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AQUITAINE AUSTRALIA MINERALS PTY. LTD.

E.L. 1031 - WIDE HORIZONS

ANNUAL REPORT

FOR THE PERIOD ENDING 13TH NOVEMBER 1975

Distribution:

Mines Department
S.N.P.A.
Manager/Archives
Minerals
Kununurra (2)

By: P. d'Auvergne
February 1975

MG: 656

ABSTRACT

As a result of deep stratigraphical core drilling during 1975 both lithological and palynological correlation can be made between horizons intersected during drilling within EL 1031 and with intersections in drill holes closer to the basin margin.

No encouraging indications of mineralisation were encountered and drill hole intersections indicate potential horizons for mineralisation must lie at depths of at least 300 metres.

An airborne magnetometry survey which was flown over the entire Bonaparte Gulf Basin Margin covered the eastern edge of EL 1031.

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1.0 INTRODUCTION

Intensive mineral exploration between 1972 and 1974 on properties along the eastern margin of the Bonaparte Gulf Basin suggested that favorable stratigraphical and structural trends might extend to the north outside these properties.Consequently application was made for an Exploration Licence to cover this ground.. E.L. 1031 " WIDE HORIZONS" was subsequently granted 14 November 1974. This E.L. extends between the Western Australia/Northern Territory border and the mouth of the Victoria River at the northeastern extremity of the Bonaparte Gulf Basin.

The surface of the E.L. consists of thick alluvial black soil or sand. Small isolated sand "islands" within the black soil plains were anticipated to be surface expressions of suboutcropping sandy formations. The low lying plains are covered by a network of tidal river channels and mangrove swamps.Exploration of EL 1031 commenced in 1975 with a helicopter survey, airborne magnetometry and stratigraphical core drilling.

2.0 EXPLORATION DURING 1975

2.1 HELICOPTER SURVEY

Anomalous vegetation growths associated with the isolated sand occurrences were considered to be due to near surface sandy formations.

Because of ground inaccessability to many parts of the E.L. a brief helicopter mission was made to examine these features. No outcrops were located and no direct guides for further exploration were obtained.

2.2 AIRBORNE MAGNETICS

The eastern section of the E.L. was covered during an airborne magnetic survey covering all Aquitaine tenements throughout the Bonaparte Gulf Basin.Data from the survey are being interpretted at present but no results are available at this moment.These results should be available before the start of the 1976 field season.The survey data are shown as figure 2.

2.3 DEEP STRATIGRAPHICAL CORE DRILLING

The strong geophysical trend,known as the Beta trend,extending across E.L.'s 675 and 416 and the Ochre Mine Claims, and known to be mineralised in these areas,appeared to continue northwards into E.L. 1031.

Consequently it was decided to locate one deep stratigraphical drill hole over the anticipated extension of this trend, within EL 1031, as close as possible to the Basin margin.

NBH 1001 was precollared to 50 m. by rotary drilling and then deepened to 300m by diamond coring.A log of this hole is contained as figure 3 in this report.

3.0 CONCLUSIONS

NBH 1001 traversed a predominantly black shale/ siltstone and sandstone sequence. With depth this sequence became more calcareous.

NBH 1001 can be correlated lithologically with cored holes NBO 1001 (on adjacent E.L. 416) and NBC 1001 (on Ochre Mine Claims) successively Southwards towards the basin margin (see figure 4).

Spore populations in two samples from NBH 1001 and one from NBO 1001 were examined and compared with spores described in PLAYFORD (1971).Assemblages collected at 236 m. in NBH 1001 and at 92 m. in NBO 1001 (marked "E" on figure 4) show morphological similarities and support the lithological correlation. These, together with a further assemblage collected at 145 m. in NBH 1001 indicate a Carboniferous (Visean) age for the strata intersected.

Regionally the shallow near-shore carbonate units gradually change to a more silty basinal facies and overlying silty and shaly units tend to thicken gradually basinwards.

Previous exploration has shown that structural disruption of the arenaceous carbonate unit can produce favourable locations for mineralisation. Also a thin black shale bed immediately overlying this unit has proved prospective locally elsewhere.

From NBH 1001 it is found that the facies equivalent of the arenaceous carbonate unit lies at approximately 295 m. depth and that the thin black shale bed is not developed at the base of the silty black shale unit lying from 275 m to 295 m.

There appears to be no tectonic disturbance of the facies equivalent of the near shore arenaceous carbonate.

4.0 RECOMMENDATIONS

From results from NBH 1001 it can not be expected that prospective units lie at shallow depth within EL 1031. A facies equivalent of the "target" formation was intersected at 295 m. At this stage no tectonism of sufficient vertical amplitude to bring this unit closer to the surface has been encountered within the Paleozoic sediments.

The extrapolation of the Beta trend over approximately 4km. into EL 1031 cannot be expected to be very precise and it is possible NBH 1001 was not directed into any extension of this trend.

It is recommended that future work on EL 1031 be guided by results within EL 416, EL 675, EL 893 and the Ochre Mine Claims on the Southern border of EL 1031. Systematic tracing of favourable structures through adjacent properties should delineate regions of interest within EL 1031.

5.0 BIBLIOGRAPHY

PENIGUEL G (1975). Palynological study of some Core samples from Seven Boreholes in the Bonaparte Gulf Area - Proposed Zonation and Environmental Comments. (S.N.P.A. Centre de Recherches note No. R/GEO 19/76) unpub (A.A.M. report MG 655).

PLAYFORD G (1971). Lower Carboniferous Spores from the Bonaparte Gulf Basin - W.A. and N.T. Bur. Miner. Resour.Aust. Bull. 115.

6.0 EXPENDITURE

Expenditure recorded on our books for the period 14.11.74 to 13.11.75 is as follows

Printing and drafting supplies	20.10
Salaries	441.02
Wages - Temporary personnel	147.15
Permit fees and rentals	1376.50
Motor vehicle expenses and rent	211.81
Helicopter hire	392.82
Accomodation etc.	14.79
Minerals drilling	14722.18
Magnetic Surveys	1611.17
Mineral geology -lab & Assoc.exps.	214.00
Mineral geology Dept. - Gen. exps.	36.00
Administration	435.00
Drafting and printing	8.00
	19630.54

129°00'
129°15'
129°30'
15°00'
15°15'
15°30'
15°45'

W. A.

EL 1031

KEEP INLET

EL 675

EL 893

FLAPPER HILL

LEGUNE

EL 675

EL 675

NBH 1001

EL 246

EL 247

EL 416

NBO 1001

NBC 1001

EL 675

OCHRE MINE CLAIMS

EL 416

EL 247

EL 674

to Kununurra

EL 674

ALPHA HILL

EL 674

EL 246

EL 673

EL 673

SPIRIT HILL

EL 785

Keep River

EL 415

NIGLI GAP

Relinquished areas

LOCATION MAP

0 5 10 15 KILOMETERS

SCALE 1 : 250000

AQUITAINE AUSTRALIA MINERALS PTY LTD

LOCATION OF EL 1031

MG 656

Figure 1

CR76-24.

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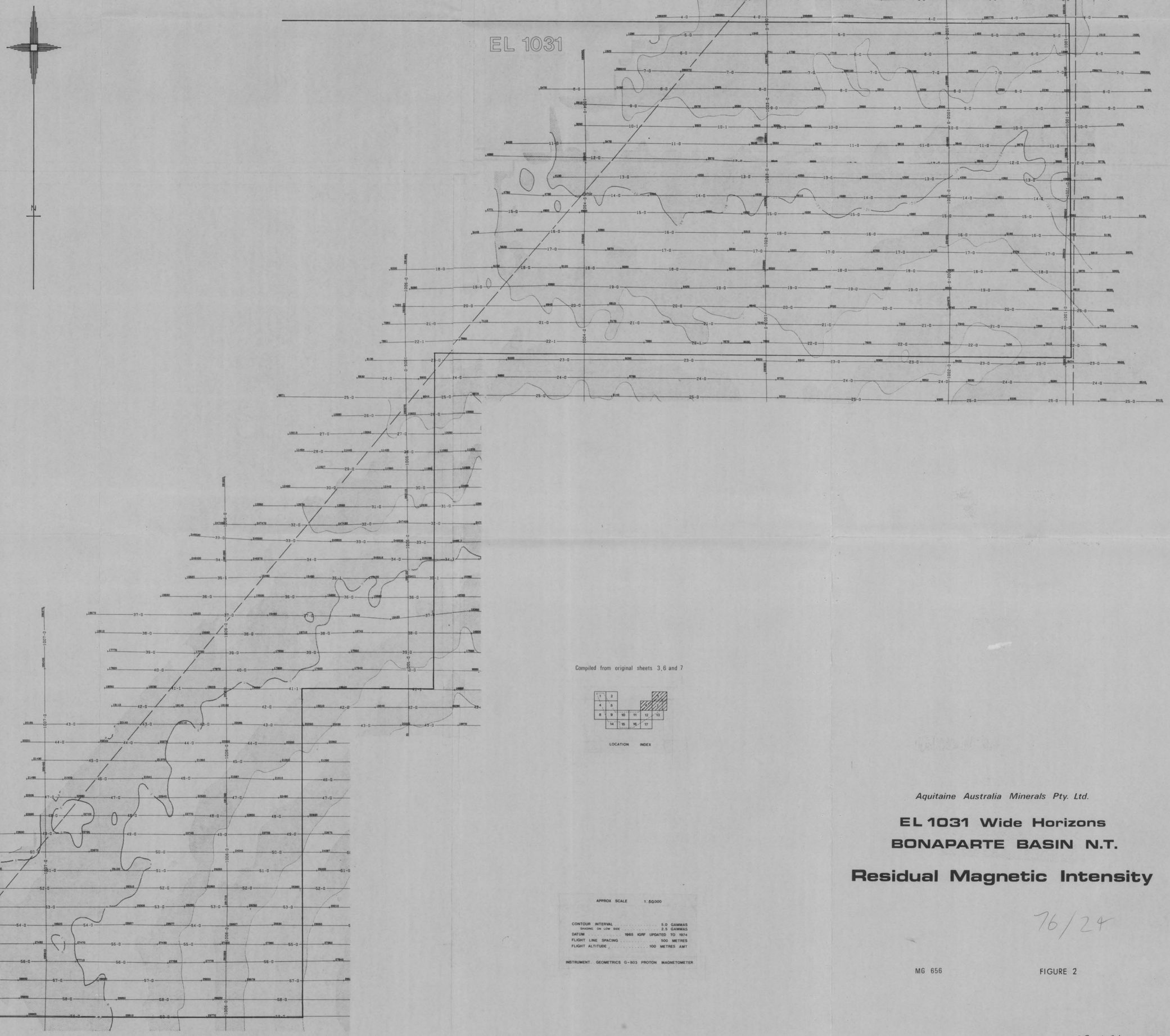

Compiled from original sheets 3, 6 and 7

LOCATION INDEX

APPROX SCALE 1:50,000

CONTOUR INTERVAL ..... 5.0 GAMMAS
SHADING ON LOW SIDE ..... 2.5 GAMMAS
DATUM ..... 1965 IGRF UPDATED TO 1974
FLIGHT LINE SPACING ..... 500 METRES
FLIGHT ALTITUDE ..... 100 METRES AMT

INSTRUMENT GEOMETRICS G-803 PROTON MAGNETOMETER

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EL 1031 Wide Horizons
BONAPARTE BASIN N.T.

Residual Magnetic Intensity

76/24

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FIGURE 2

CR 76-24

OR 76/124
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NBH 1001

FIGURE 3

EL 1031

Co-ordinates : 10200 N
3700 E

Scale : 1/250

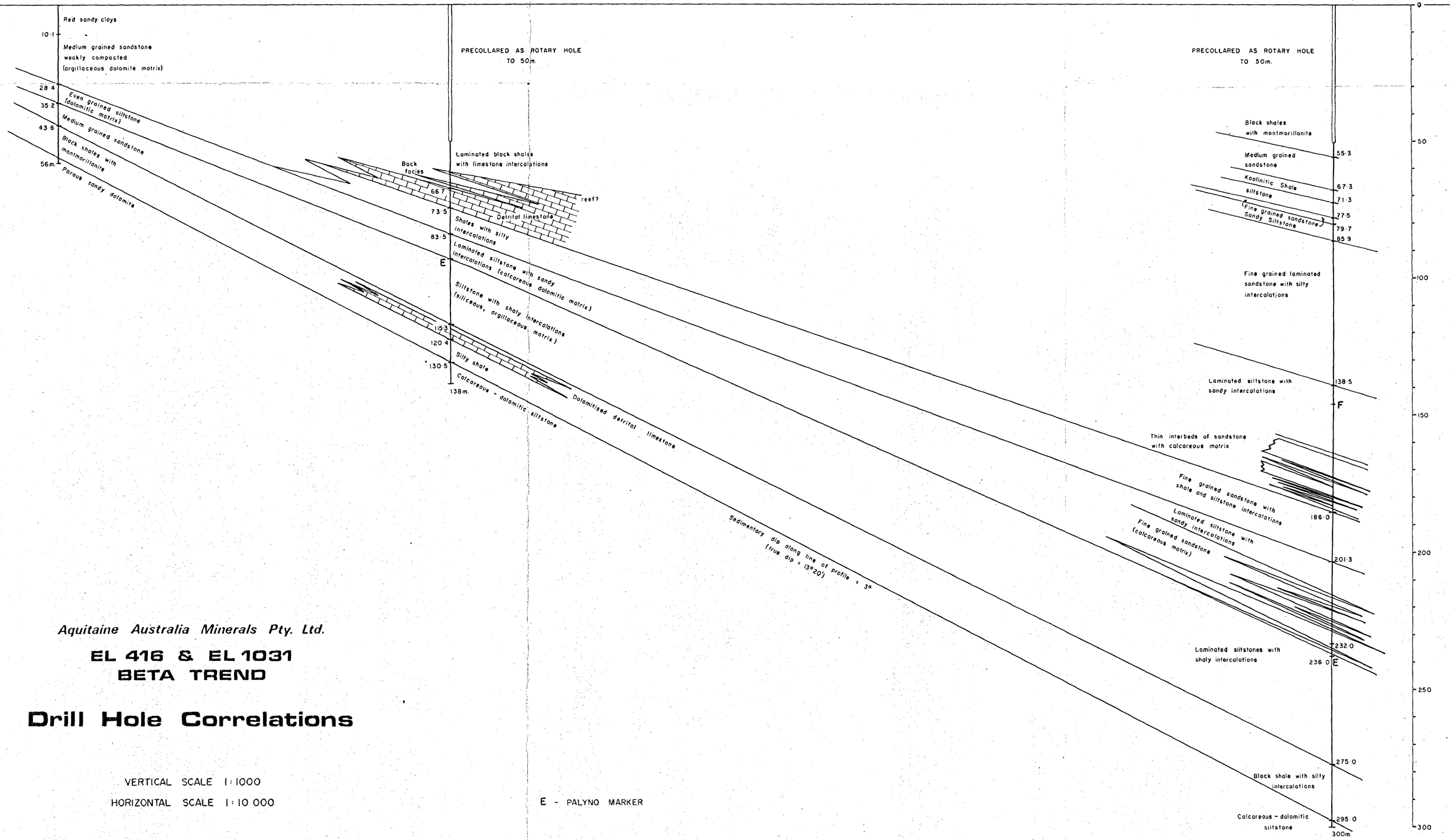
Author : M. HUARD

Date : OCTOBER 1975

GAMMA RAY LOG	DESCRIPTION	Pb	Zn
	on cored section		
	Shale - light blue-grey montmorillonite convolute bedding		
	Sandstone - coarse grained slumps bituminous level matrix mainly siltceous		
	Sandstone - fine Shale - light grey kaolin (?)		
	Siltstone - well sorted sandstone levels interbedded		
	Sandstone - fine grained, beige		
	Siltstone - well sorted sandstone levels interbedded		
	Sandstone - fine grained laminated siltstone levels interbedded greenish white		
	Siltstone - laminated, lt. grey Sandstone - fine grained, siliceous Shale - laminations, sandstones interbedded Sandstone - fine grained, siliceous		
	(Palyno marker F) Siltstone - laminations - millimetric sandstone levels interbedded - rare shale levels interbedded - pyritic levels - matrix mainly siltceous		
	Sandstone - fine grained, calcareous matrix, siltstone interbedded Siltstone - sandstone levels interbedded - rare shale levels (pyritic) - matrix mainly siltceous		
	Sandstone - fine grained, calcareous matrix Siltstone - sandstone levels interbedded - shale levels - matrix mainly siltceous Calcareous content increased in the matrix		
	Sandstone - fine grained - white - centimetric siltstone levels interbedded - matrix mainly siltceous		
	Siltstone - laminated - fine white sandstone levels with calcareous matrix at the bottom		
	Sandstone - fine grained (palyno marker E) - white - silty levels		
	Siltstone - greenish grey		
	Shale - dark grey to black		
	Siltstone - light grey laminations		
	Shale - dark grey to black		
	Siltstone - light grey		
	Shale - dark grey		
	Siltstone - light grey - millimetric limestone levels interbedded		
	Marker Siltstone - dark grey		
	Shale - black - centimetric silty levels interbedded		
	Siltdolomicrite - laminated - grey - calcareous dolomitic matrix		

END OF HOLE 300 m

13028



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EL 416 & EL 1031
BETA TREND

Drill Hole Correlations

VERTICAL SCALE 1:1000
HORIZONTAL SCALE 1:10 000

E - PALYNO MARKER

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FIGURE 4

CR76-24