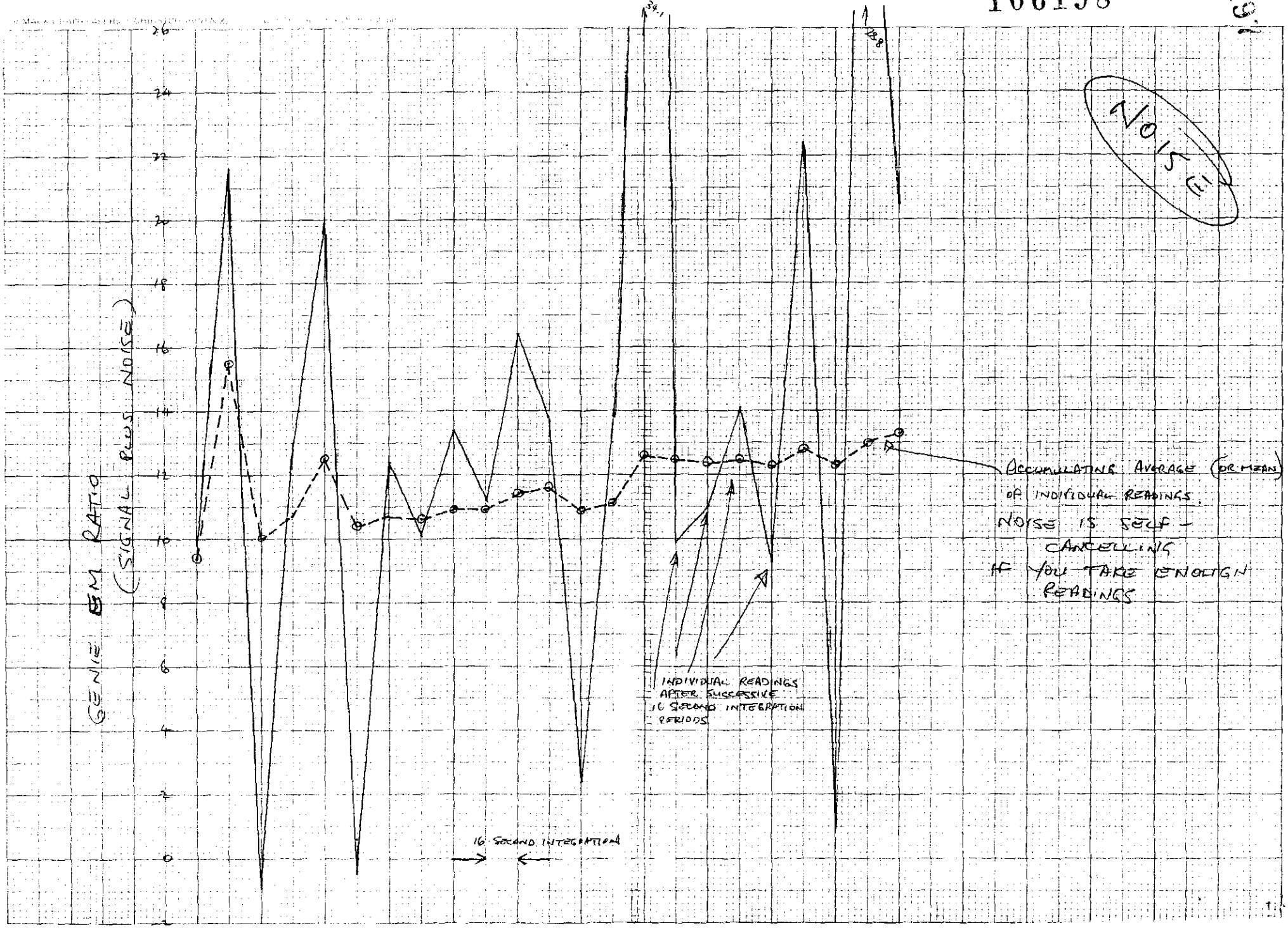
195


20%
10%
337/3037 Hz
0
10%
337/1012 Hz
20%
10%
112/3037 Hz
0
10%
112/1012 Hz
10%
112/337 Hz
0
0
100E
200E
300E
400E
500E
600E
700E
800E
900E
1000E
GENIE ELECTROMAGNETICS
DOUBLE COVE
TRAVERSE A
SURVEYED 12-13 JANUARY 1985
DATA PLOTTED TO NEAREST 1%

106197


337/3037 Hz
337/1012 Hz
112/3037 Hz
112/1012 Hz
112/337 Hz
20%
10%
0
10%
20%
10%
0
10%
0
10%
0
1000W
500W
100W
0
100E
200E
300E
400E
500E
600E
700E
GENIE ELECTROMAGNETICS
DOUBLE COVE
TRAVERSE B
SURVEYED 11, 19 JANUARY 1981
DATA PLOTTED TO NEAREST 1%

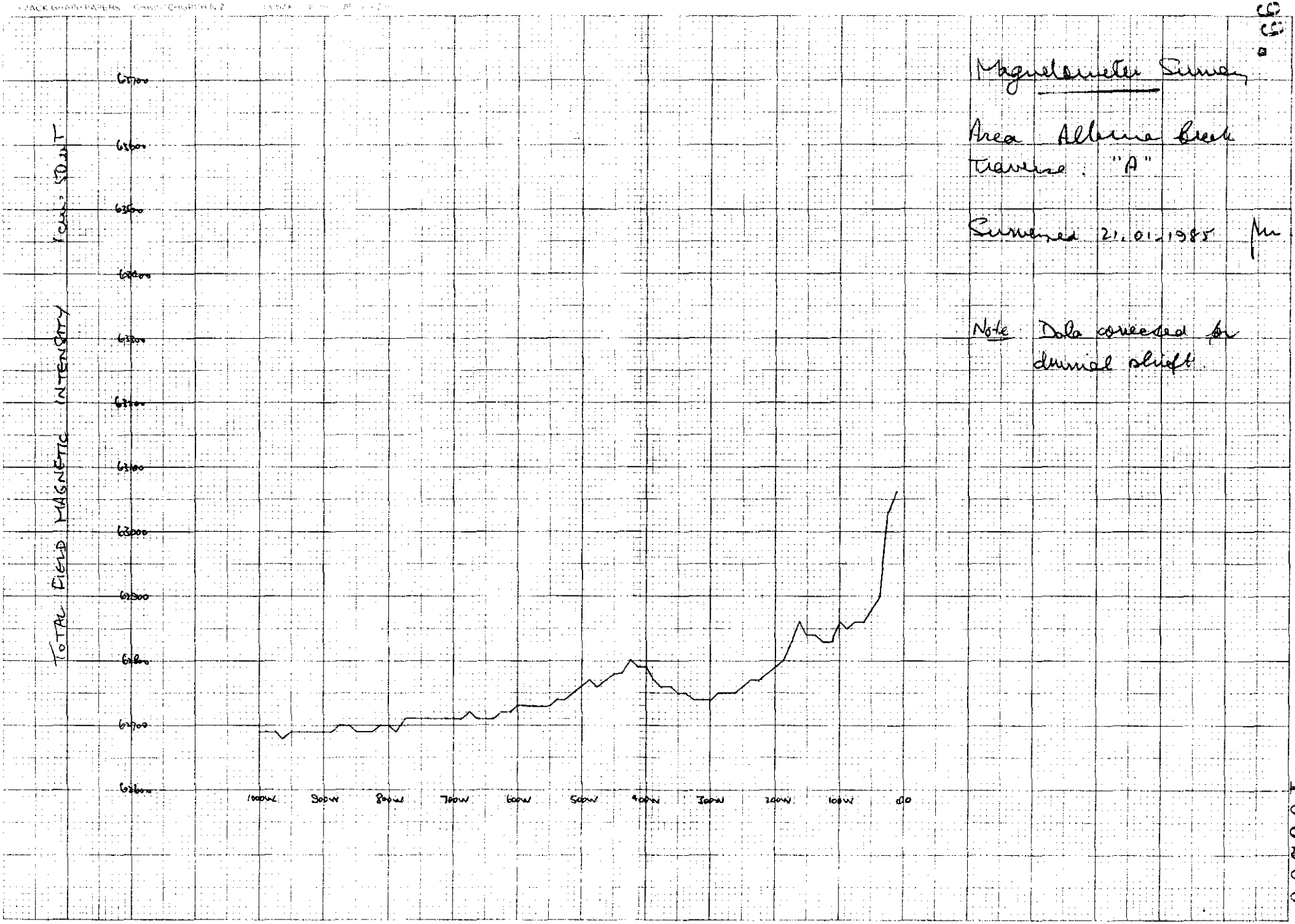
106198


GENIE SIGNAL RATIO (SIGNAL PLUS NOISE)
26
24
22
20
18
16
14
12
10
8
6
4
2
0
NOISE
ACCUMULATING AVERAGE (OR MEAN) OF INDIVIDUAL READINGS. NOISE IS SELF-CANCELLING IF YOU TAKE ENOUGH READINGS
INDIVIDUAL READINGS AFTER SUCCESSIVE 16 SECOND INTEGRATION PERIODS
16 SECOND INTEGRATION

198

106199

# ALBINA CREEK




Magnetometer Survey

Area Albuna Creek

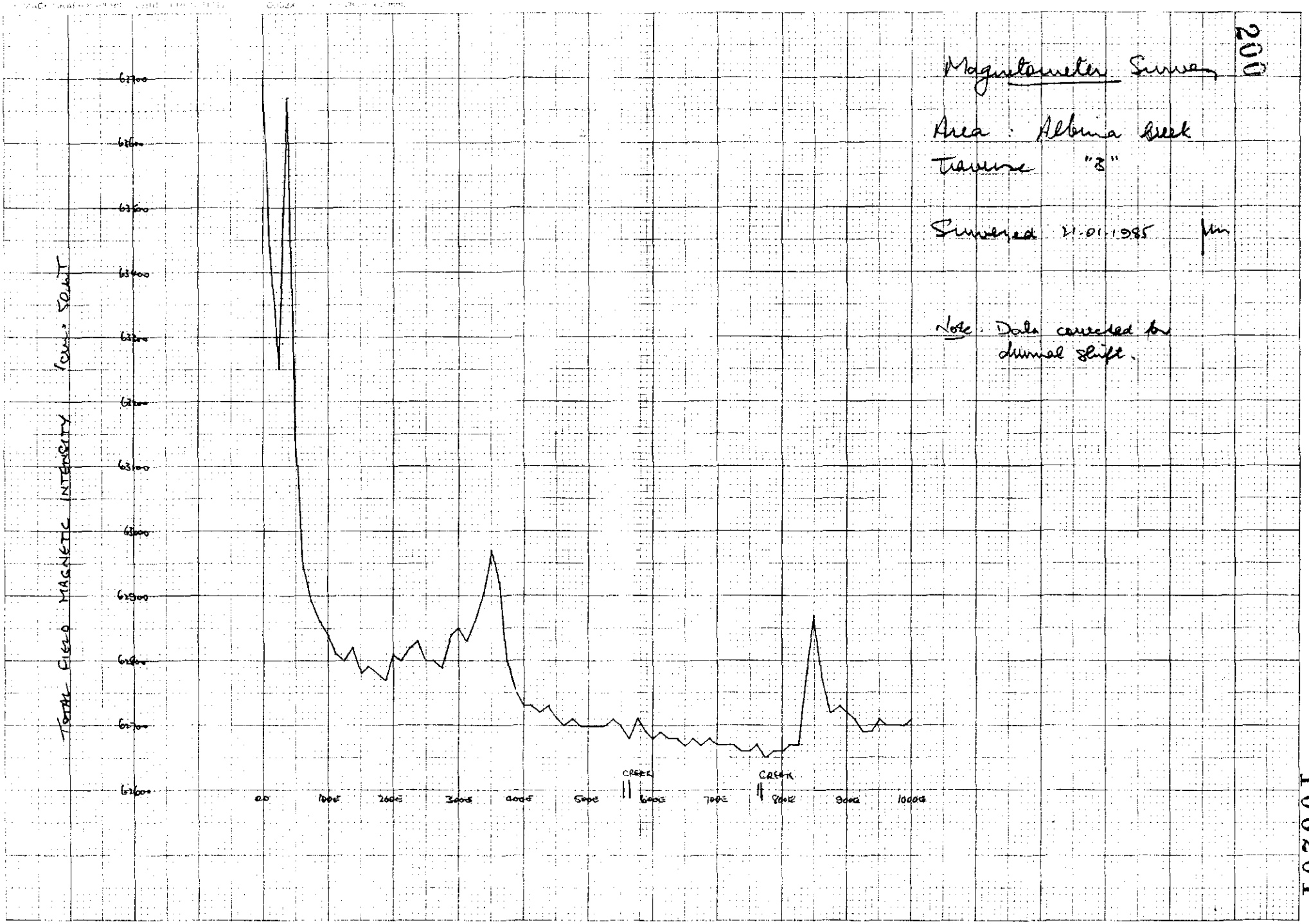
Traverse "A"

Surveyed 21.01.1985

Note Data corrected for diurnal shift

1990

106200


Magnetometer Survey
Area : Albuna Creek
Traverse "B"
Surveyed 21.01.1985
Note. Data corrected for diurnal shift.
200
TOTAL FIELD MAGNETIC INTENSITY (GAMMAS)
63700
63600
63500
63400
63300
63200
63100
63000
62900
62800
62700
62600
0
100E
200E
300E
400E
500E
CREEK
600E
700E
CREEK
800E
900E
1000E

106201

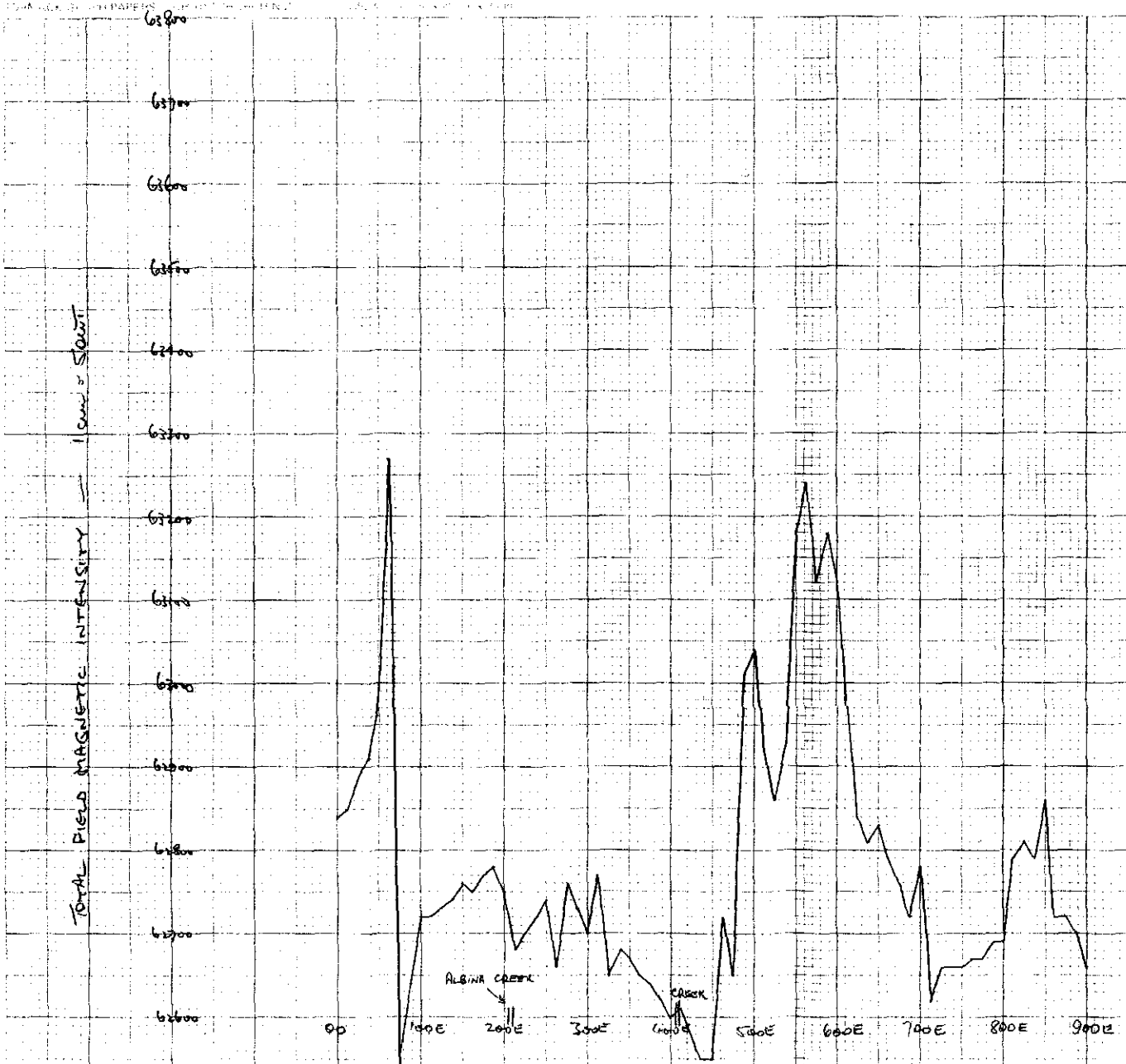
Magnetometer Survey

Area Albina Creek

Traverse "C"

Surveyed 23.01.1985

Note: Data corrected for diurnal shift.

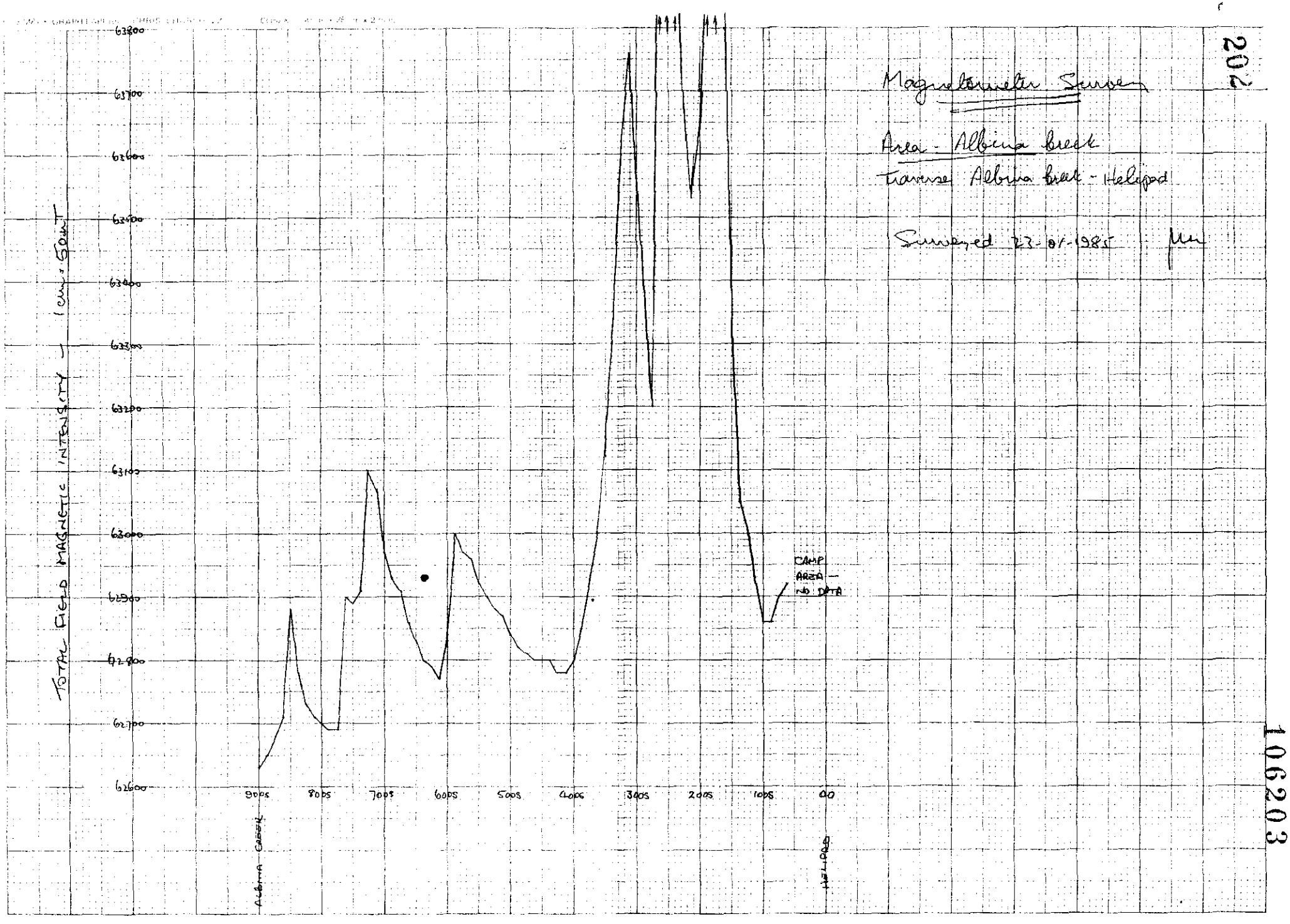


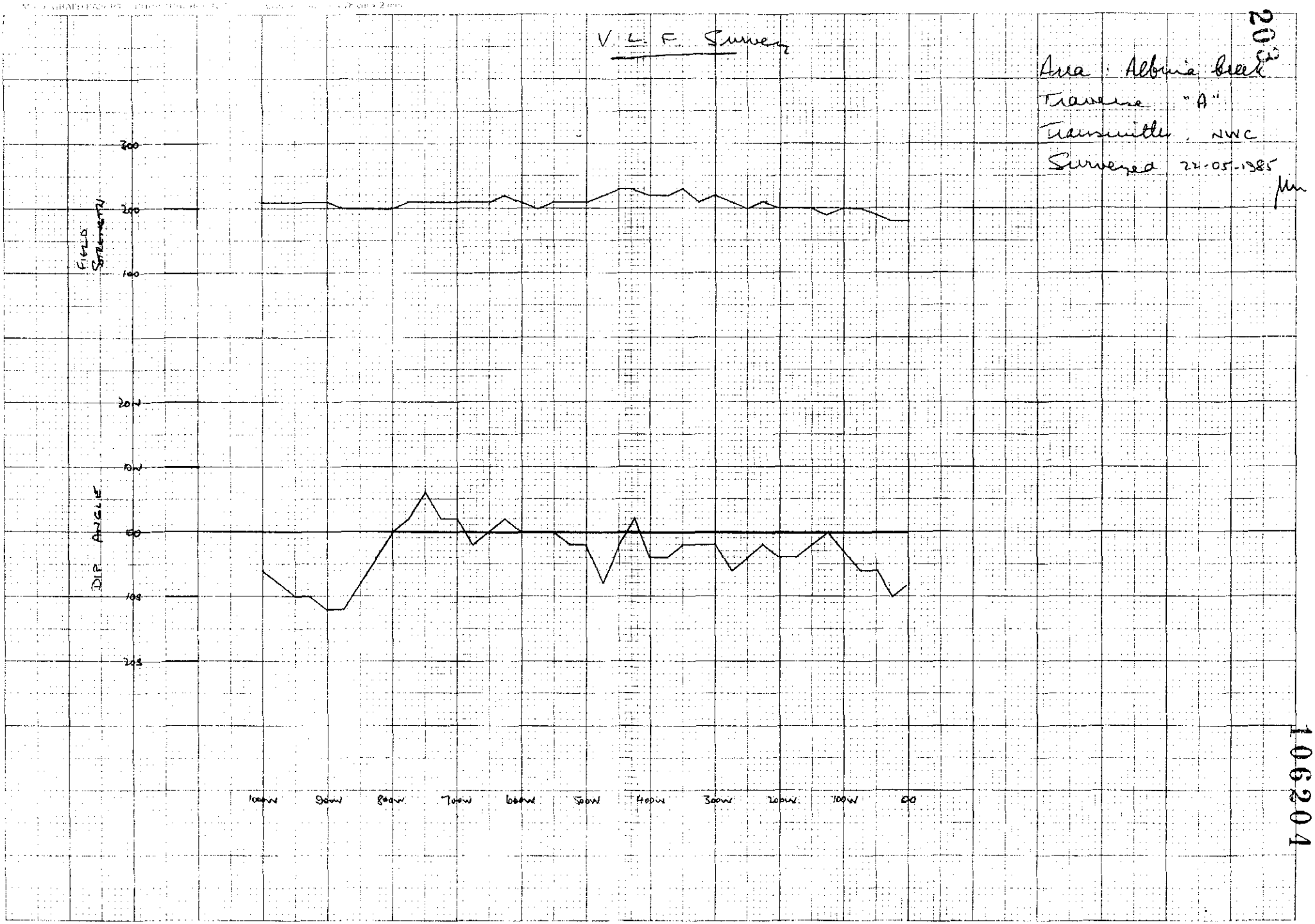
Magnetometer Survey

Area - Albina Creek

Traverse Albina Creek - Helipad

Surveyed 23-01-98 [illegible]

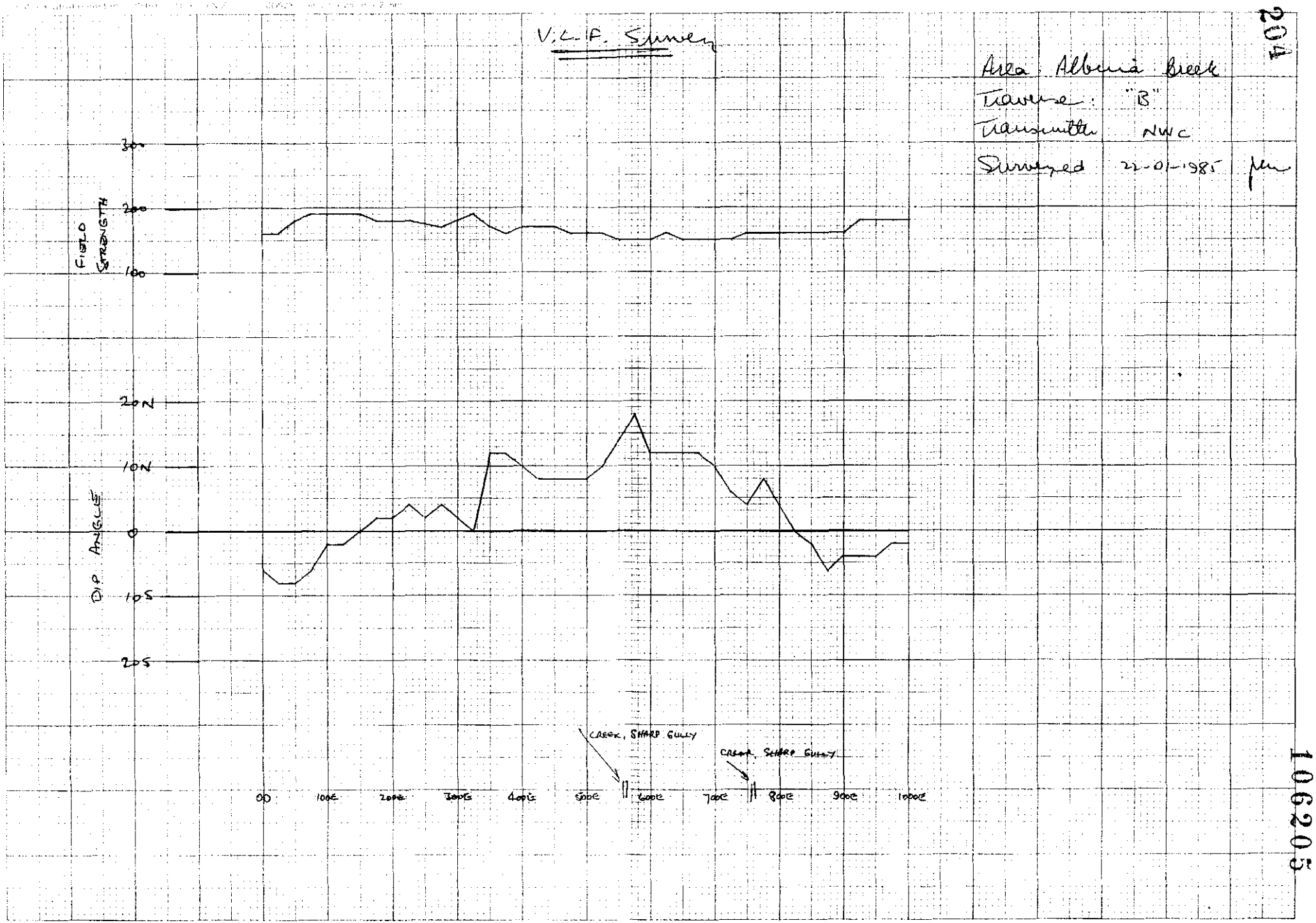



V L F Survey
Area : Albania Creek
Traverse "A"
Transmitter : NWC
Surveyed 22-05-1985
FIELD STRENGTH
DIP ANGLE
300
200
100
20
10
0
10S
20S
10000W
9000W
8000W
7000W
6000W
5000W
4000W
3000W
2000W
1000W
0

1062204

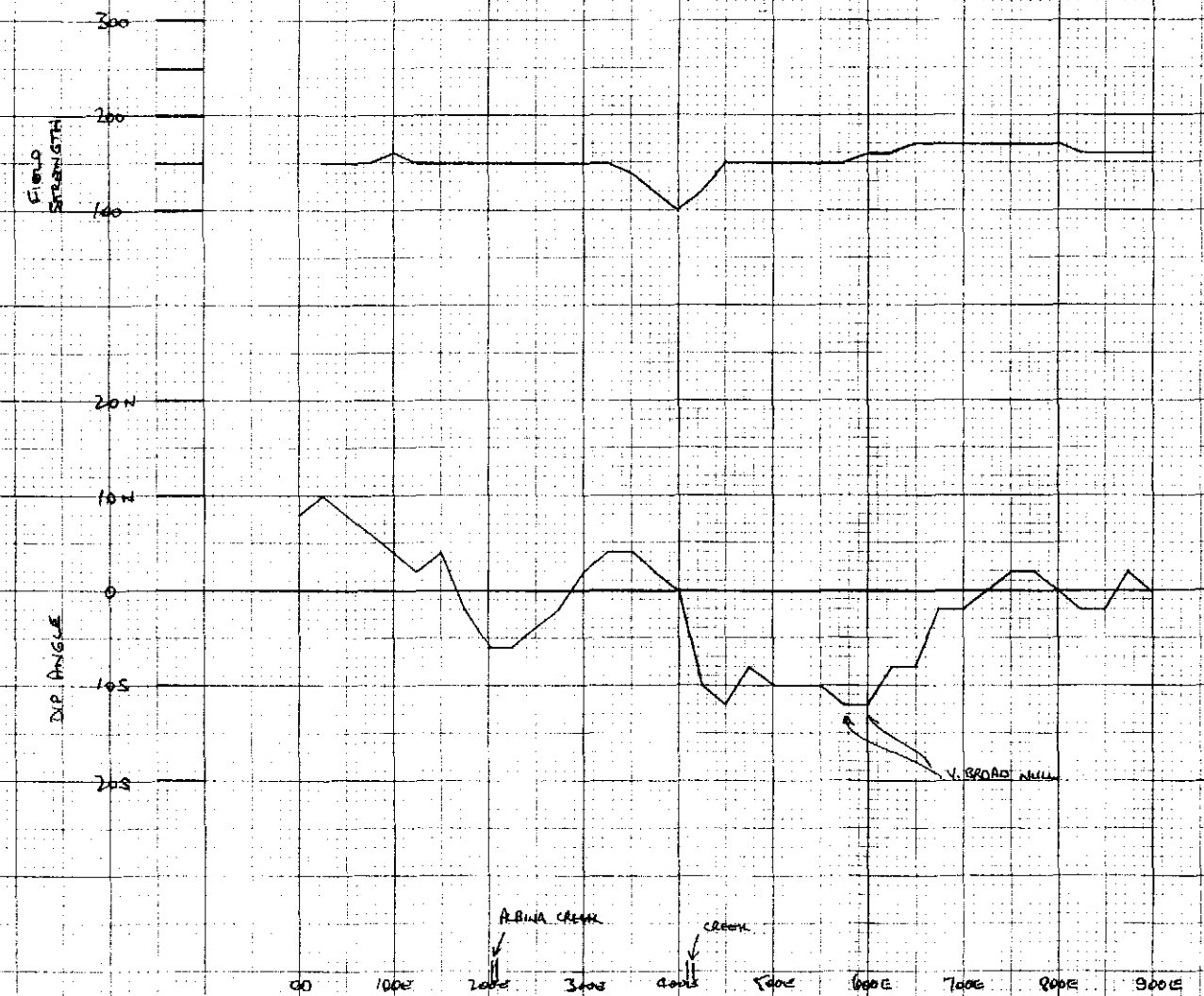
# V.L.F. Survey

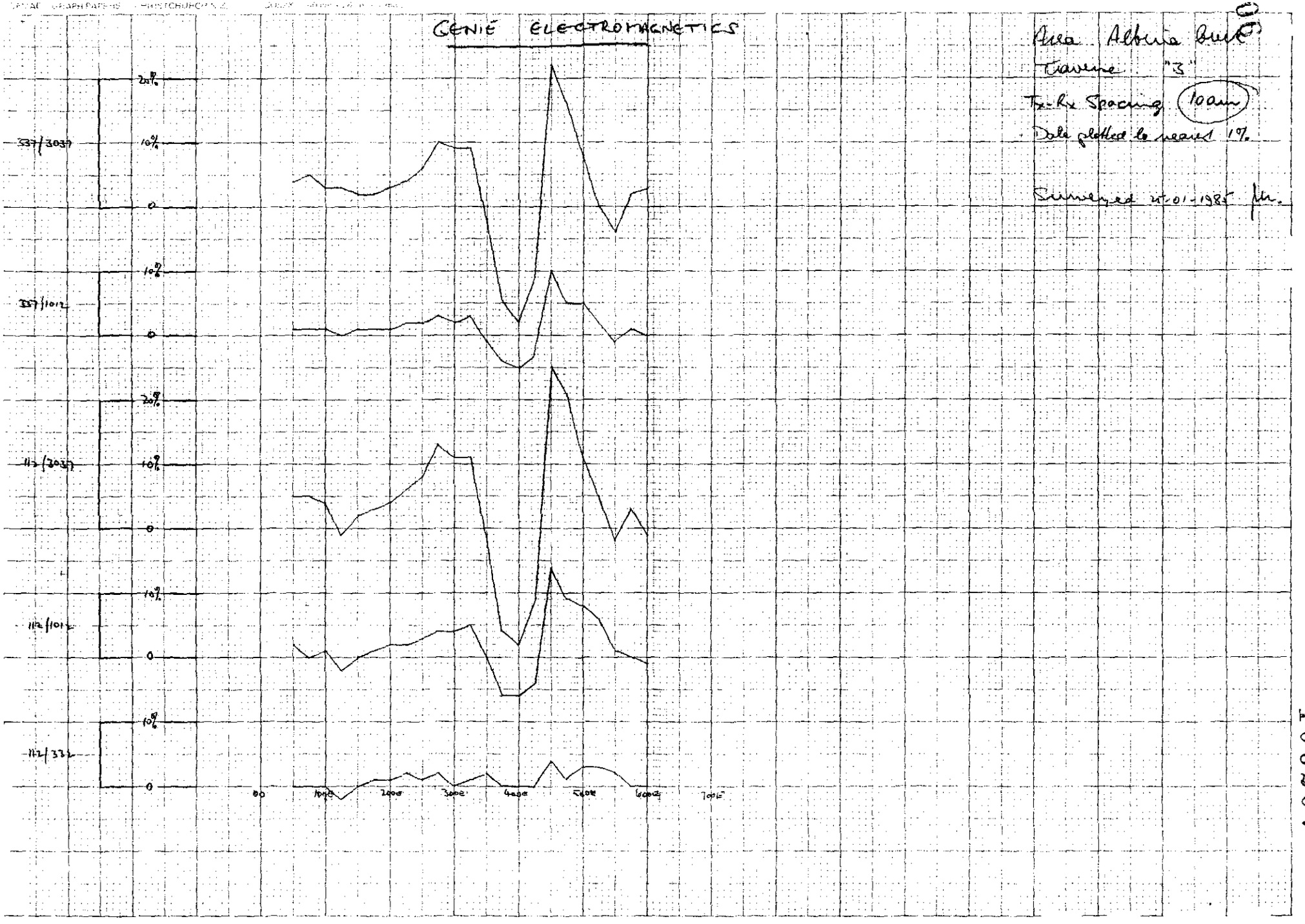
Area: Alberni Creek
Traverse: "B"
Transmitter: NWC
Surveyed: 22-01-1985 JMc



# V.L.F. Survey

Area: Albina Creek
Traverse: "C"
Transmitter: NWC
Surveyed 23.01.1985 JM




GENIE ELECTROMAGNETICS
Area Alberta Bulk
Traverse "3"
Tx-Rx Spacing 100m
Data plotted to nearest 1%.
Surveyed 21-01-1985 JH.
337/3037
337/1012
113/2037
112/1012
112/332
20%
10%
0
800
1000
2000
3000
4000
5000
6000
7000

106207

GENIE ELECTROMAGNETICS

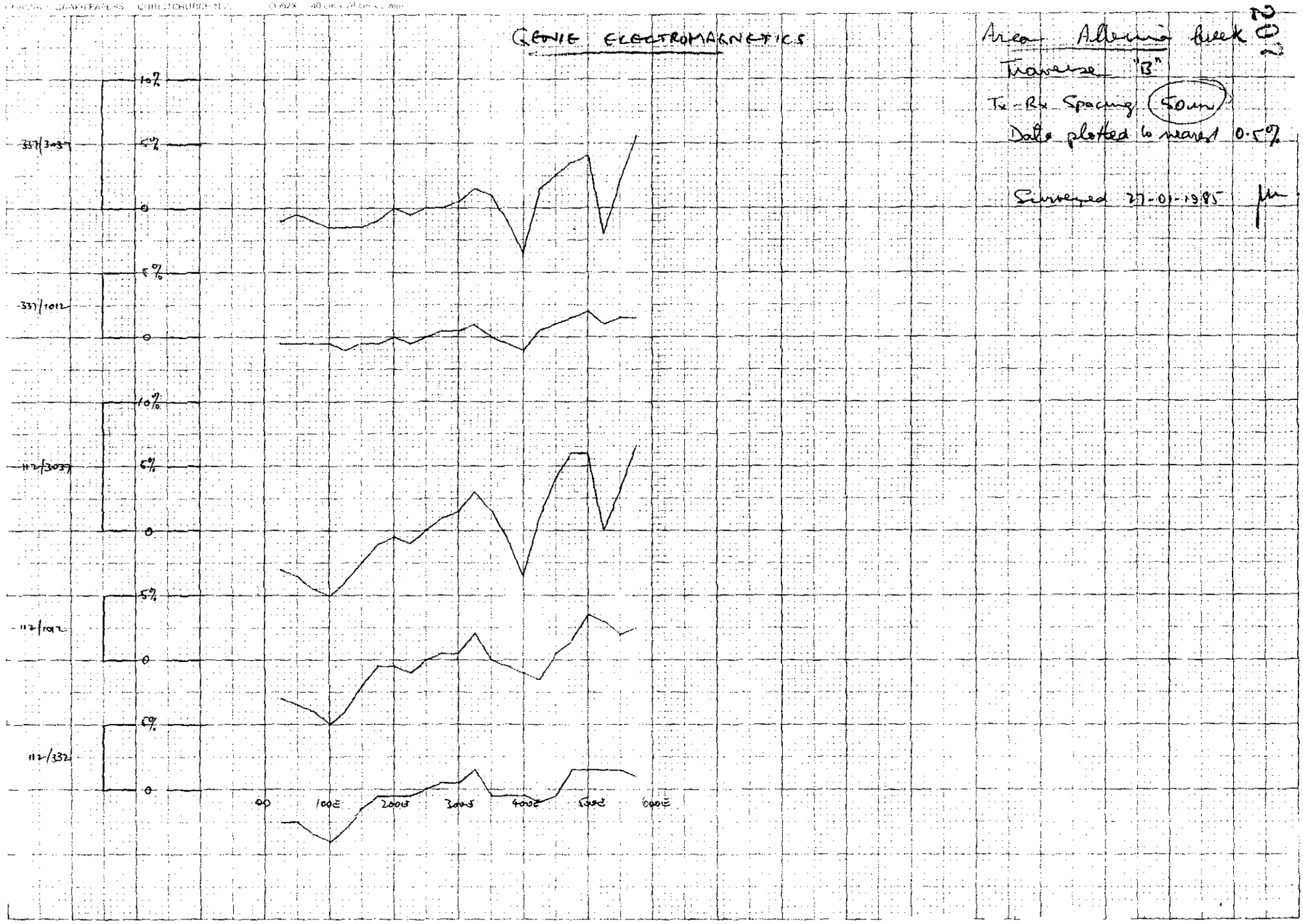
Area Allenvale Creek

Traverse "B"

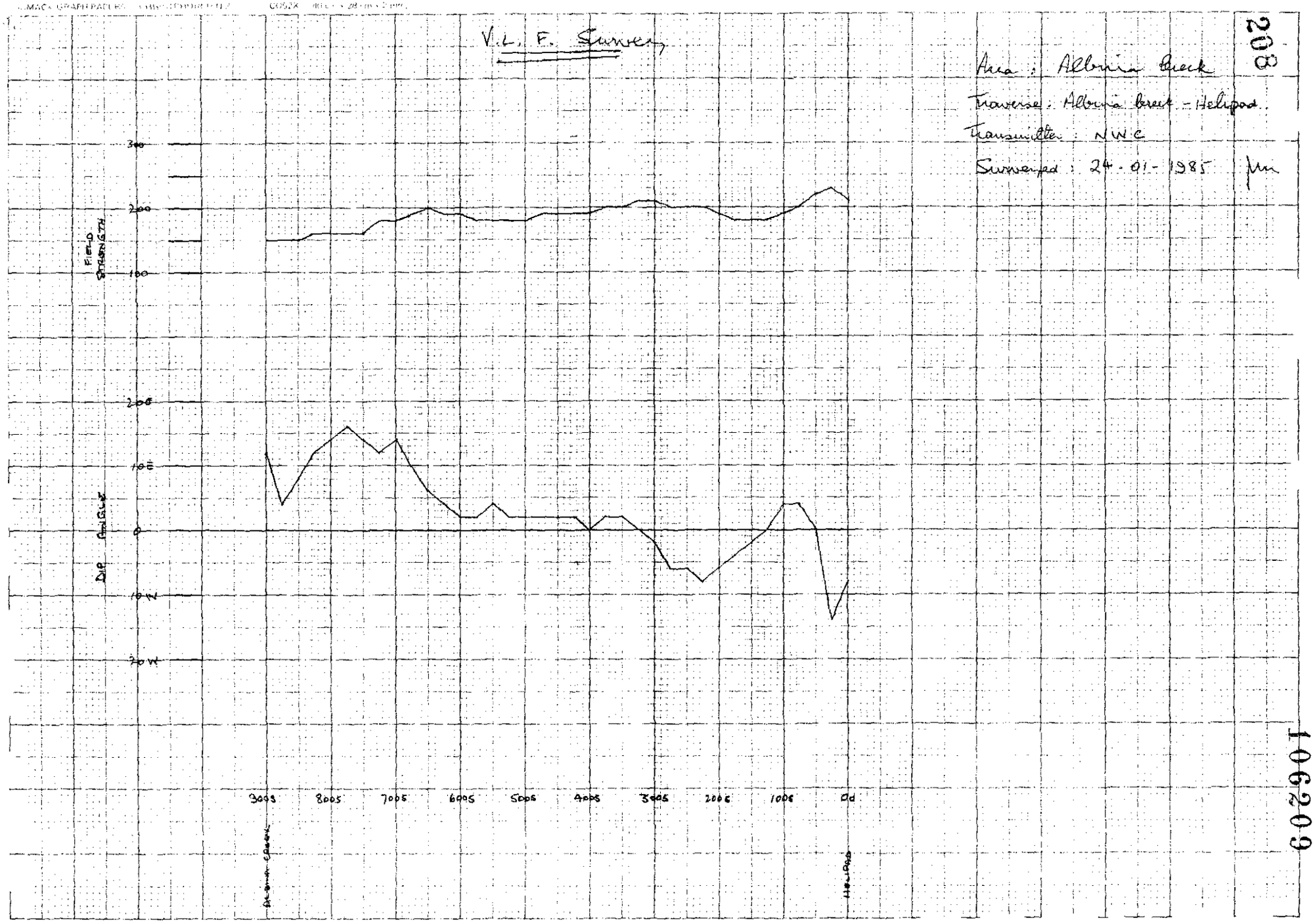
Tx - Rx Spacing 50m

Data plotted to nearest 0.5%

Surveyed 27-01-1995




L 05208


V.L.F. Survey
Area : Albania Creek
Traverse : Albania Creek - Heliport
Transmitter : NWC
Surveyed : 24-01-1985
208
FIELD STRENGTH
DIP ANGLE
300
200
100
200
100
0
10 N
20 N
3000S
8000S
7000S
6000S
5000S
4000S
3000S
2000S
1000S
0d
Albania Creek
Heliport

106209

106210

# BIRTHDAY BAY

GRAPH PAPER ... MADE IN CHRISTCHURCH N.Z. ... 28 cm x 21 cm

# Magnetic Survey

(Corrected for diurnal drift)

5 cm

Area Burkholders Bay
Traverse "A"

Surveyed 23-01-1985 P.S.

(Diurnal monitor mag at Thomas Creek reading at 5 minute intervals)

Vertical Scale 1cm = 10nT

Horizontal Scale 1:5000

Data corrected and drawn by P Merrill

Field mag Scintrex Proton Prec.
Model 7L7010
Ser no 5"1193
Sensor - Backpack

Diurnal monitor mag
Geometrics Proton Prec
Model G856 # 27062
Polarine line 3 axis
Reading path 4 boomers
One reading average
Sensor height 2 m (nominal)
Reading interval 5 minute

TOTAL FIELD MAGNETIC INTENSITY (1cm = 10nT)

62700
720
700
680
660
640
620
600
580
62580

REPEAT READING
AT = 50 min
ΔT = 3
(Uncorrected ΔT = 23)

REPEAT READING
AT = 13 min
ΔT = 1
(Uncorrected ΔT = 4)

SAND COVER

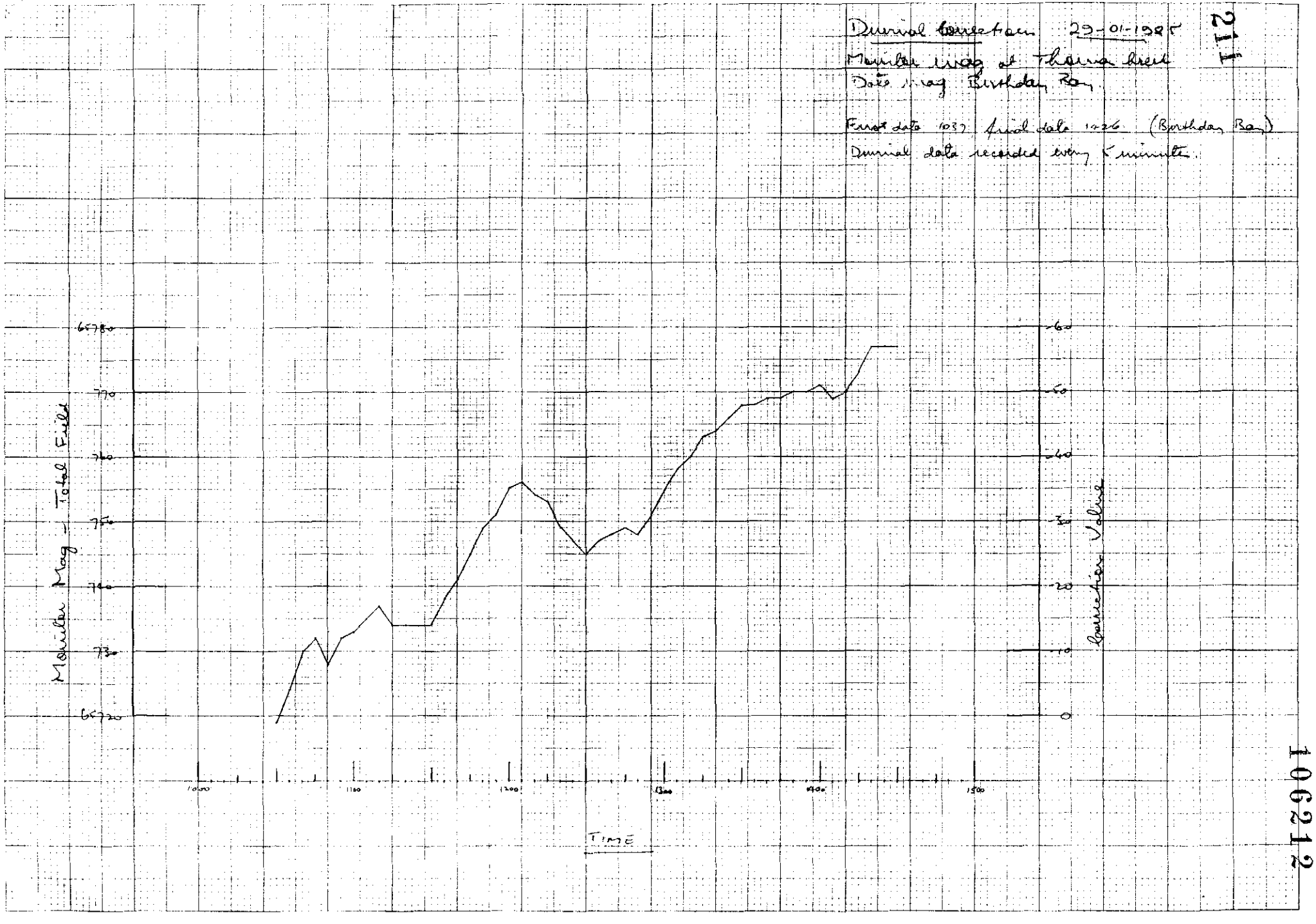
1300S 1200S 1100S 1000S 900S 800S 700S 600S 500S 400S 300S 200S 100S 0/0

FINISH 1026 ← Creek ← Gully ← Gully ← Gully ← START 1027

Notes: Burkholders Bay traverses "A" and "B" are tied and relative

2 of 2

106211


Diurnal Correction 29-01-1985
Morilden Mag at Thalwa Road
Date Mag Birthday Ra
Fixed date 1037 final date 1426 (Birthday Ra)
Diurnal data recorded every 5 minute.
Morilden Mag - Total Field
Correction Value
TIME
65780
770
760
750
740
730
65720
60
50
40
30
20
10
0
1000
1100
1200
1300
1400
1500



106212

Magnetic Survey

(corrected for diurnal shift)

Area : Birthday Bay

Traverse : "B"

Surveyed 30-01-1985 P.B.

(Diurnal variation mag. at Thorne Creek reading at 5 minute intervals)

Vertical scale 1 cm = 10 nT

Horizontal scale 1:5000

Data corrected and drawn by P. Mercier

Field mag Scintrex Envi-Mag Proton Precession

Model 7167010

Ser no 5111-49

Sensor in backpack

Diurnal variation mag

Scintrex Envi-Mag Proton Precession

Model G856 # 27062

Polarizing time 3 secs

Reading gate 4 seconds

One reading average

Sensor height 2 m (carried on backpack)

Reading interval 5 minutes

Note: Birthday Bay traverses A and C are lost and missing.

TOTAL FIELD MAGNETIC INTENSITY (1 cm = 10 nT)

62790
760
740
720
700
680
660
640
620
600
580
62560

62824

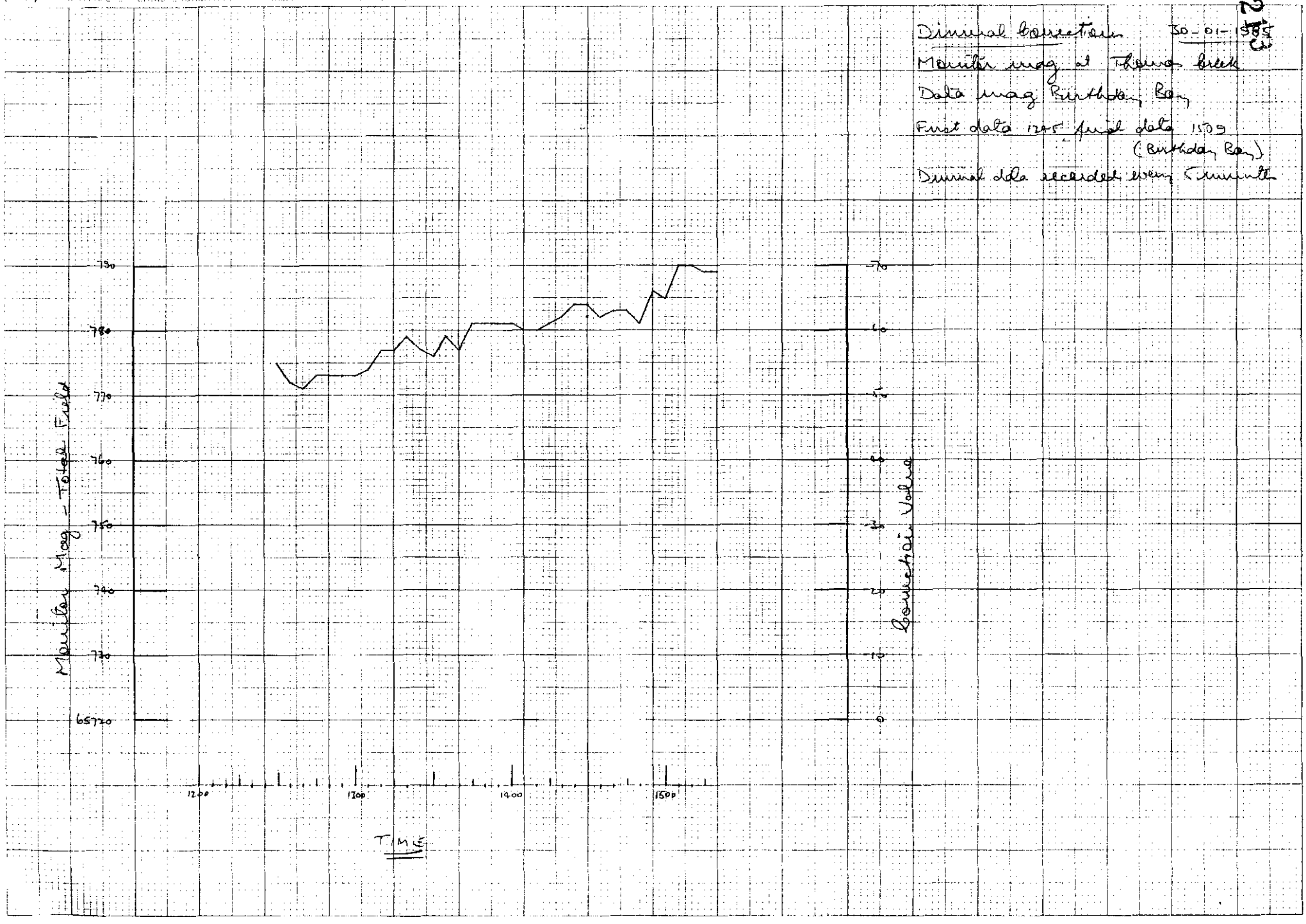
5005 4005 3005 2005 1005 005

FINISH 1509

START 1245

5 cm

106214


Diurnal Correction
30-01-1985
Mawhera mag at Thorns Creek
Data mag Birthday Bay
First data 1205 final data 1509
(Birthday Bay)
Diurnal data recorded every 5 minutes
Mawhera Mag - Total Field
790
780
770
760
750
740
730
65720
Correction Value
70
60
50
40
30
20
10
0
1200
1300
1400
1500
TIME

106215

# ANOMALY 128

215

# Magnetometer Survey

Area: Anomaly 128

Traverse: 300 W (Sheet 1)

Surveyed: 17-01-1985 (00 1200W)
18-01-1985 (1200 - 1500W)

Instrument: Scintrex Proton Mag
Model 7/67010
Ser No 5/1109
Sensor: Backpack
(@ 1m)

Horizontal Scale 1:5000
Vertical Scale 1 cm: 100nT

(For Easterly section see Sheet 2)

Due to instrument battery going low no diurnal corrections have been applied.

5 cm

Total Field Magnetic Intensity (1 cm = 100nT)

64600
500
400
300
200
100
64000
900
800
700
600
500
400
300
200
100
63500
900
800
700
600
62500

FINISH 1631

START FINISH 1616 1100

START 0918

1500W 1400W 1300W 1200W 1100W 1000W 900W 800W 700W 600W 500W 400W 300W 200W 100W 00

1062216

# Magnetometer Survey

Area: Anomaly 128

Traverse: 300W (Sheet 2)

Surveyed: 16-01-1985 JM

Instrument: Scintrex Proton Prec
Model 767010
Ser Nr 511149
Sensor: Backpack
(± 1m)

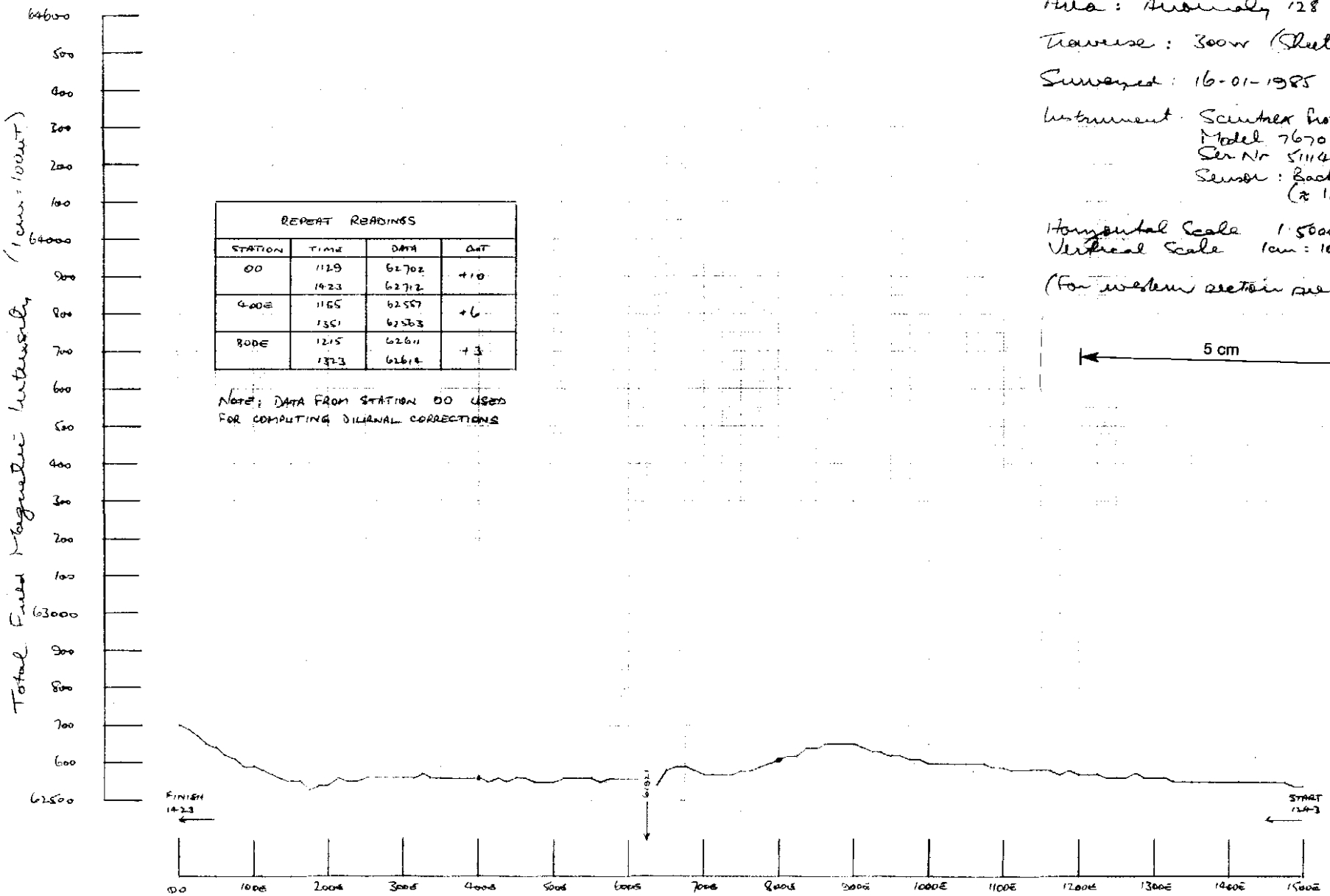
Horizontal Scale 1:5000
Vertical Scale 1cm = 100nT

(For western section see sheet 1)

5 cm

| REPEAT READINGS | | | |
|---|---|---|---|
| STATION | TIME | DATA | DIFF |
| 00 | 1129 | 62702 | +10 |
| | 1423 | 62712 | |
| 400E | 1165 | 62557 | +6 |
| | 1351 | 62563 | |
| 800E | 1215 | 62611 | +3 |
| | 1323 | 62614 | |

NOTE: DATA FROM STATION 00 USED FOR COMPUTING DIURNAL CORRECTIONS




106211

# VLF Survey

Area : Anomaly 128

Traverse : 300N (Sheet 1)

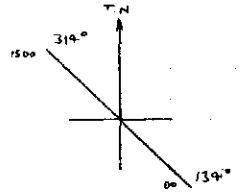
Transmitter : NWC

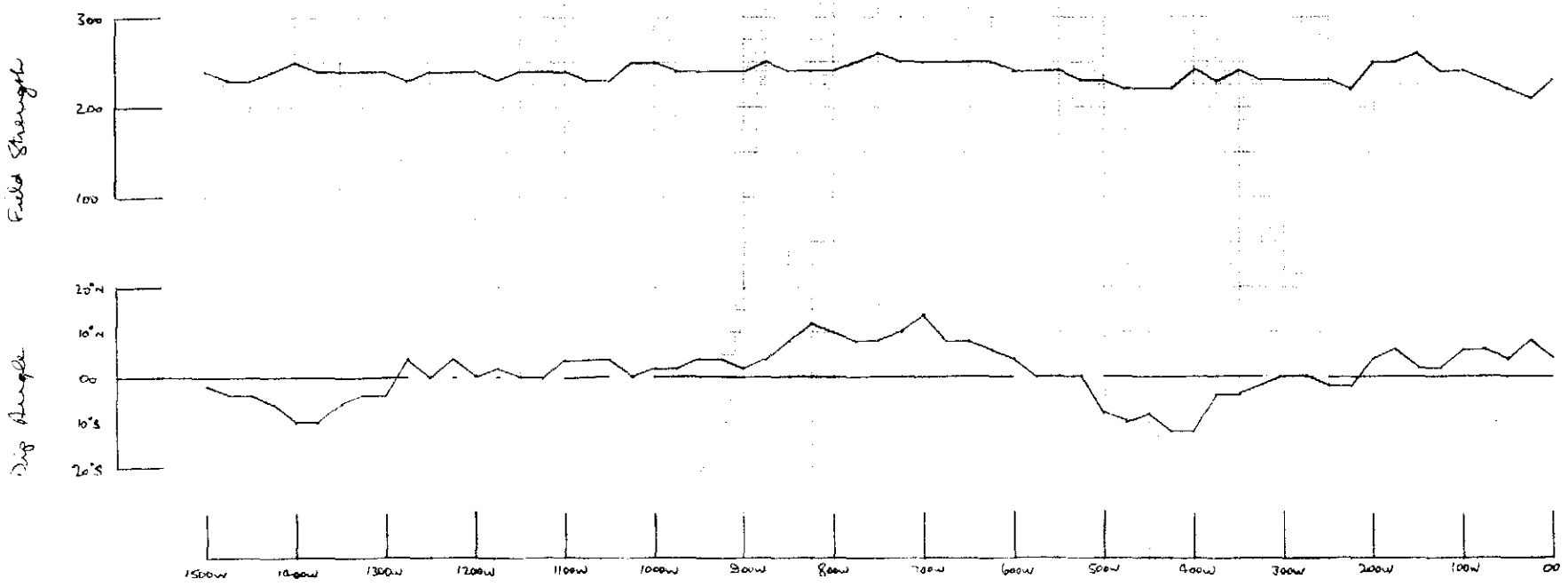
Surveyed : 17-01-1985 Glen

Instrument Phoenix VLF2
Serial no C14101

Traverse Bearing 314-134° True

(For Eastern section see sheet 2)



V. L. F. Survey

Area : Anomaly 128

Traverse : 300W (Sheet 2)

Transmitter : NWC

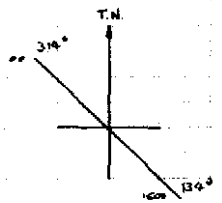
Surveyed : 17-01-1985 by

Instrument : Phoenix VLF 2
Serial no L14-101

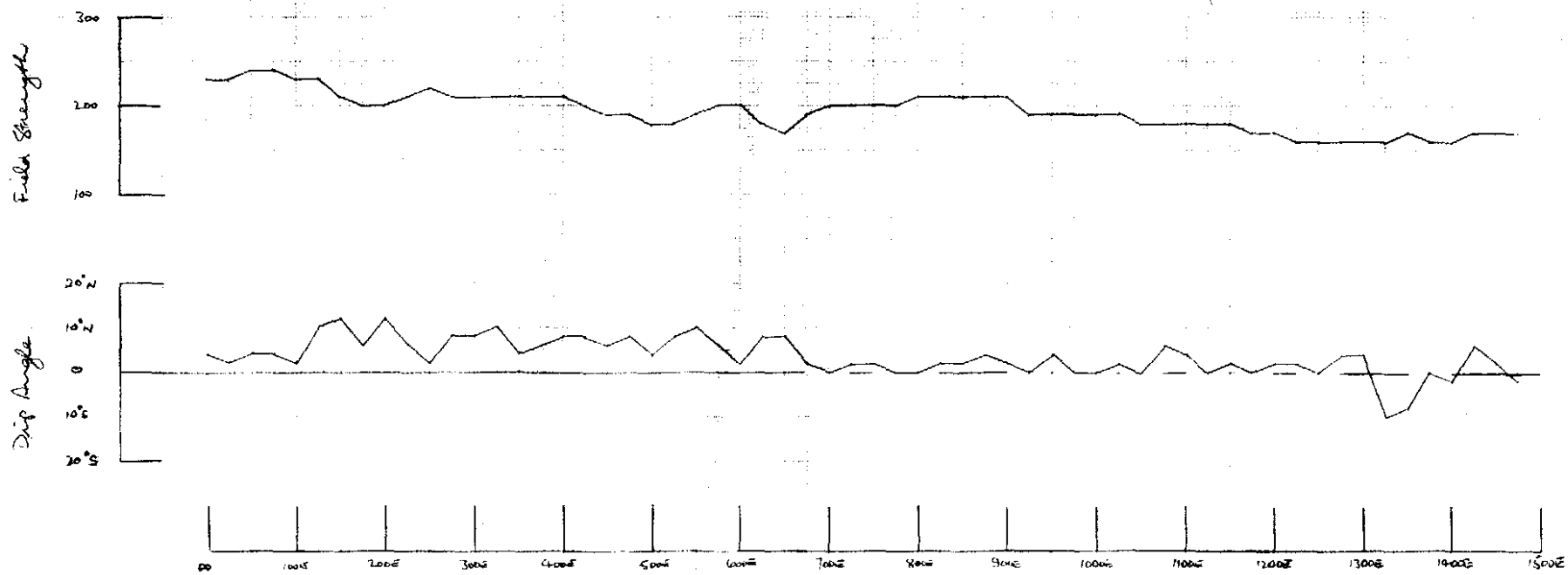
Traverse Bearing 314-134° True

(For western section see sheet 1)

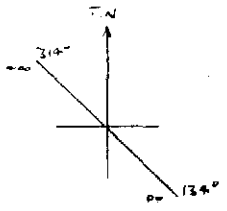
Horizontal Scale 1:5000

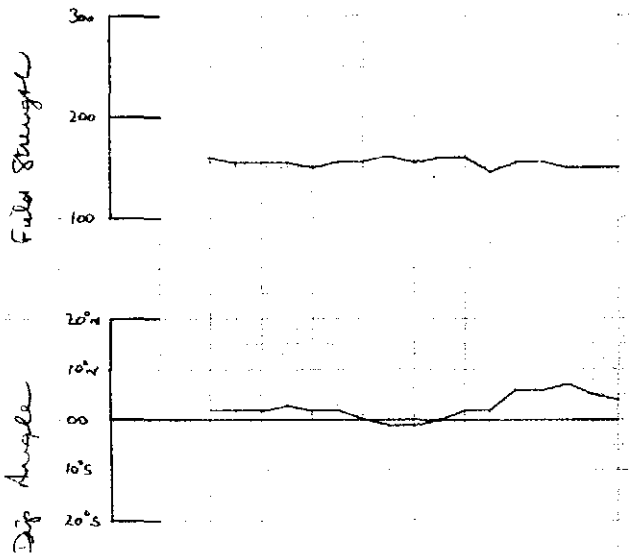



5 cm



# VLF and Magnetometer Surveys

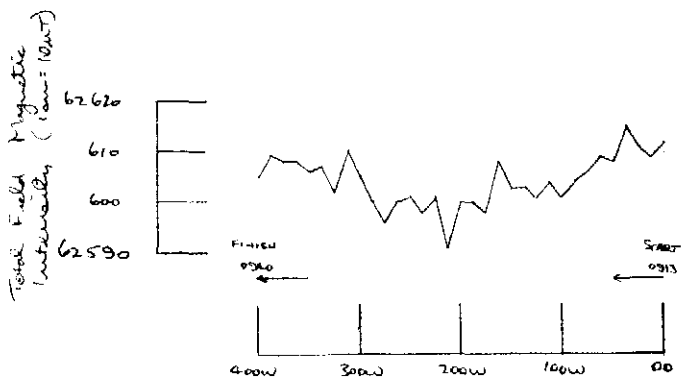



Area · Anomaly 128
Traverse 1000 E
Transmitter : NWC
Surveyed 19-01-1985 D.G
Instrument Phoenix VLF-2
Serial No 116101
Traverse Bearing 314 / 134° True

Horizontal Scale 1:5000
Vertical Scale (a) 1 cm = 10°
1 cm = 50 units field strength

5 cm




Area · Anomaly 128
Traverse 1000E
Surveyed 19-01-1985 JM
Station Interval 12.5m
Instrument : Scintrex Proton Prec
Model 7H7010
Serial No 511149
Sensor : Backpack (2 1m)

Horizontal Scale 1:5000
Vertical Scale 1 cm : 10nT

# BUTLER CREEK

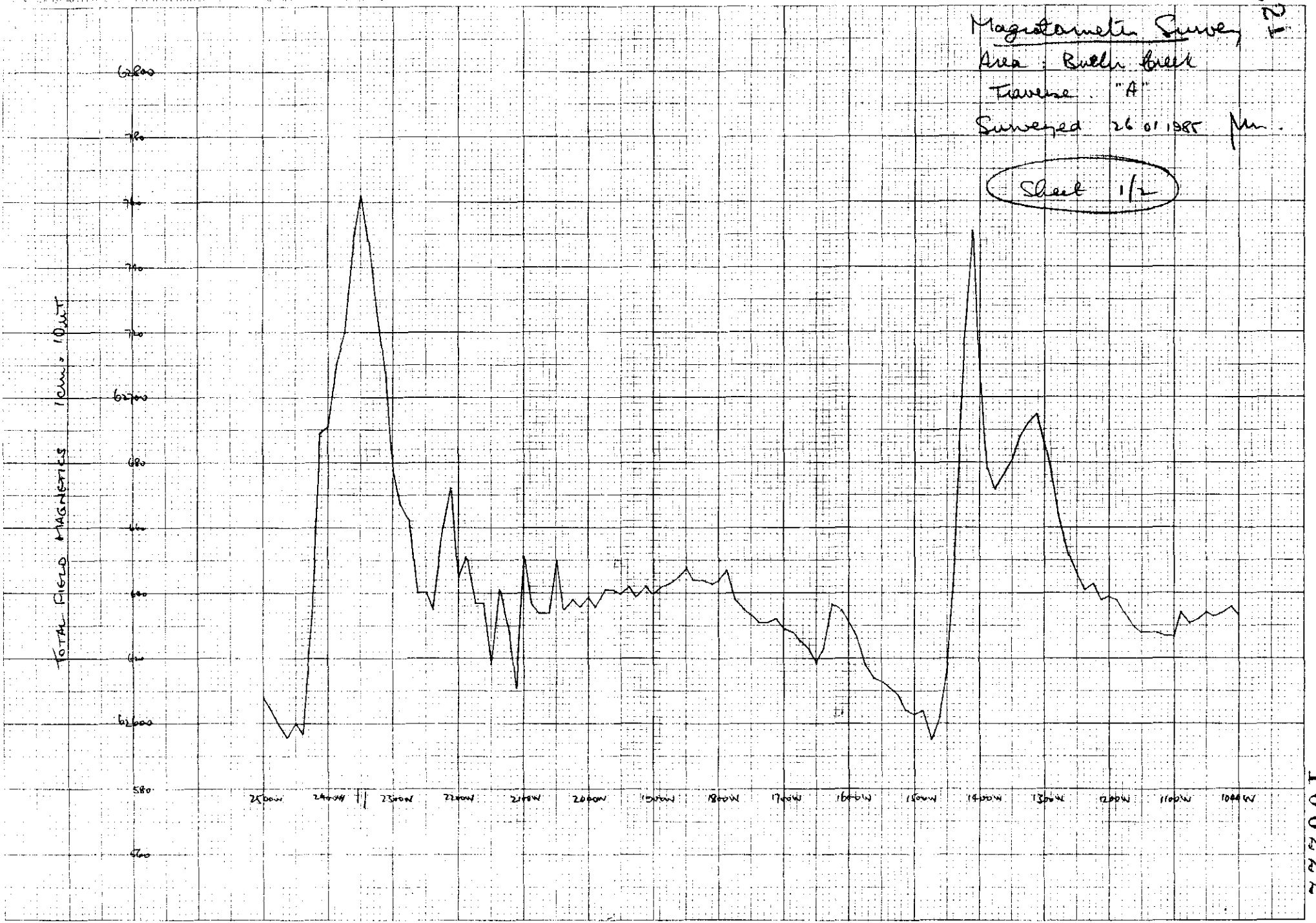
Magnetometer Survey

Area : Bulla Creek

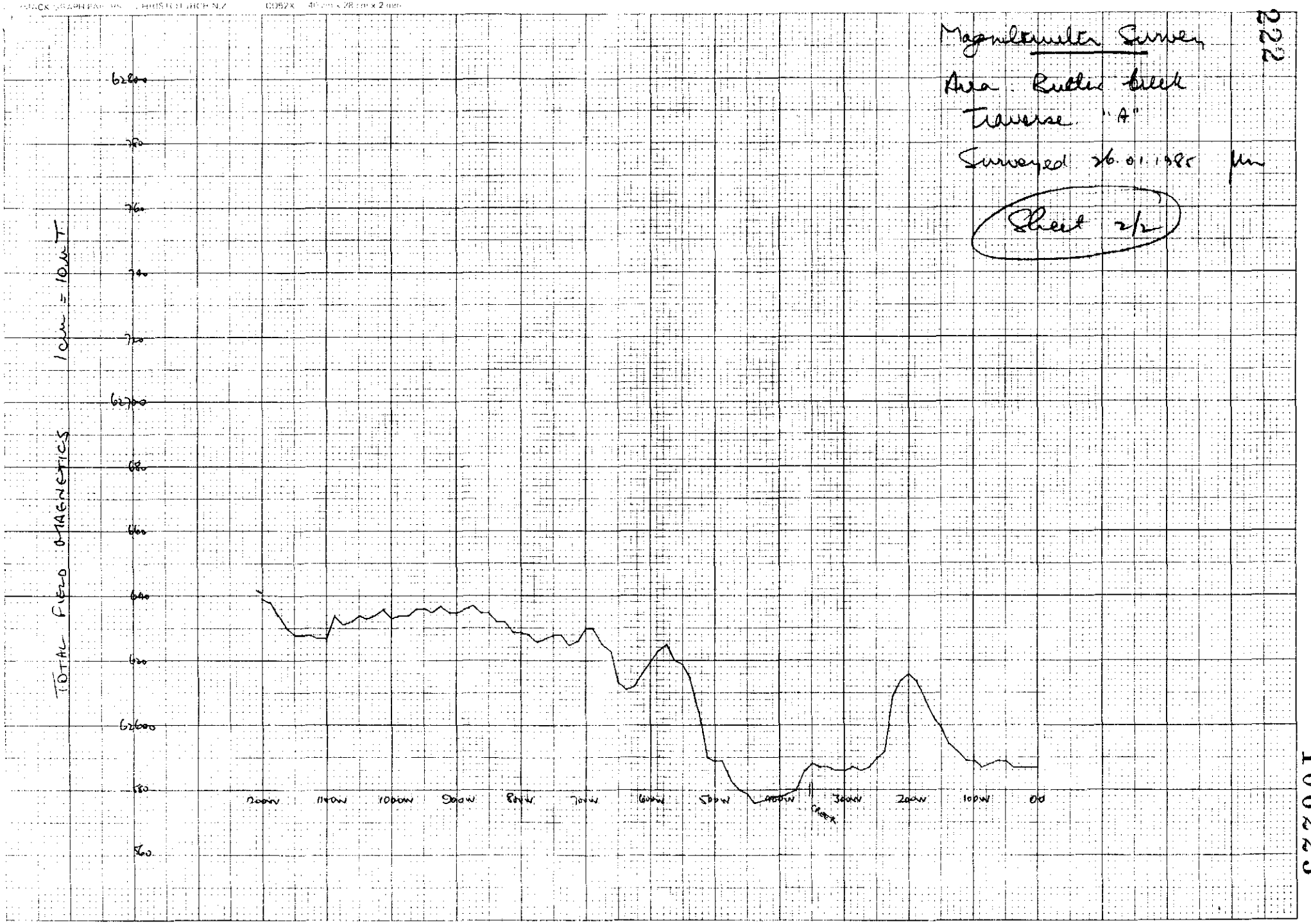
Traverse "A"

Surveyed 26 01 1985 JM.

Sheet 1/2

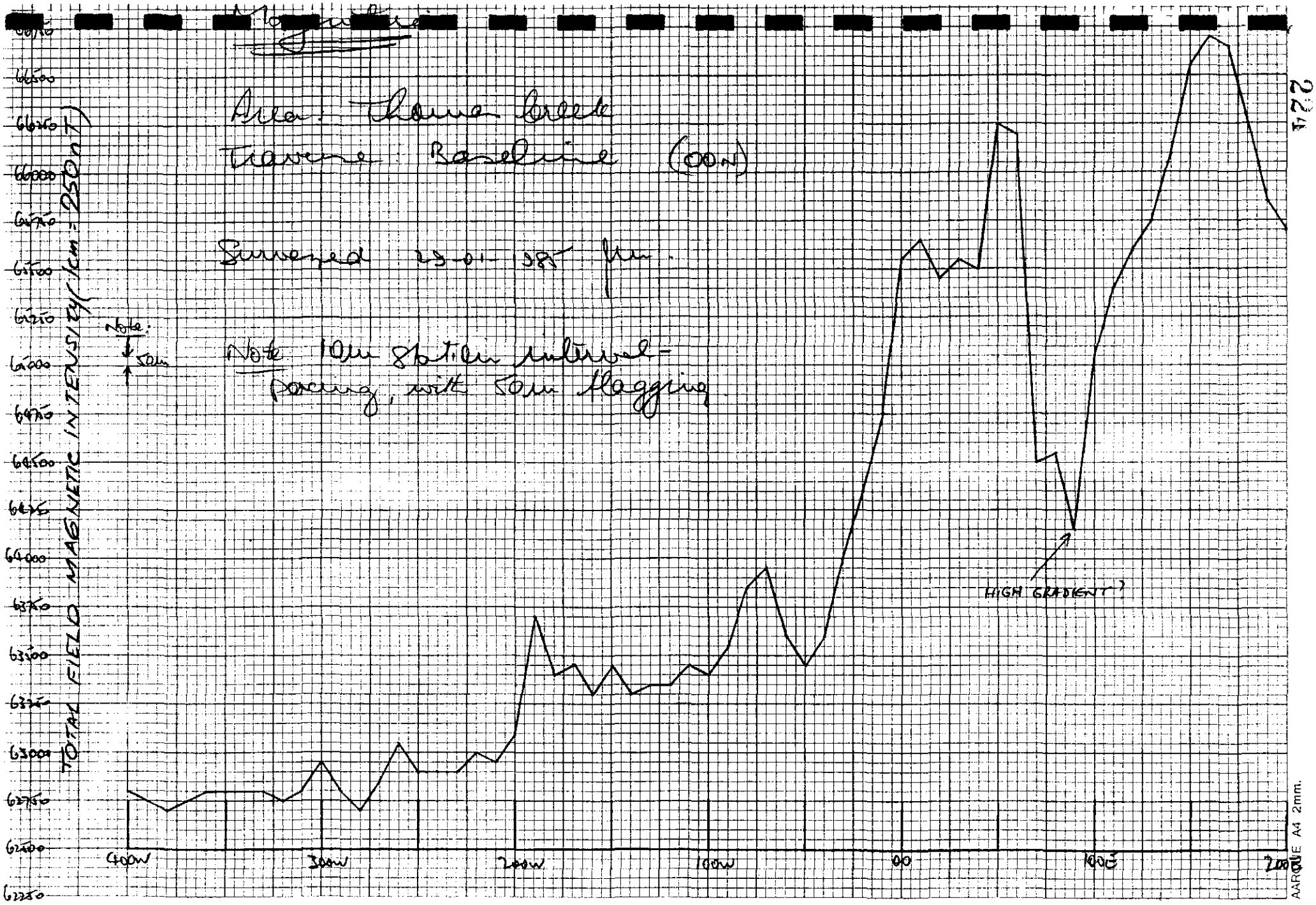



1062222


Magnetometer Survey
Area. Rustic Creek
Traverse "A"
Surveyed 26.01.1985
Sheet 2/2
222
TOTAL FIELD MAGNETICS 1cm = 10nT
62800
760
720
62700
680
640
600
62600
560
520
7200W
1140W
1080W
1020W
960W
900W
840W
780W
720W
660W
600W
540W
480W
420W
360W
300W
240W
180W
120W
60W
0
Creek

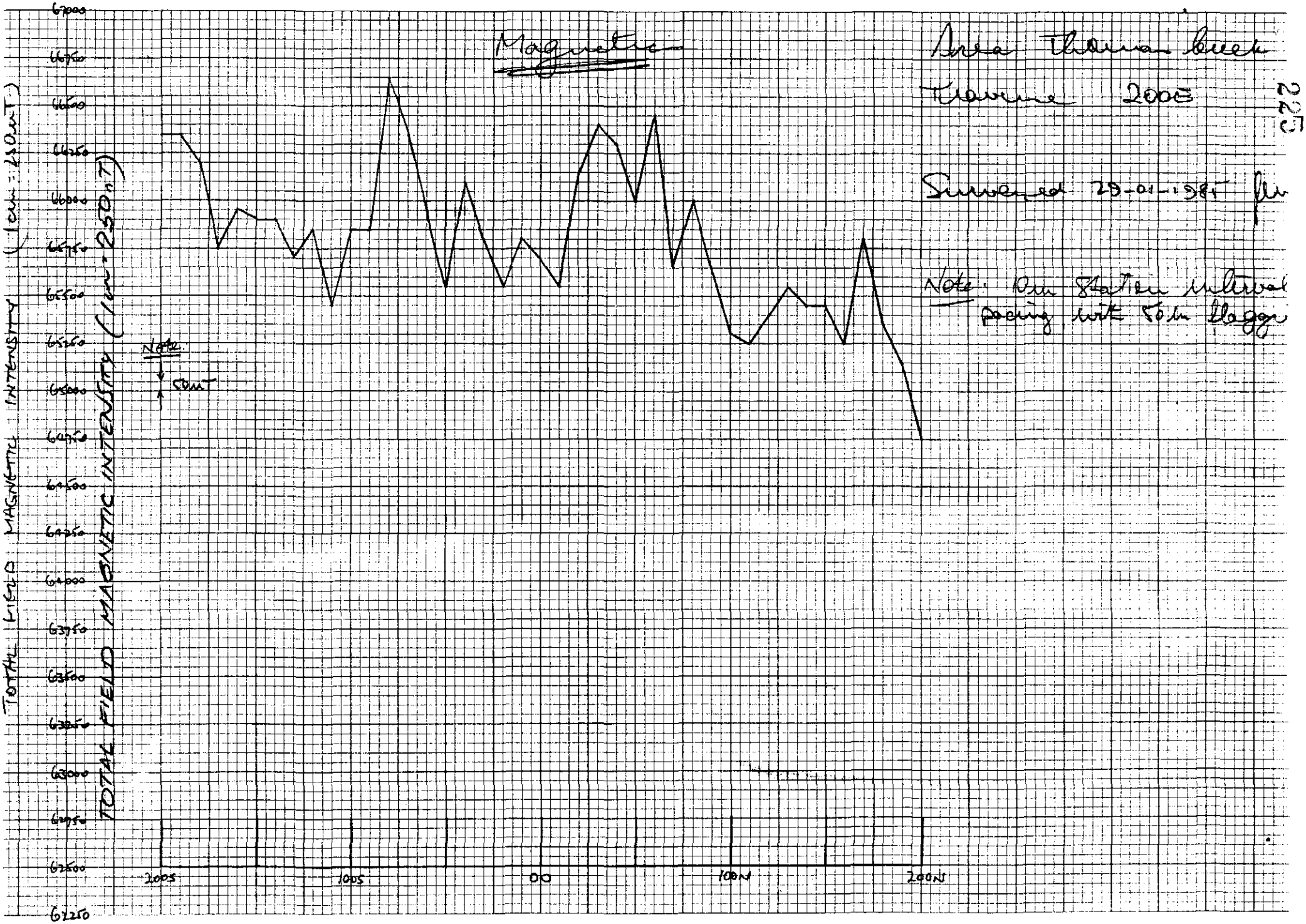
1062223

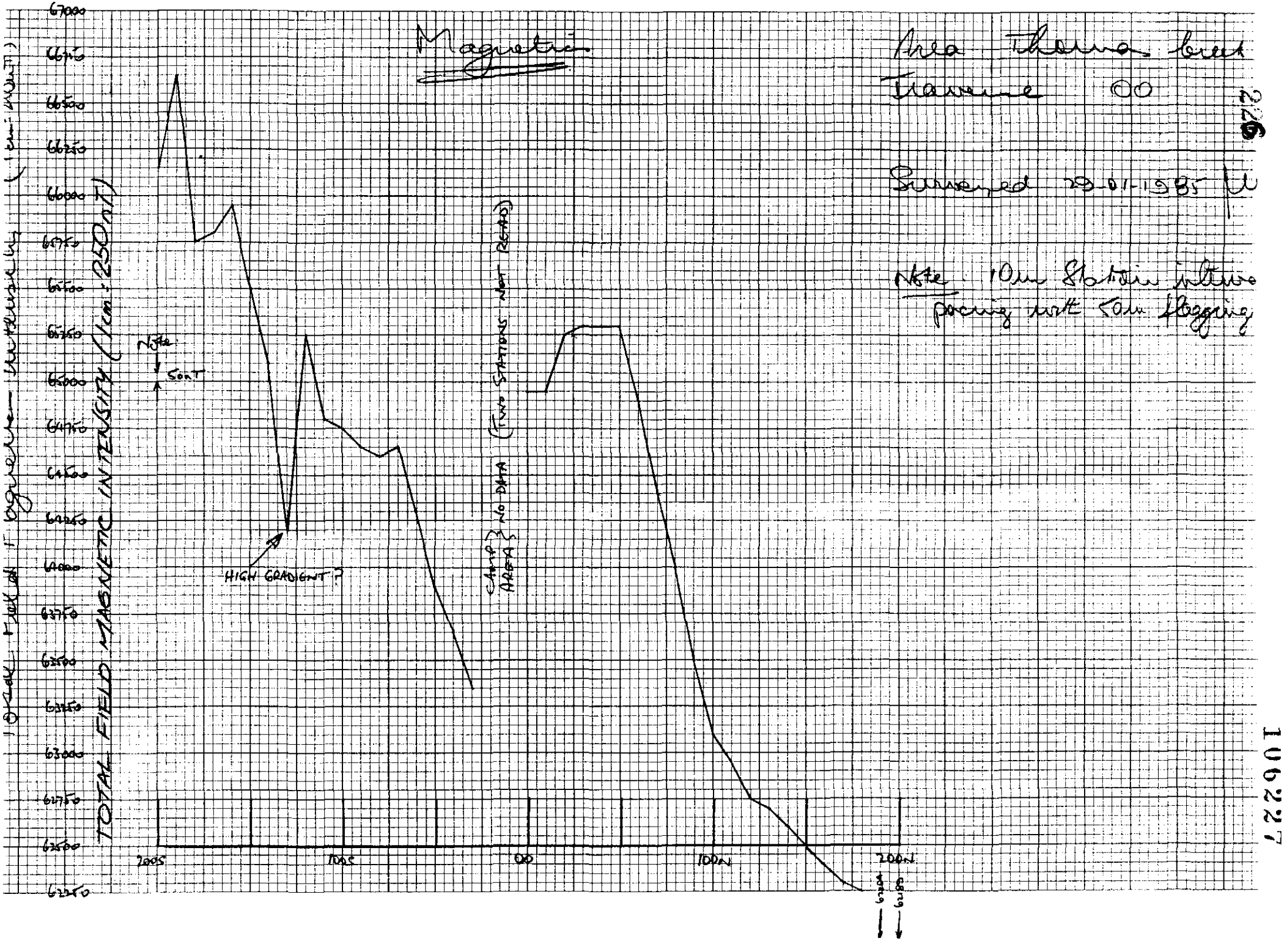
THOMAS CREEK


Magnetics
Area: Adura Creek
Traverse: Baseline (000N)
Surveyed 23-01-98 km.
Note 10m station interval - Pacing, with 50m flagging
TOTAL FIELD MAGNETIC INTENSITY (1cm = 250nT)
66500
66250
66000
65750
65500
65250
65000
64750
64500
64250
64000
63750
63500
63250
63000
62750
62500
62250
50m
HIGH GRADIENT?
400W
300W
200W
100W
00
100E
200E
274
AARONDE A4 2mm.

106225

106226


Magnetic
Area Thurman Creek
Traverse 2005
Surveyed 29-01-05 JH
Note: 10m Station interval
pacing unit for logger
TOTAL FIELD MAGNETIC INTENSITY (1cm = 250nT)
TOTAL FIELD MAGNETIC INTENSITY (1cm = 250nT)
Note
50nT
67000
66750
66500
66250
66000
65750
65500
65250
65000
64750
64500
64250
64000
63750
63500
63250
63000
62750
62500
62250
200S
100S
0
100N
200N




226

10622227

# Magnetics

Area: Thomas Creek

Traverse 150W 100W 50W

Surveyed 31-01-1985
(Repeat data 01-02-1985)

Note 5m station interval - Pacing with 50m flagging

+ DATA 29-01-1985
⊙ REPEAT DATA 01-02-1985

TOTAL FIELD MAGNETIC INTENSITY (1 cm = 250 nT)

TOTAL FIELD MAGNETIC INTENSITY (1cm = 250nT)

67000
66750
66500
66250
66000
65750
65500
65250
65000
64750
64500
64250
64000
63750
63500
63250
63000
62750
62500
62250

NOTE: 50nT

APPROX LOCATION HIGH GOLD GEOCHEM

150W
100W
50W

50S 00 50N

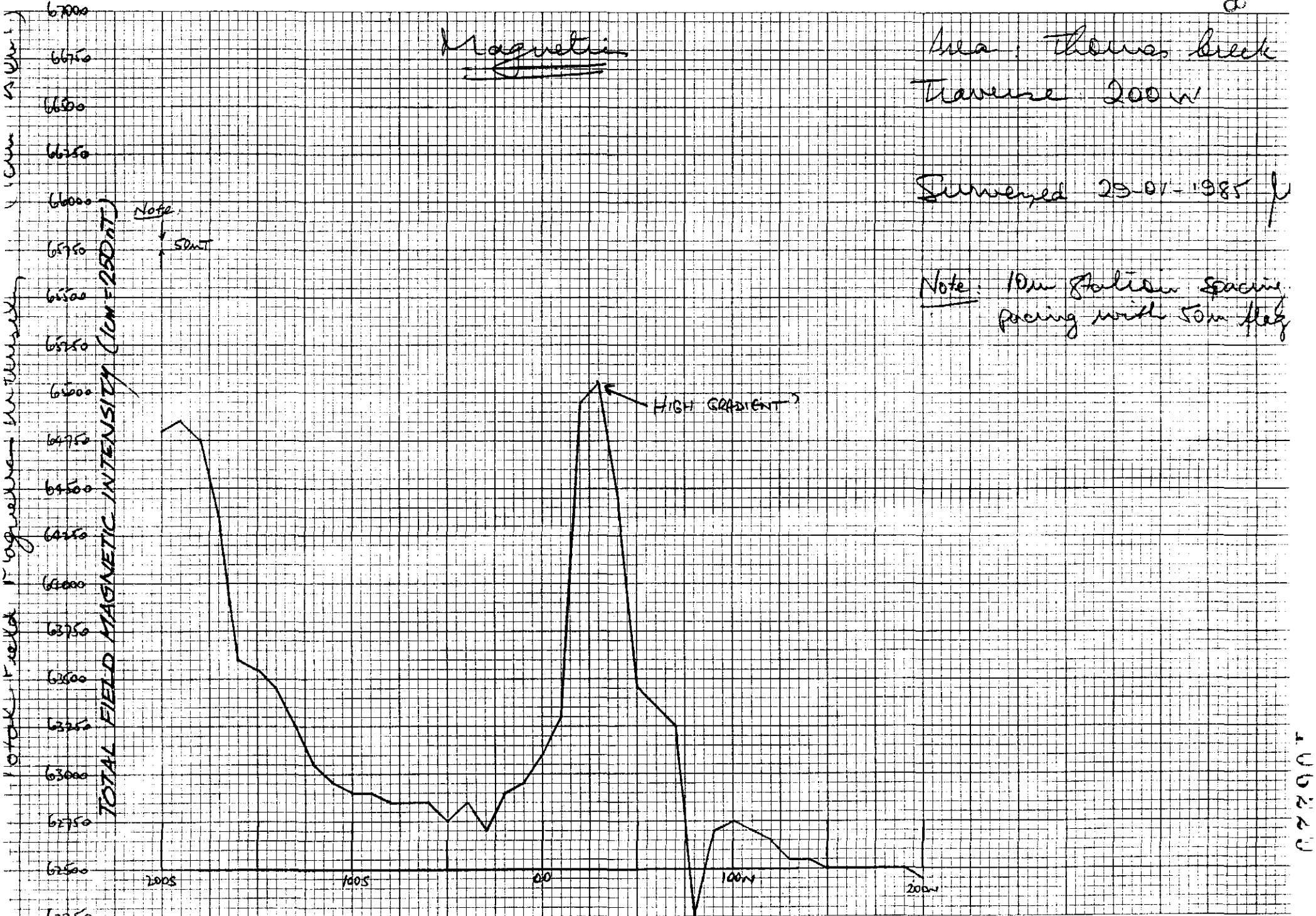
Magnetics

Area: Thomas Creek

Traverse 200 W

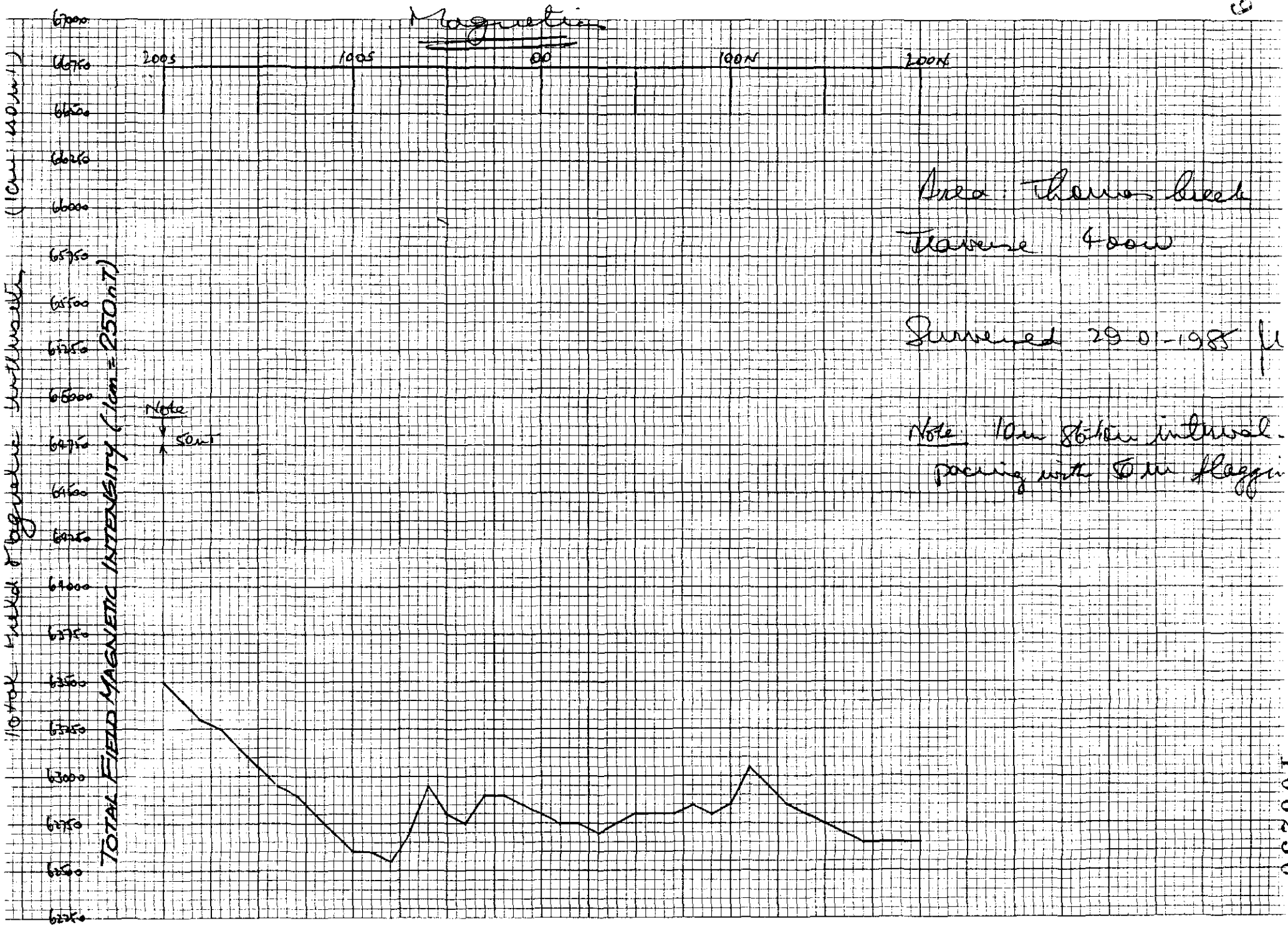
Surveyed 29-07-1985

Note: 10m station spacing
pacing with 50m flag




100222

Magnetics




Area: Thorn Creek

Traverse 400mN

Surveyed 29-01-98 JL

Note: 10m station interval.
pacing with 50m flagging

106230

106231

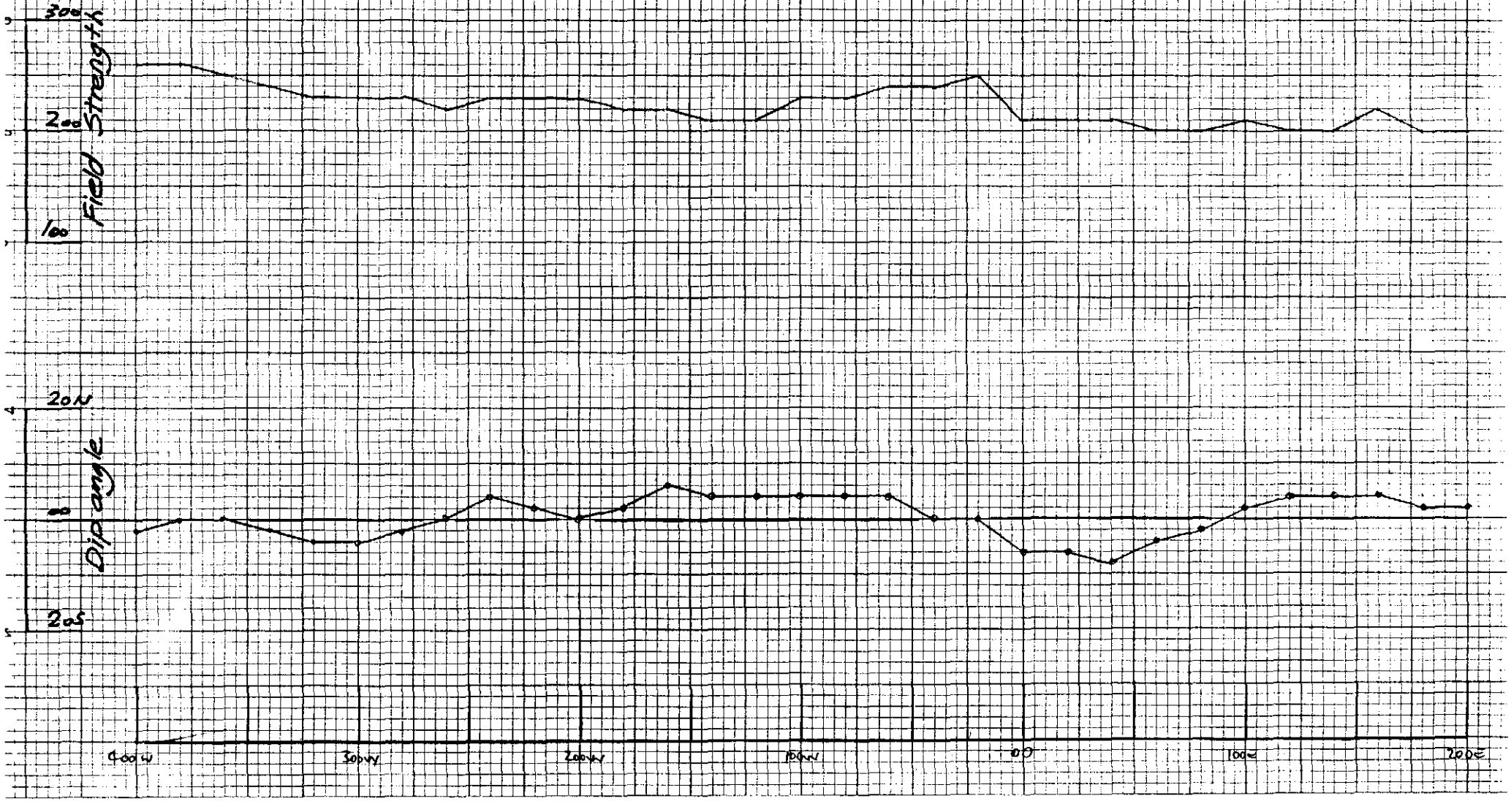
230

VLF Survey

Area Thelon brook

Traverse : Baseline

Surveyed 30-01-1985 JH



106232

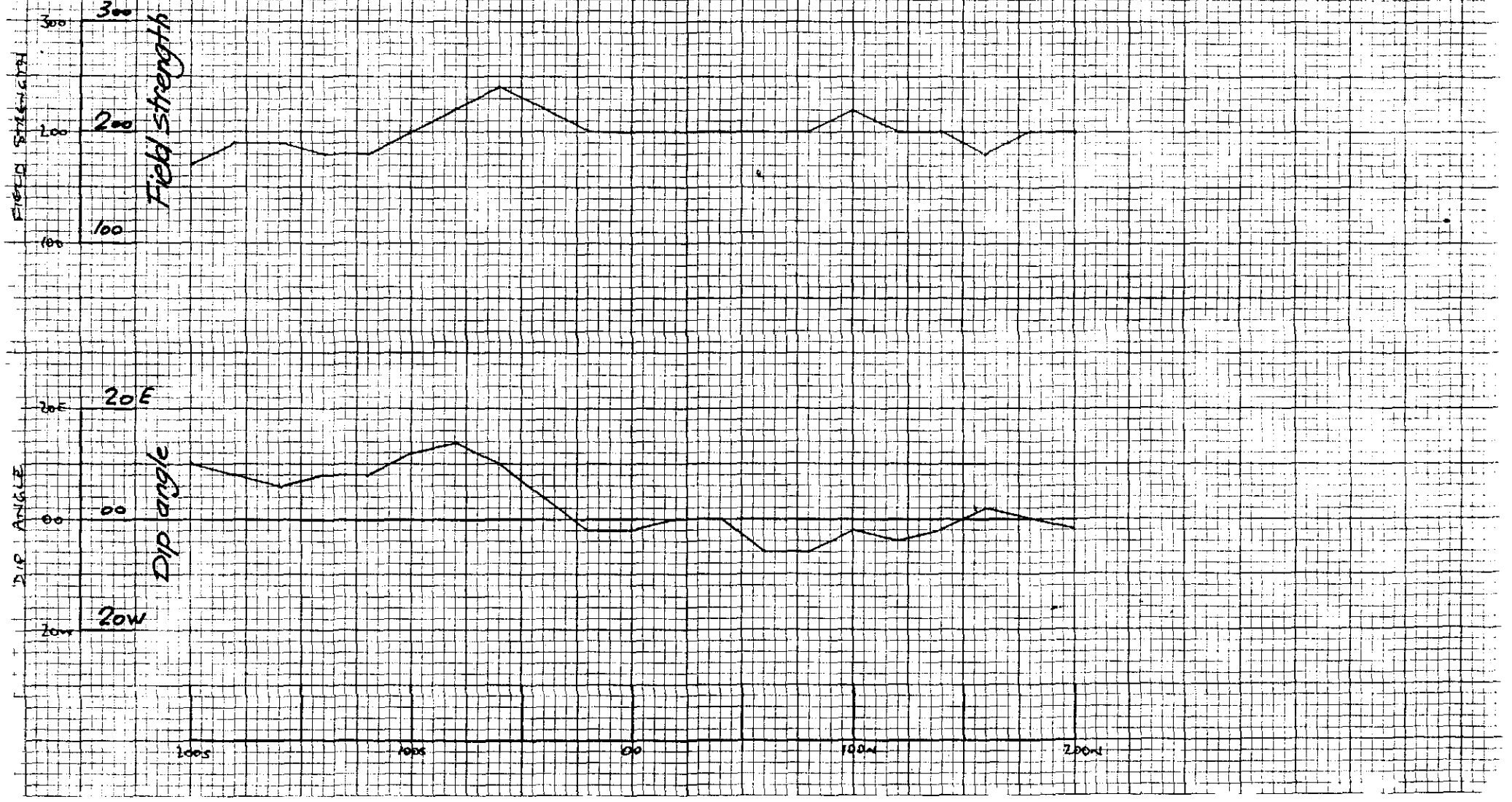
231

VLF Survey

Area : Thanes Creek

Traverse : 200E

Surveyed : 30-01-1985 JM

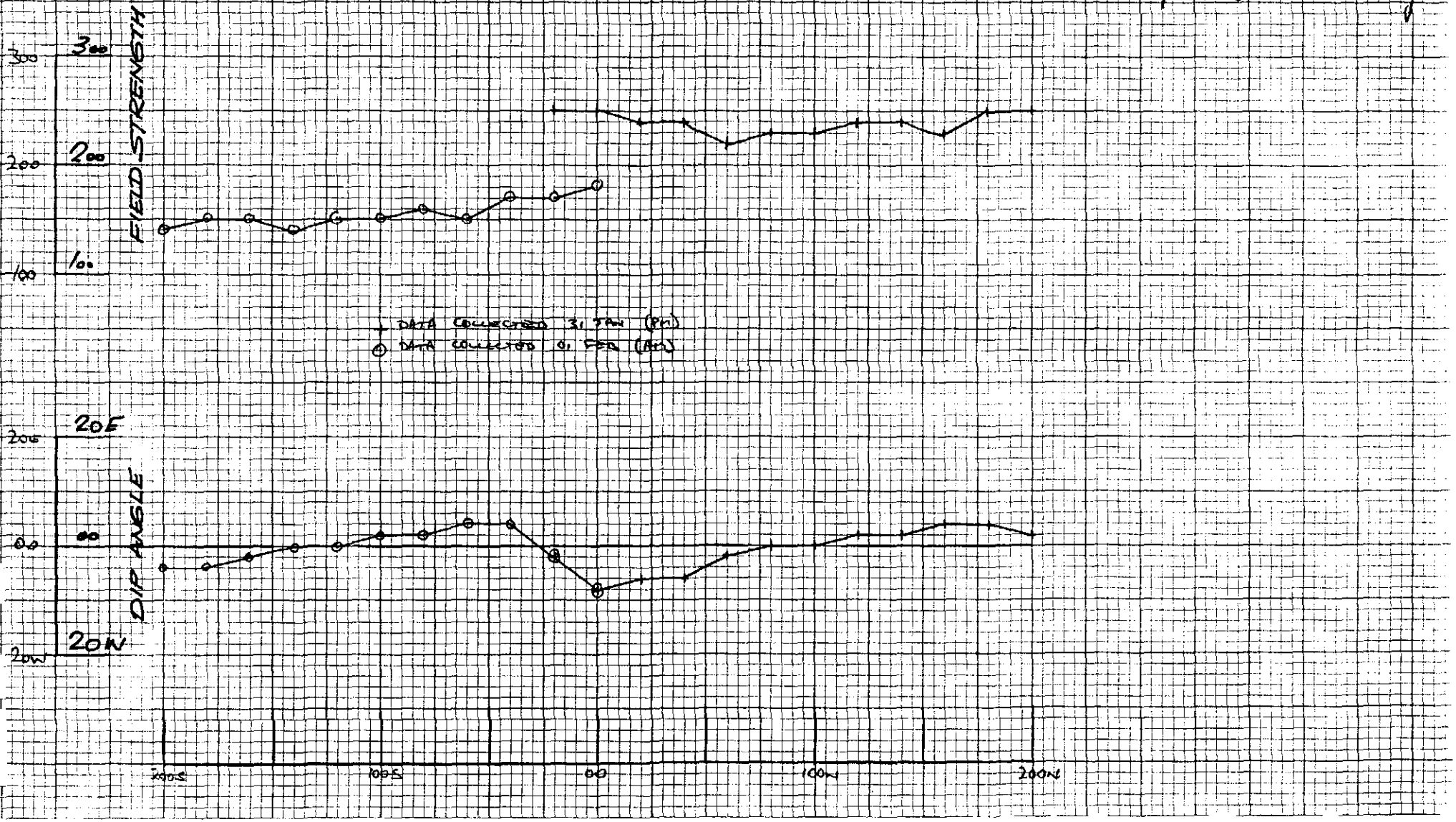


VLF Survey

Area: Thunder Creek

Transmitter: Q20

Surveyed 31-01, 01-02 — 1981 JH



106234

# VLF Survey

Area: Thorn Creek

Traverse: 150W 100W 50W

Surveyed: 31-01-1985 JM

106235

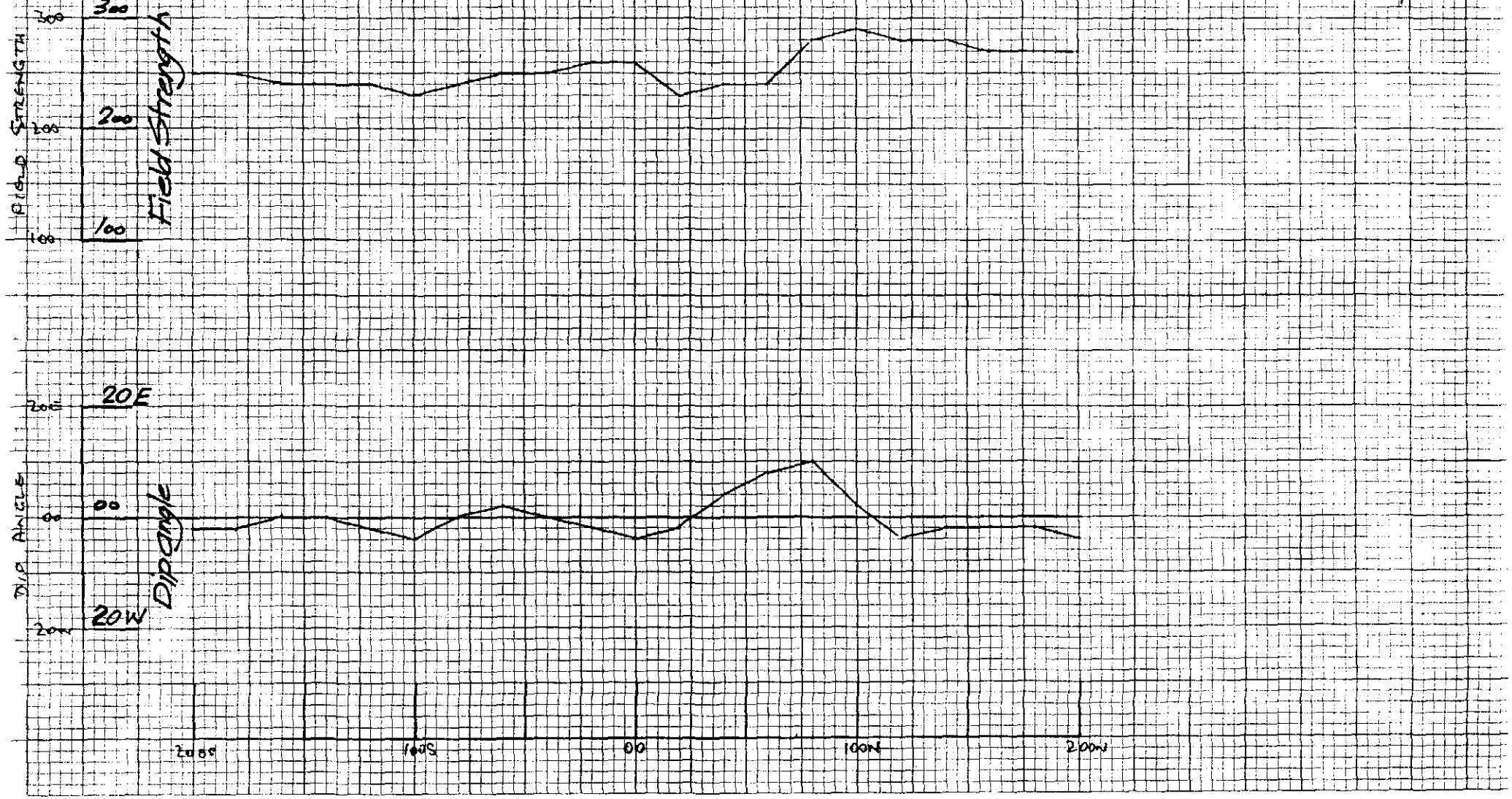
231

# V.L.F. Survey

Area : Thelma Creek

Traverse : 200 m/

Surveyed 30-01-1985



106236

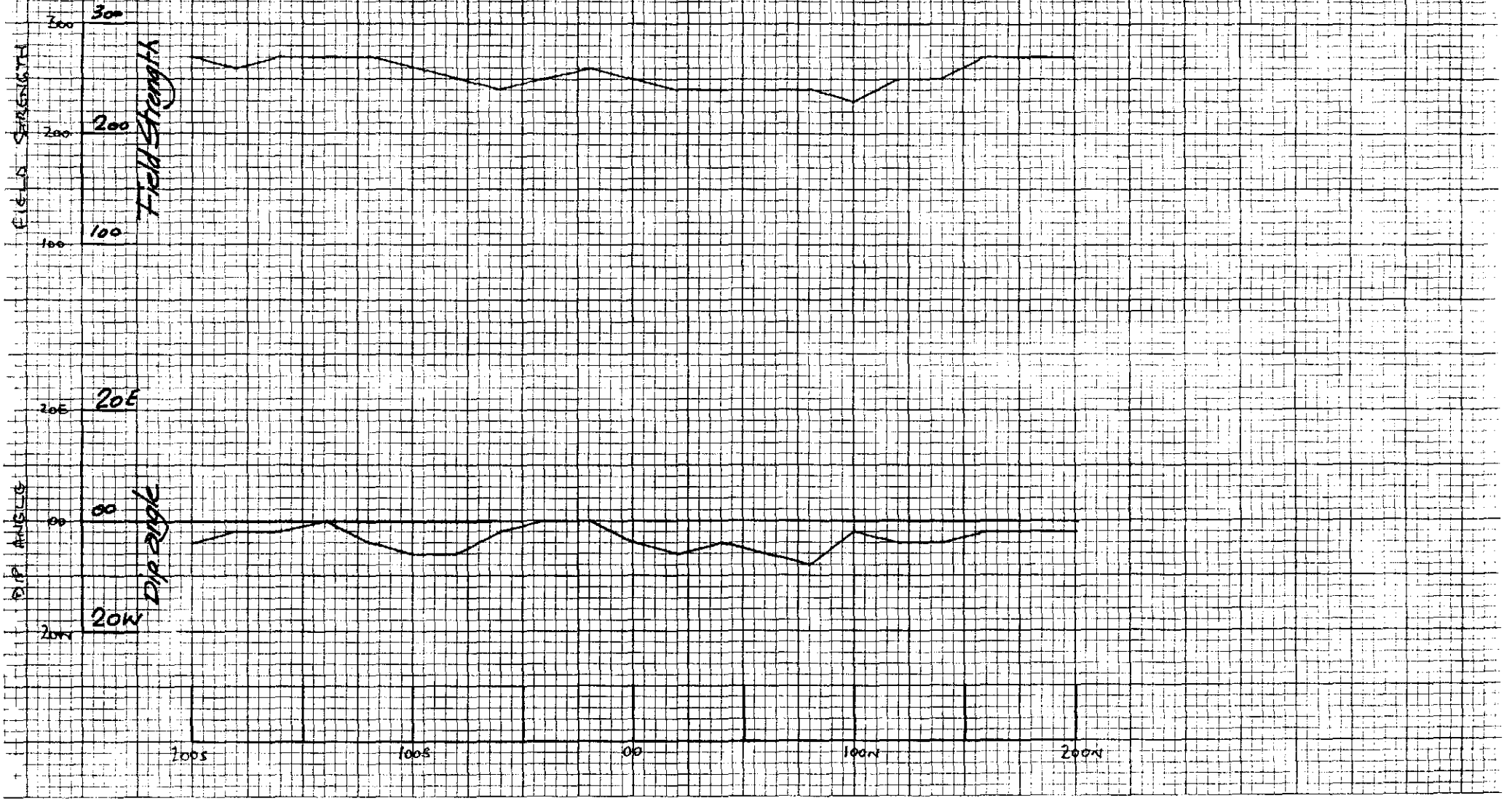
233

VLF Survey

Area - Thomas Creek

Traverse : 400W

Surveyed : 30-01-1985 JM



106237 236

GENIE EM

Area Thorne Creek

Traverse 00

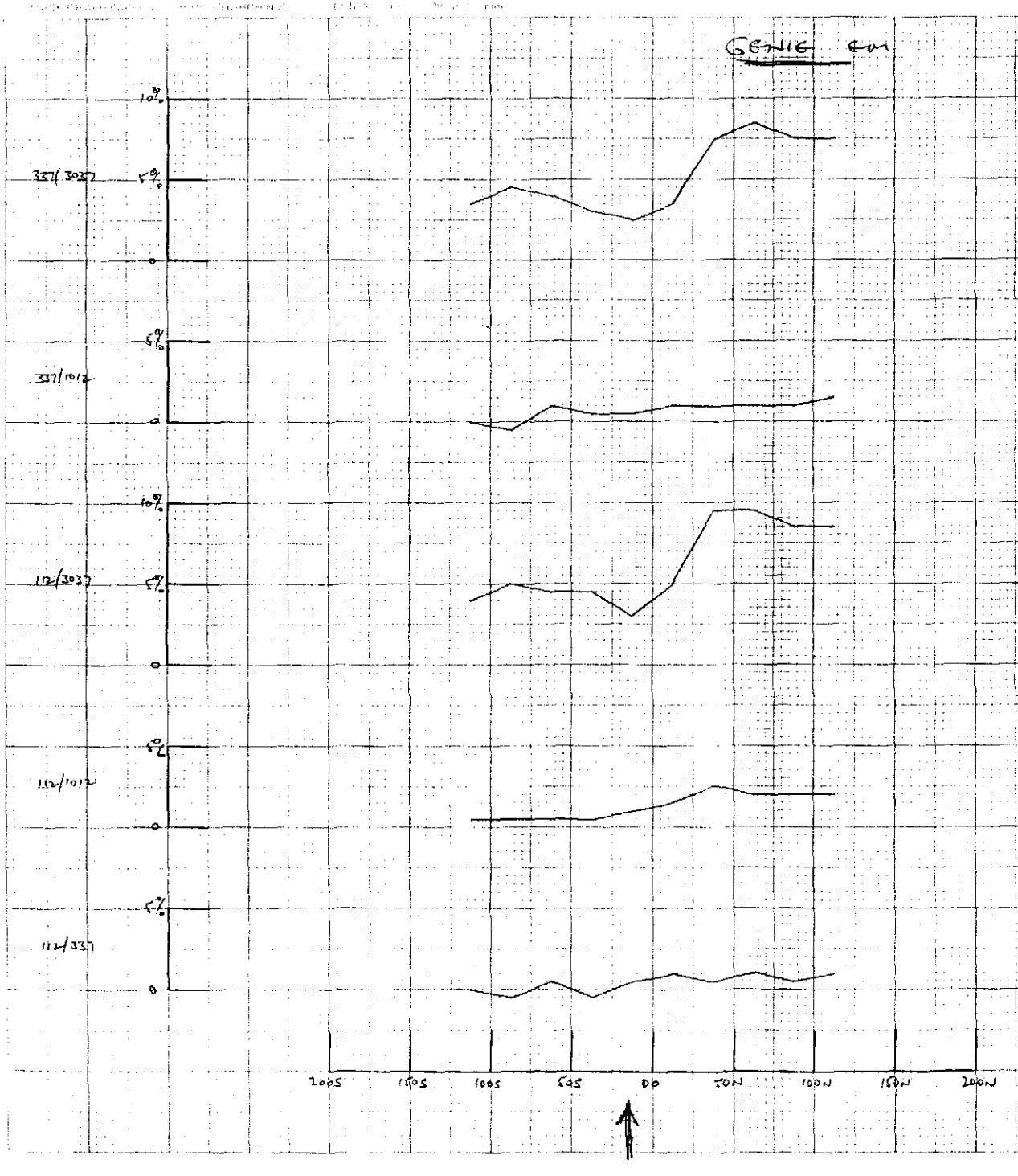
Surveyed 02-02-98 JM

Tx-Rx Spacing 75m

Station increment 25m

Integration period 8 second

Data flatted & moved 0.5%



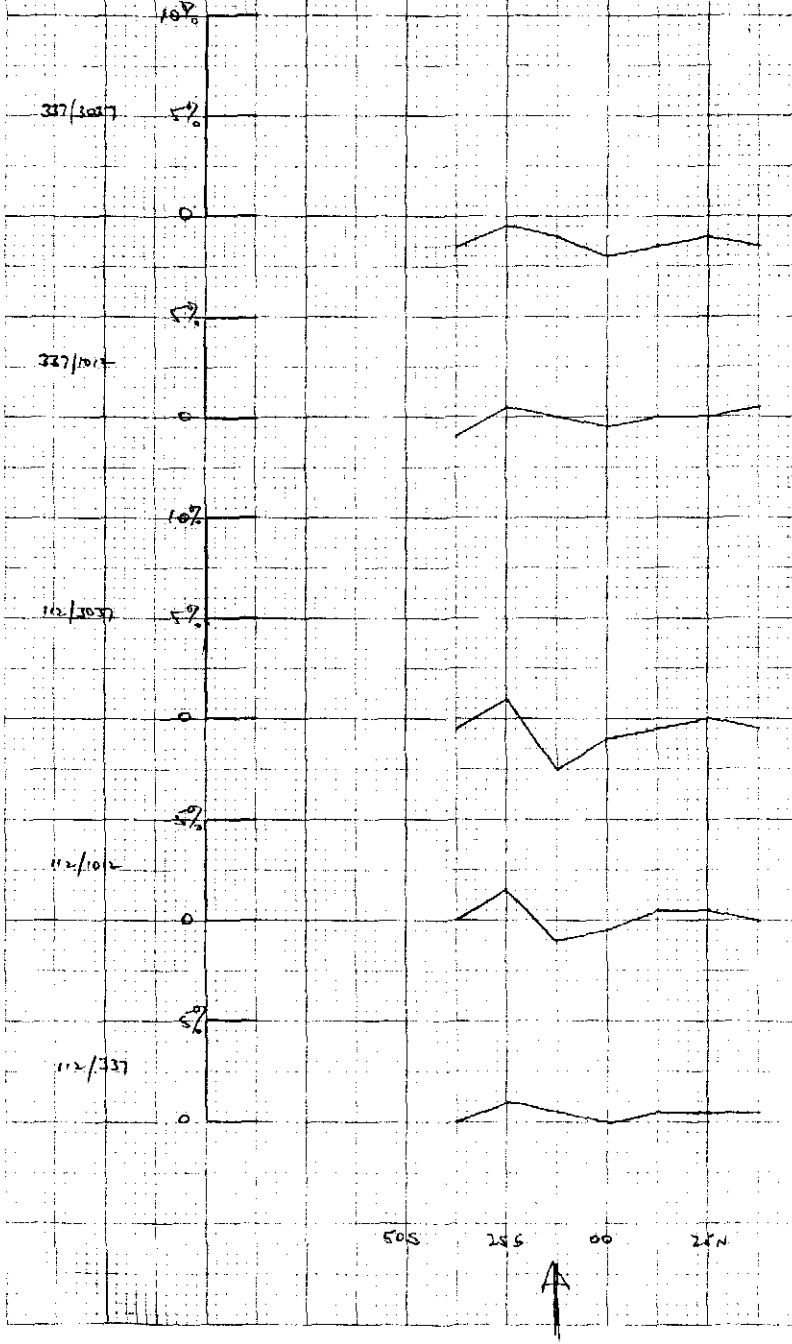
GENIE cm

Area Thouin brook
Traverse SOW

Surveyed 02-02-1985 JLL

Tx-Rx Spacing 25 m
Station increment 12.5 m

Data plotted to 0.5%
Integration period 4 second




106238

238

106239

# URQUHART EAST

GEOMETRICS GRAPH PAPERS CHRISTCHURCH N.Z. 0.5cm x 2 mm

GENIE EM

Area: Chuchuhuaco East

Traverse: 2000N

Surveyed 07-02-1984

337/1012

337/1012

337/1012

337/1012

337/1012

Data plotted to nearest 0.5% (Note vertical scale change)

Tx-Rx Spacing 75m

Station increment 25m

Integration period 8 seconds

0 100E 200E 300E 400E 500E 600E 700E 800E 900E 1000E 1100E 1200E 1300E

106240

SOFTBACK GRAPH PAPER CHRISTCHURCH N.Z. Cat.2X 40 cm x 28 cm x 2 mm.

# Magnetic Survey

Area: Ohaupuni East

Traverse: 2000N

Surveyed 07-02-1985 G.K

Plotted 11-02-1985 by P.M.

V. Scale 1cm = 100nT

H. Scale 1:5000

Data NOT corrected for diurnal drift

Instrument
Geometrics G856
Ser no: 27062
Planar line: 1 cm
Reading rate: 4 per min
Sensor: Backpack (2 m)

Indicates high gradient

Note: Ohaupuni East traverses 3000S, 2000N, 2350N are not tied and are not relative

NOTE 00 - 3000S 25m Spacing
3000 - 1300S 10m Spacing

TOTAL FIELD MAGNETIC INTENSITY (1cm = 100nT)

62200 62400 62600 62800 63000 63200 63400 63600 63800 64000 64200 64400

00 100E 2000E 3000E 4000E 5000E 6000E 7000E 8000E 9000E 10000E 11000E 12000E 13000E

FINISH 1324
START 1915
FINISH 1751

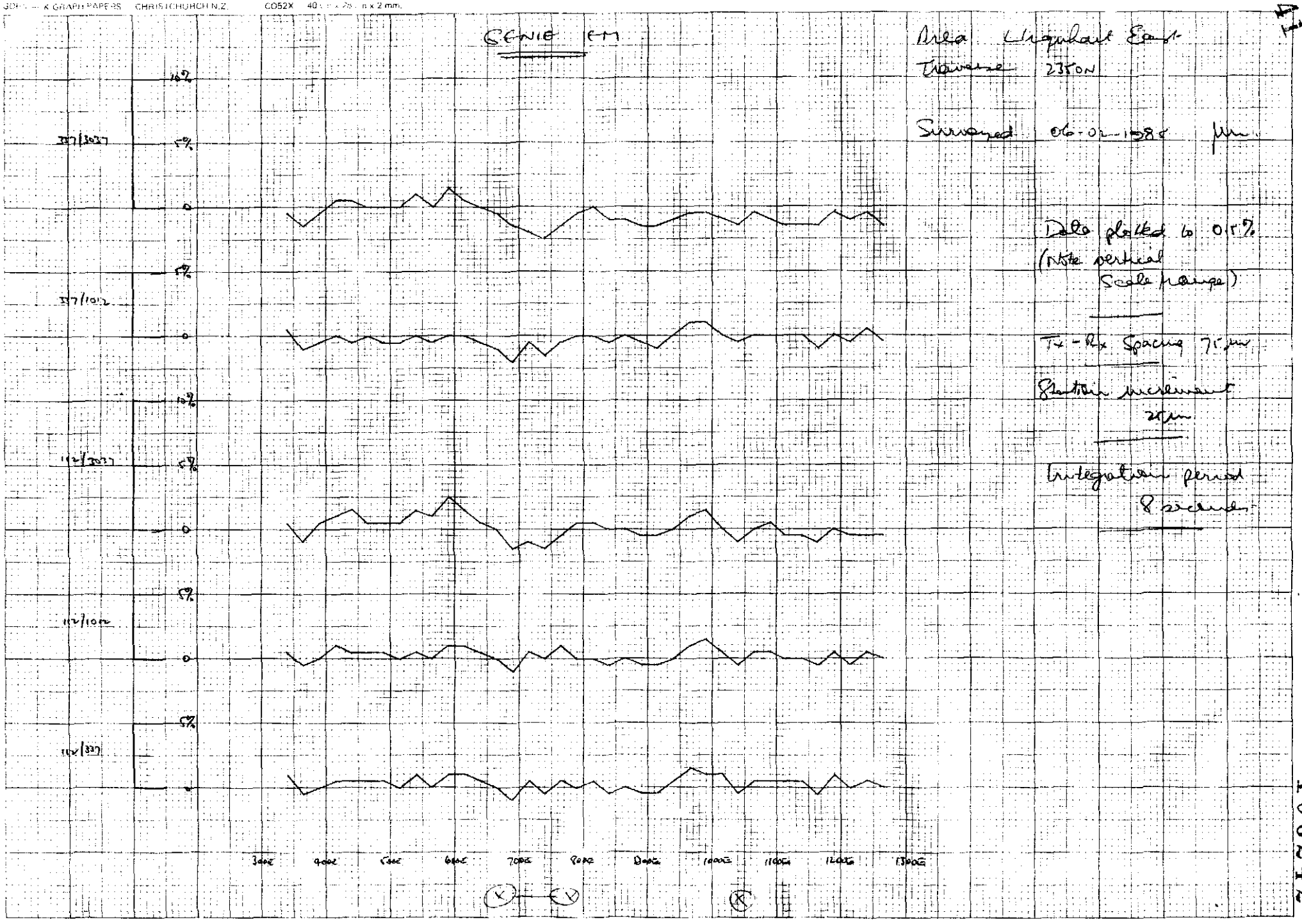
5 cm

START 1604

240

1062411

K GRAPH PAPERS CHRISTCHURCH N.Z. CO52X 40 x 25 x 2 mm.




1062242

GORMAC GRAPH PAPER CHRISTCHURCH N.Z. 0857Y 40 x 25 cm x 2 mm

242

# Magnetic Survey

Area: Ungulhart East

Traverse: 2350N

Surveyed 07-02-1985 G.K.

Plotted 11-02-1985 by P.M.

V. Scale 1cm = 100nT

H. Scale 1:5000

Data not corrected for diurnal drift

Instrument
Geometrics G856
Ser no: 27092
Polaris time: 1 sec
Reading rate: 400/min
Sensor: Backpack (≈1m)

⊙ Indicate high gradient

Note: Ungulhart East Traverse 3000N 2000N 2350N are not tied and are not relative

5 cm

00 100E 200E 300E 400E 500E 600E 700E 800E 900E 1000E 1100E 1200E 1300E

START 1759

FINISH 1944

106243

COPYX GRAPH PAPERS CHRISTCHURCH N.Z. C052X 40 cm x 28 cm x 2 mm

# Magnetic Survey

Area : Urquhart East
Traverse 300E
Surveyed 07-02-1984 G.K.
Plotted 11-02-1984 D.H.
V Scale 1cm = 100nT
H Scale 1:5000
Data NOT corrected for diurnal shift

Instrument Gelsonic G816
Ser no 27062
Polarised tune 1 second
Reading gate 4sec min
Sensor Backpack (2m)

NOTE - Urquhart East traverse 300E, 2000N 2350N are not tied and are not reliable

TOTAL FIELD MAGNETICS (1cm = 100 nT)

65400
800
600
400
200
64000
63800
63600
63400
63200
63000
800
600
400
63200

6400N
6450N

2000N
2100N
2200N
2300N

FINISH 1913
START 1904

5 cm

1062244

244

106245

# URQHART SOUTH

GORDON CHAPH PAPERS CHRISTCHURCH N.Z. 61-52X 30 cm x 28 m x 2 mm.

242

GENIE GM

Area Chipukuni South

Traverse 3000 S

Surveyed 05-02-1985

Data plotted to nearest 0.5%

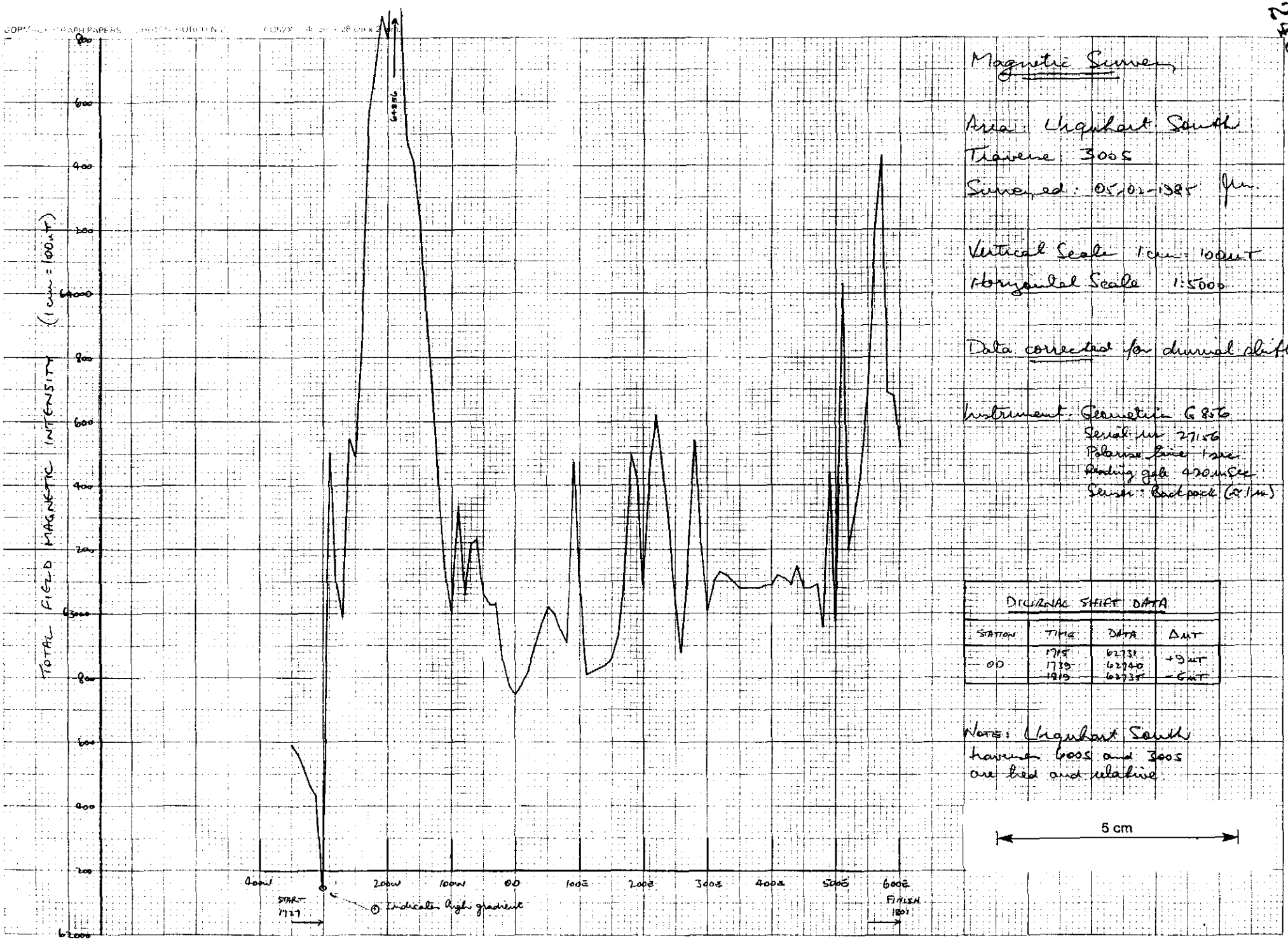
(note vertical scale changes)

Tx - Rx Spacing 75m

Station increment 25m

Integration period 8 sec

1062246




Magnetic Survey

Area: Urquhart South

Traverse 3005

Surveyed: 05/02-1985 Jm.

Vertical Scale 1cm = 100nT

Horizontal Scale 1:5000

Data corrected for diurnal shift

Instrument: Geometrics G856
Serial no. 2756
Polarization time 1sec
Reading gate 4x0.1sec
Sensor: backpack (0.1m)

DIURNAL SHIFT DATA

| STATION | TIME | DATA | ΔnT |
|---|---|---|---|
| 00 | 1715 | 62731 | |
| | 1719 | 62740 | +9nT |
| | 1819 | 62735 | −5nT |

NOTE: Urquhart South traverse 6005 and 3005 are tied and relative

5 cm

GENIE cm
Area Urquhart South
Traverse 6005
Surveyed 04-02-1985 jm
Data plotted to nearest 0.5%
(Note vertical scale and range)
T-R Spacing 100m
Station increment 25m
Integration period 8 second
337/3037
337/1012
112/3037
112/1012
112/337
5%
0
10%
500W
400W
300W
200W
100W
00
100E
200E
300E
400E
500E

106248

GOLDSAC K GRAPH PAPERS CHRISTCHURCH N.Z. CO52X 10 cm x 28 cm x 2 mm

0248

# Magnetic Survey

Area: Urquhart South

Traverse: 6005

Surveyed: 05-02-1985 JM.

Vertical Scale 1 cm = 100 nT

Horizontal Scale 1:5000

Data corrected for diurnal shift

Instrument: GEM Elec. G856
Serial no 2715
Polarise time 1 sec
Reading gate 4 sec
Sensor: Backpack (2 m)

TOTAL FIELD MAGNETIC INTENSITY (1 cm = 100 nT)

62800
62900
63000
63100
63200
63300
63400
63500
63600
63700
63800
63900
64000
64100
64200

50mW 40mW 30mW 20mW 10mW 0/0 10mE 20mE 30mE 40mE 50mE

START 0917

FINISH 0947

| DIURNAL SHIFT DATA | | | |
|---|---|---|---|
| STATION | TIME | DATA | ΔnT |
| 00 | 0903 | 62873 | 0 nT |
| | 0933 | 62879 | -4 nT |
| | 1005 | 62875 | |

NOTE: Urquhart South traverses 6005 and 3005 are tied and relative.

5 cm

106249

GORDON CK GRAPH PAPERS CHRISTCHURCH N.Z. C/52/X 40 cm x 28 cm x 2 mm.



# Magnetic Survey

Area: Urquhart

Traverse: Baseline (Urquhart South - East)

⊙ Indicate high gradient

65555

65259

TOTAL FIELD MAGNETIC INTENSITY (1cm = 250nT)

65000

64000

63000

62000

URQUHART SOUTH HELIPAD

| DIURNAL SHIFT DATA | | | |
|---|---|---|---|
| STATION | TIME | DATA | ΔnT |
| 0.0 | 0932<br>1141 | 62746<br>62732 | -14nT |
| 400N | 0942<br>1128 | 62956<br>62945 | -11nT |
| 800N | 0957<br>1111 | 63141<br>63128 | -13nT |
| 1200N | 1008<br>1055 | 63320<br>63315 | -5nT |
| 1600N | 1018<br>1042 | 63320<br>63324 | -4nT |

Surveyed: 08-02-1985 JM

Note: Data NOT corrected for diurnal shift

Vertical Scale: 1cm = 125nT (ie ↓ 25nT ↑)

Horizontal Scale: 1:5000

Instrument: Geometrics G856 #27062
Polarity line: 1 second
Reading gate: 4 seconds
Sensor height: Backpack (± 1m)

0.0 100N 200N 300N 400N 500N 600N 700N 800N 900N 1000N 1100N 1200N 1300N 1400N 1500N 1600N 1700N 1800N 1900N 2000N

FINISH 1141

START 1030

5 cm

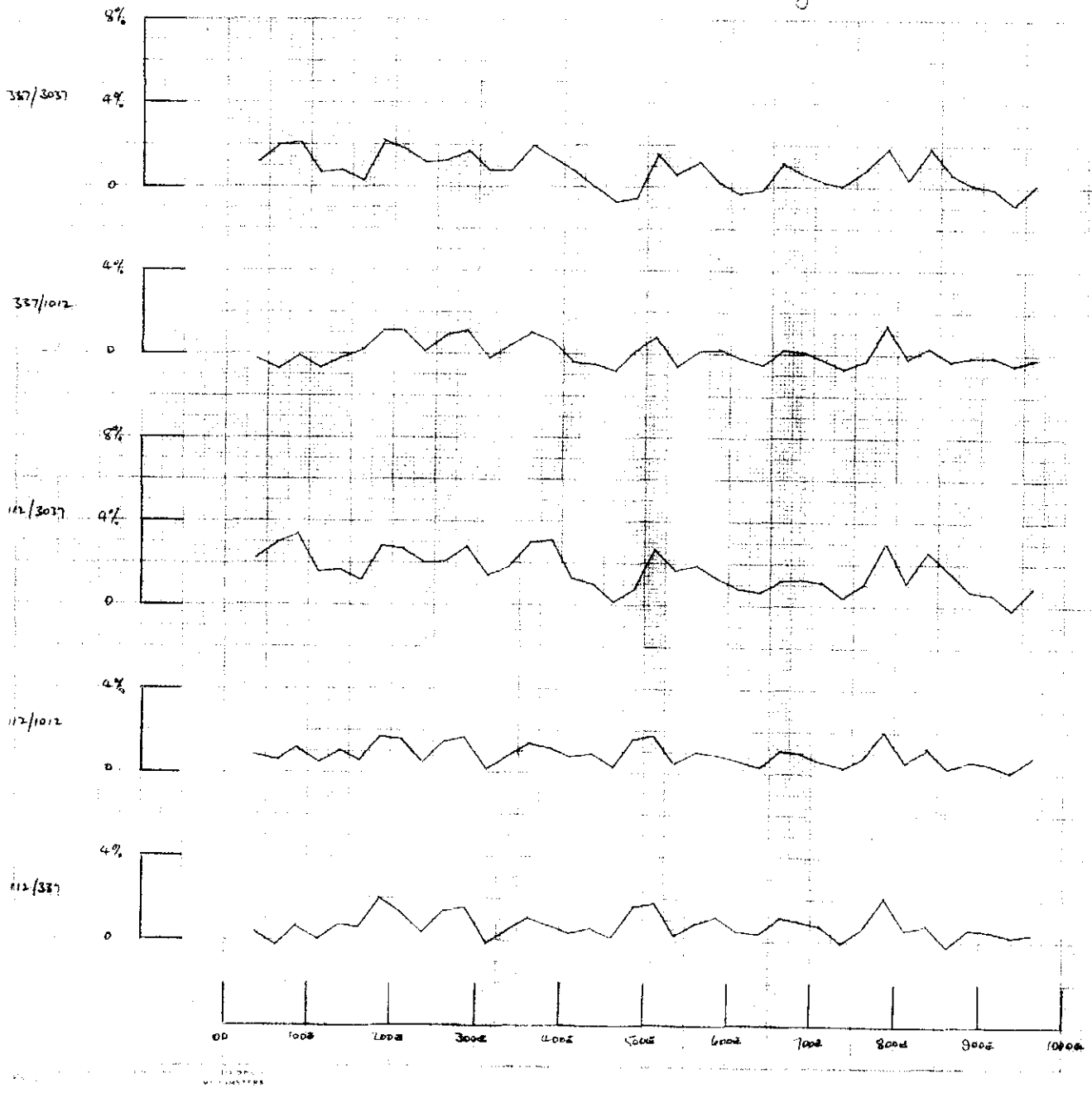
106250

250

106251

# URQUHART NORTH

Geonics Electromagnetics




Area : Chigubaut North

Traverse: "B" (00N)

Surveyed 14-02-1985

Horizontal Scale 1:5000

Vertical Scale 1cm : 2%

Data plotted to 0.1%

Tx-Rx Spacing 75m

Station measurement 25m

5 cm

10622

252

# Magnetometer Survey

Area: Urquhart North
Traverse: "B" (00N)

Surveyed 12-02-1985 by

Horizontal Scale 1:5000
Vertical Scale 1 cm : 50 nT

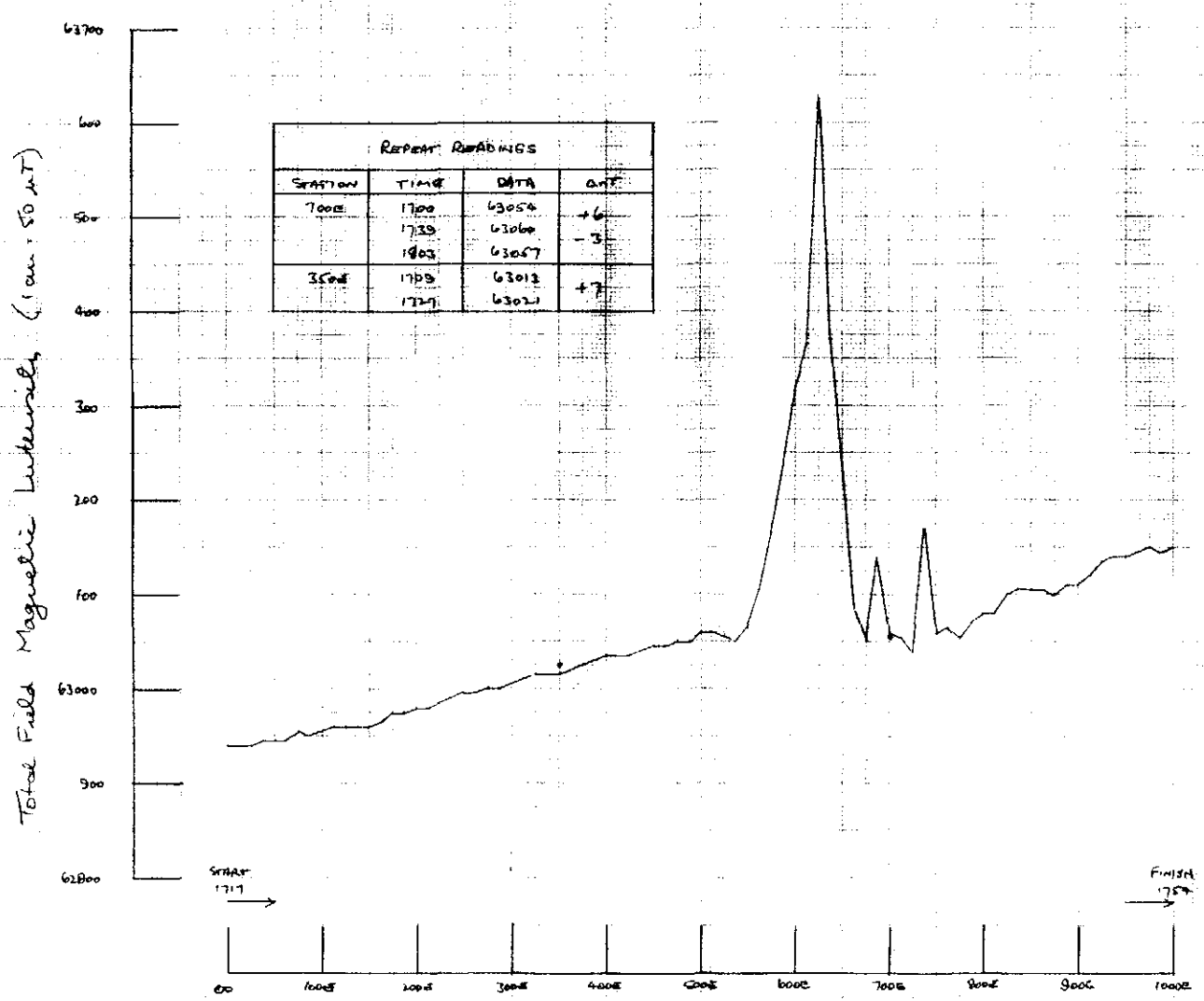
Station interval 12.5m

Instrument: Geometrics G856
Serial no 27062
Sensor height: Backpack (≈ 1m)

Note: Data is not corrected for diurnal variation - see box for repeat reading information

Urquhart North traverses "A" (400N), "B" (00N) and 700S are tied and are relative.

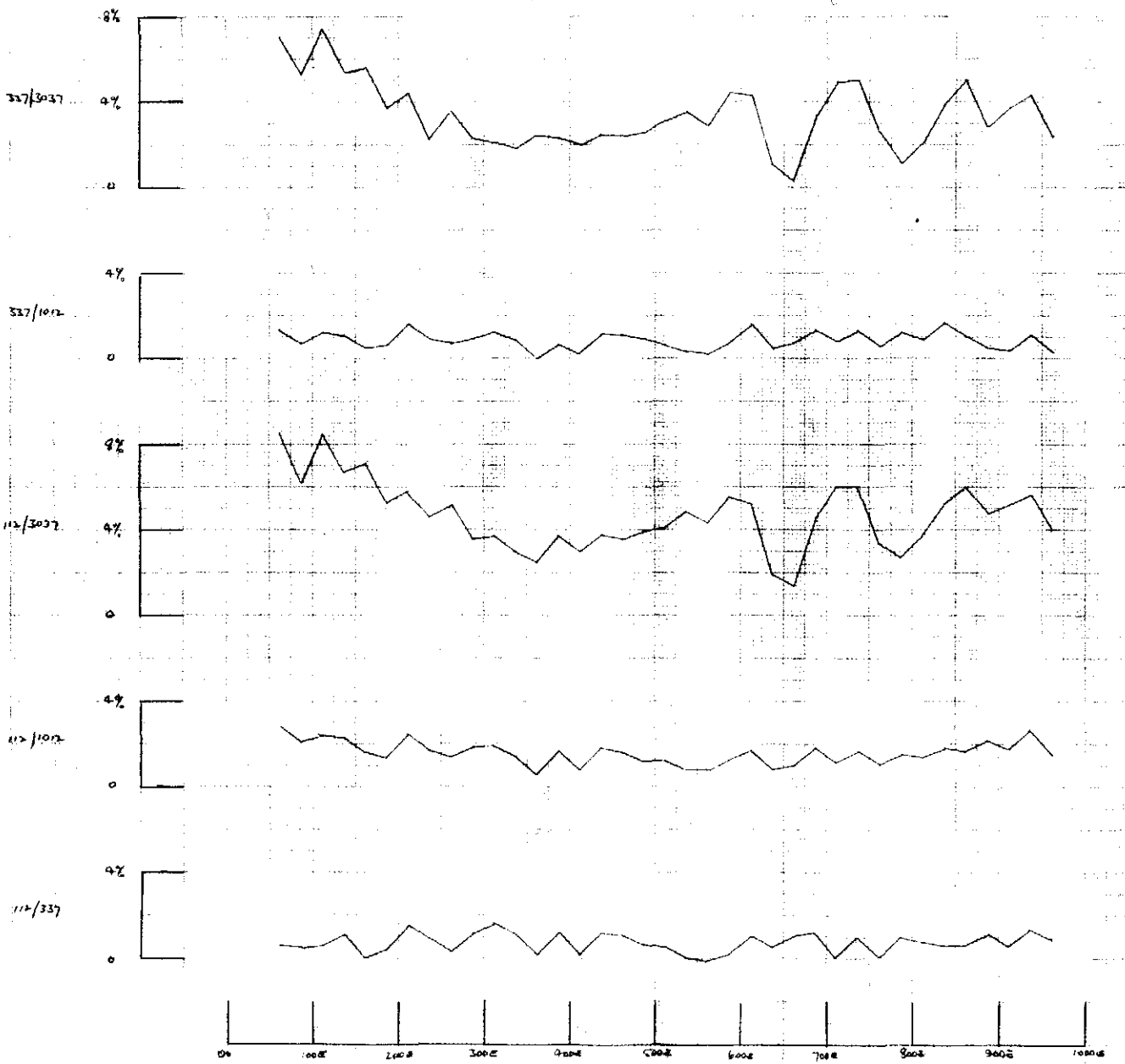
| REPEAT READINGS | | | |
|---|---|---|---|
| STATION | TIME | DATA | Δ nT |
| 700E | 1700 | 63054 | +6 |
| | 1739 | 63060 | −3 |
| | 1803 | 63057 | |
| 350E | 1759 | 63013 | +7 |
| | 1729 | 63021 | |




5 cm

1062253

Genie Electromagnetics




Area: Chibuluk North
Traverse "A" (400N)
Surveyed 12-02-1985 JM
Horizontal Scale 1:5000
Vertical Scale 1cm = 2%

Data plotted to 0.1%

Tx-Rx Spacing 75m
Station increment 25m.

5 cm

# Magnetometer Survey

Area : Urquhart North

Traverse : "A" (400N)

Surveyed 13-02-1985 jm

Horizontal Scale 1:5000
Vertical Scale 1cm = 50nT

Station interval 12.5m.

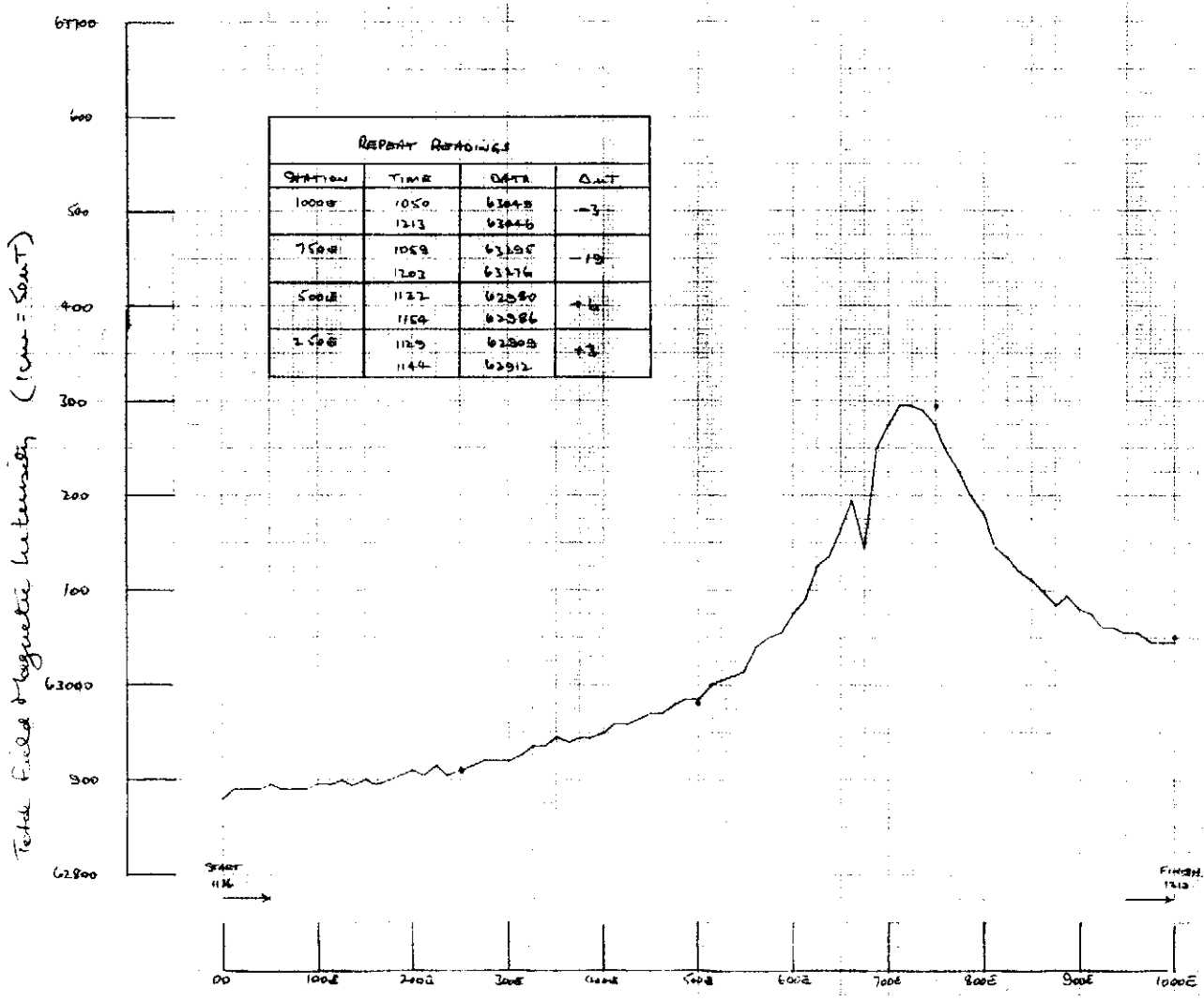
Instrument : Geometrics G856
Serial no 27062
Polarity time 1 sec
Gate 466 mSec
Sensor height : Backpack (≈ 1m)

Note : Data is not corrected for diurnal variations — see box for repeat reading information.

Urquhart North traverses "A" (400N), "B" (00N) and 700E are tied and are relative.

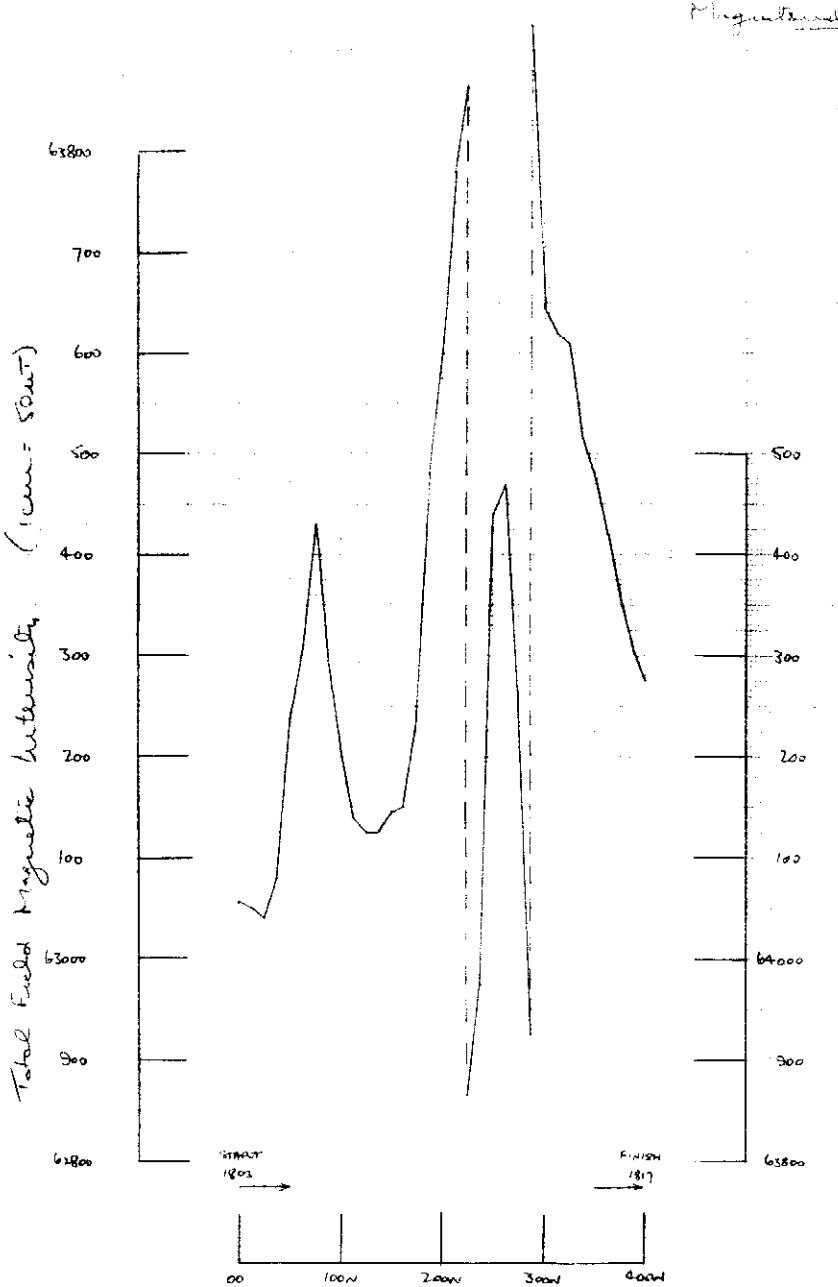
REPEAT READINGS

| STATION | TIME | DATA | DIFF |
|---|---|---|---|
| 1000E | 1050 | 63048 | -3 |
| | 1213 | 63046 | |
| 750E | 1059 | 63195 | -19 |
| | 1203 | 63176 | |
| 500E | 1122 | 62580 | +6 |
| | 1154 | 62586 | |
| 250E | 1129 | 62908 | +4 |
| | 1144 | 62912 | |




5 cm

Magnetometer Survey




Area: Chqubart North

Traverse 700E

Surveyed 14-02-1985 fm

Horizontal Scale 1:5000
Vertical Scale 1cm = 50nT)

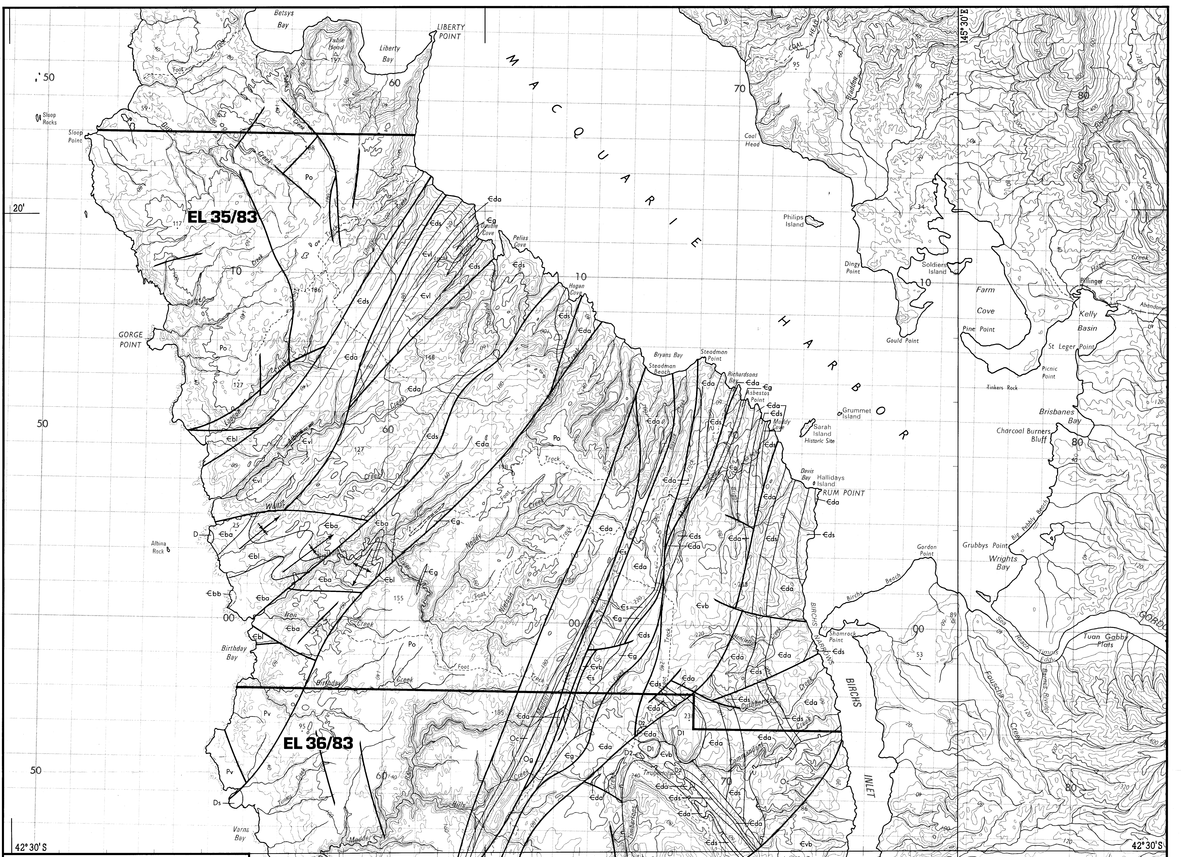
Station interval 25m

Instrument: Geometrics G816
Serial no. 27062
Polarise time 1 sec
Gate 460 msec
Sensor height: Backpack (≈ 1m)

Note: Data is not corrected for diurnal variation.

Chqubart North traverse "A" (400N), "B" (00N) and 700E are tied and are relative.

5 cm




5452

## Legend

**TERTIARY – QUATERNARY**
- Gravel, alluvium

**JURASSIC**
- Dolerite — D

**PERMIAN**
- Undifferentiated sediments — P

**DEVONIAN**
- Spero Bay Group — Dsl, Ds, Dr, D+
- Dol = dolomite

**ORDOVICIAN**
- Gordon Limestone — Og
- Caroline Creek Sandstone (Crotty Equivalent) — Oc

**CAMBRIAN – Dundas Group**
- Undifferentiated — Ed
- ± = ironstone
- Greywacke, conglomerate — Eds
- Argillite, siltstone, minor carbonates — Eda

**Igneous Rocks associated with Dundas Group**
- Quartz diorite — Di
- Hornblende diorite — Di2
- Gabbro — Eg
- Pyroxenite serpentinite — Es
- Lucas Creek Volcanics — Evl
- Muddy Cove Volcanics — Evb
- Mainwaring Volcanics — Evm
- Elliot Bay Volcanics — Eve

**Birthday Group**
- Argillite, schist, phyllite, minor basalt — Ebs, Eba
- Limestone — Ebl

**PROTEROZOIC**
- Modder Group — Po
- Varner Group — Pv

*Geology from BHP and Mines Department 1:250000 geology sheet*

- Inferred fault
- Geological contact
- Unconformity

**Location**

1:50000

0 1 2 3 4 Kilometers

Basemap compiled from provisional 1:50000 sheets acquired from the Tasmanian Lands Department

5 cm

5452

106258

85-2466

Amoco Minerals Australia Company

| | | | | | |
|---|---|---|---|---|---|
| Project | SORELL PENINSULA | N° | A-84-111 | | |
| Project Partner | POSEIDON, PLACER | | | | |
| ELs 35/83, 36/83, 37/83 | | | | | |
| REGIONAL GEOLOGY | | | | | |
| Map Ref. ANG | K-55-5 | Latitude | 42°30'S | Longitude | 145°30'E |
| Surveyed | B. Ferris | Date | 1983-1984 | Scale | 1:50000 |
| Drawn | S. Fowler | Date | 1984 | Drawing N°M84-2248 | |

Report 454

Enclosure 1

5452

# EL 35/83

## AREA 1
### LUCAS CREEK

COASTAL RECONNAISSANCE

DOUBLE COVE

LUCAS CREEK

ALBINA

BUTLER CREEK

## AREA 2
### MUDDY COVE CREEK

COASTAL RECONNAISSANCE

ANOMALY 128

NODDY CREEK

BIRTHDAY BAY

CAMP SORELL BASE

MUDDY COVE

# EL 36/83

## AREA 3A
### TIMBERTOPS

TIMBERTOPS

## AREA 3B
### HIBBS RIVER

HIBBS RIVER NORTH

HIBBS RIVER SOUTH

THOMAS CREEK

## AREA 5
### KARNEBUNYER CREEK

MACQUARIE HARBOUR

BIRCHS INLET

LIBERTY POINT

Betsys Bay

Liberty Bay

Table Head

Sleep Rocks

Sleep Point

GORGE POINT

Coal Head

Philips Island

Sunners Island

Dingy Point

Gould Point

Farm Cove

Pine Point

Kelly Basin

St Leger Point

Brisbanes Bay

Charcoal Burners Bluff

Grummet Island

Sarah Island Historic Site

RUM POINT

Davis Bay

Halidays Island

Grubbys Point

Wrights Bay

Gordon Point

Birches Beach

Shamrock Point

Tuan Gabbi Flats

Varna Bay

The Gaps

Warrens

Thomas Creek

Hibbs Lagoon

Hibbs Bay

Clearwater Bay

Sorell River

Birches Inlet

LOW ROCKY POINT TRACK

42°30'S

145°30'E

5453

## Legend

Cut foot track .....

Foot traverses ..... 26

Camp .....

Helipad ..... The Gaps

Ground reconnaissance areas ..... ALBINA

**EL 37/83**

**AREA 4**
**CYPRESS CREEK**

**URQUHART NORTH**

**URQUHART EAST**

**URQUHART SOUTH**

**URQUHART**

**CYPRESS CENTRAL**

**MAINWARING NORTH**

SOUTHERN OCEAN

Pyramid

Sanctuary Bay

HIBBS

Red Reef Cliff

Whitehorses Beach

Nibbin Point

Hays Reef

Leelinger Island

Spero Bay

Lanyeren Hill

Conder Point

Endeavour Bay

Warounrim Creek

Plains

WANDERER RIVER

Christmas Cave

Hartwell Creek

HIGH ROCK POINT

Montgomery Rocks

Fault

Urquhart West

Urquhart South

Fletcher Creek

Cypress Creek

Mainwaring North

Mainwaring River

Mainwaring Inlet

Acacia Rocks

The Shank

Diorite Point

Veridian Point

Mt Osmund

Wart Hill

Moores Valley

Location

1:50000

0 1 2 3 4 Kilometers

Basemap compiled from provisional 1:50000 sheets acquired from the Tasmanian Lands Department

5453

Amoco Minerals Australia Company

85-2466

| | | | | | |
|---|---|---|---|---|---|
| Project | SORELL PENINSULA | Nº | A-84-111 | | |
| Project Partner | POSEIDON, PLACER | | | | |
| ELs 35/83, 36/83, 37/83 | | | | | |
| REGIONAL BASEMAP AREAS OF INTEREST | | | | | |
| Map Ref. ANG | K-55-5 | Latitude | 42°30'S | Longitude | 145°30'E |
| Surveyed | B. Ferris | Date | 1983-1984 | Scale | 1:50000 |
| Drawn | S. Fowler | Date | 1984 | Drawing Nº | M84-2249 |

Report 454

Enclosure 2

5453

5454

145° 12' 145° 18' 145° 24' 145° 30' 145° 36'

5320000 5310000 5300000 5290000

42° 18' 42° 24' 42° 30' 42° 36'

350000 360000 370000 380000

N

Base Level = 0.0 cps
Vertical Scale = 500.0 cps/cm

106259

5cm

SCALE

1:50000

0 500 1000 1500 2000 2500 3000 3500
M M

NORTH SHEET

AMOCO MINERALS AUSTRALIA CO.

SORELL PENINSULA SURVEY, TASMANIA

**STACKED RADIOMETRIC PROFILES**

(Total Count) 5454

85-2466

| | |
|---|---|
| Compiled by: | Date: 06-MAR-85 |
| Drawn by: Geospex | Drawing No.: |

REPORT 454 ENCLOSURE 3

5455

145° 12'
145° 18'
145° 24'
145° 30'
42° 42'
42° 48'
42° 54'
5280000
5270000
5260000
5250000
350000
360000
370000
380000

N

Base Level = 0.0 cps
Vertical Scale = 500.0 cps/cm

106260

5 cm

SCALE
1: 50000
0 500 1000 1500 2000 2500 3000 3500 M

SOUTH SHEET

AMOCO MINERALS AUSTRALIA CO.

SORELL PENINSULA SURVEY, TASMANIA

**STACKED RADIOMETRIC PROFILES**

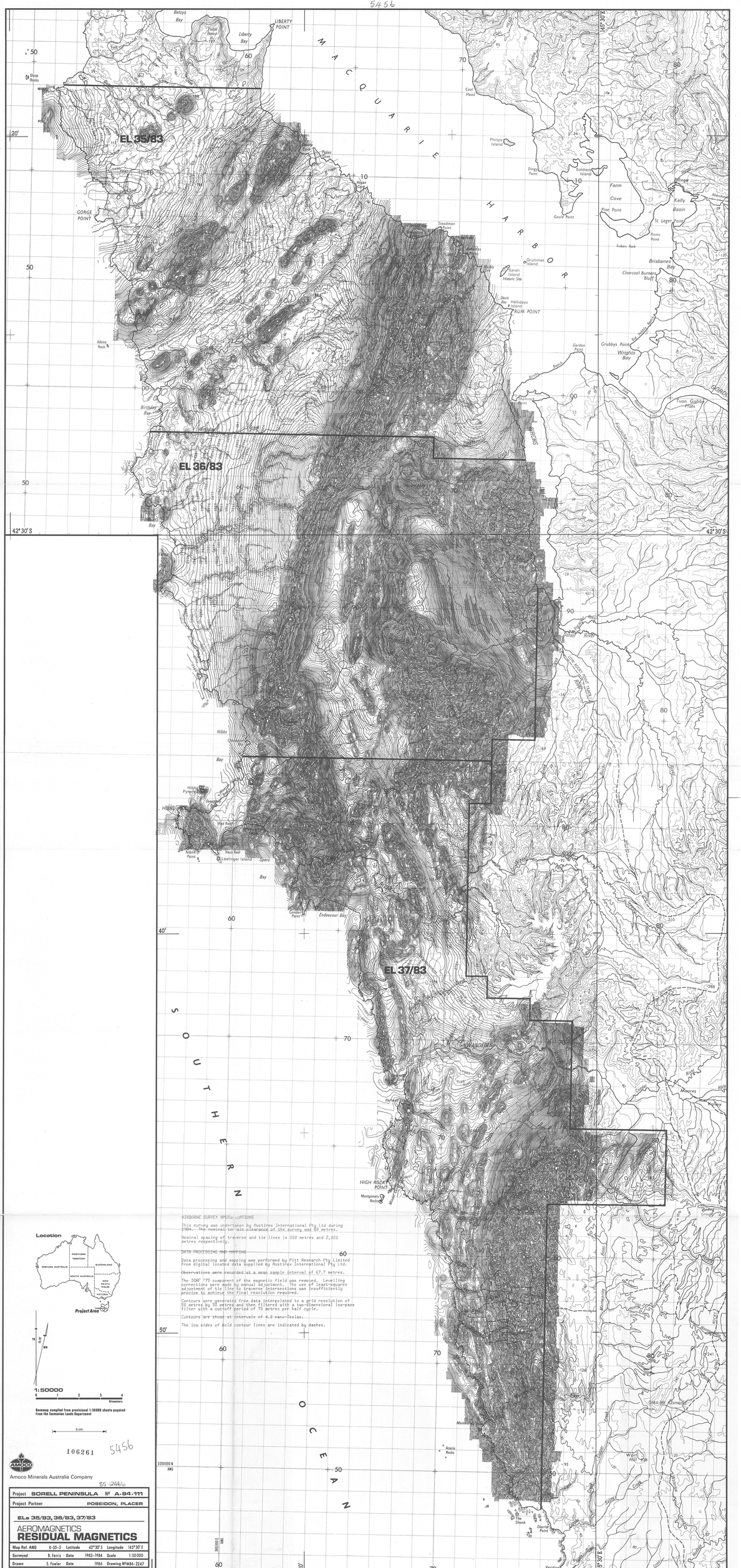
(Total Count) 5455

85-2466

| | |
|---|---|
| Compiled by: | Date: 01-MAR-85 |
| Drawn by: Geospex | Drawing No.: |

REPORT 454 ENCLOSURE 4

5456


MACQUARIE HARBOR
SOUTHERN OCEAN
EL 35/83
EL 36/83
EL 37/83
LIBERTY POINT
GORGE POINT
RUM POINT
HIGH ROCK POINT
WANDERER
Betsys Bay
Liberty Bay
Sleep Rocks
Albino Rock
Birthday Bay
Hibbs Bay
Hibbs Pyramid
Pad Rock
Rabbit Point
Hen Reef
Leeringer Island
Sharp Bay
Endeavour Bay
Cinder Cone Point
Montgomery Rocks
Acacia Rocks
The Shank
Diamond Point
Verdun Point
Coal Head
Philips Island
Dingy Point
Soldiers Island
Gould Point
Farm Cove
Kelly Basin
Pine Point
St Leger Point
Picnic Point
Tinkers Rock
Brisbane Bay
Charcoal Burners Bluff
Steedman Point
Grummet Island
Sarah Island Historic Site
Davis Bay
Halldays Island
Garden Point
Grubbys Point
Wrights Bay
Swan Gabled Hills
Diamond Point
Gordon River
Franklin River
Denison Canal
Hibbs Creek
Mooreas Hill
Mount Direction
Mount Misery
Mount Owen
Mount Darwin
Mount Clumpus
Mount Clumpus
Mount Clumpus

61

62

12

12

GN MN

11.8°

1:5000

## REGIONAL GEOLOGY

CAMBRIAN - DUNDAS GROUP

Eds - GREYWACKE, CONGLOMERATE

Eda - ARGILLITE, SILTSTONE

IGNEOUS ROCKS

Evl - LUCUS CREEK VOLCANICS

Eg - GABBRO

Cut Track (Amoco 1984) helipad, campsite

Foot traverse (Amoco 1984)

R = Rockchip Sample
S = Soil
Z = Stream sediment
P = panned concentrate

Assay order
Cu, Pb, Zn ppm.
Others as noted
where significant

BHP Stream Cu, Zn, Ni,

5 cm

106262

Reconnaissance Area
Double Cove

# GEOLOGY & SAMPLE LOCATIONS

85-2466

10

10

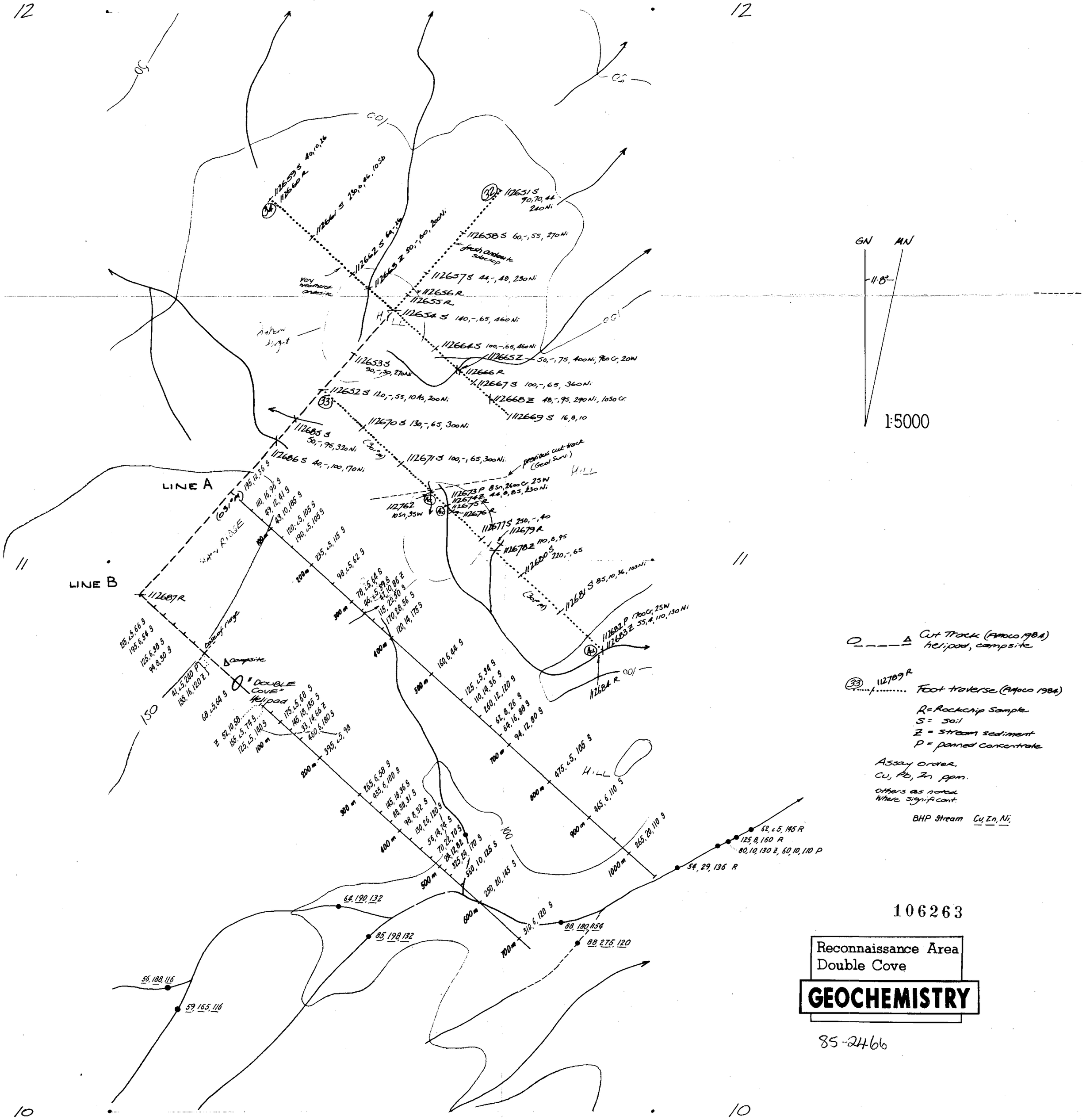
62

5457

61

REPORT 454 ENCLOSURE 6

12 12


GN MN
11.8°
1:5000
LINE A
LINE B
HILL
Very weathered andesite
Fresh andesite subcrop
Andesite subcrop
Cut track
Helipad
Composite
"DOUBLE COVE" Helipad
Cut Track (Amoco 1984)
Helipad, composite
Foot traverse (Amoco 1984)
R = Rockchip Sample
S = Soil
Z = Stream sediment
P = panned concentrate
Assay order
Cu, Pb, Zn ppm.
Others as noted
Where significant
BHP Stream Cu, Zn, Ni,
106263
Reconnaissance Area
Double Cove
GEOCHEMISTRY
85-2466

57

5E

GN MN

11·8°

1:5000

"Albina" Helipad

Cut Track (Amoco 1984)

112001 R Foot Traverse with sample sites

R = rock chip
S = soil
Z = stream sediment
P = panned concentrate

Assay Order
- Cu, Pb, Zn ppm
- Others where significant

TS - petrographic description

REFER TO ENCLOSURE 1 FOR GEOLOGY LEGEND

07

06

05

LINE A

LINE B

LINE C

DOLOMITE

150370 P, 371 Z

150372 R - DOLOMITE

001

Ebi

Ed

Eda

"Albina"

112015 R TS

SANDSTONE - 112005 R

SHALE S/C

SHALE O/C - 150509 R

112002 Z

112008 S

150510 S

150283 S, 284 R

150511 S

150285 S

112001 R

150512 S

150287 R

150286 S

150288 R

150289 S

150290 S

150291 S

150292 S

150513 S

150293 S

150294 S

GABBRO

150295 R

150297 R

150296 S

150514 S

112014 R

112013 R

112012 R

150298 R

150299 R

112010 R

112009 R

112007 Z

DOLERITE

Albina Creek

TUFFACEOUS SILT/ST

150300 R, 401 R TS

DOLOMITIC SHALE

150403 R

150404 P, 405 R, 406 Z

150407 R, 408 P, 409 Z

150410 R

150413 R, 414 R (F)

150415 R, 416 Z, 417 P

150411 P, 412 Z

150418 P, 419 Z

SILTSTONE

150420 R, 421 P
Ag, 90, 300
As, 1300 Ba

150422 P, 424 R
423 Z

150425 R

150426 P

150427 R, 428 P

QUARTZITE / SHALE

150517 P, 518 Z

150516 S

150459 S

150460 S

150461 R

150520 TS

150521 TS

150462 S

150463 P, 464 Z, 465 R

150466 S

150467 S

150468 S

150469 S

150470 P, 471 Z, 472 R

150473 S

150474 S

150475 S

150519 S

150476 S

150478 S

150479 S

SHALE

150477 R

SHALE O/C

150480 R

SHALE

150481 R

QUARTZITE

150482 R

QUARTZITE

150483 R

150484 P, 485 Z

150486 P, 487 Z

150488 R

SHALE

150489 R SHALE

150490 R SHALE

150491 R, 492 R

SHALE

150493 R SHALE

150494 R SHALE

150495 R

150496 R

SHALE

150497 R

SHALE

150498 R

150499 R

SHALE

150500 R SHALE

BHP

150440 P

150439 P

BHP

HELI PAD

150438 R

150435 R

150436 S

150437 R

150429 R, 430 S

150431 S

150432 S

150433 R

150434 S

150392 P, 393 Z, 394 R - SILTSTONE / VERY MINOR PYRITIC BLACK SHALES

150391 S

150390 S

150389 S

150388 S

150387 S

150386 R

150385 S

150384 R - SILTSTONE SCHISTOSITY at 015°M/26°T

150383 S

150382 S

150381 S

150380 S

150379 S

150378 S

150374 R TS - BASALT

150373 S

121°T

SILTSTONE / PYRITIC BLACK SHALES

150375 P, 376 Z, 377 R

150403 → 417

SILTSTONES / MINOR PYRITIC BLACK SHALES

106264

5 cm

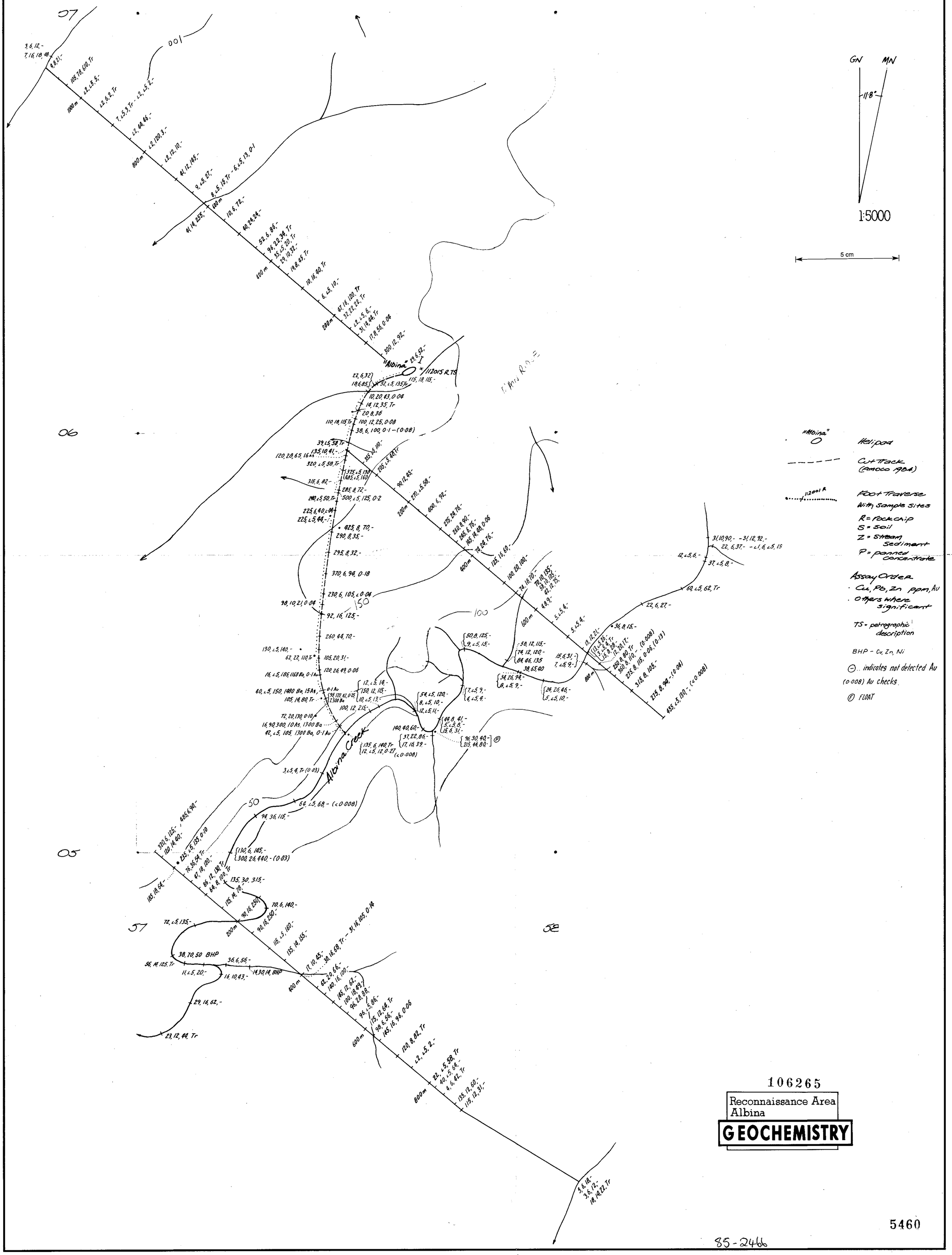
Reconnaissance Area
Albina

# GEOLOGY & SAMPLE LOCATIONS

5459

85-2466

REPORT 454 ENCLOSURE 8




106265

Reconnaissance Area
Albina

**GEOCHEMISTRY**

5460

85-2466

REPORT 454 ENCLOSURE 9

Eba

Ebl

80° 15° 75° 15° FA 60°

Birthday Bay Camp

CUT FOOT TRACK

LINE A

150607 P

150535 R

150534 Z

150536 S

150538 R, 150740 R

150537 S

150539 S

150540 S

150633 S

150541 S, T38 S

150637 S, T37 S

150542 S, T36 S

150636 S, T35 S

150543 S, T34 S

150635 S, 150733 S

150544 S

150634 S

150545 S

150546 R

150547 S

150548 S

150549 Z

150550 S

150608 R/B S

150609 Z

150610 S

150611 S

150612 S

150613 S

150614 S

150615 S

150616 S

150617 S

150618 R GRAPHITIC SHALE/SILTSTONE

150619 S

150620 Z

150621 S SILTSTONE/BLACK SHALE

150622 R SILTSTONE

150623 R

150624 P, 625 Z

SAND DUNE COVER WITH REGROWTH

150739 S

LINE B

LIMESTONE

150762 R

150761 R, 760 Z, 759 S

150751 S

samples missing

150752 S

150753 S

150754 S R SILTSTONE

150755 S

150756 S

150757 S

150758 S

150633 S

150632 S

150631 R SYENITE

150630 R SYENITE

150629 S

150628 S

150627 R QUARTZITE

150626 S

LIMESTONE Ebl

SILTSTONE Eba

ALTERED DOLERITE

SAND DUNE

150741 R, 743 R BASALT CALCITE VEIN

150742 R BASALT

BASIC VOLCANICS

PILLOW STRUCTURE ?? FACING TO WEST ??

ROCK PLATFORM

NIELSON RIVER

150641 - AMOCO SAMPLE Nº

R - ROCKCHIP
S - SOIL
P - PANNED CONCENTRATE
Z - STREAM SED.

N

1:5000

5 cm

106266

Reconnaissance Area
Birthday Bay

# GEOLOGY & SAMPLE LOCATIONS

5461

85-2466

REPORT 454 ENCLOSURE 10

LINE A

LINE B

CUT FOOT TRACK

Birthday Bay Camp

<2, <2, 2, 4

6, 4, 12, 8 4, 11, 15, 10

NOT ASSAYED

<5, <5, 15 (DOLOMITE)

2, <2, 4, <4 (FLOAT)

NOT ASSAYED (NA)

26, 16, 32, 4

NA

NA

NA

NA

NA

NA

NA

NA

5, <5, <5

30, <5, 50

86, 11, 66, <4

56, <2, 140, 4

45, 12, 39, 8

70, 4, 60, 4

41, 14, 27, 6

68, 17, 49, 14

22, 13, 54, 4

3, 2, 6, 6

4, <2, 3, 4

13, 12, 34, 6

19, <2, 12, 6 (0·06)

190, 7, 84, 10

7, <2, 6, <4

2, <2, 2, 8

11, <2, 3, 4

3, 9, 2, 4

2, <2, <2, 4

<2, <2, <2, <4

2, 7, <2, 4

2, 9, 2, 6

3, 5, 5, 4

4, 5, 7, 10

5, 10, 10, 8

8, 2, <2, 4

3, <2, 2, <4 5, 8, 13, <4 }

6, 3, 3, 6

7, <2, 5, <4 2, <2, 9, 4 3, 2, 4, <4

20, 6, 6, 4

?

?

88, <2, 38, 10

50, 8, 52, 4

105, 3, 82, 8

47, 10, 38, 12

36, 19, 17, 4

9, 3, 33, <4

11, 4, 62, <4

16, 5, 82, 4

7, <2, 90 4

12, 2, 38, <4

2, 3, 3, <4

2, <2, 2, 4 6, 7, 7, 12 }

55, <5, 100

120, <5, 30

110, <5, 135

ORDE OF RESULTS - Cu, Pb, Zn, Sn ppm

NIELSON RIVER

N

1:5000

5 cm

106267

Reconnaissance Area
Birthday Bay

**GEOCHEMISTRY**

5462

85-2466

REPORT 454 ENCLOSURE 11

60 61 62

04 03 02

limestone 4% in ck

112793 R
112791 Z 10,-,18 35W
112791 P
112793 Z 10,-,28 45W
112794 P
112789 Z 16,-,16 40W
112790 P
112796 S 4,-,-
112785 R
112786 Z 4,-,8
112787 P
BRECCIA QUARTZITE
112788 Z 10,-,22
112797 S
112792 Z 34,-,90
112798 S 8,-,-
113003 S 6,-,4
112799 S 18,-,8
SHALE-TUFFACEOUS SAND-ST
112782 R
112780 Z 24,-,44 SAND-ST
112781 P
113001 S 44,8,14,14As,1200 Ba
113002 S 24,-,30,18As,700 Ba
112783 Z 16,-,12 (2.78%)
113004 S 120,12,24
113005 S 42,-,55,10As
113006 Z 30,20,-,10As
113007 R SHALE-SILTSTONE
113008 S 130,-,70,10As
112784 R 16,-,42
SILTSTONE
113011
113012 P
LATERITE
113016 S 4,-,-
BRECCIA
113017 S 6,-,-
113018 S 6,-,-
112778 R
113009 R
113010 R
BRECCIA SST RAL TUFF
113013 R
113015 R
113014 R
BRECCIA
150315 R
150314 R
150313 R
150312 R
150310 P, 311 Z
CABBRO PYROXENITE
BRECCIATED SST - HEMATITE VIENLETS
150309 R
150306 R
150308 R
150307 R
150301/302 R
150305 P
150291 R, 292 R
113051 Z 20,-,48
113052 P
112598 R
113599 Z 10,-,10
112600 P 35W
112597 R SILTSTONE
112595 Z 8,-,12
112596 R
112594 S 16,-,6,10As
TUFFACEOUS SILTSTONE
112593 S 6,-,2
112592 S 4,-,18 (2.85%)
112591 S 32,10,12,12As
112590 S 85,14,200,28As,500Ni
112589 R
SANDSTONE PHYLLITE
PRECAMBRIAN
CABBRO (Mines Dept)
IRONSTONE
Mines Dept Track
CAMBRIAN
PRECAMBRIAN
GABBRO
QUARTZITE
NIELSON RIVER
MOODY CREEK
To CAMPSORELL 10 km
Helipad (CMP Pad 7)

1600 N 150263 S 150264 S 150265 S 150266 S 150267 S
1200 N 150268 S 150269 S 150270 S 150271 S 150272 Z, 273 P 150274 S 150275 R 150276 S
800 N 150277 S 150278 Z, 279 P 150279 S 150280 S 150281 S 150282 S 150283 S 150284 S 150285 S 150286 S 150287 S 150288 S 150289 S 150290 S 150291 S 150292 S 150293 S 150294 S 150295 S 150296 S 150297 S 150298 S 150299 S 150300 S 150301 S 150302 S 150303 S 150304 S 150305 S 150306 S 150307 S 150308 S 150309 S 150310 S 150311 S 150312 S 150313 S 150314 S 150315 S 150316 S 150317 S 150318 P, 319 Z 150319 S 150320 S 150321 S 150322 S 150323 S 150324 S 150325 S 150326 S 150327 S 150328 S 150329 S 150330 S 150331 R 150332 P 150333 S 150334 S, 816 R 150335 S 150336 S 150337 S 150338 S 150339 S, 340 Z 150340 S 150341 P, 342 Z
400 N 150254 R 150255 R 150256 R 150257 R 150258 R 150259 R 150260 R 150261 R 150262 R IRONSTONE
200 N
200 S 400 S 600 S 800 S 1000 S 1200 S 1400 S 1600 S 1800 S 2000 S
200 W 400 W 600 W 800 W 1000 W 1200 W 1400 W 1600 W 1800 W 2000 W
1000 E 800 E 600 E 400 E 200 E

CABBRO (Mines Dept)
150334 P, 335 Z, 336 R

GN MN
11.8°
1:5000
5 cm

Cut Track (Amoco 1984)
Helipad
Old Vehicular Track overgrown (B.H.P.)
(33) 112789 R Foot Traverse (Amoco 1984)
R = rockchip
S = soil
Z = stream sediment
P = panned concentrate

Assay order
Cu, Pb, Zn ppm
- others where significant
- 150254 AMOCO SAMPLE No

Items Inc 84

106268

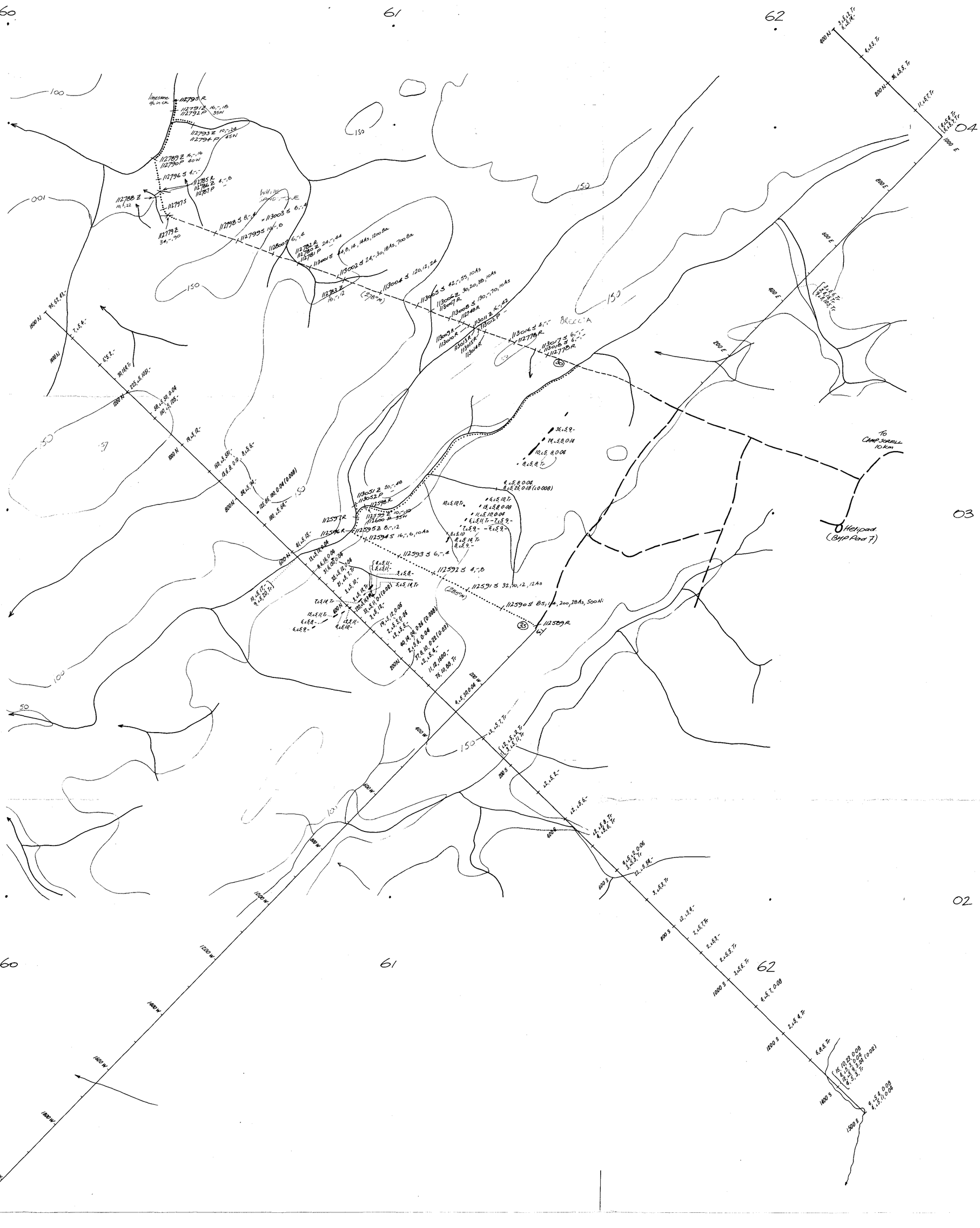
Reconnaissance Area
Anomaly 128

# GEOLOGY & SAMPLE LOCATIONS

5463

85-2496

REPORT 454 ENCLOSURE 12


60
61
62
04
03
02
100
150
50
001
Limestone float in ck
1127793 R
1127791 Z 16, -, 18
1127792 P 35N
1127793 Z 10, -, 28
1127794 P 45N
1127789 Z 16, -, 16
1127790 P 40W
1127796 S 4, -, -
1127785 R
1127786 Z 4, -, 8
1127787 P
1127788 Z 10, 1, 22
1127797 S
1127792 Z 34, -, 90
WHITE QUARTZ VEIN
1127798 S 8, -, -
1127799 S 19, -, 8
1128000 S 6, -, 14
1127782 R
1127780 Z 24, -, 44
1127781 P
4, 8, 14, -, 14A3, 12mBa
1130001 S
1130002 S 24, -, 30, 18A5, 700 Ba
1127783 Z 16, -, 12
1130004 S 120, 12, 24
(2780N)
1130005 S 42, -, 55, 10A5
1130006 Z 30, 20, 38, 10A5
1130007 P
1130008 S 130, -, 70, 10A5
1127748 R
1130011 Z 16, -, 42
1130012 P
1130009 R
1130010 R
1130013 R
1130014 R
1130016 S 4, -, -
BRECCIA
1127778 R
1130017 S 6, -, -
1130018 S 6, -, -
1127779 R
1800 N
1600 N
1400 N
1200 N
1000 N
800 N
600 N
400 N
200 N
1000 E
800 E
600 E
400 E
200 E
To CAMP SORELL 10 km
Helipad (BHP Pad 7)
1130351 Z 20, -, 48
1130352 P
1125598 R
1125597 R
1125596 R
1125595 Z 8, -, 12
1125594 S 16, -, 6, 10As
1125593 S 6, -, 4
1125592 S 4, -, 8
(2850N)
1125591 S 32, 10, 12, 12As
1125590 S 85, 14, 200, 28As, 500Ni
1125589 R
1125587 R
1125588 R
1125586 R
1125585 R
1125584 R
1125583 R
1125582 R
1125581 R
1125580 R
1125579 R
1125578 R
1125577 R
1125576 R
1125575 R
1125574 R
1125573 R
1125572 R
1125571 R
1125570 R
1125569 R
1125568 R
1125567 R

LINE A

2500 W

150448 S
150449 S
150450 S
150551 Z
60°
150552 Z
150553 S
150555 S
150554 R
150556 S
SILTSTONE
150557 Z

MAGNETICS TRAVERSE

2000 W

MINES DEPT TRACK

1500 W

150447 S
150446 S
150445 S
150444 S
150558 S
COARSE VOLCANICLASTIC?
SILTSTONE

1000 W

500 W

LIMESTONE
150441 R, 442 P, 443 Z
110°

C
PC

0

N

1:5000

5 cm

150444 S - AMOCO SAMPLE NO

S - SOIL
R - ROCKCHIP
Z - STREAM

Reconnaissance Area
Butler Creek

# GEOLOGY & SAMPLE LOCATIONS

106270

85-2466

REPORT 454 ENCLOSURE 14

5465

2500 W

170, ∠5, 38
235, 8, 50
50, 6, 19
} 12% Fe

60, 10, 66
48, 6, 64

72, ∠5, 68
74, 10, 76
250, ∠5, 36
12, ∠5, 64
} 10% Fe

66, 10, 58

2000 W

MINES DEPT TRACK

1500 W

90, 6, 96
26, 6, 115
22, 6, 78
34, 6, 92
} 14% Fe

56, 12, 48

1000 W

500 W

4, 8, 24
3, ∠5, 6
2, 8, 12

0

ORDER OF RESULTS - Cu, Pb, Zn ppm
[All Au ∠0.05 ppm]

N

1:5000

5 cm

Reconnaissance Area
Butler Creek

**GEOCHEMISTRY**

85-2466

106271

REPORT 15A ENCLOSURE 15

5466

DOUBLE COVE

BUTLER CREEK

NODDY CREEK

ANOMALY 128

MUDDY COVE

HELI PAD

Camp Sorell

* NOTE: Prefix 113 omitted from sample Nº's

Stream sediment ..... ● 10595 Z
Pan concentrate ..... ● 10594 P
Rockchip ..... ⊙ 10895 R
Soil traverse ... AM 84 (16)
Thin section ..... (TS)

INSET A

TRAVERSE
HORNFELS
SEDIMENTS
ULTRAMAFIC
Camp Sorell
1:5000
5 cm

Reconnaissance Areas 85-2466
Noddy Creek, Double Cove, Muddy Cove

**SAMPLE LOCATIONS - TRAVERSES**

scale 1:20 000

REPORT 454 / ENCLOSURE 16

| Order of results Cu, Pb, Zn |
|---|
| Values in ppm |
| *all values are plotted relative to sample locations refer to sample location sheet for detail |

38 16,125
78 20,150

29,6,86

29,19,12
120,27,175

105,6,32

89,5,56

38,2,29

70,<2,56

70,8,56

125,8,49 0.2 g/t Au

33,1,49
110,18,55

205,<2,68 0.08 g/t Au
92,6,74
210,12,78

70,12,45

195,2,74

125,27,175
80,12,210

125,48,335

115,22,155
76,13,145

54,13,94
83,7,98

390,13,360
212,8,90,125
0.22 g/t Au
155,8,82

170,4,64

19,4,46
105,4,125
720,<2,100
43,<2,37
24,9,27
28,14,98
21,12,125
28,30,82
(TS)
280,98,120
(TS)
67,15,90
34,4,74

0·08 g/t Au
0·04 g/t Au
3·24 g/t Au

4,<2,2
7,4,7

6,6,31
9,14,25

10, 4, 82
19,15, 54
14, 5, 301

5,2,5
8,10,6

2,3,9
4,10,13

<2,4,9
<2,3,10

<2,4,4
2,3,3

<2,3,<2
3,4,13

<2,3,16
5,4,15

<2,<2,<2
<2,3,2

<2,2,3
2,6,9

<2,<2,25
3,5,7

19,12,180

96, 25,165

48,12,84
25,28,50

7,<2,33

10,13,130
11,12,64

6,<2,220

6,12,190

13,17,225
20,21,115

4,5,21
7,3,11, 0·20 g/t Au

11,23,170
14,31,135

22, 20, 120

8,<2,74

25,38,135
21,33,110

| 115, 130, 1840 | 120, 27, 170 | 84, 26, 260 | 35, 25, 125 | 10, <2, 20 | 8, <2, 58 | 4, 3, 37 | 6, <2, 58 |
|---|---|---|---|---|---|---|---|

*refer to sample location 'inset A' for detail

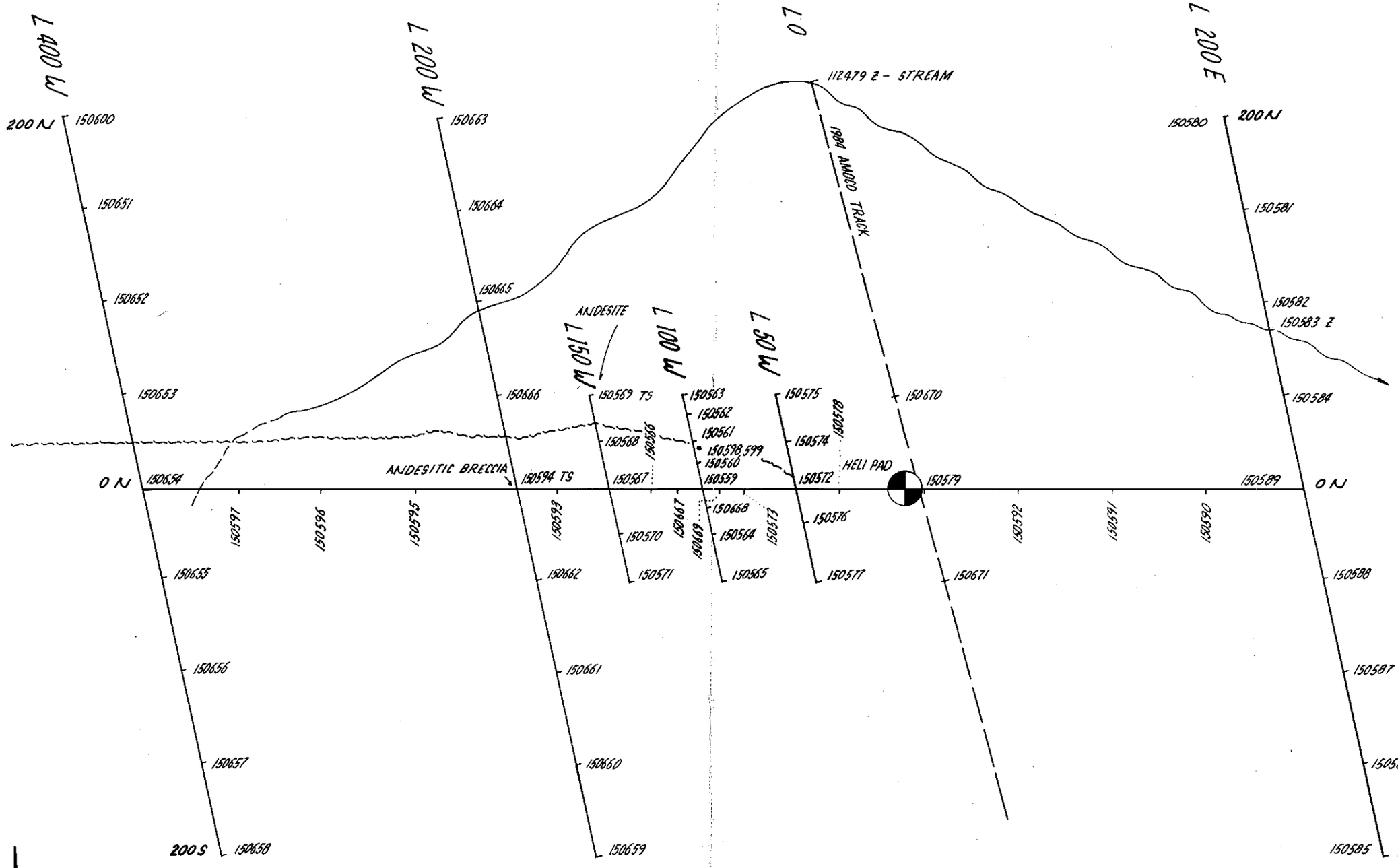
Reconnaissance Areas 106273
Noddy Creek, Double Cove, Muddy Cove

**GEOCHEMISTRY** 85 2466

scale 1:20 000

5 cm

REPORT 454 / ENCLOSURE 17



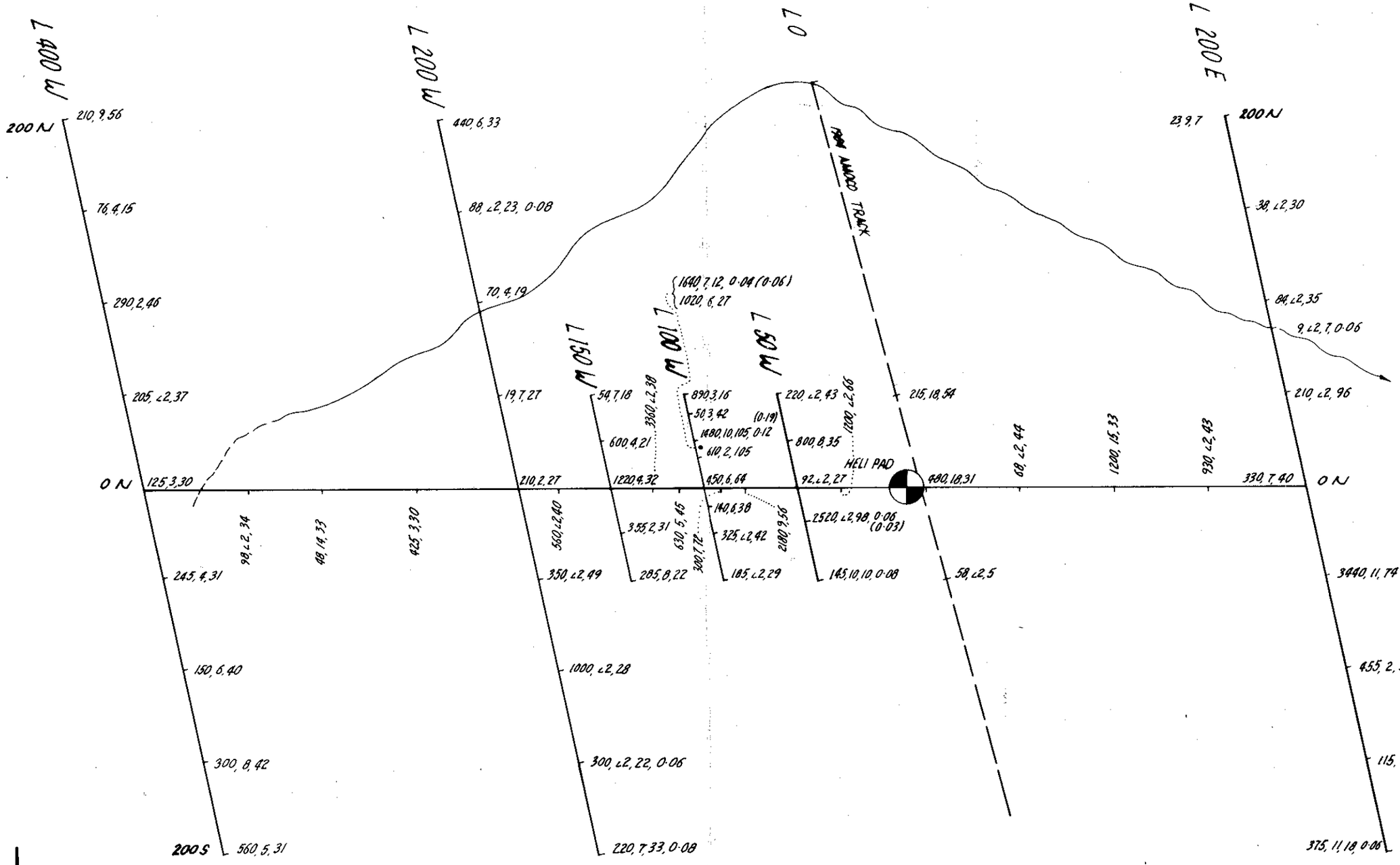

106274

Reconnaissance Area
Thomas Creek

# GEOLOGY & SAMPLE LOCATIONS

85 - 2466

REPORT 454 ENCLOSURE 18




ORDER OF RESULTS - Cu, Pb, Zn, Au ppm
[Au VALUES >0·05 PLOTTED]

TN

1:2500

5 cm

106275

Reconnaissance Area
Thomas Creek

**GEOCHEMISTRY**

REPORT 454 ENCLOSURE 19

85 - 2466

5470

5471

# URQUHART NORTH

GRAVEL COVER

LINE A 350 N

TERTIARY

CAMBRIAN SEDIMENTS

LINE B 0 N

FAULT

700 E

BLACK SHALE

DOLOMITIC SILTSTONE

MINOR CHALCOPYRITE IN QTZ VEINS

BASIC TUFF

MAG. BASALT?

COARSE VOLCANICLASTIC

SILTSTONE/SHALE

BASIC TO INTERMEDIATE MAGNETIC VOLCANIC ANDESITE

Falls

Waterfall

Z (BHP)

"Urquhart West" Helipad

# URQUHART EAST

300 E

2350 N

2000 N

BASIC VOLCANICS

BASALT/BASIC VOLC.

BASALT R. BASALT

BASALT

ANDESITIC TUFF

TUFFACEOUS SILTSTONE BASIC TO INTERMEDIATE TUFF?

TUFFACEOUS SILTSTONE S.I./S.? 341°T

BASALT? 150239 R.

PORPHYRITIC BASALT

BASIC TUFF

BASALT

"Urquhart South" Helipad

# URQUHART SOUTH

LINE A 300 S

LINE B 600 S

500 W

500 E

INTERMEDIATE VOLCANIC

TUFFACEOUS SILTSTONE- SCHISTOSE OUTCROP S.I./S.? 166°T

CHLORITE SCHISTS AND SILTSTONES TUFFACEOUS?

EL 37/88 (formerly EL 1278)

"Urquhart" Helipad (1984)

Cut Foot Track (AMOCO 1984)

Foot Traverse and Sample location
R = Rock chip
S = Soil
Z = Stream sediment
P = panned concentrate
(Au) = anomalous assay
Assay Order
Cu, Pb, Zn ppm
others where significant

TS = petrographic description

GRID NORTH

MAGNETIC NORTH

106276

Reconnaissance Areas
Urquhart-east, south, north

**GEOLOGY & SAMPLE LOCATIONS**

scale 1:5000

5 cm

5471

# URQUHART NORTH

GRAVEL
COVER
TERTIARY
CAMBRIAN SEDIMENTS
FAULT
LINE A 350 N
LINE B 0 N
BLACK SHALE
DOLOMITIC SILTSTONE
MINOR CHALCOPYRITE IN QTZ. VEINS
BASIC TUFF?
MAG BASALT?
COARSE VOLCANICLASTIC
SILTSTONE/SHALE
BASIC TO INTERMEDIATE MAGNETIC VOLCANIC ANDESITE
FALLS
Waterfall
Z (BHP)
"Urquhart West" Helipad

# URQUHART EAST

BASIC VOLCANICS
2350 N
2000 N
300 E
BASALT/BASIC VOLC.
BASALT
TUFFACEOUS SILTSTONE
BASIC TO INTERMEDIATE TUFF?
PORPHYRITIC BASALT
BASALT?
TUFFACEOUS SILTSTONE
ANDESITIC TUFF
BASALT
"Urquhart South" Helipad

# URQUHART SOUTH

LINE A 300 S
LINE B 600 S
500 W
500 E
INTERMEDIATE VOLCANIC
TUFFACEOUS SILTSTONE SCHISTOSE
CHLORITE SCHISTS AND SILTSTONES
TUFFACEOUS?
GRID NORTH
MAGNETIC NORTH

"Urquhart" Helipad (1984)
Cut Foot Track (Anaconda 1984)
Foot Traverse and Sample location
R = Rock chip
S = Soil
Z = Stream sediment
P = panned concentrate
(BHP) = drainage sampling
Assay Order
Cu, Pb, Zn ppm
others where significant
TS = petrographic description

106276
Reconnaissance Areas
Urquhart-east, south, north

**GEOLOGY & SAMPLE LOCATIONS**

scale 1:5000
5 cm

EL 37/83 (formerly EL 2076)

95-2446
REPORT 454 ENCLOSURE 20

5472

# URQUHART NORTH

LINE A 350 N

LINE B 0 N

700 E

# URQUHART EAST

300 E

2350 N

2000 N

# URQUHART SOUTH

LINE A 300 S

LINE B 600 S

500 N

500 E

"Urquhart West" Helipad

"Urquhart South" Helipad

Falls

Waterfall

DRID NORTH

MAGNETIC NORTH

EL 37188 Formerly EL 02178

"Urquhart" Helipad (1984)

Cut Foot Track (ANGLO 1984)

Foot Traverse and Sample location
R = Rock chip
S = Soil
Z = Stream sediment
P = panned concentrate
(Au) = anomalous sighting

Assay Order
Cu, Pb, Zn, Au in ppm
others where significant

TS = petrographic description

Tr = Trace Au 0.01 → 0.04
- = not detected LO 01
19 = insufficient sample

106277

Reconnaissance Areas
Urquhart-east, south, north

**GEOCHEMISTRY**

scale 1:5000

5 cm

5472

5472

# URQUHART NORTH

LINE A 350 N

LINE B 0 N

700 E

# URQUHART EAST

300 E

2350 N

2000 N

# URQUHART SOUTH

LINE A 300 S

LINE B 600 S

500 W

500 E

"Urquhart West" ✈ Helipad

"Urquhart South" ✈ Helipad

Waterfall

FALLS

Helipad (1984)

Cut Foot Track (Anaco 1984)

Foot Traverse and Sample location
R = Rock chip
S = Soil
Z = Stream Sediment
P = panned concentrate
(36) = Grid reference beginning
Assay Order:
Cu, Pb, Zn, Au ppm
others where sign. Acent

TS = petrographic description
Tr = Trace Au 0.01 → 0.06
– = not detected Lo 01
IS = insufficient sample

GRID NORTH

MAGNETIC NORTH

106277

Reconnaissance Areas
Urquhart-east, south, north

**GEOCHEMISTRY**

scale 1:5000

5 cm

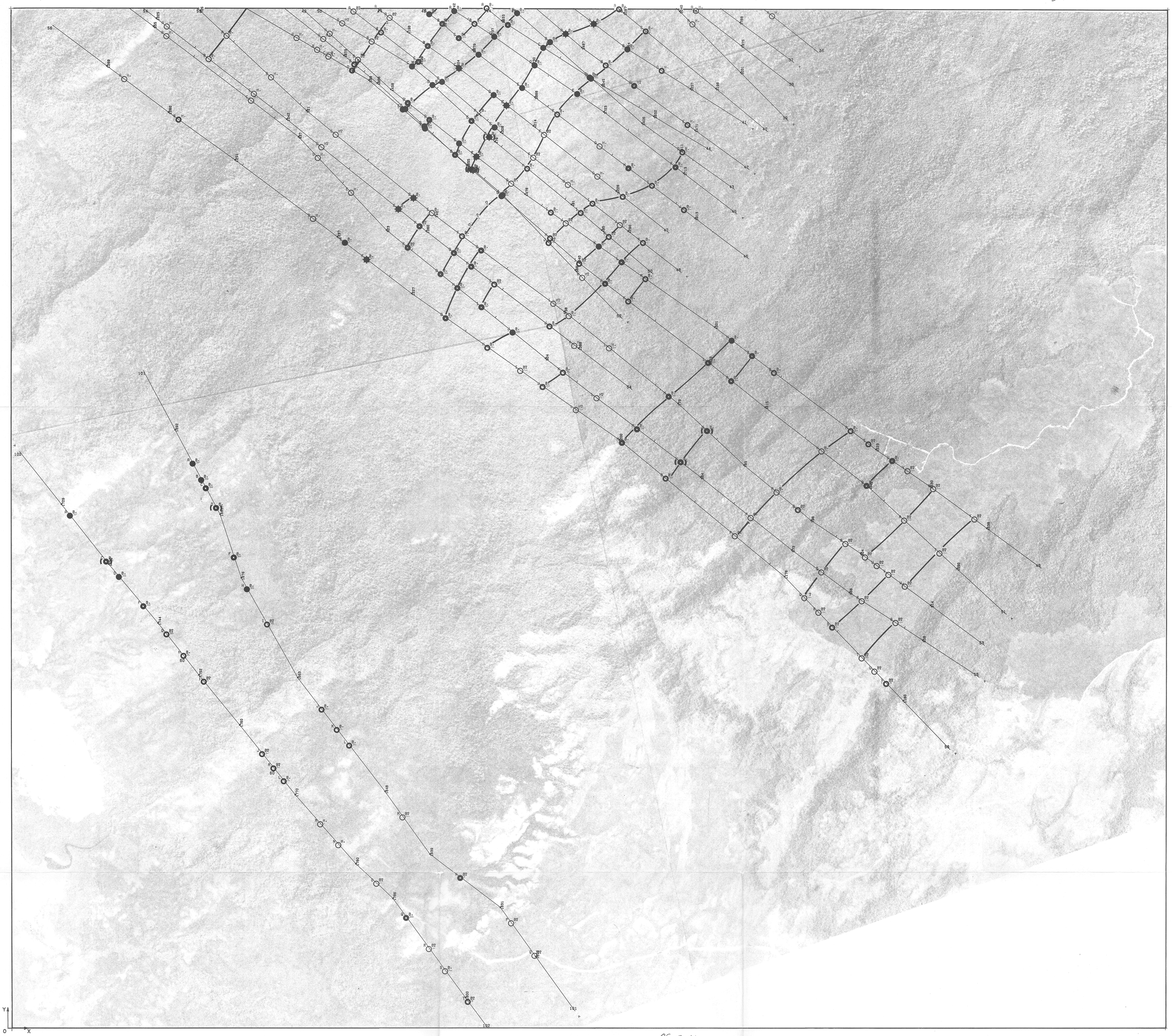
EL 37/88 Formerly EL 17/78

85-2466

REPORT 454 ENCLOSURE 21

5472

5473




95-2466

106278

# DIGHEM$^{III}$ SURVEY

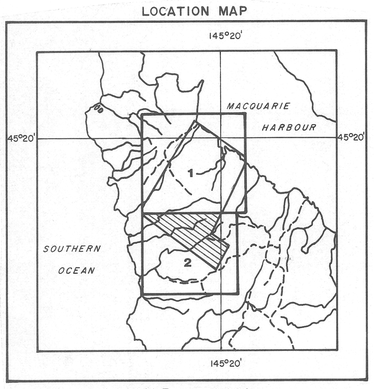
## BIRCHS INLET NORTH AREA, TASMANIA

## ELECTROMAGNETIC ANOMALIES

## FOR

## AMOCO MINERALS AUSTRALIA COMPANY

LOCATION MAP




SCALE 1:250,000

REGISTERED PROFESSIONAL ENGINEER
D. C. FRASER
PROVINCE OF ONTARIO

Scale 1:10,000

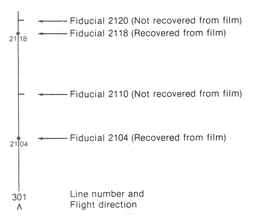
1/2 0 1/2 1 Kilometres

1/4 0 1/4 1/2 Miles

SHEET 2

5 cm

Flight Line




| ANOMALY GRADE | EM GRADE SYMBOL | CONDUCTANCE RANGE (MHOS) |
|---|---|---|
| 6 | ● | > 99 |
| 5 | ✹ | 50—99 |
| 4 | ● | 20—49 |
| 3 | ◉ | 10—19 |
| 2 | ○ | 5— 9 |
| 1 | ○ | < 5 |
| — | × | Indeterminate |

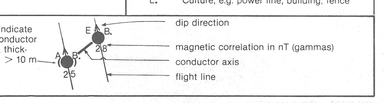
DIGHEM anomalies are divided into six grades of conductivity-thickness product. This product in mhos is a measure of conductance.

anomaly "name" — C — H — interpretive symbol

Depth is greater than
· 15 m
: 30 m
⋮ 45 m
⋮ 60 m

Inphase and Quadrature of Coaxial Coil is greater than
. 5 ppm
.. 10 ppm
... 15 ppm
.... 20 ppm

| Interpretive symbol | Conductor ("model") |
|---|---|
| B. | Bedrock conductor |
| S. | Conductive cover ("horizontal thin sheet") |
| H. | Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space") |
| E. | Edge of broad conductor ("edge of half space") |
| L. | Culture, e.g. power line, building, fence |




5473

| JOB | DATE | DRAWN BY | CHECKED BY |
|---|---|---|---|
| 369 | JUNE, 84 | B.b | |

PREVIOUSLY PRESENTED AS ACCOMPANYING APPENDIX 1, AMOCO REPORT 401, WITHOUT LINES 101 & 102

REPORT 454, ENCLOSURE 22