Amoco Minerals Australia Company

DRILLHOLE Nº ZT-82N-1 Page 1 of 8 **drill log** metric

PROJECT ZEEHAN TAS	Nº A7860A	ELEVATION		COMMENCED 16/12/82	
PROSPECT NUBEENA		DIP COLLAR -54°		COMPLETED 12/1/83	
CO-ORDINATES 2090 N 1717 E		CORE SIZE 0.1-131.6 HQ 131.6-229.1 NQ		TOTAL LENGTH 229.1m	
BEARING G 223 M 234T		LOGGED BY G. KARY			

CORE HOLE SURVEY

Depth	Dip	Bearing	Depth	Dip	Bearing	Depth	Dip	Bearing
*73	-55°	208°	227	-56°	214°			
130	-56°	207°						
177	-56°	216°						

*FIRST TWO SURVEYS MAY BE AFFECTED BY MAGNETISM

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE Nº	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
0	6.1	NO CORE												
6.1	7.3	WEATHERED TO LIGHT GREEN CLAY. MINOR REMNANT DARK GREEN, CHLORITIC FRAGMENTS		91739	6.0	11.0	5m	28	6	155	<1	<4	36	120
7.3	15.9	BASALT - GREEN TO DARK GREEN, FINE GRAINED, VARIABLE CHLORITIC ALTERATION.	TRACE PYRITE ASSOCIATED WITH CHLORITIC ZONES	91740	11.0	16.0	5m	12	<4	140	<1	<4	50	100
15.9	17.5	PYROCLASTIC BASALT - DARK GREEN, FINE MATRIX WITH ANGULAR TO SUBANGULAR CLASTS OF QUARTZ-FELDSPAR-EPIDOTE COMPOSITION. CLASTS ARE LESS BASIC THAN MATRIX - CLAST SIZE 1-5mm - MINOR FINE EPIDOTE VEINING	TRACE PYRITE WITH EPIDOTE VEINING	91741	16.0	21.0	5m	65	6	260	<1	<4	38	70
17.5	27.2	BASALT - GREEN, FINE GRAINED VARIABLE CHLORITIC ALTERATION ABUNDANT CALCITE VEINS (<1-11mm WIDE) AT 50° TO CORE AXIS, LARGER VEINS HAVE A CENTRAL CAVITY SHOWING GOOD CALCITE CRYSTAL DEVELOPEMENT, AND A QUARTZ SELVAGE		91742	21.0	26.0	5m	12	<4	200	<1	4	44	50

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drill log

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE NO	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
27.2	32.8	BASALT BRECCIA - DARK GREEN TO GREEN FINE GRAINED CHLORITIC MATRIX WITH LIGHTER GREEN, COARSER GRAINED FRAGMENTS. FRAGMENT SIZE 5-50mm - NORMALLY A SHARP CONTACT BETWEEN BRECCIATED AND NON-BRECCIATED BASALT - FRAGMENTS ARE ROUNDED TO SUB-ANGULAR, ROUNDING MAY BE A RESULT OF CHLORITE ALTERATION - MINOR CALCITE VEINING	30.2m - 5% PYRITE IN A LARGE (50mm x 12mm) FRAGMENT	91743	26.0	31.0	5m	48	24	260	<1	4	200	120
32.8	39.3	BASALT - GREEN, FINE TO MEDIUM GRAINED. CHLORITE ALTERATION ALONG FRACTURES AT 45° TO CORE AXIS. ABUNDANT CALCITE VEINING NEAR BASE.		91744	31.0	36.0	5m	22	16	230	<1	<4	60	80
				91745	36.0	41.0	5m	55	26	300	<1	<4	160	160
39.3	40.1	DOLERITE - DARK GREEN TO BLACK AMPHIBOLE CRYSTALS IN A GREEN EPIDOTE RICH MATRIX. AMPHIBOLE CRYSTALS <1mm - 2mm. MATRIX IS MEDIUM GRAINED												
40.1	45.1	DOLERITE - GREEN, HIGHLY ALTERED AND MINOR BRECCIATION. MINOR CHLORITE HALO'S AROUND SOME BRECCIA FRAGMENTS. MEDIUM GRAINED. - HEMATITE RICH VEINLETS AT 10° TO CORE AXIS	TRACE TO 1% CHALCOPYRITE DISSEMINATED THROUGHOUT.	91993	40.0	41.0	1m	46	10	270	1	<4	135	120
				91994	41.0	42.0	1m	16	12	180	<1	<4	28	24
				91995	42.0	43.0	1m	85	490	270	<1	6	26	28
				91996	43.0	44.0	1m	1000	220	380	2	<4	22	32
				91997	44.0	45.0	1m	860	75	350	1	4	120	120

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE No	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
45.1	56.2	DOLERITE - PALE GREEN, VERY FINE GRAINED, MINOR LARGE (200mm) POSSIBLE XENOLITHS OF DIORITE COMPOSITION. BASAL CONTACT SHOWS MINOR CONTACT ALTERATION - ABUNDANT CALCITE AND SIDERITE VEINING - BASAL CONTACT AT 55° TO CORE AXIS	TRACE CHALCOPYRITE	91747	46.0	51.0	5m	150	65	230	<1	<4	80	120
				91748	51.0	56.0	5m	90	18	170	<1	<4	70	170
56.2	63.8	BASALT - GREEN, HIGHLY SHEARED, MINOR CALCITE VEINING AND CHLORITE ALTERATION ABUNDANT QUARTZ-FELDSPAR VEINING. SHEARING AT 45° TO CORE AXIS	TRACE CHALCOPYRITE	91749	56.0	61.0	5m	180	22	240	<1	<4	460	210
				91750	61.0	66.0	5m	150	75	185	<1	6	105	160
63.8	66.7	BASALT BRECCIA - DARK GREEN CHLORITIC FINE GRAINED MATRIX WITH ANGULAR TO SUB-ROUNDED FRAGMENTS OF FINE GRAINED GREEN BASALT AND MINOR DIORITE - MINOR SERPENTINE AND CALCITE ALONG FRACTURES AT 20° TO C.A.	65.7-65.8 m 2% CHALCOPYRITE, MASSIVE MAGNETITE IN STRINGER AT 30° TO CORE AXIS	91998	64.0	65.0	1m	720	6	190	1	8	60	55
				91999	65.0	66.0	1m	250	<4	180	1	8	30	28
				92000	66.0	67.0	1m	240	6	260	1	12	38	38
			65.1-66.0 m 1% PYRITE, DISSEMINATED											
66.7	79.5	BASALT - GREEN, FINE TO MEDIUM GRAINED, RARE FRAGMENTS VAGUE FLOW BANDING AT 20° TO CORE AXIS. MODERATE TO INTENSE CHLORITE ALTERATION	68.0-69.0 m 2% PYRITE <1% CHALCOPYRITE	91914	66.0	71.0	5m	350	26	290	<1	<4	12	38
				91915	71.0	76.0	5m	750	95	390	<1	<4	150	120
			70.0-71.0 m 1% PYRITE	91916	76.0	81.0	5m	120	110	340	<1	4	165	130

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE No	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
79.5	84.6	DOLERITE - GREEN, MEDIUM GRAINED, 1mm. CRYSTALS OF AMPHIBOLE/PYROXENE THROUGHOUT. MODERATE TO INTENSE CALCITE VEINING WITH SOME ASSOCIATED BRECCIATION.	81.1 - 82.1 m 2% PYRITE TRACE CHALCOPYRITE	91917	81.0	86.0	5m	90	36	185	<1	6	28	60
84.6	88.1	CLAY - LIGHT GREEN, FINE CLAY		91918	86.0	91.0	5m	60	26	250	<1	6	330	165
88.1	93.5	DOLERITE - GREEN, MEDIUM GRAINED, LATTICE OF AMPHIBOLE /PYROXENE AND FELDSPAR. MAFIC MINERALS LARGELY ALTERED TO CHLORITE. 91.1 - 91.5m - AS ABOVE WITH 5% SERPENTINITE CLASTS.		91919	91.0	96.0	5m	70	12	260	<1	4	300	220
93.5	99.7	DOLERITE - GREEN TO DARK GREEN, FINE GRAINED, INTENSE FRACTURING AND BRECCIATION. ABUNDANT CHLORITE AND SERPENTINE ALTERATION ALONG FRACTURES		91920	96.0	101.0	5m	460	<4	290	<1	6	28	50
99.7	105.0	DOLERITE - OLIVE GREEN, VERY FINE GRAINED INTENSELY CUT BY SERPENTINE FRACTURES	100.1 - 104.1 1% PYRITE TRACE CHALCOPYRITE	91921	101.0	106.0	5m	290	28	410	<1	<4	175	125
105.0	121.2	BASALT - DARK GREEN MATRIX CUT BY EXTENSIVE PARALLEL SIDERITE/CALCITE AND QUARTZ SHEARS AT 25° TO CORE AXIS. INTENSE CHLORITE ALTERATION THROUGHOUT 112.0 - 114.0 m - 20% FRAGMENTS OF GRANITIC COMPOSITION IN CHLORITIC MATRIX	110.0 - 110.1 2% SPHALERITE IN CARBONATE VEIN. 120.0 - 121.0 TRACE PYRITE, CHALCOPYRITE IN QUARTZ CARBONATE VEINS	91922	106.0	111.0	5m	360	48	260	<1	<4	730	500
				91923	111.0	116.0	5m	130	85	120	<1	<4	460	320
				91924	116.0	121.0	5m	55	70	230	<1	<4	310	330

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE No	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
		POOR FOLIATION AT 30° TO CORE AXIS												
121.2	124.3	TRANSITIONAL ZONE - DECREASING GREEN COLOUR TO ALMOST WHITE. INTENSE CARBONATE VEINING. MINOR TALC ON FRACTURE PLANES	1% CHROMITE IN PALE GREEN SECTIONS	91925	121.0	126.0	5m	8	32	170	<1	<4	680	430
124.3	144.2	TALC-CARBONATE SCHIST PALE BROWN TO PALE GREEN, FINE GRAINED, POORLY FOLIATED, INTENSELY CUT BY QUARTZ-CARBONATE VEINS NORMALLY AT 40° TO CORE AXIS. CHROMITE CRYSTALS INDICATE AN ULTRAMAFIC GENESIS. EXTREMELY ALTERED UNIT	129.0-130.0 1% GALENA AND TRACE SPHALERITE IN QUARTZ CARBONATE VEINING	91926	126.0	131.0	5m	8	130	260	<1	<4	990	440
				91992	129.0	130.0	1m	10	2100	2200	3	<4	1250	70
				91927	131.0	136.0	5m	22	195	400	<1	6	2050	790
				91928	136.0	141.0	5m	60	210	2000	<1	4	2400	590
			5-20% CHROMITE THROUGHOUT	91929	141.0	148.0	7m	24	490	350	<1	<4	1800	1700
		REDUCED FROM HQ TO NQ CORE AT 131.8m												
144.2	149.5	TALC-CARBONATE SCHIST LIGHT TO DARK GREY, FINE GRAINED, MINOR QUARTZ AND CARBONATE VEINING. FRACTURES AT 10°-50° TO CORE AXIS	TRACE CHROMITE AND MAGNETITE THROUGHOUT	91853	148.0	149.0	1m	8	660	510	2	<4	660	1950
				91854	149.0	150.0	1m	10	490	680	2	<4	640	140
			TRACE GALENA IN QUARTZ VEINS											
149.5	153.6	SERPENTINITE - GREEN FINE GRAINED HOST, CUT BY DENSE NETWORK OF QUARTZ AND SIDERITE VEINS. GOOD MINERALIZATION IN SOME VEINS	150.0-151.0 MASSIVE GALENA TRACE MALACHITE IN SIDERITE VEIN	91855	150.0	151.0	1m	540	44.7%	4400	600	200	100	880
				91856	151.0	152.0	1m	42	2.05%	1750	26	24	190	210
				91857	152.0	153.0	1m	12	2600	3400	4	12	100	220
			151.3-151.4 20% PYRITE	91858	153.0	154.0	1m	46	2900	8600	6	65	220	560

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE No	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
153.6	157.3	TALC-CARBONATE SCHIST GREY, FINE GRAINED, FINELY LAMINATED, HIGHLY CONTORTED UNIT ALTERNATING WITH WHITE SANDY UNIT. MINOR SIDERITE FRACTURES AT 20° TO CORE AXIS. VAGUE LAYERING AT 30-50° TO CORE AXIS	TRACE CHROMITE THROUGHOUT 153.6-153.8 20% SPHALERITE 10% GALENA IN QUARTZ-CARBONATE VEIN	91859	154.0	155.0	1m	6	250	140	1	<4	250	790
157.3	159.0	SERPENTINITE - VERY FINE GRAINED, GREEN MOTTLED APPEARANCE. LARGELY NEPHRITE TEXTURE AND COLOUR. VERY SHARP CONTACTS AT 55° TO CORE AXIS.		91930	155.0	160.0	5m	8	240	250	<1	6	380	620
159.0	164.6	SANDSTONE - LIGHT TO DARK GREY QUARTZ RICH. VARIABLE AMOUNTS OF CARBONATE. DARKER SECTIONS MORE CALCAREOUS THAN LIGHTER AREAS. POORLY BEDDED. MODERATE TO HEAVY QUARTZ-CARBONATE VEINING POSSIBLE BEDDING AT 20° TO CORE AXIS.	162.3-162.5 5% SPHALERITE IN SMALL VEINS AT 25° TO CORE AXIS TRACE PYRITE THROUGHOUT POSSIBLE CHROMITE CRYSTALS	91931	160.0	165.0	5m	16	220	2300	<1	<4	670	1000
164.6	169.7	SANDSTONE/SILTSTONE INTERLAYERED GREEN SANDSTONE AND BLACK SILTSTONE. -SANDSTONE - FINE TO MEDIUM, POOR LAYERING. GRAINS ≤ 1mm, MAINLY SHALE, QUARTZ, AND FELDSPAR IN A GREEN MUDDY MATRIX. -SILTSTONE - FINE GRAINED, LACKS GOOD BEDDING, BUT FINE LAMINATING	167.3-167.4 2% CHALCOPYRITE IN VEIN	91932	165.0	169.0	4m	36	200	240	<1	<4	55	130

METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE No	METERAGE From	METERAGE To	METERAGE Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
		EVIDENT IN ONE SMALL SECTION. SLUMPING AT CONTACT OF SANDSTONE AND SILTSTONE. CONTACT VARIABLE WITH AN AVERAGE 30° TO CORE AXIS MINOR SHEARS AND QUARTZ CARBONATE VEINS AT 20° TO CORE AXIS.												
169.7	170.3	VEIN BRECCIA - ANGULAR FRAGMENTS OF BLACK SILTSTONE AND GREEN SILTSTONE (1mm - 100mm DIAMETER) IN A MEDIUM TO COARSE SIDERITE VEIN.	5% PYRITE IN SILTSTONE FRAGMENTS	91860	169.0	170.0	1m	14	1000	960	2	14	26	110
170.3	176.1	SILTSTONE - BLACK TO GREY FINE GRAINED, FINE LAMINATIONS IN GREY SECTIONS, MINOR SANDSTONE LENS IN BLACK SILTSTONE. SIDERITE VEINS AT 0° TO 90° TO CORE AXIS BEDDING AT 60° TO CORE AXIS.	171.8-172.3 25% GALENA <1% SPHALERITE IN A SIDERITE VEIN	91861	170.0	171.0	1m	20	300	560	3	<4	30	85
				91862	171.0	172.0	1m	65	3.45%	2600	85	10	32	130
				91863	172.0	173.0	1m	95	3.05%	530	90	<4	44	130
				91864	173.0	174.0	1m	75	1.40%	200	33	<4	46	120
				91865	174.0	175.0	1m	34	230	85	2	4	48	95
176.1	181.5	SILTSTONE BRECCIA LIGHT GREY FINE AND MEDIUM GRAINED SILTSTONE FRAGMENTS IN A GRAPHITIC MATRIX. MINOR WELL LAMINATED, GREY, LIMESTONE FRAGMENTS.		91933	175.0	180.0	5m	46	110	500	1	6	50	220
181.5	182.6	SILTY LIMESTONE - GREY TO LIGHT GREY, VARIABLE SILT CONTENT. MINOR BRECCIATION CONTACT SHARP, AT 50° TO CORE AXIS.	182.0-182.6 15% PYRITE, FORMED AS LARGE (20mm) MASSES.	91934	180.0	185.0	5m	20	145	300	1	6	8	32

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METERAGE From	METERAGE To	DESCRIPTION	MINERALIZATION	SAMPLE No	METERAGE From	METERAGE To	Length	ASSAYS ppm Cu	Pb	Zn	Ag	Sn	Cr	Ni
182.6	201.3	GRAPHITIC SILTSTONE												
		- DARK GREY, MODERATE NUMBER		91935	185.0	190.0	5m	20	70	330	1	4	10	20
		OF THIN, LIGHT GREY SANDSTONE												
		HORIZONS, MINOR LIMESTONE.		91936	190.0	195.0	5m	20	80	260	1	8	10	20
		MINOR BRECCIATION OF SANDSTONE												
		HORIZONS		91937	195.0	200.0	5m	22	60	150	1	<4	6	14
		184.6-185.0 - WELL LAMINATED	184.6-185.0											
		GREY LIMESTONE, WELL BEDDED	15% PYRITE											
		PYRITE ALONG SOME LAMINAE.												
		192.0-193.0. VERY HIGH	186.7-186.8											
		GRAPHITE CONTENT.	2% PYRITE											
		187.6. ISOCLINAL FOLD AXIS												
		PARALLEL TO LAYERING (50°	191.2-191.4											
		TO CORE AXIS).	1% SPHALERITE											
			TRACE GALENA											
		BEDDING AVERAGES 45° TO												
		CORE AXIS	199.9-201.3											
			5% PYRITE											
201.3	205.7	SANDSTONE - BLACK AND	1% PYRITE	91938	200.0	205.0	5m	22	34	75	1	8	24	10
		WHITE, FINE TO MEDIUM GRAINED.	THROUGHOUT											
		MINOR GRAPHITIC SILTSTONE												
		HORIZONS (PARTIALLY BRECCIATED)												
205.7	229.1	GRAPHITIC SHALE - BLACK,	1% OF	91939	205.0	210.0	5m	30	70	190	1	4	50	18
END		MODERATELY FOLIATED, MINOR	BRECCIA											
OF		THIN LIGHT GREY SILTSTONE	FRAGMENTS ARE	91940	210.0	215.0	5m	24	300	550	1	<4	36	24
HOLE		HORIZONS. MODERATE SLUMPING	MASSIVE PYRITE											
		AND BRECCIATION EVIDENT		91941	215.0	220.0	5m	34	80	200	1	8	30	20
		FOLIATION ANGLES		91942	220.0	225.0	5m	30	120	170	1	6	26	28
		207.9 m 45° TO CORE AXIS												
		212.5 m 30° " " "		91943	225.0	229.1	4.1m	18	70	70	1	4	12	14
		219.3 m 10° " " "												
		228.9 m 85° " " "												

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