

AQUITAINE AUSTRALIA MINERALS PTY. LTD.

E.L. 1708, MILLIGANS LAGOON,

ANNUAL REPORT

FOR THE YEAR ENDING 8TH FEBRUARY, 1981

Distribution:-

S.N.E.A. (P.) Mimets (2)
Manager/Archives Mines & Energy Depart.
Minerals (2)
Kununurra

Compiled by: P. Cranney

Date: March, 1981

MG: 1086

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A P P E N D I X

DRILL LOG

NBS 5002

F I G U R E S

		<u>DWG. NO.</u>
FIGURE 1	Bonaparte Gulf Basin, Northern Territory Tenements	17536

P L A T E S

		<u>DWG. NO.</u>
PLATE 1	Milligans Lagoon, E.L. 1708, Location and Regional Geology	16552B

C O M P O S I T E L O G

HoTe NBS 5002

1.0 SUMMARY

The drilling of one deep stratigraphic hole (NBS 5002) has been completed in the northern part of the licence. Drilled to a final depth of 500.55 m, the hole intersected Milligans Beds above sequences of interbedded carbonates and siltstones, sandstones, and siltstones with carbonates at the base of the hole. While the stratigraphic differentiation of these units is still not clear, pending B.M.R. age dating, possible equivalents to the Septimus Limestone, Enga Sandstone and Burt Range Formation are inferred.

In view of the statutory requirement to relinquish half of the licence, the area in the northern part, adjacent to the Cuesta Ridge area, has been retained for further exploration in conjunction with extensive work programmed in the general area during 1981.

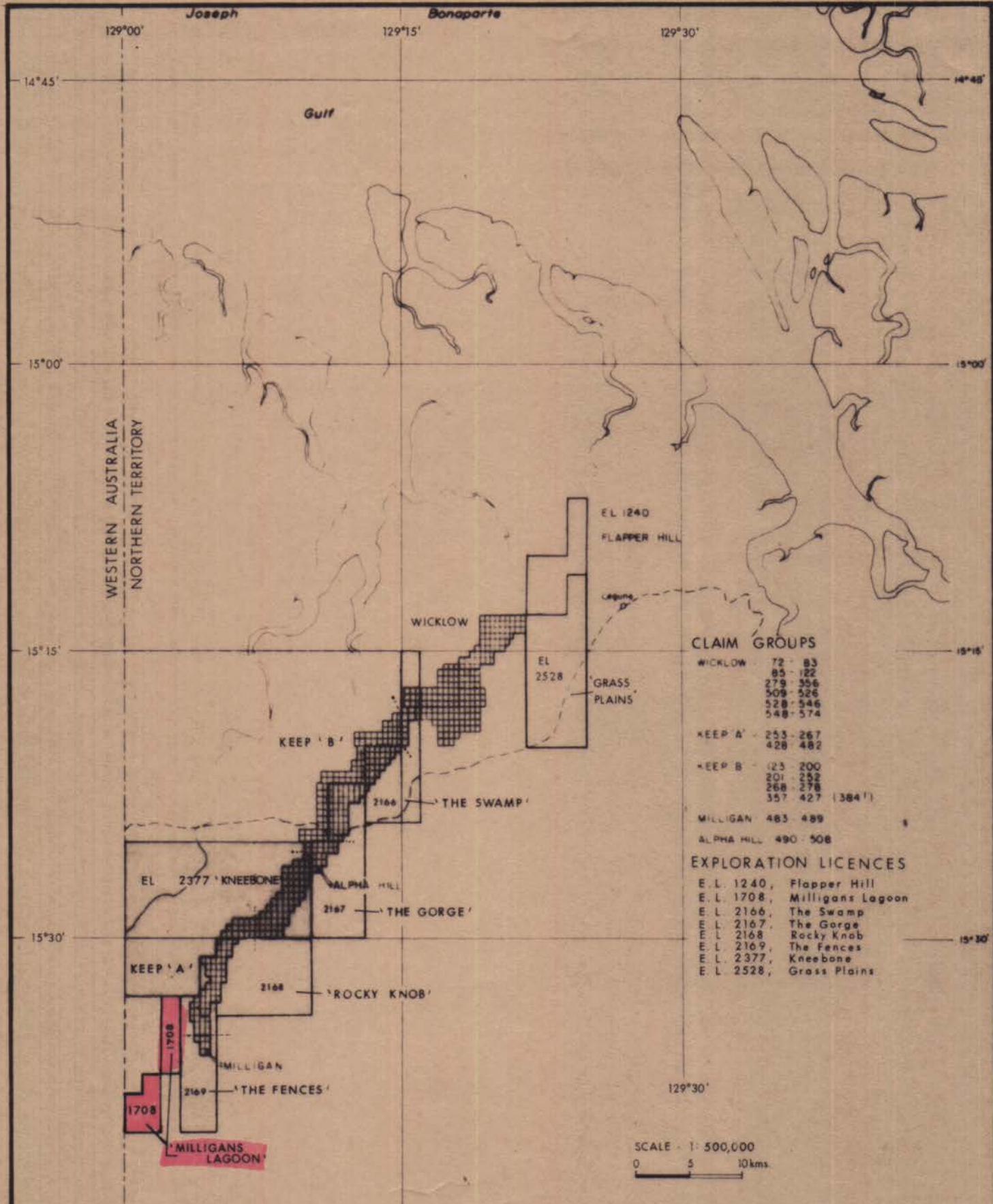
2.0 INTRODUCTION

Exploration Licence 1708 was originally granted on 8th February, 1978, and has subsequently been reduced by 50% in area following renewal of the licence in February 1980. The area, now consisting of two residual north-south trending blocks containing nine one minute sub-blocks, is held in joint venture with Mimets Exploration Pty. Ltd. As shown in Figure 1, the licence covers an area of approximately 30 km².

The licence area lies in the southern axial portion of the Bonaparte Gulf Basin, abutting the W.A. - N.T. border approximately 20 km south-east of the Sorby Hills base camp. Access is by track to Milligans Lagoon along the border fence, or by track from Kununurra via Martin Gap.

The area of the licence is largely covered by black soil and thick overburden with poor outcrop.

Exploration in this strategic area of the basin is being pursued to establish a stratigraphic link between the host formations of lead - zinc mineralisation at Sorby Hills, and prospective sequences with well established lead - zinc occurrences in the Northern Territory sector of the basin.

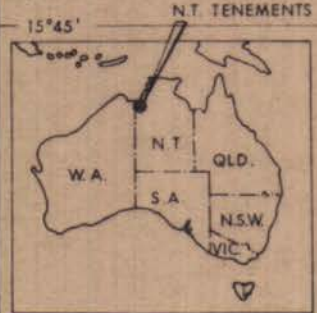
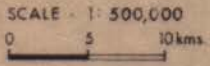


CLAIM GROUPS

WICKLOW	72 - 83
	85 - 122
	279 - 356
	509 - 526
	528 - 546
	548 - 574
KEEP 'A'	253 - 267
	428 - 482
KEEP 'B'	123 - 200
	201 - 252
	268 - 278
	357 - 427 (384')
MILLIGAN	483 - 489
ALPHA HILL	490 - 508

EXPLORATION LICENCES

E. L. 1240,	Flapper Hill
E. L. 1708,	Milligans Lagoon
E. L. 2166,	The Swamp
E. L. 2167,	The Gorge
E. L. 2168,	Rocky Knob
E. L. 2169,	The Fences
E. L. 2377,	Kneebone
E. L. 2528,	Gross Plains



*Aquitaine Australia Minerals Pty. Ltd.
Mimets Exploration Pty. Ltd. - Joint Venture*

**BONAPARTE GULF BASIN
NORTHERN TERRITORY TENEMENTS**

Author: J. LEE	Date: MARCH 1981	Dwg. No.: 17536	FIG. 1
Drafted by: J.M.B.	Report No: MG 1086	Base Plan: 11971 G	

3.0 GEOLOGY

The regional geology and stratigraphy of the licence area has been described at length in previous reports, particularly by P. d'Auvergne, 1979. Annual reports for the Sorby Hills claims (W.A.) and Northern Territory claim groups may be referred to for more detailed accounts of regional geology and structural setting of the licence area.

Plate 1, enclosed, shows the regional outcrop geology of the area (from Veevers and Roberts).

4.0 STRATIGRAPHIC DRILLING

Field exploration in the area was limited to the deepening of one drill hole (NBS 5002) located at national grid co-ordinates 8268335N - 0500005E.

The hole was originally rotary percussion pre-collared and cased to 50 metres depth by Davies Drilling during 1978, and subsequently deepened during 1979 to 150 metres by Intairdril in BQ core using a Foxmobile rig.

The hole was deepened during 1980, for stratigraphic purposes, to a depth of 500.50 m by Intairdril in BQ core using the same Foxmobile rig.

The hole was expected to pass through Milligans Beds, then part or all of the Lower Carboniferous sequence and possibly terminate in the Upper Devonian Cockatoo Formation sandstone.

Hole NBS 5002 passed through overburden to a depth of 22 m, then dark grey siltstone, shale, dolosparite and limestone to 247 m, sandstone with minor shale to 440 m and siltstone with interbedded carbonates to 500 m. The sequence appears lithologically similar to the Milligans Beds and also include a basinward facies of the Lower Carboniferous sandstone and carbonate sequences. The sediments have not yet been correlated with formations as results from dating the core have not been received from the B.M.R.

No significant base metal showings were encountered. A drill log and composite gamma-ray log is enclosed in this report. The gamma-ray log is only for the top 359 m of the hole as this was the total length of the cable.

5.0 PALAEONTOLOGY

Preliminary results of ostracod age dating from hole NBS 5001, located approximately 100 metres to the east of WBS 5002 have been received from the B.M.R. The results indicate possible Burvill Beds in the upper part of the hole to a depth of approximately 32 m, with Carboprimitia reticulata between 32 - 64 metres depth. The 32 m level is equivalent to 197 ft (60 m) in Milligans No. 1 Bore. The age of this sequence is Visean, Upper Milligans Beds.

Following the completion of NBS 5002, as a deep stratigraphic hole, samples from selected intervals between 85.0 m and 500.55 m were selected for age datation and despatched to the B.M.R. Results of this study will not be available until late in 1981.

6.0 RECOMMENDATIONS

It is recommended that the southern part of EL 1708, Milligans Lagoon, be relinquished. Future work should be restricted to the northern part of the licences, adjacent to the Cuesta Ridge area.

7. REFERENCES

d'AUVERGNE, P., (1979) : "E.L. 1708, 'Milligans Lagoon', Annual Report for the Year Ending 7nd February, 1979." Aquitaine Australia Minerals Pty. Ltd. MG Report No. 984.

VEEVERS, J.J., & ROBERTS, J., (1968) : Upper Palaeozoic Rocks, Bonaparte Gulf Basin of Northwestern Australia. B.M.R. Bulletin No. 97.

8.0 EXPENDITURE

The following expenditure was incurred during the two month period November to December 1980 (January expenditure details are not yet available).

	\$
Consumables	520.14
Field Hand Costs	1176.20
Repairs and Maintenance	1428.37
Hire Vehicles	50.97
Utilities	1448.25
Consultants	64.05
Travel & Subsistance	50.00
Freight & Cartage	275.99
Drilling Contractor	39663.59
Site and Access Preparation	420.00
Laboratory Analysis	50.00
Communications	51.50
Mineral Exploration Salaries	3585.00
Depreciation	10364.80
Overheads	2688.75
	<hr/>
	61837.61



hole no. NBS 5002	location 0500005E 8268335N	drillers INTAIRDRILL
permit E.L. 1708 MILLIGANS	azimuth -	duration 26/10/80 - 7/11/80
state N.T. LAGOON	declination VERTICAL	logged by P. CRANNEY

depth	description
Metres	
	HOLE PREVIOUSLY PERCUSSION DRILLED 0 - 52.55 m IN 1978 BY DAVIES DRILLING (M.G. REPORT 984)
	52.55 m - 150 m DIAMOND DRILLED (BQ CORE) IN 1979 BY INTAIRDRILL (M.G. REPORT 1043)
150.00 - 153.85	<u>Dark grey shale with interbedded light grey dolosparite.</u> Shale - dark grey, slightly dolomitic not very fissile, contains fragments of dolomitised crinoid ossicles. Dolosparite - fawn to light grey, slightly silty, porosity 5%. Cavities containing calcite and disseminated pyrite at 150.40 m.
153.85 - 160.95	<u>Dolosparite with minor interbeds of siltstone.</u> Dolosparite - coarsely crystalline, colour light grey, crystals up to 1 mm, average diameter 0.5 mm, hard, contains very little clastic material. Average porosity 15% but locally as high as 40%. Siltstone - rare thin laminae, thickness 0.5 mm, colour dark grey, fairly friable as core breaks along laminae.
160.95 - 161.70	<u>Silty dolosparite.</u> Silty dolosparite - colour grey, average crystal size 0.2 mm. Contains calcite in veinlets. Up to 10% silt.
161.70 - 168.15	<u>Shale.</u> Shale - dark grey, very fissile, contains dolomitised crinoid ossicles and minor bioturbation.
168.15 - 178.55	<u>Sandy dolosparite with minor interbeds of siltstone.</u> Sandy dolosparite - colour light grey, sand content varies from 15% to 40%, hard. Siltstone - very thin interbeds, up to 0.5 mm thick, colour dark grey, soft.
178.55 - 179.40	<u>Shale.</u> Shale - dark grey, very fissile, contains very finely disseminated pyrite, up to 20% in places.
179.40 - 185.10	<u>Dolosparite with minor interbeds of siltstone.</u> Dolosparite - light grey, crystals up to 0.8 mm, average size 0.3 mm, very hard, slightly silty, porosity up to 40% in places, calcite in



hole no.	NBS 5002	location	drillers
permit	E.L. 1708 MILLIGANS	azimuth	duration
state	N.T. LAGOON	declination	logged by

depth	description
Metres	pores as lining.
185.10 - 188.00	Siltstone - dark grey, friable, usually thin interbeds up to 1 cm thick, but at 181.20 m the siltstone is finely interbedded with the dolomite over 6 cms. <u>Dolomitic siltstone.</u>
188.00 - 195.00	Siltstone - finely interbedded light and dark coloured, beds up to 3 mm thick, laminae disrupted by penecontemporaneous deformation to give a flaser-like appearance to the sediments. The siltstone is dolomitic, the lighter coloured interbeds having a higher dolomite content. Siltstone is fairly hard. <u>Dolosparite with interbedded siltstone.</u> As for the interval 179.40 - 185.10 m. Disseminated pyrite in calcite filled veins at 188.10 at 188.30 m. Dolomitised crinoid ossicles found in siltstone section.
195.00 - 195.15	<u>Calcareous dolosparite.</u> Slightly calcareous dolosparite, coarsely crystalline, contains dolomitised crinoid ossicles.
195.15 - 195.70	<u>Limestone (sparite).</u> Limestone, coarsely crystalline, crystals up to 1mm across, contains finely disseminated pyrite, very hard.
195.70 - 202.20	<u>Calcareous siltstone.</u> Calcareous siltstone, finely interbedded light and dark grey beds up to 3 mm thick. Bedding disrupted by penecontemporaneous deformation to give an almost flaser type appearance. The lighter coloured beds are more calcareous than the darker beds.
202.20 - 220.04	<u>Interbedded calcareous siltstone and limestone (sparite).</u> Calcareous siltstone as described for interval 195.70 - 202.20 m. Sparite as described for interval 195.15 - 195.70 m. Calcareous siltstone contains crinoid ossicles and shell debris.
220.04 - 221.90	<u>Dolomitic siltstone.</u> Dolomitic siltstone as described for 185.10 - 188.00 m. Contains crinoid ossicles throughout and has a cross-section through a complete brachiopod.



hole no.	NBS 5002	location	drillers
permit	E.L. 1708 MILLIGANS	azimuth	duration
state	N.T. / LAGOON	declination	logged by

depth	description
Metres	
221.90 - 231.40	<p><u>Interbedded dolomitic sandstone and sandy dolosparite.</u></p> <p>Dolomitic sandstone - medium-grained, hard, varying dolomite content, in places has almost no dolomite and is very friable. Sand is well rounded, well sorted.</p> <p>Sandy dolosparite - coarsely crystalline, varying sand content, sometimes a pure dolosparite.</p> <p>Very poor core recovery in interval 226.10 - 228.00 m.</p>
231.40 - 235.85	<p><u>Interbedded dolomitic siltstone and dolosparite.</u></p> <p>Dolomitic siltstone as described for the interval 185.10 - 188.00 m. Contains bioturbation.</p> <p>Dolosparite - fawn to grey colour, coarsely crystalline, average crystal size 0.5 mm but ranges up to 3 mm, hard, contains crinoid ossicles and shell debris.</p>
235.85 - 247.00	<p><u>Interbedded dolomitic sandstone and dolomitic siltstone.</u></p> <p>Dolomitic sandstone. Fine-grained, well sorted quartz sandstone, 5% dolomitic cement, grains well rounded, colour grey. Sandstone contains crinoid ossicles and shell debris and at 235.95 m contains a well preserved, well exposed brachiopod (<u>Spirifer?</u>).</p> <p>Dolomitic siltstone - as described for interval 185.10 - 188.00 m. Siltstone predominates over the sandstone in the interval 237.60 - 240.35 m.</p>
247.00 - 256.10	<p><u>Interbedded sandstone and siltstone.</u></p> <p>Sandstone - fine-grained, well sorted quartz sandstone with very little dolomite cement. Grains well rounded, colour grey, quartz cement.</p> <p>Siltstone - finely interbedded, light and dark grey, beds up to 3 mm thick, non-calcareous, non-dolomitic. Laminae disrupted by penecontemporaneous deformation to give an almost flaser type appearance. Moderately hard.</p> <p>Siltstone predominates over sandstone in the intervals 247.00 - 247.80 251.50 - 256.10</p> <p>B.C.A. 70°.</p>
256.10 - 440.00	<p><u>Sandstone with minor interbedding of shale.</u></p> <p><u>256.10 - 269.95 m:</u> Sandstone, colour light grey, medium-grained, well sorted, grains well rounded, calcareous, hard, quartz cemented.</p>



hole no. NBS 5002	location	drillers
permit E.L. 1708 MILLIGANS	azimuth	duration
state N.T. LAGUON	declination	logged by

depth	description
Metres	<p>Contains small interbeds of dark coloured siltstone. Moderately well bedded. B.C.A. 85°.</p> <p><u>269.95 - 274.35 m</u>: Sandstone, very friable, medium-grained, calcareous grains fairly well rounded, well sorted, colour light grey, not well bedded, core very broken up, mainly just sand.</p> <p><u>274.35 - 335.20 m</u>: Sandstone interbedded with shale. Sandstone fairly hard, fine - medium grained, calcareous in places, grains well rounded, quartz cement, colour light grey, fairly well bedded. B.C.A. 60°.</p> <p>Interbeds of dark grey, fissile shale occur throughout unit but are most prominent at intervals</p> <p style="margin-left: 40px;">281.50 - 281.55 m 282.45 - 282.65 m 284.90 - 285.90 m 288.66 - 288.70 m 314.50 - 314.70 m 323.90 - 324.20 m 333.10 - 333.20 m</p> <p><u>335.20 - 335.70 m</u>: Large calcite filled fracture in calcareous sandstone. F.C.A. 0 - 10°.</p> <p><u>335.70 - 440.00 m</u>: Sandstone interbedded with shale as described for the interval 274.35 - 335.20 m. Interbeds of dark grey, fissile shale occur throughout unit but are most prominent at intervals</p> <p style="margin-left: 40px;">337.75 - 340.00 m 387.65 - 390.40 m</p>
440.00 - 500.55	<p><u>Siltstone interbedded with limestone and dolosparite.</u></p> <p><u>440.00 - 444.85 m</u>: Dark grey siltstones interbedded with dolosparites. Siltstone is dolomitic, contains shell debris and crinoid ossicles. Fairly hard, well bedded B.C.A. 85°.</p> <p>Dolosparite medium crystalline and are fairly silty.</p> <p><u>444.85 - 490.90 m</u>: Dark grey calcareous siltstone interbedded with Limestone (sparite). Unit similar to that described at 440.00 - 444.85 m except the sediments are calcareous rather than dolomitic.</p> <p><u>490.90 - 500.55 m</u>: Same as described for 440.00 - 444.85 m.</p> <p><u>END OF HOLE</u></p>

NBS 5002 - CORE RECOVERY

<u>Depth</u> <u>Meters</u>	<u>Meterage</u>	<u>Percentage</u>	<u>+ or -</u>
52.00 - 52.40	0.09	23	-0.31
52.40 - 52.55	0.13	87	-0.02
52.55 - 53.25	0.71	101	+0.01
53.25 - 54.05	0.63	79	-0.17
54.05 - 55.10	1.10	105	+0.05
55.10 - 55.65	0.46	84	-0.09
55.65 - 56.25	0.33	55	-0.27
56.25 - 58.85	2.15	83	-0.45
58.85 - 60.95	2.18	104	+0.08
60.95 - 62.20	1.39	111	+0.14
62.20 - 64.25	2.22	108	+0.17
64.25 - 65.15	0.81	90	-0.09
65.15 - 65.65	0.77	154	+0.27
65.65 - 66.35	0.34	38	-0.56
66.35 - 66.95	0.62	103	+0.02
66.95 - 68.42	0.95	65	-0.52
68.42 - 69.76	0.74	55	-0.60
69.76 - 71.51	1.47	80	-0.38
71.51 - 73.40	1.84	97	-0.05
73.40 - 74.88	1.28	87	-0.20
74.88 - 76.45	1.57	100	0
76.45 - 78.05	1.82	114	+0.22
78.05 - 79.47	1.32	93	-0.10
79.47 - 80.68	0.81	67	-0.40
80.68 - 82.55	1.44	77	-0.43
82.55 - 84.41	1.83	88	-0.23
84.41 - 85.69	1.25	98	-0.03
85.69 - 87.65	2.05	105	+0.11
87.65 - 88.65	0.82	82	-0.18
88.65 - 89.40	0.37	49	-0.38
89.40 - 91.70	2.30	100	0
91.70 - 92.55	0.94	51	-0.91
92.55 - 93.90	0.88	65	-0.47
93.90 - 94.45	0.46	84	-0.09
94.45 - 95.15	0.60	86	-0.10

NBS 5002 Cont'd

<u>Depth</u>	<u>Meterage</u>	<u>Percentage</u>	<u>+ or -</u>
95.15 - 96.10	0.57	60	-0.38
96.10 - 97.75	1.75	106	+0.10
97.75 - 103.70	6.09	102	+0.14
103.70 - 105.55	1.93	104	+0.08
105.55 - 106.85	1.24	108	+0.09
106.85 - 110.79	1.86	47	-2.08
110.79 - 112.76	3.07	156	+1.10
112.76 - 115.05	1.35	59	-0.94
115.05 - 118.15	3.66	118	+0.56
118.15 - 121.00	3.20	112	+0.35
121.00 - 124.27	2.50	77	-0.77
124.27 - 127.40	3.54	113	+0.41
127.40 - 130.55	1.77	56	-0.38
130.55 - 133.62	4.49	146	+0.42
133.62 - 136.73	3.11	100	0
136.73 - 139.80	3.11	101	+0.04
139.80 - 142.95	3.14	99	-0.01
142.95 - 146.05	3.12	101	+0.02
146.05 - 149.10	3.10	102	+0.05
149.10 - 150.00	0.88	98	-0.02
RECOVERY FOR 1980 DRILLING			
150.00 - 151.00	0.98	98	-0.02
151.00 - 154.05	3.07	101	+0.02
154.05 - 157.10	3.11	102	+0.06
157.10 - 160.15	3.07	101	+0.02
160.15 - 161.80	1.66	101	+0.01
161.80 - 164.95	3.12	99	-0.03
164.95 - 168.05	3.22	104	+0.12
168.05 - 171.15	3.47	112	+0.37
171.15 - 174.20	3.16	104	+0.11
174.20 - 177.35	3.12	99	-0.03
177.35 - 178.75	1.41	101	+0.01
178.75 - 179.15	0.40	100	0
179.15 - 181.15	2.02	101	+0.02
181.15 - 184.15	3.00	100	0

NBS 5002 Cont'd

<u>Depth</u>	<u>Meterage</u>	<u>Percentage</u>	<u>+ or -</u>
184.15 - 187.15	3.03	101	+0.03
187.15 - 190.10	3.02	99	-0.03
190.10 - 193.10	3.07	102	+0.07
193.10 - 196.10	2.95	98	-0.05
196.10 - 199.10	2.96	99	-0.04
199.10 - 202.10	3.02	101	+0.02
202.10 - 205.10	3.03	101	+0.03
205.10 - 208.15	3.02	99	-0.03
208.15 - 211.20	3.02	99	-0.03
211.20 - 214.25	3.11	102	+0.06
214.25 - 216.20	2.93	143	+0.88
216.20 - 219.50	3.46	105	+0.16
219.50 - 222.60	3.26	105	+0.16
222.60 - 225.70	2.95	95	-0.15
225.70 - 232.30	3.89	59	-2.71
232.30 - 235.35	3.08	101	+0.03
235.35 - 238.40	3.01	99	-0.04
238.40 - 241.45	3.05	100	0
241.45 - 243.80	2.31	98	-0.04
243.80 - 244.10	0.29	97	-0.01
244.10 - 244.30	0.24	120	+0.04
244.30 - 247.30	2.94	98	-0.06
247.30 - 250.40	3.12	101	+0.02
250.40 - 253.45	3.13	103	+0.08
253.45 - 254.45	1.04	104	+0.04
254.45 - 256.50	2.04	99	-0.01
256.50 - 259.50	2.95	98	-0.05
259.50 - 262.35	2.88	101	+0.03
262.35 - 263.50	1.16	101	+0.01
263.50 - 264.05	0.55	100	0
264.06 - 267.10	3.02	99	-0.02
267.10 - 270.35	0.77	26	-2.48
270.35 - 271.60	0.14	11	-1.11
271.60 - 274.20	0.75	29	-1.85
274.20 - 277.40	3.12	98	-0.08

NBS 5002 Cont'd

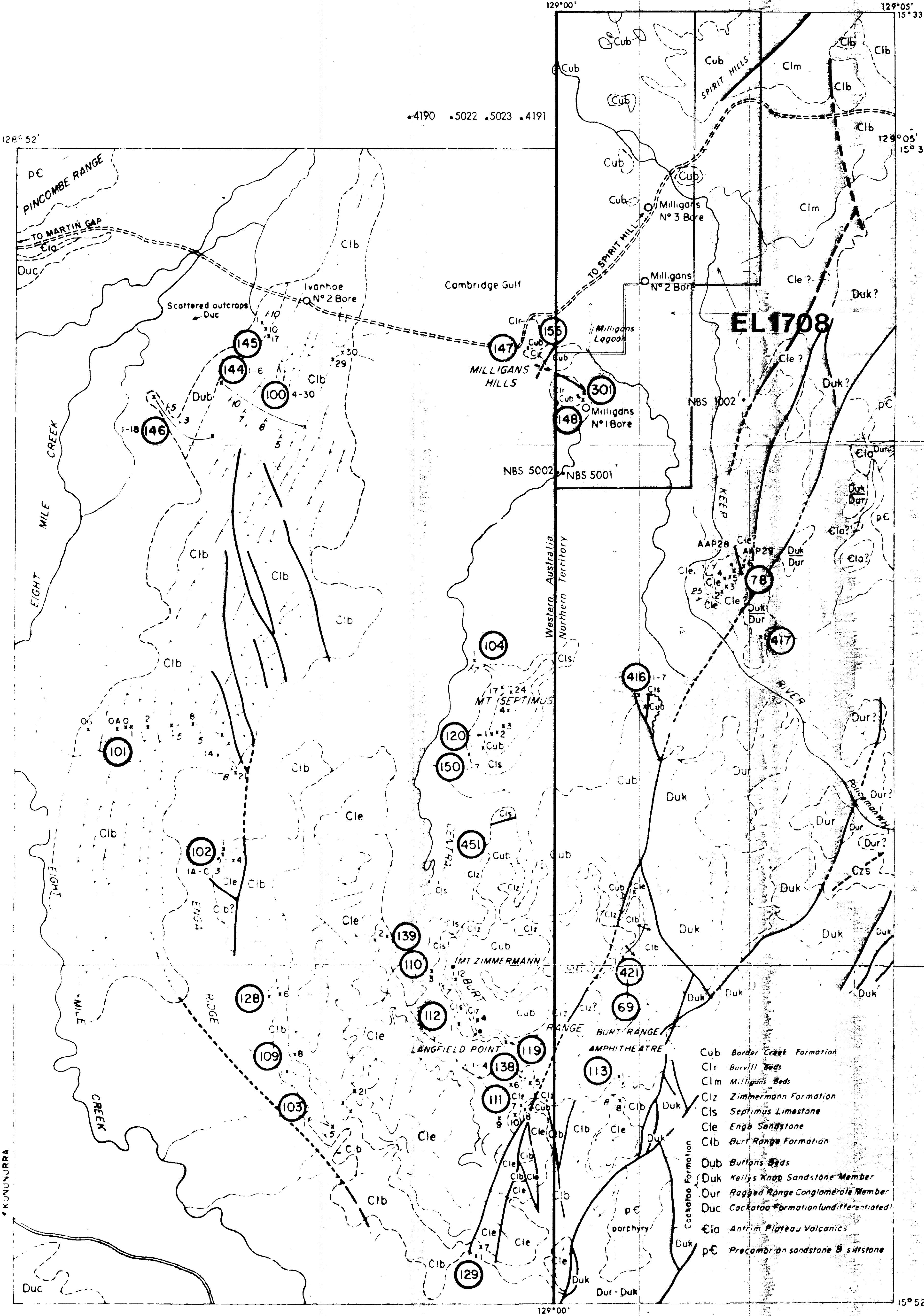
<u>Depth</u>	<u>Meterage</u>	<u>Percentage</u>	<u>+ or -</u>
277.40 - 280.10	3.12	116	+0.42
280.10 - 281.50	1.62	116	+0.22
281.50 - 283.50	1.41	71	-0.59
283.50 - 286.50	3.01	100	+0.01
286.50 - 289.50	3.08	103	+0.08
289.50 - 292.50	3.02	101	+0.02
292.50 - 295.50	3.07	102	+0.07
295.50 - 296.35	0.33	39	-0.52
296.35 - 298.55	2.61	119	+0.41
298.55 - 300.05	1.55	103	+0.05
300.05 - 303.90	2.05	53	-0.80
303.90 - 309.40	6.20	113	+0.70
309.40 - 315.60	6.26	101	+0.06
315.60 - 318.70	3.08	99	-0.02
318.70 - 321.70	3.00	100	0
321.70 - 324.85	3.17	101	+0.02
324.85 - 328.00	3.02	96	-0.13
328.00 - 331.15	3.14	99	-0.01
331.15 - 333.10	1.96	66	-0.99
333.10 - 336.30	3.30	103	+0.10
336.30 - 336.45	0.72	480	+0.57
336.45 - 339.75	3.01	91	-0.29
339.75 - 345.95	6.27	101	+0.07
345.95 - 349.05	3.15	102	+0.05
349.05 - 352.15	3.18	103	+0.08
352.15 - 355.30	3.11	99	-0.04
355.30 - 358.40	3.12	101	+0.02
358.40 - 361.95	3.36	95	-0.19
361.95 - 363.65	1.68	112	+0.18
363.65 - 365.00	1.34	99	-0.01
365.00 - 368.00	2.87	96	-0.13
368.00 - 371.00	3.04	101	+0.04
371.00 - 374.05	3.15	103	+0.10
374.05 - 375.95	1.83	63	-1.07
375.95 - 379.20	3.14	97	-0.11

NBS 5002 Cont'd

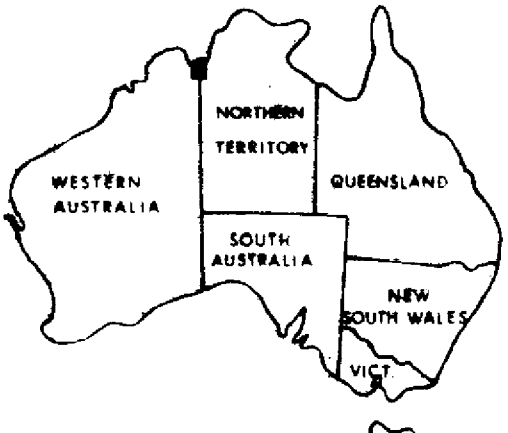
<u>Depth</u>	<u>Meterage</u>	<u>Percentage</u>	<u>+ or -</u>
379.20 - 381.25	1.90	93	-0.15
381.25 - 383.10	1.88	102	+0.03
383.10 - 384.75	1.71	104	+0.06
384.75 - 387.65	3.17	102	+0.07
387.65 - 390.35	2.78	103	+0.08
390.35 - 392.15	1.82	101	+0.02
392.15 - 395.00	3.00	105	+0.15
395.00 - 398.25	3.04	94	+0.21
398.25 - 401.30	3.12	102	+0.02
401.30 - 404.35	3.05	100	0
404.35 - 407.40	3.16	104	+0.11
407.40 - 413.10	6.03	106	+0.33
413.10 - 416.55	3.04	88	-0.41
416.55 - 419.55	3.04	101	+0.04
419.55 - 422.55	3.93	131	+0.93
422.55 - 425.55	3.12	104	+0.12
425.55 - 428.55	3.01	100	+0.01
428.55 - 431.55	3.02	101	+0.02
431.55 - 434.55	2.89	96	-0.11
434.55 - 437.55	3.04	101	+0.04
437.55 - 440.25	2.72	101	+0.02
440.25 - 443.25	3.06	102	+0.06
443.25 - 446.25	3.20	107	+0.20
446.25 - 449.50	3.19	98	-0.06
449.50 - 452.50	3.00	100	0
452.50 - 455.55	3.13	103	+0.08
455.55 - 458.55	3.06	102	+0.06
458.55 - 461.55	2.97	99	-0.03
461.55 - 464.55	3.05	102	+0.05
464.55 - 467.55	3.03	101	+0.03
467.55 - 470.55	3.00	100	0
470.55 - 473.55	3.97	132	+0.97
473.55 - 476.55	3.02	101	+0.02
476.55 - 477.05	0.50	100	0
477.05 - 479.55	2.50	100	0

NBS 5002 Cont'd

<u>Depth</u>	<u>Meterage</u>	<u>Percentage</u>	<u>+ or -</u>
479.55 - 482.55	3.02	101	+0.02
482.55 - 485.55	3.00	100	0
485.55 - 488.55	3.00	100	0
488.55 - 491.55	3.01	100	+0.01
491.55 - 494.55	3.05	102	+0.05
494.55 - 497.55	3.04	101	+0.04
497.55 - 500.55	2.98	99	-0.02



- Cub Border Creek Formation
- Clr Burvill Beds
- Clm Milligans Beds
- Clz Zimmermann Formation
- Cls Septimus Limestone
- Cle Enga Sandstone
- Cib Burt Range Formation
- Dub Buttans Beds
- Duk Kellys Knob Sandstone Member
- Dur Ragged Range Conglomerate Member
- Duc Cockatoo Formation (undifferentiated)
- €lo Antrim Plateau Volcanics
- pC Precambrian sandstone & siltstone



NBS 5001 • DRILL HOLE

SCALE: APPROX. 1:50,000
(slight distortion due to photographic enlargement)

Aquitane Australia Minerals Pty Ltd

MILLIGANS LAGOON - EL. 1708
LOCATION & REGIONAL GEOLOGY

RAMMA RAY LOG

AAM MINETS

SEMPARTI GULF BASIN NY

Milligans Lagoon

NBS 5002

Well depth: 500 m

7 - 11 - 80
T. RANDALL

Azimuth: -

Declination: Vertical

Elevation: -

Date Completed: 17 / 11 / 80

Logged by: P. CRANNEY

Cored Interval: 150 - 500 55m

DEPTH (m)	DESCRIPTION	Pb%	Zn%
0	Brown soils.		
5	Sandstone. Brown sandy soil, possibly after sandy carbonate.		
10	Yellow-white, coarse sand.		
15	Fine yellow sand, calcrete. Abundant water.		
20			
25	Siltstone.		
30			
35	Dark grey, carbonaceous, dolomitic siltstone.		
40			
45			
50			
55	Black shales.		
60	Grey-black, black shale siltstone mudstone. Slightly calcareous, plant debris.		
65			
70			
75			
80			
85			
90			
95	Sandstone, sandy limestone. 2 cm disseminated pyrite at contact.		
100	Sandstone - 60 quartz.		
105	Sandy Limestone - 30-40% quartz, 30% fossils.		
110			
115			
120	Limestone, siltstone, sandstone, sandy limestone. Sandstones - 60 quartz horizons increasingly calcareous downward. Minor 0.5% pyrite.		
125	Siltstones - grey-black, sparsely fossiliferous.		
130			
135			
140			
145			
150	Shale with interbedded dolosparite		
155	Dolosparite with minor interbeds of siltstone		
160	Silty dolosparite, calcite in veins		
165			
170	Sandy dolosparite with minor interbeds of siltstone		
175			
180	Shale, finely disseminated pyrite Dolosparite, with minor interbeds of siltstone		
185	Dolomitic siltstone		
190	Dolosparite with interbedded siltstone. Disseminated pyrite in calcite filled veins		
195	Disseminated pyrite. Calcareous siltstone.		
200			
205	Interbedded calcareous siltstone and Limestone (sparite)		
210			
215			
220	Dolomitic siltstone		
225	Interbedded dolomitic sandstone and sandy dolosparite. Sandstone is medium grained, well sorted, grains well rounded.		
230	Interbedded dolomitic siltstone and dolosparite		
235	Interbedded dolomitic sandstone and dolomitic siltstone. Sandstone fine grained.		
240			
245	Interbedded sandstone and siltstone. Sandstone fine grained.		
250			
255	Sandstone with minor interbedding of shale.		
260	Sandstone, medium grained, calcareous, hard. Small interbeds of siltstone.		
265			
270	Sandstone, very friable, medium grained, calcareous		
275			
280	Sandstone, fine to medium grained, calcareous in places.		
285			
290			
295			
300			
305			
310			
315			
320			
325			
330			
335			
340			
345			
350			
355			
360			
365			
370			
375			
380			
385			
390			
395			
400			
405			
410			
415			
420			
425			
430			
435			
440			
445	Siltstone interbedded with limestone and dolosparite.		
450			
455			
460			
465			
470			
475			
480			
485			
490			
495			
500	End of Hole 500.0 m		