



Amoco Minerals Australia Company

DRILL LOG

WOLE No. ZT-80-4

PAGE 1 OF 7

PROJECT ZEEHAN TAS No. 7860	ELEVATION meters	COMMENCED 18 FEB 1980	BORE HOLE SURVEY				INSTRUMENT EASTMAN CAMERA				
PROSPECT OCEANA	DIP COLLAR 66° GW	COMPLETED 28 FEB 1980	Depth (m)	Dip	Bearing	Depth (m)	Dip	Bearing	Depth (m)	Dip	Bearing
CO-ORDINATES 3420 mN 1490 mE	CORE SIZE HQ, NQ	TOTAL LENGTH 360.30 meters	50	66°	211°	200	67	202	350	59.5	180
BEARING 228° TN 217° MN 270° GN	LOGGED BY P.A. JONES.		100	67°	245°	250	65	191			
			150	67.5	216	300	64	188			

METERAGE		DESCRIPTION	MINERALIZATION %	SAMPLE NUMBER	METERAGE			ASSAYS				
From	To				From	To	Length	Cu	Pb	Zn	Ag	
0.00	9.00	TALCONE: Conglomeratic Alluvial Gravels. START HQ CORING.		36927	9.00	10.00	3	4	165	670	<1	
9.00	32.50	DOLOMITE LIMESTONE BRECCIA: Technically brecciated, massive to thickly laminar dark grey dolomite and light grey fossiliferous limestone. Core extremely brecciated, calcite and siderite veined and micro faulted. Bad ground of sideritic, black, carbonaceous Dolomite (silty?) from 27.00 to 27.30 m. Bedding 25° to c.a. at 14.50 m. Cavity 9.80m to 11.00m	Trace pyrite calcite veins	36928	11	12	3	6	85	840	<1	
				36929	13	14	3	6	60	950	<1	
				36930	14	15	3	8	180	1400	<1	
32.50	42.30	SILTY DOLOMITE: weakly brecciated, foliated, black carbonaceous silty dolomite with interbeds of dark grey dolomitic limestones. Core moderately calcite veined with only minor to trace siderite. Tectonic breccia 38.10 to 38.65m. Trace pyrite with Calcite veins. Bedding 37° at 32.60.	Trace pyrite calcite veins	36931	15	16	3	8	260	770	<1	
				36932	16	17	3	6	120	1150	<1	
				36933	17	18	3	4	290	950	<1	
42.30	58.80	LIMESTONE BRECCIA: limestone, light grey to white, massive to laminar, weakly fossiliferous karstic breccia. Laminar grey, very laminar, muddy dolomitic limestones from 46.40 to 47.70m. Breccia grades into a grey moderately veined (calcite) Dolomite karstic breccia healed by an infusion of calcite with minor siderite. Bedding 46.50m - 35° to c.a.		36934	19	20	3	16	135	720	<1	
				36935	21	22	3	16	44	160	<1	
58.80	62.20	CARBONACEOUS DOLOMITE: Dark grey to black, carbonaceous, strongly calcite veined, foliated silty Dolomite. Minor amounts of siderite present with calcite veining. Strong foliation 15° to c.a. (almost parallel). Possible fold hinge??		36936	23	24	3	38	150	280	<1	
				36937	25	26	3	10	410	880	<1	
62.20	76.20	SILTY DOLOMITE/LIMESTONE: interbedded dark grey, foliated, laminar, massive silty Dolomites and light grey, occasionally weakly fossiliferous muddy calcichites. Moderately calcite veined, well bedded sequence, minor, micro faulting & little brecciation. Bedding 16° to c.a. 68.80m; 22° to c.a. 67.50m 37° to c.a. 69.50m.		36938	27	28	3	8	60	250	<1	
				36939	29	30	3	8	210	510	<1	
76.20	78.60	DOLOMITIC FOSSIL BRECCIA: very weathered, dark grey and black, brecciated dolomite containing abundant coralline fossil debris. Minor calcite veining.		36940	31	32	3	4	230	970	<1	
				36941	33	34	3	4	195	1200	<1	

649139



METERAGE		DESCRIPTION	MINERALIZATION %	SAMPLE NUMBER	METERAGE			ASSAYS			
From	To				From	To	Length	Cu	Pb	Zn	Aj
78.60	85.50	<b>CALCARENITE</b> : light grey, calcite veined, massive very fossiliferous, oolitic calcarenite with minor interbeds of brecciated karstic? limestones (calclutites) and thin, black, carbonaceous dolomite. Rock foliated, probably slumped in part (disturbed bedding). Minor siderite.		36942	54	55	3	6	370	940	<1
					55	56					
					56	57					
				36943	57	58	3	6	145	490	<1
					58	59					
					59	60					
85.50	95.00	<b>SEDIMENTARY BRECCIA</b> : large and small fragments of country rock, few isolated fragments of fossils in an Iron/Calcium carbonate cement. Zone strongly calcite veined. Cavity 87.00 to 88.00 (sand filled?). Carbonaceous dolomite also present as matrix for breccia.		36944	60	61	4	6	130	430	<1
					61	62					
					62	63					
					63	64					
				36945	64	65	3	12	70	225	<1
					65	66					
					66	67					
95.00	97.00	<b>CALCITE/SIDERITE CRUSH ZONE</b> : rock very weathered, core extensively broken, heavily calcite and siderite veined.		36946	67	68	3	10	170	420	<1
					68	69					
					69	70					
97.00	101.00	<b>Fossiliferous CALCARENITE</b> : white to light grey, moderately calcite veined, weathered (sericitically altered) oolitic calcarenite. Minor brecciation. Minor siderite associated with calcite. No bedding, unit very massive & homogeneous.		36947	70	71	3	8	150	590	<1
					71	72					
					72	73					
				36948	73	74	3	8	125	570	<1
					74	75					
					75	76					
101.00	118.50	<b>SEDIMENTARY FOSSIL BRECCIA</b> : Calcarenite above grades downhole into a massive sequence of slump brecciated calclutites, fossiliferous calcarenites, and black carbonaceous dolomites. Coarsely limestone fragments and pisolites quite common (near reefal environment?). Core extensively calcite/siderite veined. No bedding. Minor pyritic zones. Cavity 104.00 to 104.50 metres.	Minor pyrite.	36949	76	77	3	12	165	750	<1
					77	78					
					78	79					
				36950	79	80	3	8	80	400	1
					80	81					
					81	82					
				36764	82	83	3	6	60	490	1
					83	84					
					84	85					
118.50	123.80	<b>BRECCIATED CALCULITE</b> : grey, massive, foliated, unfossiliferous calclutites, heavily calcite veined, with minor siderite. Thin carbonaceous laminae present roughly every 5cm. Bedding extremely disturbed.		36765	85	86	3	8	470	1200	1
					86	87					
					87	88					
				36766	88	89	3	6	90	940	1
					89	90					
123.80	125.50	<b>Oolitic Calcarenite</b> : light grey, massive, oolitic calcarenite with disturbed interbeds of dark grey oolitic, muddy? calclutites?		36767	90	91					
					91	92	3	4	85	200	1
					92	93					
					93	94					
125.50	150.70	<b>CALCLUTITE/CALCARENITE BRECCIA</b> : Extremely brecciated, highly calcite/siderite veined grey massive calclutites/calcarenites and dark grey dolomitic calclutites. Minor sericitically altered, quite weathered zones present throughout. Cavity 131.50-132.20 containing concretionary pyrite lining. Oolitic sections of core present as very large fragments within sedimentary Breccia?		36768	94	95	3	4	140	610	1
					95	96					
					96	97					
				36769	97	98	3	4	55	90	1
					98	99					
					99	100					
150.70	179.00	<b>Interbedded CALCULITES/CALCARENITES</b> : grey, massive, weakly foliated, moderately calcite veined calclutites interbedded with light grey fossiliferous (shelly) calcarenites and minor thin silty black laminar dolomite. Calcarenites generally 5-15cm in width, dolomite generally <2cm. Possible fold hinge at 174m, bedding parallel to c.a.		36770	100	101	3	4	95	220	1
					101	102					
					102	103					
				36771	103	104	3	4	90	170	1
					104	105					
					105	106					
				36772	106	107	3	4	20	80	1

649140





METERAGE		DESCRIPTION	MINERALIZATION %	SAMPLE NUMBER	METERAGE			ASSAYS					
From	To				From	To	Length	Cu	Pb	Zn	Ag		
250.50	254.00	<u>SEMI-MASSIVE SIDERITE/GALENA/SPHALERITE MINERALIZATION.</u> Brecciated fragments of grey calcilites? in yellow-green siderite/ankerite breccia. (matrix to mineralization) Mineralization very irregular with very high grade sections of core interspersed throughout low grade zones. Approx. 15% Pb 5% Zn. Veinlets and blebs & massive. Core extensively broken - but good recoveries.	Approximately 15% Pb and 5% Zn.		160	161							
				36791	161	162	3	6	75	36	<1		
				36792	162	163							
					163	164							
					164	165							
					165	166	3	8	48	16	<1		
					166	167							
					167	168							
254.00	258.50	<u>BRECCIA:</u> Mineralized siderite/ankerite yellow green breccia grading approximately 5% Pb/Zn.	5% Pb/Zn as disseminations and veinlets.	36793	168	169	3	8	620	34	1		
					169	170							
					170	171							
258.50	274.00	<u>CALCULITE:</u> grey brecciated, moderately to strongly calcite veined, lead coated, massive calcilitite. Minor finely disseminated sphalerite. 261.90 to 262.10 calcite breccia; large twinned calcite crystals with 7% pyrite as fine grained disseminations.	minor sphalerite as disseminations.	36794	171	172	3	8	150	85	<1		
					172	173							
				36795	173	174	3	8	76	42	<1		
					174	175							
					175	176							
					176	177							
274.00	274.80	<u>TECTONIC BRECCIA:</u> with calcite cement, fragments comprised of very angular pieces of calcilitite.		36796	177	178	3	6	110	210	1		
					178	179							
					179	180							
274.80	280.00	<u>FOSSILIFEROUS LIMESTONE:</u> grey, weak to moderately calcite veined, brecciated oolitic and pisolitic limestone. Minor beds of unfossiliferous, massive grey calcilitites. Minor disseminated sphalerite assoc. with siderite blebs and accumulations.	Disseminated sphalerite. Minor.	36797	180	181	3	6	44	175	1		
					181	182							
				36798	182	183	3	6	95	80	1		
					183	184							
					184	185							
					185	186							
280.00	288.20	<u>SEDIMENTARY BRECCIA:</u> large and small limestone fragments, fossil debris (oolites, pisoliths & minor coral fragments) with moderate calcite veining. Fragments generally subrounded - slump brecciated.		36799	186	187	3	10	20	75	1		
					187	188							
					188	189							
				36800	189	190	3	14	90	65	1		
					190	191							
288.20	291.10	<u>BRECCIA:</u> yellow-green, siderite/ankerite weakly mineralized breccia. 1-2% Pb/Zn mineralization as disseminations. Minor vughs present, generally siderite lined.	1-2% Pb/Zn mineralization as disseminations.	37551	191	192	3	8	32	32	<1		
					192	193							
					193	194							
					194	195							
				37552	195	196	3	6	28	34	<1		
					196	197							
291.10	294.00	<u>BRECCIATED LIMESTONE:</u> Calcite/siderite veined, grey, brecciated fossiliferous limestone. Minor, dark grey interbeds of silty, carbonaceous dolomite. Minor disseminated sphalerite.	Disseminated minor sphalerite.	37553	197	198	3	6	20	34	<1		
					198	199							
					199	200							
					200	201							
294.00	297.80	<u>BRECCIA:</u> weakly Pb/Zn mineralized, yellow green, massive siderite/ankerite breccia. ~2% Pb/Zn. Possible fine cpy inclusions with galena in siderite lined vughs?	2% Pb/Zn as disseminations.	37554	201	202	3	4	24	26	<1		
					202	203							
					203	204							
				37555	204	205	4	4	20	20	<1		
					205	206							
297.80	298.80	<u>LIMESTONE:</u> lead coated?, interbedded limestone and and dark grey silty siderite veined dolomite.			206	207							
					207	208							
				37556	208	209	3	6	110	70	1		
					209	210							
					210	211							
				37557	211	212	3	8	75	75	1		
					212	213							

649142



METERAGE		DESCRIPTION	MINERALIZATION %	SAMPLE NUMBER	METERAGE		Length	ASSAYS									
From	To				From	To		Cu	Pb	Zn	Ag						
298.80	308.00	MINERALIZED BRECCIA: yellow green, Pb/Zn mineralized, Siderite / ankerite breccia. Block very foliated and vuggy with minor calcite veining. Semi massive Pb/Zn mineralization grading 25% Pb/Zn from 304.90 to 306.70 m. * ankerite/siderite seems to be partially replacing brecciated grey limestones!!	25% Pb/Zn mineralization ± 305 - 307 m. Overall grade at 7.5% Pb/Zn for intersection.	37558	213	214	3	8	40	38	1						
					214	215											
					215	216											
					216	217											
					37559	217						218	3	8	160	44	1
						218						219					
						219						220					
					37560	220						221	3	20	40	48	<1
						221						222					
						222						223					
308.00	314.20	LIMESTONE / DOLOMITE: interbedded, dark grey, massive, to weakly laminar, occasionally fossiliferous calcutites, with black finely laminar (< 3cm in width) silty dolomites. Minor foliation plane parallel to bedding. Minor calcite veining generally < 3mm in width, perpendicular to bedding. Bedding 33° to ca. at 309.5m.		37561	223	224	3	24	44	28	<1						
					224	225											
					37562	225						226	3	16	60	30	<1
						226						227					
						227						228					
						228						229					
		37563	229	230	3	24	60	105	<1								
			230	231													
			231	232													
314.20	332.00	SLUMPED LIMESTONE: massive sequence of light grey to grey, load coated and slumped, occasionally weakly fossiliferous calcutites. Minor interbeds of dark grey dolomite, and very fossiliferous calcutites (minor corals, shells & worm burrows??). Numerous breccia and calcite veined zones. Bedding 25° to ca at 318m; 35° to ca at 329 m.		37564	232	233	3	12	60	26	<1						
						233						234					
						234						235					
					37565	235						236	3	14	190	32	<1
						236						237					
						237						238					
332.00	338.20	SLUMPED LIMESTONE / DOLOMITE: dark grey fossiliferous calcutites interbedded with black laminar, carbonaceous and load coated dolomite. Lot of coralline and shelly detritus. (slumped off reefal environment??). Bedding 40° to ca at 336 m.		37566	238	239	3	14	320	60	<1						
						239						240					
						240						241					
					37567	241						242	3	12	250	36	<1
			242	243													
			243	244													
338.20	340.50	MINERALIZED SEDIMENTARY BRECCIA: Pyritic sedimentary slump breccia containing both large and small, angular and rounded fragments. Concretionary nodules - pisoliths up to 1.5cm across. Pyrite an accumulations along fragment boundaries. 3-4% pyrite.	3-4% pyrite.	37568	244	245	3	12	330	280	1						
						245						246					
						246						247					
					21581	247						248	1	29	5.09	0.21	26.9
						248						249					
						249						250					
			250	251													
			251	252													
			252	253													
		21586	253	254	1	195	25.30	5.10	196.9								
			254	255													
			255	256													
			256	257													
			257	258													
			258	259													
		21587	259	260	1	15	3.14	0.10	16.3								
			260	261													
			261	262													
			262	263													
			263	264													
			264	265													
		21588	265	266	1	156	11.90	3.74	97.5								
			266	267													
			267	268													
			268	269													
			269	270													
			270	271													
		21589	271	272	1	18	4.71	0.16	26.5								
			272	273													
			273	274													
			274	275													
			275	276													
			276	277													
		21590	277	278	1	71	15.90	0.15	151.1								
			278	279													
			279	280													
			280	281													
			281	282													
			282	283													
		21591	283	284	1	6	5800	900	43								
			284	285													
			285	286													
			286	287													
			287	288													
			288	289													
		21592	289	290	1	1	1	1	1								
			290	291													
			291	292													
			292	293													
			293	294													
			294	295													
		21613	295	296	1	1	1	1	1								
			296	297													
			297	298													
			298	299													
			299	300													
			300	301													
		21614	301	302	1	1	1	1	1								
			302	303													
			303	304													
			304	305													
			305	306													
			306	307													
		21615	307	308	1	1	1	1	1								
			308	309													
			309	310													
			310	311													
			311	312													
			312	313													
		21616	313	314	1	1	1	1	1								
			314	315													
			315	316													
			316	317													
			317	318													
			318	319													
		21617	319	320	1	1	1	1	1								
			320	321													
			321	322													
			322	323													
			323	324													
			324	325													
		21618	325	326	1	1	1	1	1								
			326	327													
			327	328													
			328	329													
			329	330													
			330	331													
		21619	331	332	1	1	1	1	1								
			332	333													
			333	334													
			334	335													
			335	336													
			336	337													



METERAGE		DESCRIPTION	MINERALIZATION %	SAMPLE NUMBER	METERAGE			ASSAYS			
From	To				From	To	Length	Ca	Pb	Zn	Ag
355.00	358.80	LIMESTONE: light grey, massive, non fossiliferous, sandy calcarenite (foliated?) Moderately calcite veined, minor brecciation.		21620	266	267	1	<5	158	147	0.5
				21621	267	268	1	<5	286	106	<0.5
				21622	268	269	1	<5	140	198	<0.5
				21623	269	270	1	<5	106	207	0.5
358.80	360.30	Fossiliferous LIMESTONE: light grey, very fossiliferous, massive limestone with minor thin interbeds of black disturbed dolomite. Rock moderately calcite veined. Lot of oolitic fossil debris and possible stromatolites (convolute textured concretionary growth). Cavity 359.80 - 360.82 m.		21624	270	271	1	<5	155	167	0.5
				21625	271	272	1	<5	163	362	0.8
				21626	272	273	1	<5	195	530	0.7
				21627	273	274	1	<5	351	320	0.6
				21628	274	275	1	<5	294	419	1.0
				21629	275	276	1	<5	670	240	0.9
				21630	276	277	1	<5	1130	211	1.4
END OF	HOLE 360.30 metres.			21631	277	278	1	<5	770	305	0.9
				21632	278	279	1	<5	325	120	<0.5
				21633	279	280	1	5	680	289	1.8
		* Hole making water.		21634	280	281	1	5	488	221	1.1
				21635	281	282	1	<5	560	560	1.4
				21636	282	283	1	<5	455	171	2.0
				21637	283	284	1	<5	2080	268	2.4
				21638	284	285	1	<5	1620	274	2.3
				21639	285	286	1	<5	2530	376	2.9
				21640	286	287	1	<5	1270	522	2.5
				21641	287	288	1	<5	3510	363	3.4
				21593	288	289	1	4	740	99	4.3
				21594	289	290	1	11	1.19	0.88	9.8
				21595	290	291	1	21	138	0.18	11.9
				21596	291	292	1	5	4930	982	3.2
				21597	292	293	1	4	1030	1568	0.8
				21598	293	294	1	3	830	546	0.7
				21599	294	295	1	9	6240	1250	5.2
				21600	295	296	1	17	7400	4490	6.2
				21601	296	297	1	35	1.81	0.15	20.7
				21602	297	298	1	25	1.48	0.25	14.8
				21603	298	299	1	6	2440	4540	2.5
				21604	299	300	1	14	1.82	0.23	13.0
				21605	300	301	1	10	2510	584	3.1
				21606	301	302	1	7	2240	941	2.6
				21607	302	303	1	19	1.32	0.14	11.4
				21608	303	304	1	17	2.18	0.11	15.7
				21609	304	305	1	42	12.90	0.47	72.0
				21610	305	306	1	427	58.70	3.90	1040.0
				21611	306	307	1	486	3640	530	477.0
				21612	307	308	1	6	5580	629	4.9
				37569	308	309	3	12	330	170	<1
					309	310					
					310	311					
				37570	311	312	3	10	1850	590	2
					312	313					
					313	314					
				37571	314	315	3	8	1100	220	<1
					315	316					
					316	317					
				37572	317	318	3	20	190	340	1
					318	319					

640144



METERAGE		DESCRIPTION	MINERALIZATION %	SAMPLE NUMBER	METERAGE			ASSAYS			
From	To				From	To	Length	Cu	Pb	Zn	Ag
				37573	319	320	3	12	75	165	<1
					320	321					
					321	322					
				37574	322	323	3	14	150	610	1
					323	324					
					324	325					
				37575	325	326	3	14	250	420	1
					326	327					
					327	328					
					328	329					
				37576	329	330	3	10	260	500	<1
					330	331					
					331	332					
				37577	332	333	3	10	180	570	<1
					333	334					
					334	335					
				37578	335	336	3	12	340	640	1
					336	337					
					337	338					
				37579	338	339	3	14	220	1300	1
					339	340					
					340	341					
				37580	341	342	3	8	140	380	1
					342	343					
					343	344					
				37581	344	345	3	8	420	770	1
					345	346					
					346	347					
				37582	347	348	3	10	180	570	<1
					348	349					
					349	350					
				37583	350	351	3	10	95	310	1
					351	352					
					352	353					
				37584	353	354	3	10	170	910	<1
					354	355					
					355	356					
				37585	356	357	4	6	210	820	<1
					357	358					
					358	359					
					359	360					
					360	361					
					END OF HOLE			360.3 metres.			

649145