

AQUITAINE AUSTRALIA MINERALS PTY. LTD.

EXPLORATION LICENCE 416

ANNUAL REPORT

FOR THE PERIOD ENDING 27TH JUNE 1976



Distribution:

Mines Department

S.N.P.A.

Manager/Archives

Minerals

Kununurra

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August 1976

MG: 708

ABSTRACT

After a short gradient array test block on E.L. 416 failed to produce conclusive results, it was decided to drill one stratigraphic diamond drill hole into a low magnitude chargeability high discovered during dipole-dipole IP work in 1974.

This hole penetrated dark siltstones and shales with thin interbeds of detrital limestone becoming more frequent at depth. No source for the chargeability anomaly was found other than low grade disseminated pyrite in the silty levels.

This hole can be used to reconstruct the platform and basin-marginal stratigraphy by comparing it with diamond drill holes located approximately three kilometers basinwards and 1.5 kilometres basin-marginwards respectively. The sandy dolomite occurring on the platform is found to become progressively siltier and muddier towards the centre of the basin.

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1.0 HISTORY

E.L. 416 was originally granted on 27th June 1972 and work during the 1972 and 1973 field seasons produced encouraging results, including the discovery of one low tonnage, high grade secondary zinc showing.

In 1974, fifty-one mineral claims were pegged in the southern half of E.L. 416 and this part of the E.L. was relinquished. The northern half of the E.L. was retained. The claims are now known as the Ochre Mine Claims.

No known mineralisation existed on the retained portion which contains very few outcrops. The only known outcrops occur in the far west of the E.L. and consist of conglomeratic sandstones of the Border Creek Formation.

2.0 PREVIOUS WORK

From the time of the original granting of E.L. 416, geological mapping was followed by extensive ground geophysics and some rotary-percussion and diamond drilling. Much of this previous work was located within that part of E.L. 416 which has been relinquished and retaken as the Ochre Mine Claims.

Only very little work actually lay over the current area of E.L. 416. Some dipole-dipole IP lines extended across the current E.L. 416 but these were part of a larger survey covering adjacent tenements.

Results of previous exploration on E.L. 416 are discussed in RAMDOHR (1972), (1973), (1974) and RAMDOHR and d'AUVERGNE (1975).

3.0 EXPLORATION

Concurrent work on adjacent E.L. 675 and the Ochre Mine Claims showed that the encouragingly mineralised Beta structural trend was likely to extend northwards into E.L. 416 while stratigraphical information suggested that potentially mineralized horizons tended to become progressively more deeply buried northwards.

The Beta trend appears to have been partially defined by dipole-dipole chargeability results on lines 6000N and 7000N at approximately 3500E (see plates 4K and 4L of RAMDOHR (1974)).

It was decided to read two gradient array IP blocks covering lines 6800N, 7000N and 7200N extending approximately two kilometers westwards from the western end of line 7000N. The data obtained appears to be unreliable. The two blocks are very difficult to match and strong electromagnetic coupling is suspected. The resistivity and chargeability maps of the area are shown as Figure 2.

To test the northwards extension of the Beta trend as suggested by a low magnitude chargeability high, a stratigraphic diamond drill hole was drilled into the centre of the high. Hole NBO 1001 located on line 7000N at 3500E was precollared by rotary drilling to 50 m and then deepened to 138.9 m by diamond coring.

The hole passed through a series of slightly pyritic siltstones and shales which contain thin detrital limestone interbeds at depth. Logs of this hole are shown as Figures 3 and 4.

4.0 CONCLUSIONS

NBO 1001 failed to reveal a source for the chargeability high although low grade pyrite associated with silty laminae may be the source. By using NBO 1001 together with NBC 1001, approximately 1.5 km towards the basin margin and NBH 1001 approximately 3 km towards the basin, a reconstruction of the basin margin in the vicinity of E.L. 416 can be made.

NBC 1001 was drilled into a sandy dolomite. The detrital limestone levels in NBO 1001 and in NBH 1001 (see d'AUVERGNE (1975)) are considered to be basinal equivalents of the sandy dolomite at the bottom of NBC 1001. Figure 5 shows a profile through these holes.

Similar spore morphologies from 92~m in NBO 1001~and from 236~m in NBH 1001~support this correlation.

It is considered that NBO 1001 did not penetrate deep enough and the hole should have been continued to the contact of the shale/silt-stone unit with the suspected underlying dolomites. This contact is found elsewhere to contain low grade mineralisation. Future drilling within E.L. 416 should be aimed at this contact and its incidence with structural trends.

5.0 REFERENCES

- RAMDOHR, R. (1973) Exploration Licence 416, Progress Report December 1972 (MG: 223), Unpub.
- RAMDOHR, R. (1973) Exploration Licence 416, Final Report for the Year Ending 27th June 1973 (MG: 281), Unpub.
- RAMDOHR, R. (1974) Exploration Licence 416, Annual Report for the Period Ending 27th June 1974 (MG: 488), Unpub.
- RAMDOHR, R. & d'AUVERGNE, P. (1975) E.L. 416 "Ochre Mine". Annual Report for the Period Ending 27th June 1975 (MG: 587), Unpub.
- d'AUVERGNE, P. (1975) E.L. 1031 "Wide Horizons". Annual Report for the Period Ending 13th November 1975 (MG: 656), Unpub.

6.0 EXPENDITURE

Expenditure on E.L. 416 as recorded on our books for the period 1st July 1975 to 30th June 1976 is as follows:

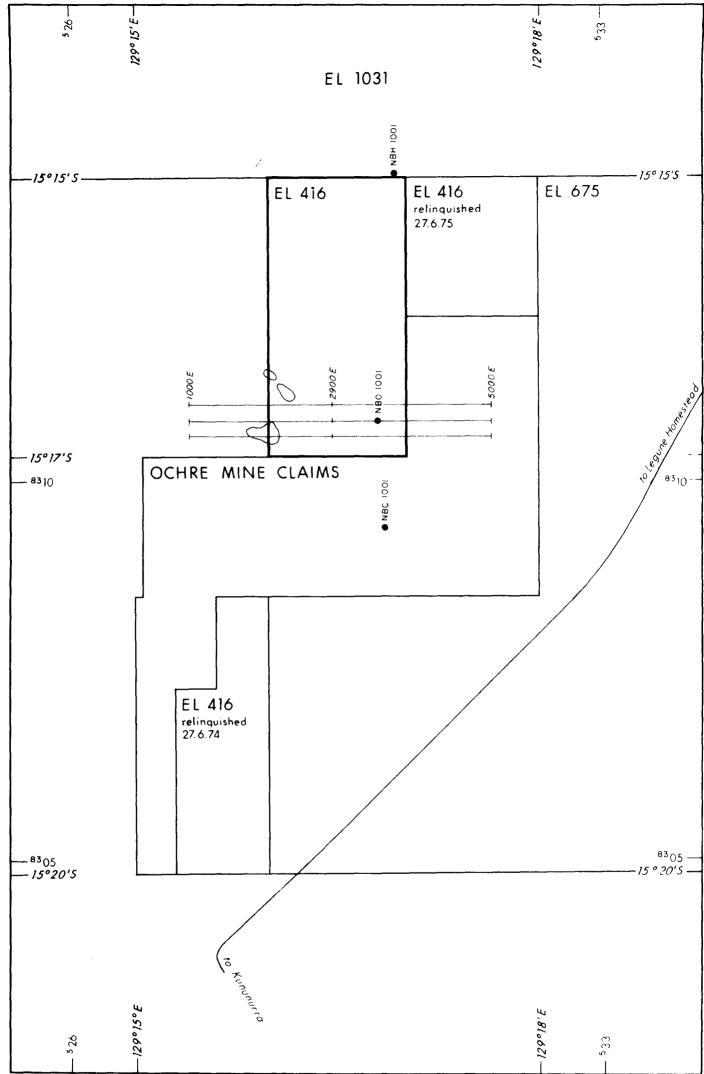
Miscellaneous supplies Printing & drafting supplies Salaries - residents Salaries - temporary personnel Payroll tax Permit fees and rentals Vehicle rentals Repairs & maintenance - vehicles Repairs & maintenance - others Electricity & gas rates Accommodation & associated expenses Air travel Transport & freight - land Transport & freight - air Maps, photographs, etc. Drilling Positioning - surveying Site and access preparation Mobilisation - demobilisation drilling Logging Mobilisation - demobilisation - geophysics Geophysical surveys Consulting, S.N.P.A C.R.P. Analyses Other lab. services Office supplies Telecommunications Subscriptions Depreciation Legal Department expenses Mineral geology - lab. & associated expenses Mineral geology Department - general expenses Administration Direct management costs Drafting and printing	467.80 398.93 2,278.25 270.28 127.07 4.00 55.92 1,784.99 185.02 129.68 234.93 869.72 66.76 59.72 33.05 5,529.00 35.95 387.50 462.03 250.00 512.15 1,703.48 773.06 163.96 338.86 54.79 11.76 4.14 353.89 24.00 5,467.40 789.95 4,576.60 903.46
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TOTAL: \$29,870.96

APPENDIX

ROTARY DRILL LOG NBO 1001

	AQUITAINE AUSTRALIA MINERAL	; •						
DRILLING LOG								
PERMIT	P.D.H. NBO 1001	Hole drilled by DAVIES DRILLING						
E.L. 416	Location R 7000N 3500E	Hole started 31.7.75						
STATE	Azimuth	Hole completed 31.7.75						
N.A.	Depression	Hale lagged by						
	VERTICAL	W. Morris						
DEPTH SAMPLE (matres) NUMBER	DESCRIPTION	A S S A Y S						
0- 2	Red-brown clay, soil							
2- 4 4- 6 6- 8	4- 6							
8- 10	Grey clay nodules with some silt. Very calcareous	0.10 0.11						
10- 12	Chips of whitish-grey calcareous material with yellow clay.							
12- 14	Yellow calcareous clay							
14- 16	Dense puggy weathered shale with much calcareous material.	<0.10 0.05						
16- 18 18- 20	Grey-brown calcareous clay with some gypsum chips.							
20- 22	Grey calcareous carbonaceous siltstone. <0.10 <0.05 Approximately 4% pyrite.							
22- 24	- 24 Sandy horizon with silicified shell breccia.							
24- 26	Grey siltstone with shell fragments.							
26- 28 28- 30 30- 32	Grey carbonaceous slightly calcareous siltstone. Approximately 1% pyrite.	<0.10 <0.05						
32- 34		<0.10 <0.05						
34- 36 36- 38	Grey slightly calcareous, carbonaceous siltstone.							
38- 40	Black carbonaceous shale	<0.10 <0.05						
40- 42 42- 44 44- 46	Grey slightly calcareous carbonaceous shales with some crinoid ossicles and minor pyrite.							
46- 48 48- 50		ζ0.10 ζ 0.05						
	Hole deepened by diamond drilling to 138m.	j.						



NOTE: BASED ON SHEET 4767, LEGUNE OF THE NATIONAL 1.100,000 TOPOGRAPHICAL SERIES EL BOUNDARIES AS AT 26.6.76

LEGEND

SCALE 1:50,000

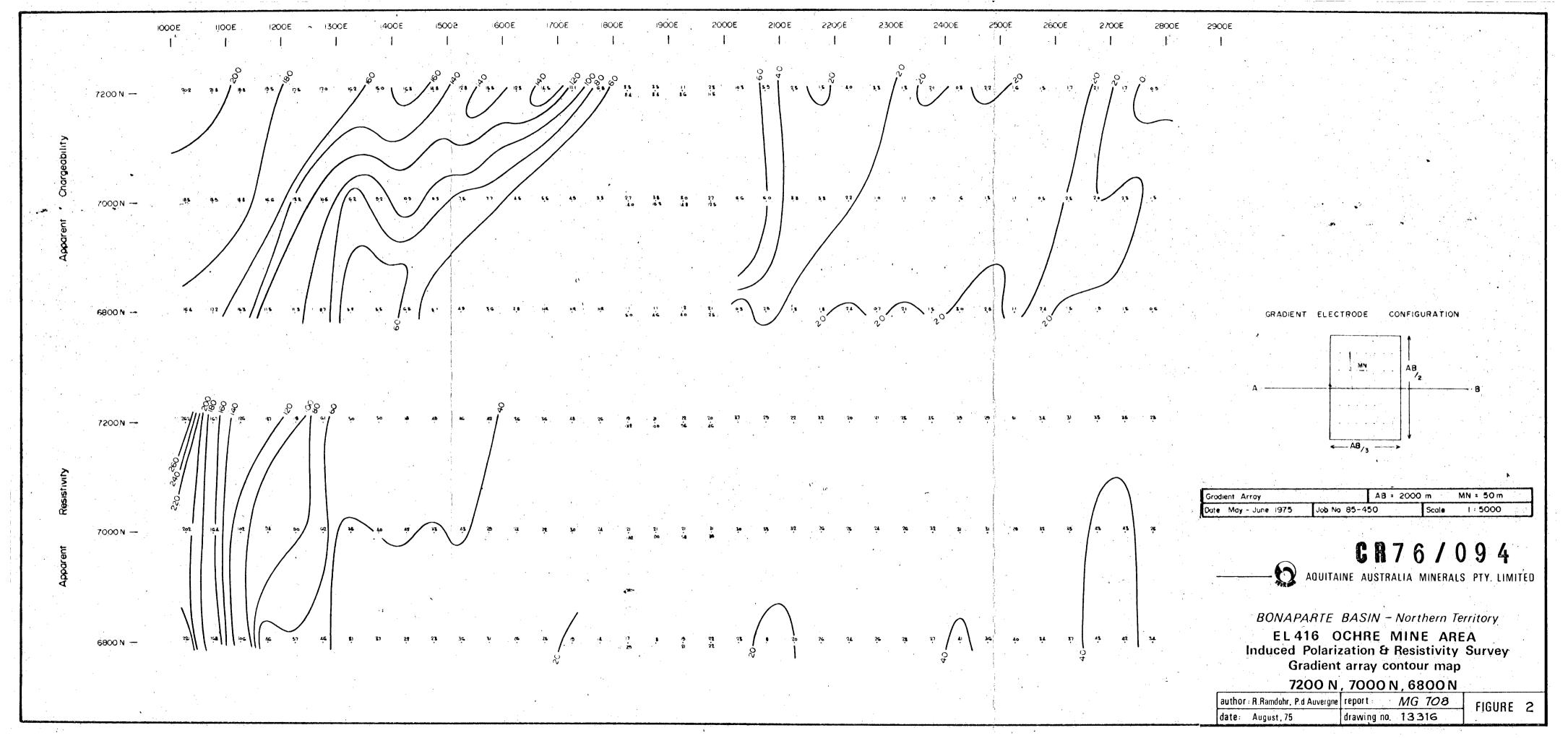
outcrop - Border Creek Formation
surveyed line
diamond drill hole

2 3 Kms

EL 416 - OCHRE MINE LOCATION DIAGRAM

CR76/094

MG 708 FIG 1



	1:	331	7				,			7	7 6	MG	70	ාප 9	FIG. 2	Š
	N	B 0	1001			Sc	CALE	porosi	(r = geoc	les		meni	∫A= o: S= si	rgillaceous iliceous lolomitic	7
			y : M. HUARD			-	100			= inter	granula	Τ.			alcareous other	
	\vdash	50,80	Lithology	Petrography non - cored	Se		sequences		colour	cement	fossils	sulph	ricle	dip	features	
	•	,		Siltstone Siltstone						c						
				limestone	convolute be	edding	(-)		Shale	A c=	crinoid_ debris		,			
	-55			limestone	Convolute bed	dina			grey black	c <u>=</u>						
				Black shale regular laminations	Slumping				limestone							
		5.		limestane –	convolute bec	dding	(-)		to white	· A	crinoids crinoids			0°		
	-60			Siltstone	breccia		(=) \		siltstone grey- green		crinoids					
				limestone	Convolute be Convolute be Slumping					A c=						
-										A	Crinoid debris					
	-65			very thin limestone intercalations	convolute bec	dding	(-)			c A c	crinoid debris bran_ chiopads					
	 - -	66,70			brecclas c	bedding	(+)			A	crinoids					
	-			siltstone shale detrital			(+)		siltstone grey- green	A <u>—</u>		:				
	- 70	• . ·		Shale and calcareous	convolute bedding		(+)		shale grey dark		crinoids			•		
	-			Shale Sandstone		as <u> </u>			timestone and Sandstone	<u>^</u>	Crinoids brachio			9		
		73 _, 50		siltstone, shale	breccias		(-)		Ught grey White	A <u>-5</u>	crinoids				. pebbly	
-	 75			very thin limestone intercalations	Slump brecci	 	(†)	er engly o	-	С	crinoids debris		, 4		· · · <u>·</u> · · · ·	
	-			Shale and Siltstone	convolute bec	dding	,			A	crinoids debris crinoids brachio					
	•			laminated		-			dark grey							
	- 80			siltstone	convolute bed	ding	Θ		to black		crinoids				· 	
1					convolute bed					A C				o°	·	E.
	•	82,30 83		Imestone intercalations - calcite silty - shale sandstone Siltstones	Convolute bed		(-)	I	grey- green	C						
	- -85				convolute bed	ding			siltstone grey- green							
	- - :			- shale	convolute bedo	ding			banded	c						
	•			shale	─ _slumping				black shale				-	o°		
	- 90			Jinate	convolute bea	dding	(4)									
				Shale shale	breccias c.l breccias	l l	(+)(+)							. 4		
	.			Shale	cross bedo slumping											
	-95			laminated with shale			Θ		sittstone grey- green	A	. "					
:				and detrital limestone shale	4. 4.		(+) (-)		banded	=3	-crinoids :crinoids=	:				
	•.			shale			(+)	<u>-</u>	shale dark		-crinoids —			o°	• •	4
	- 100			Shale Shale					grey							
				shale shale	— cross beddi	na —			light grey to white	A						
	•			shale		L	(+)		MANITE							
	- 105	-		Shale — lime stone —			emen.			c	-crinoids-	1		,		
				Shale												
			.,	siltstone laminated shale with												
	-110			shale shale		-			-						` .	s,
	•			shale	canvalute béc	gnibk										
					convolute bed				art .							
	-115	115,30		Time stone	Convolute bed Convolute bedding		+)			с —	_ crinoids_					
		117		silty shale = sintstane = limestane =	- convolute bed - breccias c.b	, —	(e)		dark grey	A		=Fe S2		5° 10° 20°		
				bitumen = siltstone = bitumen siltstone siltstone	= Convolute bed	dina_	(+) (-) -) +)	I = I = = I =	light					4	-bituminous _impregnation -dolomite	
	-120			sittstone sittstone	breccias slum =convolute bed = slump brecc	ding =	(+) / (+) /		grey	C	-			5°	nodule	
		120,70		detrital	convolute bed	15			shale	c	brochioped - crinoid - prochiopeds	-FeS ₂	-	10° 20° - 10° – 10°		
				detrital	convolute bed	taling-	(-)		dark grey	A(c)				5° 10° –	angular discordance	
-	-125			_ detrital _ limestone	-convolute bed =convolute bed	aling=	(-)		limestone white to	c —				5*	uance	
				Silty Shale _ detrital !imestone					light grey	c —						
				detrital limestone detrital limestone		\ \ -	(+)			A(c) c						
	-130	129,70		- detrital - Timestone	convolute bedo	dina	+1)		ادتمامها	c — c ==						
					Convolute bed Slumping	dding			white to light grey					5°		
-				siltstone	convolute bedding	e			۔							
-	-135			laminated with interbeds of	Jesuing			- 1		С				o°		
				detrital limestone	Convolute bedd	ing										
	:				Convolute bed		•				brachio-	-Fe S.				
	-140		٠.	—end of hole	Convolute beda	ing						~				

MG. 708 FIG. 4 ER76/094

AQUITAINE AUST. MINERALS PTY. LTD. -BONAPARTE GULF BASIN

	NBO 1001			
No	CO-ORDINATES stional grid Aquitaine grid N R 7000 N			
	N R 7000 N E 3500 E	ŧ	· ·	
				DESCRIPTION Pb% Zn9
0		•		
5				Sand and clay
		₩ N	•	Sand and Cray
10		ALLUVIUM	-	
15		AL		
· 13				
20				
25				Siltstone carbonaceous,
30				carbonaceous, slightly calcareous
30				
35				
40		1.15		
45				Shale carbonaceous, slightly calc regular thin detrital lime-
50				stone laminations.
		A SHIPT DATON AND A		
55		•		
. 60				
. 00		1.5		
65				
				Limestone (detrital) and
70				calcareous sandstone
<i>7</i> 5				
80				
				silty sandstone
85				
90				Siltstone Thin laminae of detrital
				limestone at top and shale laminae throughout
95				
:				
100				
105				
110)-			
: .				
115				Silty shale Onlomitic limestone
120)-			(detrital) with regular silt- stone laminae
				Silty shale
125				thin detrital limestone laminae
130				Siltstone
135	3-			Laminated interbeds of detrital limestone
•				

OF HOLE 138-9/m

145

150