

AUSTRALIAN CONSOLIDATED INDUSTRIES LTD.MINERAL RESOURCES DIVISION

TASMANIAN EXPLORATION; E.L. 16/68, BALFOUR

REPORT ON DDH. 17, CENTRAL PROSPECT

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SUMMARY

DDH. 17 at the Central Prospect was completed at a depth of 124.03 metres.

A suspected fault zone consisting of sheared and fragmentary, fine grained, talcose and chloritic slaty sediment containing a few bands of pyritic and chalcopyritic quartz was intersected between about 30.48 and 37.64 metres. This interval of 7.16 metres contains an average of 0.95 percent Cu, the bulk of the copper occurring however, in the interval 36.12 to 37.64 metres which contains 3.46 percent Cu.

The chalcopyrite occurs within pyritic quartz and quartz-carbonate bands, veins and irregular segregations.

Lithologies immediately below (east of) the mineralized zone consist dominantly of quartzites and hard recrystallized and silicified, fine grained chloritic and carbonaceous sediments which have little surface expression. These rocks are significantly different from those intersected by drillholes in the Murrays Reward Prospect a short distance to the south and it appears that the mineralized zone has been offset to the west by faulting and that silicification and recrystallization have accompanied the mineralization or faulting.

The cost of DDH. 17 was about \$3,003 at an average expenditure of about \$24.2 per metre.

DDH. 17, CENTRAL PROSPECT

Grid reference	435887N, 319303E
Elevation	202.7 metres
Angle	60°
Direction	N 77° E (true)
Date Drilled	9.12.71 to 12.12.71
Drilling rate	17.72 metres per shift

1. OPERATIONAL DETAILS1.1. Drilling Results

DDH. 17 was commenced on December 9th, 1971, HW casing was seated at 3.66 metres and the hole was air-drilled to 32.61 metres.

NW casing was seated at 32.6 metres, and later regained a further 2.4 metres and finally seated at 35.05 metres.

The hole was then continued with NQWL triple tube coring equipment and completed at a depth of 124.03 metres on December 12th, 1971.

1.2 Drilling Conditions

Drill runs and core recovery are tabled in Appendix A.

The air drill advanced satisfactorily to about 30 metres at which depth a large quantity of fragmentary, iron-stained, pyritic and slightly chalcoppyritic quartz was returned and hydrogen sulphide bearing water was being blown from the hole at an estimated rate of 18,000 to 22,000 litres per hour. The diamond coring equipment was introduced at 32.61 metres.

Core recovery was satisfactory and drill runs commonly exceeded 2 metres. Two drill runs of 3.05 metres were recovered.

1.3 Drillhole Deviation

The results of the acid etch inclination surveys were as follows:

Collar	60 ^o
30 metres	61 ^o
60 "	61 ^o
90 "	54 ^o
120 "	45 ^o

2. GEOLOGY

The complete drill log is presented in Appendix B and may be summarised as follows.

0 to 32.61 metres - Air Drilling

Carbonaceous and chloritic shale and slate.

32.61 to 37.64 metres - Diamond Drilling

Fault zone consisting of sheared fragmentary chloritic material containing a few quartz veins and segregations. Pyrite and chalcoppyrite occur in the quartz and in quartz-carbonate and carbonate veins and segregations particularly at about 36.2 metres. This unit contains an estimated 1 percent Cu. (Assay value averages 1.24 percent Cu).

37.64 to 41.29 metres

Fragmentary and fractured chloritic quartzite and recrystallized chloritic sediments containing numerous quartz veins and segregations. Minor chalcoppyrite in quartz fragments occurs at about 41.0 metres.

41.29 to 44.80 metres

Compact and slightly recrystallized chloritic sediment (fine grained sandstone or coarse siltstone) with well developed cleavage and original bedding locally well preserved. Common chloritic porphyroblasts. Few pyritic quartz veins. Sporadic disseminated pyrite.

44.80 to 45.87 metres

Hard quartzitic recrystallized chloritic sediment

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with minor disseminated pyrite. Irregular and discontinuous quartz veins and segregations with diffuse boundaries are common.

45.87 to 53.27 metres

Fine grained chloritic sediment containing common chlorite porphyroblasts. Few graded beds and carbonaceous bands, rarely with worm burrows, locally preserved. Few irregular and discontinuous quartz segregations.

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53.27 to 54.86 metres

Similar to the interval 44.80 to 45.87 metres.

54.86 to 57.45 metres

Quartz and silicified chloritic sediments, slightly talcose in parts. Minor disseminated euhedral pyrite.

57.45 to 64.92 metres

Hard, recrystallized and slightly silicified sediments containing a few bands of slightly talcose chloritic phyllite. Minor disseminated euhedral pyrite and small (≤ 5 mm.) pyrite aggregates.

64.92 to 68.58 metres

Slightly carbonaceous and chloritic slaty and phyllitic fine grained sediments. Few pyrite blebs and pyritic quartz segregations parallel to bedding.

68.58 to 71.01 metres

Slaty and phyllitic chloritic and carbonaceous shales. Few thin bands of slightly, talcose chloritic phyllite. Numerous discordant quartz and pyritic quartz-chlorite-carbonate veins.

71.01 to 81.53 metres

Finely laminated quartzose and carbonaceous and graphitic slaty shale with irregular bedding planes. The bedding planes are commonly disrupted by lenticular quartzose segregations which commonly contain carbonate porphyroblasts and pyrite. Rare pyritic quartz and quartz-carbonate veins.

81.53 to 85.04 metres

Similar to the interval 71.01 to 81.53 metres but includes a 30 cm. band of harder and dark slaty coarse carbonaceous siltstone in which bedding is poorly preserved.

85.04 to 89.00 metres

Graded beds of pale grey fine grained sandstone and dark grey carbonaceous siltstone. Sporadic chlorite porphyroblasts and disseminated pyrite.

89.00 to 93.04 metres

Slaty chloritic siltstone containing abundant chlorite porphyroblasts. Few pyrite-quartz segregations and veins. Slightly talcose in parts.

93.04 to 91.16 metres

Pale to medium green chloritic slate and phyllite containing abundant pyrite blebs and segregations. Common irregular and diffuse quartz and quartz-chlorite-pyrite blebs and segregations.

96.16 to 100.73 metres

Laminated quartzose and chloritic siltstone or fine sandstone containing abundant chlorite porphyroblasts. Few irregular and discontinuous quartz and quartz-carbonate segregations. Few discordant pyritic quartz-carbonate-chlorite veins.

100.73 to 102.56 metres

Pale grey, pyritic, chloritic, fine grained quartzose sandstone or coarse siltstone and dark grey carbonaceous siltstone in graded beds. Rare cavernous quartz-chlorite veins.

102.56 to 105.00 metres

Fine grained siltstone containing abundant chlorite porphyroblasts.

105.00 to 107.74 metres

Green slaty chloritic sandstone or coarse siltstone containing abundant chlorite porphyroblasts. Rare irregular and discontinuous quartz, carbonate and quartz-pyrite veinlets and segregations which are complexly deformed.

107.74 to 109.12 metres

Similar to the interval 102.56 to 105.00 metres with common disseminated pyrite aggregates.

109.12 to 115.97 metres

Pale grey and grey-green quartzose, and dark grey carbonaceous, shales, commonly in graded beds. Common chlorite porphyroblasts. Rare carbonate and quartz-carbonate veins and segregations.

115.97 to 124.03 metres

Chloritic and slaty sediment (coarse siltstone or fine sandstone) containing abundant chloritic porphyroblasts.

3. SAMPLES AND ASSAY VALUES

Two types of samples of the products of DDH.17 were collected and assayed.

(a) Air-drill percussion samples

Air-drill samples were collected over intervals of 1.52 metres and eleven samples, collected between 15.24 and 32.61 metres, were assayed.

Sample No. Bal.	Intersection (Metres)		Assay Value ppm Cu
1508	15.24	to 16.76	168
1509	16.76	" 18.29	20
1510	18.29	" 19.81	18
1511	19.81	" 21.34	8
1512	21.34	" 22.86	25
1513	22.86	" 24.38	10
1514	24.38	" 25.90	30
1515	25.90	" 27.43	78
1516	27.43	" 28.95	203
1517	28.95	" 30.48	210
1518	30.48	" 32.61	2530

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Copper content of the carbonaceous sediments increases gradually towards the mineralized zone, as expected, but it is notable that the copper value only some 7 metres from the mineralized zone is an insignificant 10 ppm Cu.

(b) Core samples

A total of 31 core samples were assayed with the following results:

Sample No. Bal.	Intersection (Metres)	Interval Metres	Assay Value ppm Cu
1530	32.61 to 36.12	3.51	2780
1531	36.12 " 37.64	1.52	3.46%
1532	37.64 " 41.29	3.65	390
1533	41.29 " 44.80	3.51	20
1534	44.80 " 45.87	1.07	95
1535	45.87 " 49.38	3.51	93
1536	49.38 " 53.27	3.89	23
1537	53.27 " 54.86	1.59	45
1538	54.86 " 57.45	2.59	68
1539	57.45 " 61.26	3.81	38
1540	61.26 " 64.92	3.66	25
1541	64.92 " 68.58	3.66	180
1542	68.58 " 71.01	2.43	30
1543	71.01 " 74.98	3.97	15
1544	74.98 " 79.25	4.27	18
1545	79.25 " 81.53	2.28	68
1546	81.53 " 85.04	3.51	18
1547	85.04 " 89.00	3.96	23
1548	89.00 " 93.04	3.04	25
1549	93.04 " 96.16	3.12	35
1550	96.16 " 100.73	4.57	23
1551	100.73 " 102.56	1.83	18
1552	102.56 " 105.00	2.44	23
1553	105.00 " 107.74	2.74	35
1554	107.74 " 109.12	1.38	43
1555	109.12 " 111.56	2.44	23
1556	111.56 " 114.10	2.54	28
1557	114.10 " 115.97	1.87	40
1558	115.97 " 118.26	2.29	33
1559	118.26 " 121.61	3.35	25
1560	121.61 " 124.03	2.42	33

The assay values of the core samples confirm that the copper mineralization is concentrated between 36.12 and 37.64 metres (3.46 percent Cu) although a broad interval of anomalous copper values occurs between about 30.48 and 36.64 metres. (0.95 percent Cu).

The mineralized zone has no recognizable surface expression in this area and the dip and true thickness of the zone are unknown.

Fire assays for gold and silver were carried out on sample BAL 1531 and gave results of <0.1 Ag and <0.5 Au, both assays being reported as dwts per ton.

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Copper values below (east of) the mineralized zone have the following statistics:

Mean = 53 ppm Cu
Range = 15 to 390 ppm Cu.

4. CONCLUSIONS

DDH.17 is considered to have intersected a mineralized fault zone or, more probably, has intersected the mineralized zone proper which has been fault offset towards the west.

The mineralized zone was intersected some distance to the west of the expected intersection lending weight to a faulting hypotheses.

The large quantity of H₂S-bearing water and iron-stained, pyritic and chalcopyritic quartz returned from a depth of about 30 metres points to the existence of a heavily leached and oxidized sulphide zone.

The anomalous copper values recorded from the Central Prospect No. 1 Costean, beneath which DDH.17 was drilled, cannot be correlated with the drillcore assay values with any degree of certainty and it is suggested that the costean assay values, which are anomalous in both magnitude and distribution, may be due to percolation of copper-bearing solutions and/or wind distributed copper-bearing dust from nearby dumps.

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APPENDIX A

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DDH. 17 DRILL RUNS AND CORE RECOVERY^a

INTERSECTION (METRES)	CORE RECOVERY	
	METRES	PERCENT
32.61 to 35.50	2.89	100
35.50 " 36.27	0.77	100
36.27 " 37.19	0.92	100
37.19 " 39.02	1.83	100
39.02 " 39.62	0.60	100
39.62 " 40.84	1.00	82
40.84 " 42.06	1.22	100
42.06 " 43.28	1.22	100
43.28 " 44.19	0.91	100
44.19 " 47.85	2.89	79
47.85 " 48.76	0.91	100
48.76 " 51.35	2.59	100
51.35 " 52.28	0.93	100
52.28 " 53.34	0.76	71
53.34 " 55.78	2.44	100
55.78 " 57.00	1.06	88
57.00 " 60.06	3.06	100
60.06 " 61.28	1.22	100
61.28 " 62.80	1.52	100
62.80 " 64.33	1.53	100
64.33 " 66.14	1.81	100
66.14 " 68.58	2.21	87
68.58 " 71.02	2.44	100
71.02 " 71.93	0.53	58
71.93 " 73.15	1.22	100
73.15 " 74.98	1.83	100
74.98 " 77.72	2.74	100
77.72 " 80.46	2.74	100
80.46 " 81.52	0.91	86
81.52 " 82.74	1.00	82
82.74 " 84.43	0.91	54
84.43 " 84.89	0.38	85
84.89 " 87.33	2.44	100
87.33 " 89.00	1.67	100
89.00 " 90.98	1.98	100
90.98 " 92.81	1.83	100
92.81 " 94.49	1.68	100
94.49 " 96.47	1.98	100
96.47 " 97.84	1.37	100
97.84 " 99.67	1.83	100
99.67 " 101.95	2.28	100
101.95 " 105.00	3.05	100
105.00 " 107.28	2.28	100
107.28 " 108.19	0.91	100
108.19 " 109.42	1.23	100
109.42 " 110.64	1.22	100
110.64 " 112.47	1.83	100
112.47 " 114.60	2.13	100
114.60 " 115.22	0.62	100
115.22 " 115.98	0.76	100
115.98 " 118.27	2.29	100
118.27 " 120.40	2.13	100
120.40 " 122.20	1.80	100
122.20 " 124.03	1.83	100

APPENDIX B

DDH. 17 CENTRAL PROSPECT

DRILL LOG

GRID REFERENCE 435887N, 319305E
 ELEVATION 202.7 metres
 ANGLE 60°
 DIRECTION N 77° E (true)
 DATE DRILLED 9.12.71 to 12.12.71
 DRILLING RATE 17.72 metres per shift.

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INTERSECTION (METRES)	DESCRIPTION
0 to 32.61	<p><u>Air Drilling</u></p> <p>Carbonaceous and chloritic shale and slate.</p> <p>Between about 30.5 and 32.6 metres a large quantity of H₂S bearing water together with numerous iron-stained, pyritic and slightly chalcopyritic quartz fragments were returned.</p>
32.61 to 37.64	<p>Sheared fault zone consisting of medium green deformed chloritic slaty material, generally fragmentary and containing a few thin quartz bands and thin quartz veins. The veins are generally thin (≤ 5mm), pyritic and some are conformable with the shear planes. Thicker quartz and quartzose bands (≤ 15cm) contain pyrite and chalcopyrite particularly at about 36.3 metres at which depth a 13cm. sulphide band contains 75% sulphides (py:cpy = 2:1) and 25% quartz which occurs in irregular lensoid masses and segregations. An 8cm. quartzose-sulphide band at 36.15 metres contains 10 to 15% sulphides (cpy:py = 3:1) which appear to be crudely banded.</p> <p>Sheared chloritic bands (≈ 20cm) resembling fault gouge occurs at about 32.8 and 37.6 metres.</p> <p>Irregular chalcopyrite blebs and euhedral pyrite are associated with quartzose and quartz-carbonate veins and irregular segregations throughout this interval.</p> <p>Many fragmentary, leached and highly cavernous quartz-chlorite and quartz-carbonate fragments contain irregular chalcopyrite blebs and euhedral pyrite.</p> <p>The interval 32.6 to 36.1 metres consists mainly of very fragmentary chloritic material and slate containing disseminated euhedral pyrite and a few quartz veins and segregations.</p> <p>The interval 36.1 to 37.6 metres consists mainly of quartz and quartzose material (\pm sulphides - mainly pyrite), and chloritic quartzite.</p> <p>The chloritic material is talcose in parts.</p>

INTERSECTION (METRES)	DESCRIPTION
<p>37.64 to approx. 41.29</p> <p>37 135</p>	<p>Copper estimated; 0.5 to 1.0% Cu in the interval 32.61 to 36.12m; 2.0 to 3.0% Cu in the interval 36.12 to 37.64m.</p> <p>Fragmentary and fractured medium green chloritic quartzite and recrystallized chloritic sediments containing numerous quartz veins and quartz segregations (generally ≤ 3cm) commonly with diffuse boundaries.</p> <p>Few thin bands of soft, sheared, medium green chloritic and pyritic sediment commonly with irregular and discontinuous quartz segregations and veins.</p> <p>Minor quartz fragments (caved?) containing minor chalcopyrite occurs at about 41.0m.</p> <p>Incipient fractures in the hard quartzitic and recrystallized material are commonly filled with pyrite stringers.</p> <p>Fine framework of quartz in parts suggests complete leaching of carbonate.</p> <p>The quartz veins and segregations are occasionally slightly to moderately cavernous after carbonate and sulphides.</p> <p>Total copper estimated $< 0.1\%$ Cu.</p>
<p>41.29 to 44.80</p>	<p>Pale to medium green, fine grained chloritic sandstone (or coarse siltstone) with well developed cleavage in parts and the original bedding locally well preserved. Compact and slightly recrystallized.</p> <p>Chlorite porphyroblasts (≤ 1mm) are common throughout and appear to be aligned parallel or sub-parallel to the cleavage in parts.</p> <p>Irregular and discontinuous pyritic quartz veins and segregations are common and the cleavage is defined in parts by thin (≤ 2mm) regular pyritic quartz veins.</p> <p>Elongate pyrite aggregates (≤ 2mm) appear to be aligned parallel or sub-parallel to the cleavage in parts.</p> <p>A thin (≤ 5cm) breccia band consisting of angular fragments of chloritic material in a grey-white slightly pitted quartzose matrix occurs at about 42.8 metres.</p> <p>Slightly phyllitic in basal 20 cm.</p> <p>Few bands of hard and recrystallized chloritic material in upper parts.</p> <p>Bedding (5) and cleavage (5) dips; $S_0 = 45^\circ$ at 42.4m; $S_1 = 55^\circ$ at 42.5m; $S_2 = 35^\circ$, $S_3 = 65^\circ$ to 70° at 42.9m; $S_4 = 35^\circ$, $S_5 = 75^\circ$ (in opposite sense) at 43.1m; $S_0 = 25^\circ$, $S_1 = 70^\circ$ (same sense) at 43.6m; $S_2 = 25^\circ$, $S_3 = 65^\circ$ at 44.0m; $S_4 = 35^\circ$, $S_5 = 65^\circ$ at 44.3m.</p>

INTERSECTION (METRES)	DESCRIPTION
44.80 to 45.87	<p>Total copper estimated $< 0.1\%$ Cu.</p> <p>Hard, medium-dark green, quartzitic recrystallized chloritic siltstone or fine sandstone containing minor disseminated pyrite and common white, irregular and discontinuous quartz veins and segregations usually with diffuse or very diffuse boundaries.</p> <p>Rare slickensided planes.</p> <p>Original bedding poorly preserved.</p> <p>Bedding dips 40° at 45.1m.</p>
45.87 to 53.27	<p>Medium green, fine grained chloritic sediment (coarse siltstone or fine sandstone). Relatively soft but with few bands (≤ 50cm.) of darker green recrystallized sediment.</p> <p>Thin (≤ 2mm) disrupted pyrite rich bands occur parallel to the bedding in parts, particularly in the recrystallized bands.</p> <p>Few dark grey-green fine grained carbonaceous bands. Few graded beds preserved, rarely with worm burrows.</p> <p>Small (≤ 1mm) dark green chloritic porphyroblasts common throughout.</p> <p>Very fragmentary over the top 30 cm, containing a few cavernous and pyritic quartz fragments (caved material?).</p> <p>Few thin (≤ 2mm) irregular and discontinuous quartz segregations.</p> <p>Bedding dips; 50° at 47.4m; 40° at 47.8m; 50° at 48.0m; 35° at 48.3m; 30° at 48.5m; 35° at 48.8m; 35° at 49.3m; 15° to 20° at 49.6m; 20° to 25° at 50.0m; 30° at 50.4m; 30° at 50.8m; 20° to 25° at 51.2m; 30° to 35° at 52.4m; 35° at 52.7m.</p>
53.27 to 54.86	<p>Similar to the interval 44.80 to 45.87 metres.</p> <p>Hard, medium to dark green quartzitic and recrystallized chloritic sediments.</p> <p>Few, thin (≤ 2mm) irregular and discontinuous quartz segregations. Highly cavernous and slightly pyritic quartz segregations (≤ 1cm.) at about 54.7m.</p> <p>Few thin (≤ 2cm.) pale green chloritic phyllite bands towards the base.</p> <p>Bedding dips 60°.</p>

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INTERSECTION (METRES)	DESCRIPTION
<p>54.86 to approx. 57.45</p> <p>37 137</p>	<p>Quartz and silicified chloritic sediments, white and pale to medium green, with few later quartz veins or segregations ($\leq 1\text{cm.}$), moderately cavernous in parts. Slightly talcose in parts.</p> <p>Very minor disseminated euhedral pyrite.</p> <p>Common incipient fractures in the more heavily silicified material are lined with thin ($\leq 1\text{mm}$) irregular partings of talcose chlorite.</p> <p>Softer pale green chloritic sediment between 55.47 and 55.93 contains locally well preserved original bedding which dips 35°.</p> <p>Irregular partings in the silicified material dip 30° and appear to represent the original bedding.</p>
<p>57.45 to 64.92</p>	<p>Hard, grey and grey-green recrystallized and slightly silicified sediments containing a few bands of pale green and slightly talcose chloritic phyllite. Dark grey-green disseminated irregular chlorite rich "blebs" are common in parts and are commonly aligned parallel to the original bedding.</p> <p>Sporadic pyrite occurs as disseminated euhedra and small ($\leq 5\text{mm}$) aggregates, and in irregular and discontinuous veinlets.</p> <p>Few thin ($\leq 3\text{mm}$) quartz veins and segregations, with sporadic small ($\leq 1\text{mm}$) chlorite porphyroblasts. The quartz is generally irregular and discontinuous and rarely slightly cavernous. Rare thicker ($\leq 2\text{cm.}$) quartz segregations.</p> <p>Few thin ($\leq 2\text{mm}$) orange-brown carbonate segregations and stringers at about 61.7 metres, are commonly irregular and discontinuous and dip 0°.</p> <p>Few very dark green chlorite veins and veinlets ($\leq 7\text{mm.}$) in pale green chloritic phyllite at about 54.5 metres.</p> <p>Bedding dips; 50° at 61.6m, 50° at 62.0m, 50° at 62.2m, 30° to 35° at 62.3m, 35° at 62.5m, 25° at 63.1m, 25° at 63.4m, 40° at 63.7m, 40° at 63.8m, 15° at 64.6m.</p>
<p>64.92 to 68.58</p>	<p>Slightly carbonaceous and chloritic slaty and phyllitic fine grained sediment, becoming finely laminated towards the base.</p> <p>The unit contains abundant small ($\ll 1\text{mm.}$) dark green chlorite porphyroblasts and common brown carbonate porphyroblasts which are commonly elongate and aligned parallel to the bedding. Few irregular and discontinuous quartz-carbonate stringers and veinlets.</p> <p>Few pyrite and pyritic quartz segregations parallel to the bedding.</p>

INTERSECTION (METRES)	DESCRIPTION
	<p>Discordant veins and/or segregations apparently absent.</p> <p>Bedding dips; 32° at 65.1m, 32° at 65.4m, 40° at 65.7m, 35° at 65.9m, 40° at 66.2m, 35° at 66.5m, 40° at 66.9m, 40° at 67.4m, 35° to 40° at 67.7m, 40° at 68.0m, 40° at 68.3m, 40° at 68.6m.</p>
<p>68.58 to 71.01</p> <p>37 128</p>	<p>Heterogeneous zone consisting of slaty and phyllitic chloritic and carbonaceous shales similar to the interval 64.92 to 68.58 metres but with slight bedding plane irregularities.</p> <p>Few thin (≤10cm.) bands of finely foliated pale green chloritic phyllite, slightly talcose.</p> <p>The remainder consists of white, pale grey and grey-green carbonaceous and chloritic (porphyroblasts <1mm.) slaty shale containing numerous discordant quartz and quartz-chlorite-carbonate veins (≤1mm.) which are commonly slightly pyritic.</p> <p>Bedding dips; 40° at 68.7m, 40° at 68.9m, 30° to 35° at 69.2m, 30° at 69.8m, 40° at 70.3m, 35° to 40° at 70.6m, 35° at 70.9m.</p>
<p>71.01 to 81.53</p>	<p>Finely laminated pale grey quartzose and dark grey carbonaceous and graphitic slaty shale with bedding plane irregularities probably caused by preconsolidation slumping and post-consolidation growth of quartz and quartz-carbonate blebs and segregations. The quartzose material commonly contains carbonate porphyroblasts and disseminated pyrite and is generally thicker (≤3mm.) than the associated carbonaceous and graphitic laminae.</p> <p>At about 71.3 metres is a narrow (≤2cm.) band of disrupted dragfolds defined by deformed grey quartzose members. Bedding dips 40°, axial plane cleavage dips about 50°.</p> <p>The bedding is commonly disrupted by quartzose segregations which are generally lensoid and commonly contain carbonate porphyroblasts and pyrite.</p> <p>The unit 71.01 to 81.53 metres is essentially similar throughout although local variations occur in;</p> <ul style="list-style-type: none"> (i) regularity of bedding planes. (ii) proportion of carbonate in quartzose members. (iii) thickness of grey quartzose members. (iv) relative proportion of quartzose and carbonaceous members. <p>The unit is fissile and parts readily along the carbonaceous bedding planes.</p>

INTERSECTION (METRES)	DESCRIPTION
37 139	<p>A few poorly defined dragfolds or pseudo-dragfolds occur. Some are of tectonic origin but most are due to preconsolidation slumping.</p> <p>Rare pyritic and slightly cavernous quartz and quartz-carbonate veins (2mm.). Rare microfaults.</p> <p>Bedding dips; 40° at 71.2, 40° at 71.3m, 40° at 71.9m, 40° at 72.5m, 40° at 72.8m, 40° at 73.3m, 33° at 74.1m, 35° at 74.7m, 35° at 75.1m, 40° at 76.5m, 30° at 77.7m, 25° to 30° at 78.6m, 30° at 79.8m, 35° at 80.7m.</p> <p>Bedding = 30° Cleavage = 50° to 60° } 76.5 metres</p>
81.53 to 85.04	<p>Similar in most respects to the interval 71.07 to 81.53 metres particularly in the basal 2.3 metres, but contains a 30 cm. band of harder and darker carbonaceous slaty sediments (fine sandstone) between 81.5 and 81.8 metres in which bedding is poorly preserved and grey quartzose units are absent.</p> <p>Between about 81.8 and 82.8 metres is a band of slightly porous chloritic and slightly carbonaceous phyllite.</p> <p>Bedding dips; 30° at 81.7m, 30° to 35° at 82.5m, 30° at 83.8m, 20° at 84.7m.</p>
85.04 to 89.00	<p>Graded beds (≤ 7cm.) consisting of pale grey, coarser grained (fine sandstone) and dark grey to black carbonaceous siltstone. Rare deformed worm burrows(?)</p> <p>Sporadic chlorite porphyroblasts and disseminated pyrite and minor brown carbonate apparently restricted to pale coarser grained basal members.</p> <p>Rare, thin, irregular and discontinuous quartzose segregations.</p> <p>Minor shearing in parts.</p> <p>Bedding dips; 30° at 85.5m, 35° at 86.3m, 25° to 30° at 87.6m, 30° at 88.8m.</p>
89.00 to 93.04	<p>Medium green and grey-green slaty chloritic sediment (siltstone) containing abundant small (≤ 0.5mm.) dark green chlorite porphyroblasts which are commonly flattened or slightly acicular and are aligned parallel or sub-parallel to the cleavage (S₁ parallel S₀?).</p> <p>Few pyrite-quartz segregations and veins commonly parallel or sub-parallel to cleavage. Rare carbonate and quartz carbonate veins and segregations.</p> <p>Slightly talcose in parts.</p> <p>Original bedding locally preserved. Slightly harder and slightly recrystallized in parts.</p> <p>The cleavage has disrupted bedding in parts.</p>

INTERSECTION (METRES)	DESCRIPTION
<p>93.04 to 96.16</p> <p>37 140</p>	<p>Bedding dips; 40° at 89.3m, 20° at 89.9m, 35° at 90.8m, 35° at 91.4m, 30° at 93.0m.</p> <p>$S_0 = 10^{\circ}$ to 20° } at 90.5 metres $S_1 = 40^{\circ}$ }</p> <p>Very pale to medium green chloritic slate and phyllite containing abundant pyrite blebs (≤ 1 cm.) and segregations which are commonly elongate and aligned parallel to cleavage.</p> <p>Small (usually ≤ 1 cm.) irregular and diffuse quartz and quartz-pyrite-chlorite blebs and segregations are common.</p> <p>Rare irregular and discontinuous carbonate and quartz-carbonate stringers and segregations.</p> <p>Chloritic porphyroblasts common in parts.</p> <p>$S_0 = 25^{\circ}$, $S_1 = 50^{\circ}$ at 93.6m, $S_0 = 40^{\circ}$ at 95.7m.</p>
<p>96.16 to approx. 100.73</p>	<p>Pale grey and medium grey-green, finely or coarsely laminated quartzose or chloritic siltstone or fine sandstone containing abundant small (≤ 1mm.) chlorite porphyroblasts. Bedding planes regular and well defined.</p> <p>The discordant and slightly pyritic quartz-carbonate-chlorite veins (≤ 5mm.).</p> <p>Rare irregular and discontinuous quartz and quartz-carbonate segregations.</p> <p>Few darker, more carbonaceous bands which are commonly finely laminated.</p> <p>Dragfold at 96.9 metres with bedding dip of 20° and cleavage dip of 35°. Dragfolds occur at about 98.3 metres with bedding dip of 5° to 15° and cleavage dip of 55°. The cleavage is commonly defined by thin veins of quartz and quartz-chlorite-carbonate.</p>
<p>100.73 to approx. 102.56</p>	<p>Pale grey, chloritic, pyritic fine grained quartzose sediment (siltstone or fine sandstone) and dark grey fine grained carbonaceous shales occurring in graded beds. Worm burrows are common and are deformed by bedding plane cleavage. Pyrite occurs in aggregates (≤ 5mm.) of small crystals in pale grey members only.</p> <p>Rare cavernous quartz-chlorite veins (≤ 5mm.)</p> <p>Bedding dips 40°.</p>
<p>102.56 to approx. 105.00</p>	<p>Medium grey-green fine grained siltstone containing abundant small (≤ 1mm) chlorite porphyroblasts. Original bedding is generally well defined and bedding planes are regular. Few pale grey pyritic quartzose and dark grey carbonaceous shales in graded beds at about 104.5 metres.</p>

INTERSECTION (METRES)	DESCRIPTION
<p>05.00 to approx. 107.74</p> <p>37 141</p>	<p>Bedding dips 25°.</p> <p>Sporadic pyrite and quartz-pyrite blebs and segregations.</p> <p>Pale green and medium grey-green fine grained slaty chloritic sediment containing abundant small (≤ 1mm.) chlorite porphyroblasts. Mainly soft and slightly porous but darker grey-green, pyritic, recrystallized and silicified and about 106.8 metres with a few irregular quartz and quartz-carbonate segregations.</p> <p>Rare, thin (≤ 3 mm.) very pale green bleached chloritic phyllite bands slightly talcose in parts.</p> <p>Rare, thin (≤ 1 mm.) irregular and discontinuous quartz-carbonate and quartz-pyrite veinlets or segregations are complexly deformed and resemble pygmaic or stylolitic structures.</p> <p>Bedding dips 30°.</p>
<p>07.74 to approx. 109.12</p>	<p>Similar to the interval 102.56 to 105.00 metres with common disseminated pyrite aggregates.</p> <p>Cleavage prominent at base of unit with bedding dip 35°, cleavage dip 55°.</p>
<p>09.12 to approx. 115.97</p>	<p>Pale grey and grey-green quartzose and dark grey carbonaceous shales commonly occurring in graded beds.</p> <p>Chlorite porphyroblasts (≤ 1mm.) and pyrite blebs and crystal aggregates are common in the pale quartzose members.</p> <p>Rare carbonate and quartz-carbonate veins and segregations.</p> <p>Bedding dips 25° to 35°.</p>
<p>15.97 to 124.03</p>	<p>Pale grey, green, and grey-green chloritic slaty sediment (fine sandstone) coarse siltstone) containing abundant chlorite porphyroblasts. Darker carbonaceous bands (finely laminated) in parts.</p> <p>Sporadic pyrite aggregates in the paler quartzose members.</p> <p>Bedding dips; 45° at 118.4m, 55° at 121.1m, S_o = 50°, S_s = 70° at 120.4m.</p> <p>DDH. 17 COMPLETED AT 124.03 METRES</p>