AQUITAINE AUSTRALIA MINERALS PTY. LTD.

E.L. 416 OCHRE MINE

ANNUAL REPORT FOR PERIOD ENDING

27TH JUNE, 1977

Distribution:

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August 1977

MG: 784

CR77/113

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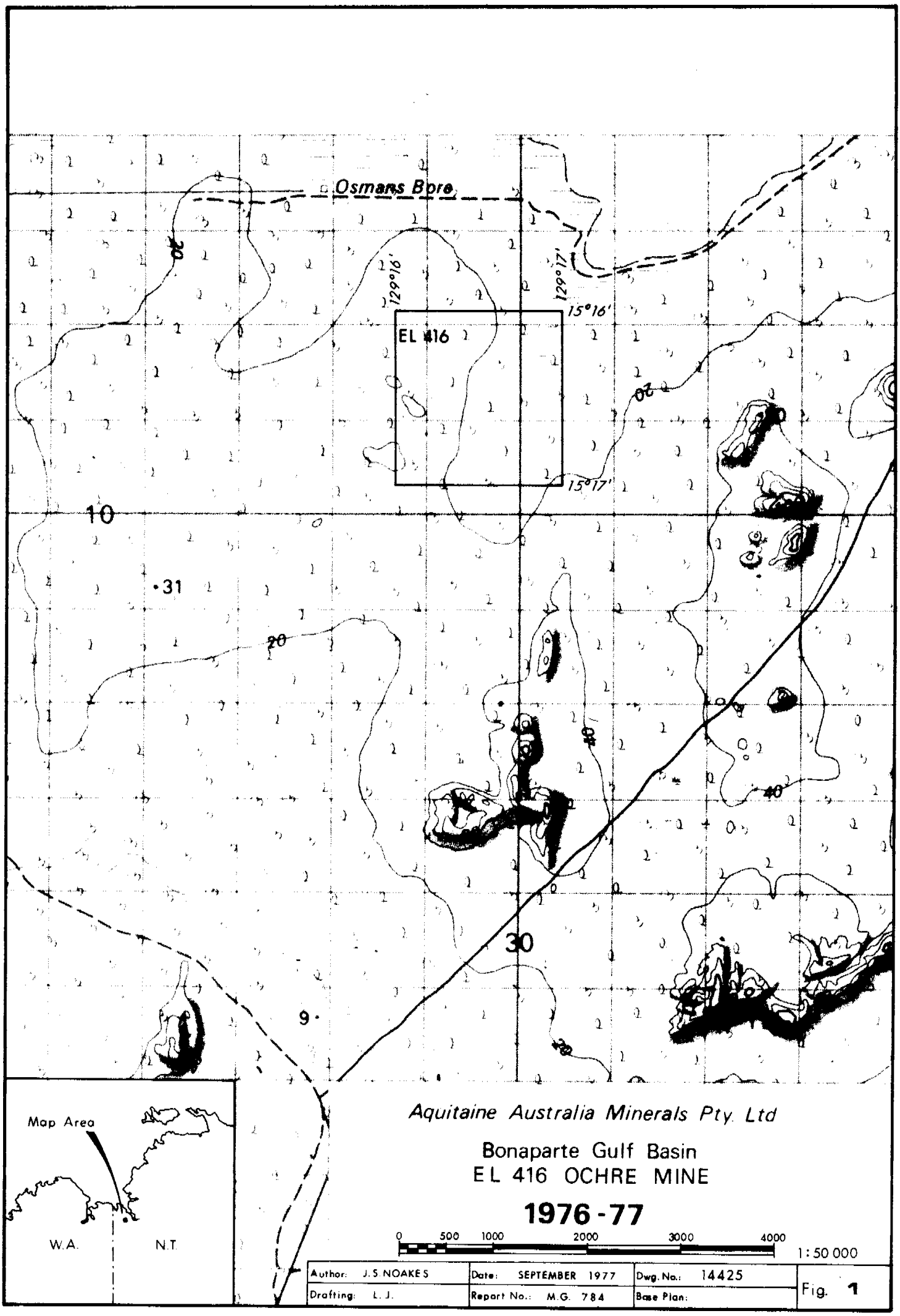

Aquitaine Australia Minerals Pty. Ltd

Bonaparte Gulf Basin
EL 416 OCHRE MINE

1976-77

0 500 1000 2000 3000 4000

1:50 000

Author: J.S. NOAKES	Date: SEPTEMBER 1977	Dwg. No.: 14425	Fig. 1
Drafting: L.J.	Report No.: M.G. 784	Base Plan:	

1. INTRODUCTION

This report describes and discusses the exploration programme completed on E.L. 416 during the final year of tenure, (1976 - 1977).

One diamond drill hole, and three shallow seismic refraction profiles were completed, together with part of a regional surveying programme.

2. LOCATION AND ACCESS

Exploration Licence 416 is situated 5 kms. north of the Western Australia/Legune road about 55 kms. from the W.A./N.T. border (see Figure 1). Access is restricted to the dry season only, so active on location exploration is confined to the months of May through to October.

3. TENURE

The tenure of E.L. 416 was initially granted on the 27th June, 1972, and has been explored every dry season up to the last period of tenure. The E.L. was relinquished on the 27th June, 1977.

4. EXPLORATION

4.1 Drilling

One diamond drill hole was completed on the E.L. during the year - NBO 1002.

The hole was designed to test the stratigraphy, in particular the basal contact of the dark grey siltstone/shale sequence

with the sandy carbonates, and to provide a stratigraphic correlation between holes previously drilled outside of the E.L.

Hole No.	Co-ordinates	Depth	
NBO 1002	6500N - 3750E	Precollar	82.0m.
	(Aquitaine Grid)	BQ	128.3m.
	831042/053038	Total Depth	210.3m.

Foraco N.H. were the contractors, as in previous years, and they precollared the hole using a V.P.R.H.88 rig, following with a Techno SM70 diamond drill rig.

A written drill log is presented as Appendix I, together with a natural gamma radiation log.

4.2 Seismic Geophysics

Three shallow seismic refraction lines impinge upon the E.L. SNBC 3 was shot by Velocity Data Pty. Ltd. in 1976, and SNBC 5, SNBC 6 were shot by Geophysical Exploration Services in 1977. The results are presented as figures:

SNBC 3	6400N - 7000N	0.6	kms.
SNBC 5	530450E - 528650E	1.8	kms.
SNBC 6	220NW - 805NW	0.58	kms.
	Total:	2.98	kms.

Interpretation of the seismic profiles is not yet complete, the three profiles comprising only a small part of a much larger regional programme along the entire eastern margin of the Bonaparte Basin.

4.3 Surveying

Buxton, Tuder and Waugh of Sydney, N.S.W., completed an extensive tellurometric and geodimeter survey along the eastern margin of the Bonaparte Basin. The survey was designed to tie together the major areas of investigation with the National Grid. One of the baselines traverses the south-eastern corner of the E.L. and the seismic lines SNBC 5 and SNBC 6 were surveyed in.

5. RESULTS AND CONCLUSIONS

The results of exploration on E.L. 416 during the 1976 - 1977 year of tenure are not completely clear. Preliminary seismic refraction studies have shown several faults and the velocities of several units, although the interpretation is not yet complete. The position of the contact between the shale/siltstone unit and the underlying sandy carbonates is not very clear.

On the other hand the drilling of NBO 1002 identified the contact at about 142m., with a depth of 145m. (gamma log). The litholog of NBO 1002 demonstrates the contact, although the basal units of the sand/silt facies have some carbonate horizons and the clastic horizons generally have a carbonate cement. No visible mineralisation was found at or near this contact, and indeed routine check assays of the percussion precollars demonstrates the extremely low values encountered.

Results of the investigations during the 1976 - 1977 dry seasons, although not yet complete (seismic refraction interpretation), do not indicate any great potential. The contact between the shale/siltstone unit and the underlying sandy carbonate has no associated mineralisation in E.L. 416.

6. EXPENDITURE

	$
Printing & drafting supplies	23.67
Small consumables	931.38
Miscellaneous supplies	1,481.20
Residents salaries	4,145.13
Temporary personnel	118.32
Payroll tax	321.77
Permit fees & rentals	5.77 Cr.
Rentals, buildings, storage	900.00
Rental of vehicles	154.68
Aircraft rental	97.35
Repair & maintenance - vehicles	3,085.84
Repair & maintenance - other	601.31
Electricity, gas	740.47
Accommodation, meals, miscellaneous expenses	110.06
Air travel	968.21
Freight - land	200.52
Freight - air	210.02
Maps, photos, mosaics	73.66
Site & access preparation	383.92
Water supply installations	4.95
Drilling	17,046.98
Mobilisation, demobilisation	320.00
Logging	400.00
Mobilisation, demobilisation	100.23
Surveying	1,453.92
Consulting SNEAP/CRP	737.92
Analyses	124.16
Other services	599.55
Office supplies	8.10
Postage	6.00
Telecommunications	298.02
Mineral salaries	8,807.15
Mineral Department general expenses	780.24
Legal Department expenses	90.68
Drafting expenses	389.98
Administration & base expenses	11,684.00
Depreciation	2,512.99
Printing	266.74
TOTAL	$60,173.35

APPENDIX I

LITHOLOG OF NBO 1002

AQUITAINE AUSTRALIA MINERALS PTY LIMITED

DRILLING LOG

hole no.	NBO 1002	location	NATIONAL GRID 831042053038	drillers	VRPH - TECHNO
permit	E.L. 416	AQ Grid	6500N - 3750E	duration	6/8/76 - 18/8/76
state	N.T.	declination	VERTICAL	logged by	P. J. CROCKER

depth	description
0 - 2	Red sandy loam.
2 - 4	Orange sandy loam; ironstone fragments.
4 - 6 6 - 8 8 - 10	Light yellowish loam.
10 - 12 12 - 14 14 - 16 16 - 18 18 - 20 20 - 22 22 - 24 24 - 26 26 - 28	Light yellowish calcareous clay. (weathered calcareous shale?)
28 - 30 30 - 32 32 - 34 34 - 36 36 - 38 38 - 40 40 - 42 42 - 44 44 - 46	Dark grey to black calcareous shale
46 - 48	Dark grey calcareous argillaceous sandstone, fissile, friable, medium grainsize.
48 - 50 50 - 52	Interbedded dark grey calcareous shale and dark grey calcareous argillaceous sandstone.
52 - 54 54 - 56 56 - 58	Dark grey to black calcareous silty shale.
58 - 60	Orangish calcareous sandstone.
60 - 62 62 - 64	Orangish calcareous sandstone and interbedded grey calcareous shale.
64 - 66	Orange-brown dolomitic sandstone, 30% quartz sand.
66 - 68	Orangish quartz sandstone, medium grainsize, friable, dolomitic cement.
68 - 70	Dark grey dolomitic shale; brown-grey dolomitic sandy shale (10 - 15% quartz sand).
70 - 72 72 - 74 74 - 76	Orangish quartz sandstone, friable, medium to coarse grainsize.

AQUITAINE AUSTRALIA MINERALS PTY LIMITED

DRILLING LOG

hole no.	NBO 1002	location	NATIONAL GRID 831042053038	drillers	VRPH - TECHNO
permit	E.L. 416	AQ Grid	6500N - 3750E	duration	6/8/76 - 18/8/76
state	N.T.	declination	VERTICAL	logged by	P.J. CROCKER

depth	c.b.a.	description	recov.
76 - 78 78 - 80 80 - 82			
		Hole drilled to 82m. with V.R.P.H. Then cored with Techno. No sample recovery 82 - 84.65m.	
84.65- 86.50	-	QUARTZ SANDSTONE Weathered orangish quartz sandstone, leached, porous, massive.	15%
86.50- 88.55	60°	BLACK SHALE Dark grey/black shale, finely laminated.	50%
88.55-89.00	-	QUARTZ SANDSTONE Weathered orangish quartz sandstone, medium to coarse grained, porous, silicified in part, massive.	-
89.00- 95.80	70°	BLACK SHALE Black shale, finely laminated.	50%
95.80- 97.40	-	DOLOMITIC SANDSTONE Oxidised orange-grey dolomitic sandstone, fine grained, porous, 30-40% quartz sand, silicified towards base, shell & crinoid debris common, very minor scattered fine grained pyrite.	45%
97.40-104.65	70°	BLACK SHALE Black shale, finely laminated, streaked with detrital dolomite towards base.	70%
104.65-104.85	-	DOLOMITIC SANDSTONE Dark grey argillaceous dolomitic sandstone, silicified towards base, fine grainsize, crinoid debris.	-
104.85-107.30	80°	BLACK SHALE Black shale, finely laminated, streaked with detrital dolomite and fine quartz sand.	80%
107.30-109.30	80°	DOLISILTITE Dark grey argillaceous dolisiltite, shaley streaks and interlaminae, minor (<1%) finely granular sphalerite along fractures.	80%
109.30-116.55	75°	BLACK SHALE Black shale, finely laminated.	70%
116.55-116.65	-	DOLOMITIC SANDSTONE Light grey brown dolomitic sandstone, fine grainsize, 60% quartz sand, slumped into shale, highly porous.	-

AQUITAINE AUSTRALIA MINERALS PTY LIMITED

DRILLING LOG

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permit	E.L. 416	AQ Grid	6500N - 3750E	duration	6/8/76 - 18/8/76
state	N.T.	declination	VERTICAL	logged by	P.J. CROCKER

depth	c.b.a.	description	recov.
116.65-116.80	80°	BLACK SHALE Black shale, finely laminated.	-
116.80-117.40	-	DOLOMITIC SANDSTONE Light grey-brown dolomitic sandstone, fine grainsize, silicified in part, becoming increasingly argillaceous (streaks and laminae) towards base.	-
117.40-119.25	80°	DOLOMITIC SHALE Dark brown-grey silty dolomitic shale to silty shaley dolomite, streaked and laminated, fissile to subfissle.	25%
119.25-122.00	70°	BLACK SHALE Black shale, finely laminated, some minor finely disseminated pyrite and sphalerite.	60%
122.00-123.70	70°	DOLOMITIC SANDSTONE Black dolomitic shaley sandstone, friable, minor scattered finely granular sphalerite.	50%
123.70-127.60	70°	DOLOMITIC SANDSTONE Light grey and oxidised orangish calcidolomitic quartz sandstone, medium grainsize, 60% quartz sand.	60%
127.60-130.00	-	CALCIDOLOMITE Light brown-grey calcidolomite, coarsely crystalline, minor small open vughs, massive, oxidised along frac-fractures.	60%
130.00-134.45	-	CALCIDOLOMITE Light grey to brown-grey calcidolomite, medium crystalline, abundant small open vughs, some large (3-4cm. diameter), minor silty argill. material at base.	60%
134.45-138.30	-	LIMESTONE Light yellowish orange limestone, oxidised and leached.	35%
138.30-142.15	50°	CALCAREOUS SHALE Dark grey to black calcareous shale, shelly horizon from 138.70 to 139.90m.	50%
142.15-143.00	-	CALCIDOLOMITE Light brown crystalline calcidolomite, oxidised orangish in parts, massive.	75%
143.00-145.60	-	LIMESTONE Dark brown very coarsely crystalline limestone, massive; interlaminated and interslumped with black calcareous shale from 145.50 to 145.60m.	35%
145.60-146.05	-	LIMESTONE Grey-brown crystalline limestone, massive rare shell debris.	-

AQUITAINE AUSTRALIA MINERALS PTY LIMITED

DRILLING LOG

hole no.	NBO 1002	location	NATIONAL GRID 831042053038	drillers	VRPH - TECHNO
permit	E.L. 416	AQ Grid	6500N - 3750E	duration	6/8/76 - 18/8/76
state	N.T.	declination	VERTICAL	logged by	P.J. CROCKER

depth	c.b.a.	description	recov.
146.05-153.05	-	CALCAREOUS SANDSTONE Grey and oxidised orangish (leached & porous) calcareous sandstone, massive, 40% quartz sand, medium grainsize, well sorted, minor argillaceous streaks and partings.	50%
153.05-162.20	-	CALCAREOUS SANDSTONE Grey and oxidised orangish calcareous sandstone, massive, 20% detrital carbonate, 30% quartz sand, poorly sorted, brachiopod debris common, minor whole shell horizons.	50%
162.20-168.00	-	SANDY CALCARENITE Grey-brown and oxidised orangish, sandy calcarenite, dominantly detrital and bioclastic carbonate, massive, 15% quartz sand, fine to medium grainsize, poorly sorted, leached in parts.	35%
168.00-175.50	-	CALCISILTITE Light grey-brown bioclastic calcisiltite, 30% carbonate silt, 20% bioclastic debris, massive, passes into oxidised, fractured (brecc.?) shaley horizon from 173.10 to 173.40m., fracturing throughout below 173.10m.	60%
175.50-192.90	-	INTERBEDDED BIOSPARITE LIMESTONE & CALCISILTITE Interbedded brown biosparite; grey-brown crystalline limestone; and light grey-brown silty calcisiltite (10-20% quartz silt, bioclastic debris common), massive, fractured to brecciated with frequent argillaceous partings and laminae - especially along fractures.	90%
192.90-196.50	-	BIOPELSPARITE Brown biopelsparite, massive, stylolites common, shaly intercalations along fractures.	100%
196.50-197.30	-	DETRITAL LIMESTONE Brown detrital limestone, minor bioclastic debris, massive, stylolites common.	100%
197.30-204.30	-	PELSPARITE Light brown pelsparite, spherical to sub-spherical pellets set in very fine sparry cement; light brown silty calcisiltite, massive.	100%
204.30-206.00	-	BIOCALCISILTITE Light brown biocalcisiltite, 10-15% quartz silt in parts, shell debris common, argillaceous interlaminae, some minor pelletal layers, massive.	100%
206.00-210.30	-	CALCISILTITE Light brown to grey-brown calcisiltite and silty calcisiltite, massive minor bioclastic debris, some small brachiopods, minor silty argillaceous laminae. (END OF HOLE)	100%

APPENDIX II

ASSAY PRECOLLAR NBO 1002

AQUITAINE AUSTRALIA MINERALS PTY. LIMITED

ASSAY SHEET

hole no.	NBO 1002	element	as below
permit	OCHRE MINE	method	AAS/AAY
state	N.T.	laboratory	Geomin

from	to	Pb %	Zn %
22	24	.0450	.0045
26	28	.0050	.0035
30	32	.0065	.0030
34	36	.0055	.0030
38	40	.0045	.0015
42	44	.0070	.0090
46	48	.0050	.0095
50	52	.0075	.0260
54	56	.0075	.0160
58	60	.0070	.0255
62	64	.0140	.0750
66	68	.0020	.0020
70	72	.0025	.0040
74	76	.0025	.0155
78	80	.0020	.0050

13098

831 200 0 N

GN

831 100 0 N

831 000 0 N

National Grid
Co-ordinates

528 000 E

529 000 E

530 000 E

EL 416

805 NW

SNBC 6

220 NW

Cub

2905 E

SNBC 5

3045 E

7000 N

SNBC 3

• NBO 1001
4001

(SURVEY BASE LINE)

Cub

NBO 1002 •

6400 N

Cub Border Creek Formation

SCALE 1:10 000

0 100 200 400 600

Aquitaine Australia Minerals Pty Ltd

Bonaparte Gulf Basin
EL 416 OCHRE MINE

Geological Map Showing EL Boundary and Seismic Lines

Author: J.S. NOAKES	Date: SEPTEMBER 1977	Dwg. No.: 14427	Fig. 2
Drafted by: L.J.	Report No.: M.G. 784	Base Plan:	

FORACO **GAMMA RAY LOG**

AQUITAINE AUSTRALIA MINERALS PTY LTD

BONAPARTE GULF BASIN N.T.

OCHRE MINE

NBO 1002

CO-ORDINATES

National Grid		Aquitaine Grid	
N		6500	N
E		3750	E

Hole size	Calibration standard
Borehole medium	K factor
Casing	Dead time
Fluid level	First reading
Date	Range
Operator	Time constant
	Logging speed
	Paper Scale
Final depth 210 30	Background counts
	Detector size

OCHRE MINE CLAIMS ← → EL 416

AQUITAINE AUSTRALIA MINERALS PTY LTD

BONAPARTE GULF BASIN N.T.

OCHRE MINE

SEISMIC REFRACTION LINE SNBC 3

Contractor: Velocity Data Pty. Ltd

Field	Interpreted	W P	Reinterpreted	Checked	Scale 1:2,500	Date Oct. 1979
Drafted by			Drawing No.	Base Plan		

6500N

7000N

500
450
400
350
300
250
200
150
100
050
50
100
150
200
250
300

1000m depth

3000 for 1000m depth

NV

?

?

?

6
800 NW

5
300 NW

4
200 SE

EL 416

OCHRE MINE CLAIMS

500
450
400
350
300
250
200
150
100
050

50
100
150
200
250
300

AQUITAINE AUSTRALIA MINERALS PTY LTD M.I.M. / CONWEST

BONAPARTE GULF BASIN N.T.

OCHRE MINE

Note: Mineral @ 50 - 150 ohm m - copper not record

SEISMIC REFRACTION LINE SNBC 6

Field Interpreted	Reinterpreted	Checked	Scale 1:2,500	Date September 1977
Drafted By C.D.W.H.	Drawing No.	Base Plan		