

ZEEHAN TIN DEPOSITS, WESTERN TASMANIA
PETROLOGICAL DESCRIPTIONS IN ABBREVIATED & TABULATED FORM

1984 - 1986

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	<u>DRILL HOLE SAMPLES</u>
	Holes, for which samples are described, are arranged sequentially for each deposit. Sample numbers are listed sequentially for each hole.
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8-64	Drill holes (prefix ZQ) 3, 4, 5, 6, 13, 18, 45, 46, 47, 48, 49, 50, 51, 52, 53, 55, 57, 58, 60, 62, 63, 66, 71.
	<u>MONTANA DRILL HOLES</u> (51 PTS, 44 TS)
65-85	Drill holes (prefix ZM) 20, 27, 37, 67, 78, 86, 88.
	<u>SEVERN DRILL HOLES</u> (217 PTS, 69 TS, 8 PS)
86-143	Drill holes (prefix ZS) 39, 40, 41, 43, 65, 69, 72, 73, 74, 75, 77, 80, 82, 87.

ABBREVIATIONS continued

prob. probable	St stannite	vn. vein	NB. Grainsize approximations
prox. proximal	stalact. stalactitic	volc. volcanic	fg. (fine-grained) = <100microns
Py pyrite	stockw. stockwork	vs vesuvianite	mg. (medium-grained) = 100u-1mm
Py. pyritic	subang. subangular	vs. versus	cg. (coarse-grained) = >1mm
Py' pyrite after pyrrhotite	subeq. subequant		
	subeq. "	wh. white	
qz quartz	subh. subhedral	wk. weak	
qzite. quartzite	subrd. subrounded	wkly. weakly	
qzose. quartzose	syn. syngenetic		
		x twinning	
rdd. rounded	T trace	x-cut. cross-cuts	
reg. regular	t'out throughout	xd. crossed	
repl. replaces	tab. tabular	xstal. crystal	
rexst. recrystallised	tc talc	xstall. crystallised	
rt rutile	Te tetrahedrite		
	text. texture	yell. yellow	
	tp topaz		
s/w stockwork	tp. topazised	zr zircon	
scatt. scattered	tr tourmaline	ADDENDUM	
sd siderite	tr. tourmalinised	adj. adjacent	
sd. sideritised	TS thin section	acc. accessory	
se sellaite	tuff. tuffaceous	ca calcite	
sed. sedimentary		exsol. exsolution	
sh. shale	u microns		
shr. sheared	U+ uniaxial positive	gen. generally	
silic. silicified	U- uniaxial negative	pseudo. pseudomorph	
sim. similar	ui. unidentified		
slt. siltstone		sde. sulphide	
sm. small	var. variable	ser sericite	
Sp sphalerite	vfg. very fine-grained		
spher. spheroidal	vi vivianite		
sr sericite	vlt. veinlet		
sr. sericitised			
sst. sandstone			

ABBREVIATIONS

→ indicates, altered to, followed by	brecc. brecciated	dom. dominant	Jm jamesonite
x twinning	bt magnetite	ellip. elliptical	l+ length slow
c̄ with	C common	equ. equant	l- " fast
c̄in within	'C' kerogen	espec. especially	lam. laminated
// parallels	C carbonaceous material	euh. euhedral	lge. large
# cleavage	C. carbonaceous	evap. evaporitic	lc leucoxene
= equal amounts	C.A. core axis	fd feldspar	lent. lenticular
=. equivalent	cb carbonate	feld. "	leuc. leucocratic
b perpendicular to	CCF Crimson Creek Formation	fg. fine-grained	lith. lithological
.. up to .. (grainsize)	cent. central	FI fluid inclusions	lx leucoxene
A abundant	cg. coarse-grained	fl fluorite	mass. massive
abt. "	ch chert	fol. foliated	mat. material
acic. acicular	chalc. chalcedonic	fract. fractured	Mc marcasite
alt. altered	cl chlorite	frag. fragment	med. medium
amt. amount	cless. colourless	fram. framboïd(al)	mg. medium-grained
amyg. amygduloidal	clr. clear	glom. glomerophytic	min. mineralisation,-ed
ang. angular	coalesc. coalescing	gm. groundmass	ms muscovite
anh. anhedral	conc. concentrate	Gn galena	mt magnetite
anis. anisotropic	cong. conglomeratic	gr. green	o'grown overgrown
ank. ankeritic	congl. "	gran. granular	o'print overprinted
arg. argillic	cont. continuous	granobl. granoblastic	occ. occasional
ap apatite	Cp chalcopyrite	gy. grey	oct. octahedral
As arsenopyrite	corrod. corroded	GYP. gypsumiferous	oth. other
assoc. associated	cren. crenulated	hm hematite	PA paragenesis
	cs cassiterite	hyd. hydrothermal	pl phlogopite
	cub. cubic		plag plagioclase
B+ biaxial positive	det. detrital	incl. inclusions	pleo. pleochroic
B- " negative	detr. "	interbdd. interbedded	PH (photographic) feature
blog. biogenic	diag. diagenetic	interlam. interlaminated	pheno(s). phenocryst(s)
biref. bireflectance	discont. discontinuous	interstit. interstitial	Po pyrrhotite (Poh- hexagonal;
birefl. bireflectance	diss. disseminated	ir ilmenorutile	poik. poikilitic (Pom- monoclinic)
Bl boulangierite	dissem. "	IR internal	poss. possible
BM base metal	dk. dark	reflections	pref. preferably
br. brown	do dolomite	irreg. irregular	princ. principle
	do dolomitic	isotr. isotropic	prism. prismatic (continued)

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PETROGRAPHIC SUMMARIES - ZEEHAN DEPOSITS HOLE No. ZM20 Page 1/1

SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	EM	OTH.	FI	PA	PH
250582 TS qz sd Py vn. Py. (syn?) argillic siltstone (MARKER?)	20/131.0	100	interlam. sr dom. C- vs. silt qz dom. det. arg. siltstone; ms flakes & slabs; diss. euh. - euh. Py - 200u; mg. qz vn. c; sd c skeletal Py in core;					A- vn. sr/ clay A- det.		T- det.					A- syn.?							T- det. zr			
250583 TS qz vn. Sp Py min. sd(qz) rock - after evap.?	20/142.2	100	mass. interlocking A- sheaths of sd; hyd. ex- scattered qz anh sed.? & clusters; bands of anh. Py & Sp; late qz vn.					C							A							A- Sp			? evap?
250584 TS mass. sd Py Sp (ap sr) lode 1) sd Py 2) Sp 0) sd ap	20/146.3	2.22%	mass. bladed fg. sd c skeletal interstit. Py - sd becomes mg. mosaic but skeletal Py remains; rare scattered apatite euh. in sd & embayed by sd Py; Py rext. to subh.; trails of fg. anh. Sp prob. x-cutting skeletal Py					C	T- sr						C							C- Sp	T-ap		* * text

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PETROGRAPHIC SUMMARIES - ZEEHAN DEPOSITS HOLE No. ZM27 Page 1/1

Abertovle (& UNE)

SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	EM	OTH.	FI	PA	PH
250586 TS mass. sd qz Sp Py lode	27/122.0	260	sheathy blades C of sd c interstit. to x-cutting qz (mg. sd; fg. qz) corroded Py subh. corroded by sd & Sp					C							A							A- Sp			* * text.
250585 TS lam. sr. arg. siltstone/ shale c minor sd alt.	27/107.3	-	subang. cg. silt C- qz (zr tr) in sr det. mod. fol. gm.; abt. ms flakes; diss. 50 anh. Py; irreg. sd vn./clots;					A- vn. sr/clay A- det.		T- det.					A								T-det. zr sp		

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PETROGRAPHIC SUMMARIES - ZEEHAN DEPOSITS HOLE No. ZM37 Page 1/3

SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH
88760	TS 37/64.7	-	ang. qz shards, plag. cl/cl chert /qz cb lithic frag., plag. xstals in vfg. cl cb lc mass. gm.; sd clots throughout; discont. cb vn. & mg. clots;	C-A	C-			A														A-lc			
88761	TS 37/76.2	-	vfg. fol. sr; C sed. relict; brecc. C disrupted qz vn. irreg. sd patches, reg. cb vn.; trails of fg. anh. Py (syn.?)	A-	A-	C-	C-								A-							C-C		*	
88762	TS 37/90.4	-	0.2mm plag. laths streaky cl. gm.; & irreg. vn.; abt. anh. lc cb(qz) vn.	A-	C-	A-	C-															C-fd	A-lc		
88763	TS 37/120.0	-	vfg. weakly lam. sr sd fol. gm.; diss. fg. Py & Py subh. along hairline discont. cb vn.	A-	C-	C-									A										
88764	TS 37/125.0	-	vfg. silica dom sr needles; diss. fg. sd clots; qz cl(Py) vn.; qz sd Sp Py vn.; sd vn.; minor stylolitic vn.;	A-	C-	A-																A-Sp		*	
88765	TS 37/145.6	-	intercalated fol. streaky sr ms qz layers 0 lent. frag. of cloudy sr arg. volcaniclasts; band of mg. diss. Py euh.; diss. single sd anh.; silica infilled vesicles in some frag.	A-	A-	C-	C-								A-										

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PETROGRAPHIC SUMMARIES - ZEEHAN DEPOSITS HOLE No. ZM37 Page 2/3

SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH
88766	TS 37/148.2	-	vfg. reddish sd? gm. 0 diffuse cb vlt./as above qz silt/& bed rdd. qz sr sed. -4mm; sr, argillite; fg. sd anh. throughout; cb Py vn. cut by sd qz vn.;	A-	A-	C-	C-								T-										*
88767	TS 37/157.6	-	minor qz silt in vfg. sr. shale & rdd. qz sand lam.; sd tc Sp vn.; fol. x-cuts bedding diss. fg. subh. Py; tc qz vn.;	C-	A-	C-									A-							A-Sp	A-tc		
94096	TS 37/162.8	-	interbedded arg. siltstone/sandstone/shale one/shals; diss. Py subh.-bed selective	C-							T-				A-							T-zr			
94097	TS 37/185.8	-	well-packed mg. qz sand 0 interstit. sr/clay;	C-							T-														
94098	TS 37/215.0	-	subang. coarse silt qz in vfg. sr. arg. gm./sr. shale-deformed interbeds; qz vn. disrupted by sr fol.; sd irreg. vlt. cut qz vn.	C-	A-	A-																			?
94099	TS 37/212.2	-	subang.-subordd. fine sand qz grains 0 apt. det. ms and intercalations of silty sr. shale; irreg. repl. sd(Py) sr vn. & interstit. clots (syn?)	C-	A-	A-					T-				T-							T-Sp	Gn		

SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH
233822 TS	67/190.0	340	relict irreg. sr/arg. silt qz patches in qz vn. sd mosaic & diss. mg. anh. Sp princ. in chalc. areas;	C-hyd.	C-hyd.					sr/clay												A-Sp T-Gn			
233823 TS	67/221.4	-	silt subrd. grains -- lam.; Py fg. anh. subh. (coarser & qz P shadows); cg. cb vn. & rare	sd C-det.	C-C-det.											A-syn.?						T-Sp			
251942 (066)	67/167.4	-	ang. qz, qzite, sd. cb, Py, silt-stone, C frag. in dirty sd. qz sr vfg. gm. C ms flakes & rare tr grains;	C-det.	A-C-det.					T-det.												T-det. zr			
251944 (067)	67/180.7	-	lam. arg. silt qz ms flakes in silicic sr gm.; diss. Py euh.	C-det.	C-sr T-det.										A										
251941 (065)	67/160.9	-	packed silt-size do grains - mass. C C stylolitic vlt.; cut by sd → qz → oxide opaque qz vn.; qz sd vn.; ankerite vn.;	C-vn. C-vn. A-(stained) vn. sed. do	C-vn. C-vn. A-(stained) vn. sed. do						chalc./oxide text.;												A-C A-Fe oxide		
251946 (068)	67/186.0	280	relict sand-silt subang. qz in sd. sr/arg. gm. rdd. frag. of mg. acic. sd blades; abt. strained qz vn.; Py vlt. in elastic sed. areas; diss. anh. Sp/Gn in sd frag.	A-sd. C-vn. A-sd. A-sr	C-hyd. C-hyd. A-sd. A-sr										A-vn.							A-Gn, Sp			

SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH
251947 (069)	67/189.7	340	mg. subh. qz in sd mosaic; relict cherty qz patches; cl interstit. areas; anh. Gn/Sp cg clots o'grown by stalatic fg. Py; late stressed qz vn.;	C-vn. C-hyd.?	C-hyd.?			A							C-hyd.									* euh. qz	?
251949 (070)	67/194.3	1.46%	fg. acicular tr patches o'printed by sd; coarser dull sd/do? C cs incl. poss. relict sed.; anh. -subh. Py clots/trails cutting Gn anh. & As euh.; cb rims to Py trails; tr incl. in sd & isotropic rdd. zones (fl or holes after Py?)		A	C				A					C		A	A-10 stubby prism. -rdd. sd l.br.-cl. less							*
251950 (071)	67/196.2	3.80%	euh. mg. qz in sd mosaic-cs in sd & qz; cl interstit. to qz; sd II C Gn Py cores; Py euh. repl. by Gn; Gn vn. cut 'C'; late anh. qz vn.; Py o'grows qz small St blebs in Sp	C-hyd.	C-hyd.			A							A		A	A-10-40 stubby prism. cl. less; sd, qz1 (& Gn accidentally)							* qz cs incl. 'C'
251953 (072)	67/199.0	1.48%	subang. qz blasts in arg. gm. & chert; relict patches; C- anh. sd fl subh. sed. Py irreg. vn.; sd fg. euh. qz areas; entrolitic qz vn.; late Py vn.	C-vn. C-vn. C-vn. C-vn.	C-vn. C-vn. C-vn. C-vn.			A-arg. sed.?		T-A incl					C			T- vfg sd							? fl sm
251955 (073)	67/201.5	220	mass. mg. sd mosaic-c fg.-cg. gran. qz irreg. qz vn.; diss. Sp Py Gn throughout;	C-vn. C-vn. C-vn.	C-vn. C-vn. C-vn.											A-hyd.							A-T-C Sp T-Gn		

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SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH	
251956 (074)	67/202.6	2,500	mass.mg.sd \bar{o} sed?C- chert patches; vn./ mg.qz on chert chalc. margins;discont. qz Py vn.;sd Py Sp vn.;relict gran.fg sd sed.carbonate areas;												A- vn.										T- Sp Gn	? relict sed. sd.
251958 (075)	67/205.0	160	qz vn.mg.mass. sd \bar{o} irreg;relict chert areas; diss.Sp Py(Gn) chert throughout												T										A- Sp T- Gn	

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SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH			
250541 TS	78/303.0	-	silt-size subrd. C- sd/subang. qz gr. det. syn? sed.? in vfg. arg. gm. \bar{c} C cl A-sr/play fol.;fg.diss.Py vn.A- anh.;sd Sp(qz)vn.; det. subtle lam.o'printed by x-cutting fol.												A- syn.?										A- vn. Sp	A-C ? CCF- MB transit?		
250542 TS	78/328.6	-	silt-(fine sand) C- subrd. qz (ms tr det. sr; sr)clasts in vfg. A- fol. sr gm.; qz ap Py Sp det. sd vn. cut by sd vn.; lam.; 100u Py spher. in qzose bed; diss. 10u rdd. Py-syn.?												A- syn.											T- det. zr A-ap (vn.)	*	
250543 TS	78/363.0	-	lam. 100u gran. sd C- silty qz, ms flakes. hyd. det. diss. fram'Py; det. /sed. irreg. sd vn.; Py A- spher.-imm \bar{c} qz vn. sr/ shadows clay												A- syn. T- hyd.													
250544 TS	78/332.2	2,100	sand-silt subang. A- qz in arg. gm.; det. hyd. vn. in contact \bar{c} C- mass. sd subh. qz hyd. arg. Py rock-Py skeletal repl. sd; sd vn. in qzose bed; qz vn. in zr rock;												A- hyd.												T- det. T- needles in qz	?
250545 TS	78/333.9	600	interlocking mass C- acicular sd mg. hyd. hyd. gm. \bar{c} fg-mg. anh. sr/ qz in vn. & patches clay & rare sr/clay patches; late sd qz Py vn.; scattered fg. anh. Sp/Py; some areas of relict? qz det. grains;												A- hyd.												A- Sp	*

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SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH			
296938 (443)	78/344.0	1.77%	cherty fg. gran. qz c fg. se P incl.; hyd. interlocking sd se c cs trails; Po anh. ribbons poik. c qz se sd incl.; Py subh. in Po; Po se pseudos. bladed text. in arg. ? sed. areas overall banded se Po arg. chert distribution;	A-	A-					A?		C		C	C					A-5-40 1.br. subeq. -3:1 sd, se (qz) clusters/trails (after: evap.?)	T-Cp			?	*	text.		
296939 (444)	78/345.8	3,200	subh. qz sd mg. gm. c se (fl) gran. hyd. o'growths; tr incl. in sd, fl, se; o'printing Po c Py subh. & Cp/Sp rimmed St; areas of vfg. cherty qz; As euh. repl. by Po	C	C-						T- A	C		C	C						T-Cp T-Sp				*			
296940 (445)	78/349.3	1.08%	relict arg./sr & cherty qz c ang. silt-sand qz (tr) clasts; sd clots in sed. areas & broader areas of sd c Py se subh. corroded As euh. & St/Cp anh.	A-	C-	A-				T-		A		C-							T-Cp			?	*	St		
296941 (446)	78/349.9	1,000	mass. mg. sd mosaic ed qz vn.; diss. anh Py fl & subh. -anh. Sp (Gn) -Py c fl sometimes; Sp has skeletal outlines; fl replaces ap in FI section; small sr patches in sd & fl; qz Py rich section has minor St/Cp	A-	C-	T-					A			A-						T?	A-T-ap Sp A-Gn T-Cp			?		fl sm.		
296942 (447)	78/363.4	-	lam. sd sr gm. c subang. silt qz clasts; fg. subh. Py in pref. beds; Py sd qz clot;	A-	A-	C-	A-								A-							T-					det. zr	
296944 (448)	78/371.0	-	as above - vfg. diss. subh. Py-syn.?	C-	C-	C-				T-					A-													syn.?

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SAMPLE No.	HOLE/DEPTH	Sn	TEXTURE	QZ	CB	SD	MS	CL	PL	TR	FL	SE	TP	PO	PY	MC	AS	CS	ST	TE	BM	OTH.	FI	PA	PH			
296919 (425)	78/218.3	-	100u sd/do rhomb framework in vfg. diag. sr/arg. gm. ellip. arg. (qz) sed. clasts ank? -5mm; ank. ? divisions between close-packed rhombs; diss. & bed-pref. f-mg. Py subh.; minor qz & cl shadows to rhombs;	T-		C									A-											?		text.
296929 (434)	78/321.6	1.42%	subh. -anh. mg. qz mosaic covered by irreg. sd Py; cs trails in sd, qz prox. to sd; 'C' anh. c cs; Sp Cp bordered St;	C		C									C							A-T 10-40(-70) subh. 2:1 prism. (sd), qz 1.br.	T-Sp Cp			**	cs c 'C', Sp rims St	
296933 (438)	78/332.4	2,100	chert-qz ex-sed. & yell. -br. sd b/g.; bladed sd c skeletal Py cores; clearer anh. cg. Py; stressed qz vn.; rare St c Cp/Sp rims; qz vn. cut by bladed sd;	C-		C	A-								C							T-Sp Cp Gn				?		text.

