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AUSTRALIAN CONSOLIDATED INDUSTRIES LTD.

MINERAL RESOURCES DIVISION

TASMANIAN EXPLORATION E.L. 16/68

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REPORT ON DDH.18, CENTRAL PROSPECT

SUMMARY

DDH 18 at the Central Prospect was completed at a depth of 105.15 metres.

Minor chalcopyrite (7625 ppm Cu) was intersected in a suspected fault zone between about 29.57 and 31.70 metres.

The chalcopyrite occurs within or is intimately associated with quartz and quartzose veins and vein-like segregations.

Assay values away from the mineralized zone average less than 50 ppm Cu.

The dominant rock types intersected by DDH 18 are hard, recrystallized and silicified chloritic sediments and chloritic and carbonaceous graded beds.

Total drilling costs for DDH 18 were $2,490.49.

DDH.18 CENTRAL PROSPECT

Grid reference	436058N, 319356E
Elevation	205.8 metres
Angle	60^{0}
Direction	N 70^{0} E
Date drilled	13.12.71 to 16.12.71
Drilling rate	15.02 metres per shift.

1. OPERATIONAL DETAILS

1.1. Drilling Details

The Longyear 38 drilling rig with an air-mast attachment was set up and DDH 18 commenced on December 13, 1971.

HW casing was seated at 2.13 metres and the hole was air drilled to 29.57 metres at which depth the hole partially collapsed and several hours were spent freeing and pulling the hammer. The hole was then cased off with NW casing which was later reamed down to 32.61 metres.

The hole was completed with NQWL triple tube coring equipment at a depth of 105.15 metres on December 16th, 1971.

1.2. Drilling Conditions

Drill runs and core recovery are recorded in Appendix A.

Progress with the air drill was satisfactory until the partial collapse of the hole at about 29.57 metres.

Core recovery was satisfactory throughout the drillhole except in the vicinity of the fault zone in the interval 29.57 to 31.40 metres.

Slow progress was made in the hard recrystallized and

silicified sediments.

1.3. Drillhole Deviation

The results of the acid etch inclination surveys were:

Collar	60°
30 metres	60°
60 "	60°
90 "	55°

2. GEOLOGY

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

0 to 29.57 metres Air Drilling

Carbonaceous and chloritic slaty shale.

29.57 to 31.70 metres Diamond Drilling

Soft, friable, sheared grey-green chloritic fault gouge. Very fragmentary with low core recovery. Few quartz fragments containing minor pyrite and chalcopyrite.

31.70 to 37.80 metres

Heavily silicified chloritic sediments containing a few bandsof green non-silicified chloritic sediments. Few quartz veins and segregations.

37.80 to 40.85 metres

Dark grey silicified carbonaceous shale with a few softer non-silicified bands. Rare thin quartz veins. Extremely fractured in top 90 cm. Soft and semi-plastic in parts and slightly talcose. May represent a minor fault zone.

40.85 to 43.58 metres

Hard, massive, white and grey quartz and heavily silicified sediments. Few cavities after carbonate. Pyrite common on fracture planes, otherwise rare.

43.58 to 51.44 metres

Pale grey quartzose and dark grey carbonaceous bands, commonly finely laminated and occurring in graded beds. Few cavernous pyritic quartz veins.

51.44 to 54.10 metres

Hard, slightly mottled recrystallized and slightly carbonaceous sediment containg a few soft carbonaceous siltstone bands. Graded beds occur in the basal 60 cm.

54.10 to 56.23 metres

Pale grey recrystallized fine grained quartzose and slightly carbonaceous sediment containing a 30 cm. band of darker grey pitted and pyritic recrystallized tuffaceous (?) sediment. Rare quartz veins and segregation.

56.23 to 57.99 metres

Pale grey recrystallized fine grained quartzose sediment, slightly talcose in parts. Minor pyrite.

57.99 to 58.52 metres

Slightly recrystallized fine grained quartzose slaty sediment with common thin (≤ 2 mm.) carbonaceous partings.

58.52 to 59.36 metres

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Pale to dark grey recrystallized and silicified quartzose and slightly carbonaceous sandstone containing common chloritic and pyritic quartz veins and segregations.

59.36 to 59.97 metres

Pale to medium grey coarsely laminated slaty quartzose siltstone or fine sandstone with thin carbonaceous partings. Rare pyritic and chloritic vein-like quartz segregations.

59.97 to 64.62 metres

Quartzite and recrystallized quartzose and chloritic sediments. Few slightly cavernous quartz veins and segregations containing minor carbonate.

64.62 to 72.99 metres

Chloritic graded beds consisting of pale grey-green quartzose basal beds and dark grey carbonaceous siltstone beds. Abundant chlorite porphyroblasts and minor disseminated pyrite. Soft and porous.

72.99 to 73.29 metres

Fragmentary, cavernous, pyritic quartz containing minor irregular pyritic and chloritic fragments.

73.29 to 86.10 metres

Slaty chloritic sediments including bands of finely laminated graded beds consisting of quartzose basal beds and carbonaceous siltstone. Abundant chlorite porphyroblasts. Rare disseminated pyrite.

86.10 to 105.15 metres

Chloritic and quartzose slaty sediments containing abundant chlorite porphyroblasts and minor disseminated euhedral pyrite.

3. SAMPLES AND ASSAYS

Percussion samples, sludge samples and core samples of the various products of DDH.18 were prepared and assayed.

(a) Percussion samples

Percussion samples were collected over intervals of 1.52 metres and those collected between 15.24 and 28.95 metres were assayed with the following results:

INTERSECTION (METRES)	SAMPLE NO. BAL.	ASSAY VALUE PPM CU
15.24 to 16.76	1519	43
16.76 " 18.29	1520	88
18.29 " 19.81	1521	60
19.81 " 21.34	1522	83
21.34 " 22.86	1523	65
22.86 " 24.38	1524	83
24.38 " 25.90	1525	75
25.90 " 27.43	1526	68
27.43 " 28.95	1527	168

The percussion sample assay values are relatively constant with only a slight increase in copper content as the mineralized zone is approached.

(b) Sludge samples

Two sludge samples were collected from the mineralized material in the vicinity of the fault zone. The assay values were:

INTERSECTION (METRES)	SAMPLE NO. BAL.	ASSAY VALUE PPM CU.
30.18 to 32.01	1528	2070
32.01 " 33.53	1529	3350

These sludge samples represent the main interval of low core recovery in the fault zone and the assay values indicate a minor chalcopyrite content and a considerable time lag between intersection of the mineralization and return of the sludge.

(c) Core samples

A total of 19 core samples were collected for assay from the interval 29.57 to 76.19 metres. The assay results follow:

INTERSECTION (METRES)	INTERVAL (METRES)	SAMPLE NO. BAL.	ASSAY VALUE PPM CU.
29.57 to 31.70	2.13	1561	7625
31.70 " 34.75	3.05	1562	43
34.75 " 37.80	3.05	1563	33
37.80 " 40.85	3.05	1564	29
40.85 " 43.59	2.74	1565	38
43.59 " 46.94	3.35	1566	7
46.94 " 51.44	4.50	1567	16
51.44 " 54.11	2.67	1568	14
54.11 " 56.24	2.13	1569	11
56.24 " 57.99	1.75	1570	12
57.99 " 58.52	0.53	1571	12
58.52 " 59.36	0.84	1572	36
59.36 " 59.97	0.61	1573	12
59.97 " 62.48	2.51	1574	10
62.48 " 64.61	2.13	1575	51
64.61 " 69.65	5.04	1576	17
69.65 " 73.00	3.35	1577	76
73.00 " 73.30	0.30	1578	21
73.30 " 76.19	2.89	1579	18

The assay values indicate an extremely sharp boundary between mineralized and non-mineralized material at about 31.70 metres, the samples below this depth averaging only 25 ppm Cu. with a range of 7 to 76 ppm Cu.

4. CONCLUSION

DDH 18 was expected to intersect a southern continuation of the main zone of copper mineralization at the Central Prospect. This mineralized zone is intersected by the Central Prospect No. 1 adit which is some 35 metres north of the drillhole, but no trace of copper mineralization was detected by DDH 18 except the minor traces of chalcopyrite in the fault zone. This mineralized intersection lies some distance west of the extrapolated position of the main mineralized zone and it is postulated that faulting has offset the mineralized zone towards the west.

Aerial photographs suggest the existence of a fault striking north west across the Murrays Reward - Central Prospects ridge at the approximate location of the mineralization intersected by DDH.18.

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APPENDIX A

DDH.18 DRILL RUNS AND CORE RECOVERY

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INTERSECTION (METRES)	INTERVAL (METRES)	CORE RECOVERY	
		METRES	PERCENT
29.57 to 31.40	1.83	0.15	8
31.40 " 32.46	1.06	0.91	86
32.46 " 33.37	0.91	0.91	100
33.37 " 35.81	2.44	2.44	100
35.81 " 37.94	2.13	1.83	86
37.94 " 38.40	0.46	0.46	100
38.40 " 38.86	0.46	0.46	100
38.86 " 39.92	1.06	1.06	100
39.92 " 40.83	0.91	0.91	100
40.83 " 41.44	0.61	0.53	87
41.44 " 41.90	0.46	0.46	100
41.90 " 42.96	1.06	1.06	100
42.96 " 43.73	0.77	0.77	100
43.73 " 45.25	1.52	1.52	100
45.25 " 46.31	1.06	1.06	100
46.31 " 46.92	0.61	0.61	100
46.92 " 48.44	1.52	1.52	100
48.44 " 49.99	1.55	1.55	100
49.99 " 50.75	0.76	0.76	100
50.75 " 51.51	0.76	0.76	100
51.51 " 52.12	0.61	0.61	100
52.12 " 53.79	1.67	1.67	100
53.79 " 55.92	2.13	2.13	100
55.92 " 56.84	0.92	0.92	100
56.84 " 57.75	0.91	0.91	100
57.75 " 59.90	2.15	2.15	100
59.90 " 62.48	2.58	2.58	100
62.48 " 65.68	3.20	3.20	100
65.68 " 67.66	1.98	1.68	85
67.66 " 69.64	1.98	1.69	85
69.64 " 72.69	3.05	2.59	85
72.69 " 75.28	2.59	2.59	100
75.28 " 76.19	0.91	0.91	100
76.19 " 77.41	1.22	1.22	100
77.41 " 79.85	2.44	2.44	100
79.85 " 81.83	1.98	1.68	85
81.83 " 84.11	2.28	2.28	100
84.11 " 84.72	0.61	0.61	100
84.72 " 86.09	1.37	1.37	100
86.09 " 88.07	1.98	1.83	92
88.07 " 89.92	1.85	1.55	84
89.92 " 92.96	3.04	3.04	100
92.96 " 96.01	3.05	3.05	100
96.01 " 96.62	0.61	0.61	100
96.62 " 98.29	1.67	1.67	100
98.29 " 100.12	1.83	1.67	91
100.12 " 102.56	2.44	2.44	100
102.56 " 105.15	2.59	2.59	100

APPENDIX B

DDH.1S CENTRAL PROSPECT

DRILL LOG

Grid reference	436058N, 319356E	approximately
Elevation	205.8 metres	
Angle	60°	
Direction	N70°E (true)	
Date drilled	13/12/71 to 16/12/71	
Drilling rate	15.02 metres per shift	

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INTERSECTION (METRES)	DESCRIPTION
0 to 29.57	AIR DRILLING Carbonaceous and chloritic slaty shales.
29.57 to 31.70	DIAMOND DRILLING Soft, friable, grey-green sheared chloritic and carbonaceous sediment. Very fragmentary, low core recovery. Probably represents a fault zone. Pyritic and chalcopyritic cavernous quartz fragments are common. The sheared sediments form a slightly plastic clay when wet.
31.70 to 37.80	Heavily silicified chloritic sediments containing minor bands of green non-silicified chloritic sediments, quartz veins and irregular segregations commonly with diffuse boundaries. Sporadic pyrite occurs as irregular aggregates ($\leq$1cm) of small crystals and thin ($\leq$2mm) discontinuous parallel veins. The original bedding in the heavily silicified material is defined by disrupted and diffuse trains of chlorite porphyroblasts. The non-silicified chloritic sediments commonly contain abundant chlorite porphyroblasts ($\leq$1mm). Incipient fractures in the quartz and silicified material commonly contain thin ($\leq$ 1mm) irregular chlorite partings. The quartz is slightly cavernous in parts. The unit becomes darker and more carbonaceous towards the base.
37.80 to 40.85	Dark grey silicified carbonaceous shale with a few softer non-silicified intervals. The top 90 cm is extremely sheared, fractured and fragmental, soft and plastic in parts, slightly talcose and probably represents a fault zone. Also strongly fractured at base. The original bedding is defined in parts by an alternation of pale grey quartzose and dark grey carbonaceous laminae. The laminae are irregular suggesting pre-consolidation slumping. The quartzose members contain minor disseminated pyrite.

	Rare thin ($\leq$ 2mm) quartz veins.
	Minor fault at about 40.4 metres.
	Bedding dips; 30° to 35° at 38.2m, 30° to 35° at 39.0m, 45° at 39.8m, 25° at 40.7m.
40.85 to 43.58	Hard, massive, white and grey quartz and heavily silicified sediments with few cavities after carbonate(?) and a few small ($\leq$2mm) diffuse quartz-carbonate blebs. Pyrite is common along fractures but otherwise is rare.
	The basal 30cm is darker and contains rare thin ($\leq$1cm) non-silicified carbonaceous siltstone bands.
	The unit contains a few later white quartz veins and segregations commonly with diffuse boundaries.
	Bedding dips 20° at 43.4m.
43.58 to 51.44	Pale grey quartzose and dark grey carbonaceous slaty bands, commonly finely laminated and occurring in graded beds. Few irregular and deformed worm-burrows.
	Few pyritic and cavernous (after carbonate?) quartz veins ($\leq$ 1cm). A thick ($\leq$4cm) cavernous vein at about 48.3 metres contains weathered carbonate remnants.
	Few thin, irregular and discontinuous vein-like quartz segregations ($\leq$4mm).
37 122	A 60cm band of hard recrystallized sediment occurs between about 47.6 and 48.2 metres.
	The pale grey quartzose units (fine sandstone) commonly contain disseminated chlorite prophyroblasts and minor disseminated pyrite.
	A thin band of chloritic phyllite occurs at about 46.3 metres.
	Bedding dips; 30° at 43.9m, 30° at 44.2m, 35° at 44.6m, 35° at 45.3m, 40° to 45° at 46.0m, 45° at 47.1m, 45° at 48.2m, 30° to 35° at 48.8m, 40° at 49.2m, 35° at 49.7m, 40° at 50.1m, 35° at 50.8m, 40° at 51.1m.
51.44 to approx. 54.10	Hard, slightly mottled, medium grey recrystallized, slightly carbonaceous sediment containing a few soft carbonaceous siltstone bands and coarser grained (fine sandstone?) quartzose bands with a few deformed worm burrows. Soft quartzose and carbonaceous graded beds over the basal 60cm.
	Few pyritic and non-pyritic quartz veins and segregations.
	Original bedding locally well preserved.
	Bedding dips; 20° at 52.0m, 20° to 35° at 53.8m.
54.10 to approx. 56.23	Pale and medium grey recrystallized fine grained quartzose and slightly carbonaceous sediment with thin band of darker grey, pitted and pyritic recrystallized tuff(?).
	Minor pyrite occurs as disseminated euhedra ($\leq$4mm).
	Rare, white to slightly translucent quartz veins or segregations ($\leq$ 1cm).

	Few softer, non-recrystallized bands of carbonaceous slaty siltstone.
56.23 to approx. 57.99	Pale grey, fine grained recrystallized quartzose sediment (fine sandstone).
	Thick ($\lesssim$8cm) cavernous, white quartz vein at top of unit.
	Original bedding locally well preserved. Slightly talcose in parts.
	Incipient fractures common.
	Few cavernous (after carbonate?) white quartz veins.
37 123	Pyrite occurs as:
	(i) common disseminated euhedra.
	(ii) minor blebs and/or euhedra on bedding planes.
	(iii) minor fracture fittings.
	Bedding dips 35°.
57.99 to approx. 58.52	Slightly recrystallized, medium grey, fine grained, quartzose slaty sediment with common thin ($\lesssim$ 1mm) carbonaceous partings defining bedding planes.
	Rare minor microfaults.
	Rare pyrite blebs on bedding planes.
	Bedding dips 45°.
58.52 to approx. 59.36	Pale to dark grey recrystallized and silicified quartzose and slightly carbonaceous sandstone containing common chloritic and pyritic quartz veins and/or segregations ($\lesssim$ 2cm), commonly with diffuse boundaries and moderately but variably cavernous after carbonate. Blade shaped weathering pits in the quartz in parts.
	Minor disseminated pyrite.
	Bedding dips 45°.
59.36 to approx. 59.97	Pale to medium grey, coarsely laminated quartzose slaty sediment or fine sandstone with thin carbonaceous partings. Rare thin ($\lesssim$ 5mm) pyritic and chloritic vein-like quartz segregations.
	Bedding dips 55°.
59.97 to approx. 64.62	Pale grey, grey-green and medium to dark green quartzite and recrystallized quartzose and chloritic sediments with a few softer non-recrystallized bands.
	Few white and slightly cavernous quartz veins or segregations ($\lesssim$ 5cm) which contain sporadic yellow-brown carbonate.
	Few irregular and discontinuous quartz segregations and a few carbonate and quartz-carbonate veins and segregations.
	The chloritic material has been bleached pale grey-green in parts.

The non-recrystallized material is phyllitic and slightly talcose in parts.

Minor disseminated pyrite.

Bedding dips 60° at 60.7m, 50° to 55° at 61.0m, 50° at 61.3m, 65° at 62.3m, 50° to 55° at 63.1m, 60° at 64.2m.

64.62 to approx. 72.99 — Chloritic graded beds consisting of pale grey-green quartzose and chloritic basal beds and fine grained dark grey carbonaceous beds and laminae.

The basal beds contain abundant chloritic prophyroblasts and minor disseminated pyrite.

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Few deformed quartzose worm burrows occur in dark carbonaceous members.

Soft and porous. Few minor microfaults.

Few brown carbonate blebs or prophyroblasts, commonly in quartzose beds. Few irregular and discontinuous carbonate segregations.

A dragfold at 69.5m has axial plane dipping 50°.

Bedding dips 50° at 64.8m, 45° to 50° at 65.7m, 55° at 66.1m, 50° at 66.6m, 50° at 67.4m, 50° at 67.7m, 50° at 68.8m, 60° at 70.6m, 40° at 71.3m, 55° at 72.4m.

72.99 to 73.29 — Fragmentary, white, cavernous, pyritic quartz containing minor irregular pyritic chlorite fragments. Minor brown carbonate at base.

73.29 to approx. 86.10 — Fine grained, pale to medium grey-green chloritic slaty sediments including bands of finely laminated graded beds consisting of pale grey-green quartzose basal beds grading up to fine grained, dark grey carbonaceous siltstone, commonly with deformed worm burrows.

Abundant chlorite prophyroblasts ($\leq$1mm). Rare microfaults. Rare disseminated pyrite.

Generally soft but recrystallized and hard in parts.

Original bedding locally well preserved particularly the bands of graded beds.

Rare quartz veins and segregations.

Rare brown carbonate veins, segregations and porphyroblastic blebs.

Bedding dips 55° at 74.2m, 65° at 75.1m, 45° at 75.6m, 55° at 76.8m, 50° at 77.3m, 45° at 78.2m, 40° at 79.2m, 60° to 65° at 80.5m, 60° at 81.2m, 50° at 82.0m, 50° at 83.2m, 50° at 84.4m.

A dragfold at 82.7m has axial plane dipping 65°.

86.10 to 105.15 — White, pale grey, pale green and grey-green, soft, fine grained, chloritic and quartzose slaty sediments containing abundant chlorite porphyroblasts and common chlorite filled fractures and other secondary S planes (cleavage?). Slightly talcose in parts.

Sporadic disseminated euhedral pyrite.

Original bedding poorly defined.

Few, thin irregular and discontinuous pyritic vein-like segregations.

Rare, thin ($\leq$ 2mm) pyritic quartz-chlorite-carbonate vein-like segregations and carbonate porphyroblastic blebs.

Bedding dips 45° at 88.7m, 40° at 90.1m, 35° at 93.0m, 40° at 95.1m, 45° at 96.6m, 40° at 98.5m, 40° at 100.0m 25° at 103.3m, 40° at 104.8m.

A dragfold at 91.4 m has axial plane dipping 30°.

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DDH.18 COMPLETED AT 105.15 METRES.