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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1

TENEMENT NAME TENTH LEGION No. 53M/75

PLAN – MAP REFERENCE TASH 2 TASH 11

CO-ORDINATES 4956·3 N / 5198·9 E AZIMUTH 180° Grid DRILLERS S. RIMAK COMMENCED 19·2·81 DEPTH 88·4 M HOLE No. TLC 1

RL COLLAR 241·3 m. INCLINATION -50° DRILL TYPE BOYLES 37 COMPLETED 24·2·81 CASING LEFT 27 m BQ RODS; BQ BARRELL/BIT (HOLE LOST.) DPO No(s) 26667

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au		
0	3m				TRICONED – NO CORE.														
3·0	4·0	0·5	NQ	ss/sh	3·0 – 13·2 Dark Grey Thinly														
4·0	4·8	0·1	to		bedded SILTSTONES + SHALES	3·1m So 53°													
4·8	6·0	0·25	42m		Thinly bedded (10–20 mm) contorted	Extensively weathered – soft, crumbly													
6·0	7·0	0·45			black shaley beds with pale grey	and broken core with some pitting													
7·0	8·0	0·80			siltstones and ?some creamy coloured	and minor limonitic staining,													
8·0	9·0	0·35			calc-silicate laminae.	suggesting sulphides originally													
9·0	9·9	0·35			8·0–10·5 yellowish/pinkish soft	present 1–5%.													
9·9	11·1	0·50			rotten weathered ? calc silicate interval														
11·1	12·0	0·50			finely bedded and highly contorted.	12·2–34·5 Fault zone?													
12·0	13·0	0·45				Soft white cream and grey													
13·0	14·0	0·9				puggy clays ; some magnetite													
14·0	15·0	0·4		↓		intervals ; overall, the ground is													
15·0	16·5	0·6				soft, crumbly and rotten													
16·5	19·5	0·45		Css ?	13·2 – 16·5 CALC SILICATES	13·2–15·0 Traces of Mn oxides	877356	13·2	15·0	1·3	140	70	680	<1	120	–	0·025		
19·5	22·5	0·4			White and pink soft greasy	along fine stringers.	357	15·0	16·5	0·6	220	310	1150	×	390	65			
					feeling calc silicates, shattered														
					and broken.														
					15–16·5 Pronounced pinkish														
					and orange tones, with some														
					weathered micaceous patches														
				↓	and small blebs of Mn oxides														
					to 2mm														
				M/Css ?	16·5 – 22·5 Mixed MAGNETITE	Magnetite 30–40% of	358	16·5	19·4	0·4	170	80	3050	×	150	30			
					and CALC SILICATES.	recovered core – porous and	359	19·4	22·5	0·4	125	305	1150	×	190	30			
					Porous crumbly magnetite	cellular ; locally massive													
					, highly weathered and friable	lengths to 20 cm.													
					pink and soft shattered calc-	Mn as coatings and black													
					silicate matrix. Some highly	soft crumbly wad 2–3%													
					Mn rich portions – black oxides														
				↓	assoc. with greenish calc silicates.														

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 2

TENEMENT NAME TENTH LEGION No.

PLAN – MAP REFERENCE

CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. TLC1

RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s). 26667

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au
22.5	25.5	0.4	NQ to 42m	Cst/sh	?22.5 – ?25.5 CALC SILICATES with Grey SILTSTONE / SHALE. Finely bedded pink and white totally kaolinised calc silicates with thin laminae of greasy feeling rotten grey shale.	22.5 – 25.5 Highly weathered – totally leached.	877360	22.5	25.5	0.4	140	40	380	×	380	×	.017
25.5	28.0			LOST CORE	25.5 – 28.0 LOST CORE ZONE												
28.0	28.5	0.5		M	28.0 – 28.5? Soft crumbly massive granular MAGNETITE.	Weakly banded ± 45°, traces of white ? magnesite remnants.	361	28.0	28.5	0.5	35	30	470	×	9900	30	
28.5	31.5	0.6		Css/M	?28.5 – ?31.1 CALC-SILICATES with Dissem. MAGNETITE. Dark greeny grey calc silicate rock with finely dissem. mag 20-30%. Originally a serpentinite?	Highly weathered, shattered and crumbly. Dissem mag 20-30%.	362	28.5	31.1	0.3	60	30	750	×	3.3%	×	
							932309	28.6m.	Mineragraphic	Sample.							
31.5	31.8	0.2		M	?31.1 – 31.8 Massive MAGNETITE Granular crystalline mag (2-3mm grains) with 1-2% white weathered ?carbonates and a little greeny-grey talc	? Contact 42°	363	31.1	31.8	0.6	25	30	1050	×	3200	×	
31.8	34.3			LOST CORE	31.8 – 34.3? LOST CORE ZONE												
34.3	34.5	0.2		Css/M	?34.3 – 34.5 TALCOSE CALC-SILICATE ROCK WITH MAGNETITE. Pale greeny grey soft talcose ? carbonate rock with pinkish (Mn?) patches, some greenish serpentinite and granular dissem. mag. 20-30%.	Highly faulted, shattered + crumbly	364	34.3	34.5	0.2	40	75	1600	×	1150	30	×
34.5	37.5	2.0		M/S	34.5 – 35.3 Faulted MAGNETITE/SERPENTINITE. Olive green crumbly textured rock with abundant granular crystalline mag.	34.5 faulted contact, 80° Magnetite, variable 70-80% to 10%, average 40-50%.	365	34.5	35.3	0.8	290	55	4950	×	2500	×	
				Css	?35.3 – ?35.8 TALCOSE CALC-SILICATE ROCK White crumbly weakly talcy rock with small brownish spots in matrix.	Magnetite 10-20%, granular and disseminated.	366	35.3	37.3	2.0	45	25	420	×	130	×	

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 3
TENEMENT NAME ..... No. .....
PLAN – MAP REFERENCE .....
CO-ORDINATES ..... AZIMUTH ..... DRILLERS ..... COMMENCED ..... DEPTH ..... HOLE No. TLC1
RL COLLAR ..... INCLINATION ..... DRILL TYPE ..... COMPLETED ..... CASING LEFT ..... DPO No(s) 26667

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au
31·5	40·0	3·0	NQ	Cst	35·8-?41·3 CALC SILICATE ROCK	35·8 Contact ?50°	877367	37·3	39·3	2·0	5	30	80	x	55	x	
40·0	43·4	3·3	42m		Very hard bone coloured fine	The entire fabric has been	368	39·3	41·3	2·0	10	55	95	x	70	x	0·008
43·4	46·5	3·0	↓		grained siliceous rock with	brecciated, with fine grained											
46·5	49·5	3·0	BQ		pale greeny grey crystalline patches	pinkish ?Mn silicates as irregular											
49·5	52·5	2·8			(? diopside). Some white ?magnesite	bands around breccia clasts. Traces											
52·5	55·3	2·8			as irregular cavity fillings. Lower	sp as clots in interstices; rare											
					down in interval, some pale green	irregular veinlets of bluish grey											
					?epidote veining.	serpentinite/chlorite											
				↓													
				ss/sh	?41·3-46·4 SILTSTONE/SHALE BRECCIA	Highly deformed, altered and	369	41·3	42·5	1·2	50	65	85	x	25	x	
					Finely laminated grey and pink	metasomatised, with irregular patches	370	42·5	43·5	1·0	25	50	80	x	30	x	
					argillaceous rock, highly deformed	of grey qtz, green chlorite and	371	43·5	44·4	0·9	20	50	105	x	40	x	
					and contorted. Some deformed laminae	serpentinite – calcite – py – sp veining	372	44·4	46·4	2·0	50	45	110	x	8	x	x
					and stringers of remobilised pyrite –		932279	44m	THIN	SECTION	SAMPLE.						
					originally a pyritic siltstone/shale, the												
					pinkish patches being due to later alteration?												
					Contact irregular.												
				↓													
				Css/M	46·4-48·6 CALC SILICATE ROCK WITH	Magnetite varying from 10-20% in	373	46·4	47·1	0·7	190	50	2·5%	x	420	x	
					MAGNETITE AND SERPENTINITE	calc-silicate rock to almost massive	374	47·1	48·2	1·1	310	50	1·75%	x	150	x	
					Alternating bands of magnetite/serpentinite	for 5-10 cm. Pyrrhotite dissem up to	375	48·2	48·6	0·4	155	55	1·8%	x	440	x	
					alternating with a grey siliceous rock with	30% locally, ave. 10%. Py, sp, finely											
					abundant f.gr. dissem po and mag with	dissem throughout, up to 2-5%.											
					serpentinite veining.												
					Contact 55°												
					48·6-54·3 DOLOMITE/TREMOLITE WITH	Mag, finely dissem. in small grains to	376	48·6	50·6	2·0	15	20	2700	x	6	x	x
					MAGNETITE.	3 mm, 10-20%. Trace py, sp in blebs	377	50·6	52·3	0·7	30	25	9100	x	20	x	
					Pale grey finely crystalline massive	to 2 mm.	378	52·3	52·7	0·4	100	30	3·5%	x	35	x	
					carbonate/tremolite with finely dissem. mag.		379	52·7	54·3	1·6	85	65	6000	x	20	x	
					and minor serpentinite alteration.												
					52·3-52·7 Mag 50-60% in pale green serp.	52·3-52·7 Sp intergrown with mag 3-5%											
					45° contact												
					53·0-53·55 Mag 20-30%, serp 65%, idocrase(?) 10%												

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 4

TENEMENT NAME ..... No. .....

PLAN – MAP REFERENCE .....

CO-ORDINATES ..... AZIMUTH ..... DRILLERS ..... COMMENCED ..... DEPTH ..... HOLE No. TLC1

RL COLLAR ..... INCLINATION ..... DRILL TYPE ..... COMPLETED ..... CASING LEFT ..... DPO No(s) 26667

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au
					Contact 40°?												
55·3	57·4		BQ	M/S	54·3–58·5 MAGNETITE WITH SERPENTINITE.		877380	54·3	55·3	1·0	125	60	5·65%	×	120	×	×
57·4	58·5	1·1			Granular black magnetite 40-60%, with		381	57·4	58·5	1·1	145	100	7·2%	×	300	×	
58·5	63·9				patches of olive green serpentinite. Some												
					? pale brown garnets 54·3–54·6.												
					58·3–58·5 Grey crystalline calc silicates – see	48·6 – 54·3											
					58·5–63·9 – Cavity – LOST CORE												
63·9	64·2	0·3		Cst	63·9–67·0 CALC SILICATE ROCK	Traces py, sp in irregular	382	63·9	65·9	2·0	75	60	2950	×	100	×	
64·2	67·0	2·9			Pale white and grey f.gr. matrix	crystalline aggregates; some	383	65·9	67·0	1·1	95	20	5200	×	160	×	
67·0	70·3	3·3			-diopside/tremolite, patches of pale	minor green and black serpentinite											
70·3	73·4	3·0			green epidote, some pinkish Mn	with mag. along irregular fractures											
73·4	76·5	3·0			silicates and later whitish alteration	1-2%.											
76·5	79·2	2·9			around the margins of breccia clasts.												
79·2	82·4	3·1			Contact 45°												
				M/S	67·0–67·6 MAGNETITE WITH SERPENTINITE.	Mag 40-60%; py 1-2%.	384	67·0	67·6	0·6	95	20	1300	×	740	×	×
					Contact 45°												
				Cst	67·6–69·1 CALC SILICATE ROCK.	Mag 1-2%, finely disseminated in grey	385	67·6	69·1	1·5	90	15	4250	×	150	20	
					As above 63·9–67·0, minor pinkish	crystalline rock, and with patches of											
					garnets and patches of remnant	serpentinite. Po intergrown with py											
					grey tremolite/diopside.	in blebs and finely disseminated 2-3%.											
					Contact 30°, irregular.												
				M/S	69·1–71·5 MAGNETITE WITH SERPENTINITE.	Magnetite 30-40%; py 1-2%	386	69·1	70·3	1·2	40	20	3050	×	90	×	
					See 54·3–58·5 for description.	in upper 0·6 m. From 69·7–71·5, patches	387	70·3	71·5	1·2	95	30	3·8%	×	110	×	
					69·7–70·3 Altered bone white/green	dark brown sp intergrown with mag											
					mottled calc silicate rock with pervasive	locally 15-20%, overall 2-3%.											
					mag/sep alteration.												
				Css	71·5–80·7 CALC SILICATE (SKARN) ROCK	Traces of blue ?interstitial	388	71·5	73·5	2·0	20	85	1000	×	40	×	×
					Very altered/metasomatised rock – mottled	fluorite?; rare blebs magnetite	389	73·5	75·5	2·0	15	25	65	×	50	×	
					bone/pale greens – mostly diopside	, py and po.	390	75·5	77·5	2·0	25	25	110	×	100	×	
					with patches Mn silicates, idocrase and		391	77·5	79·5	2·0	5	15	75	×	100	×	
					brownish garnets. Randomly and chaotically		392	79·5	80·7	1·2	15	15	130	X	150	X	×
					banded – original breccia fabric.		932280	75 m	THIN SECTION SAMPLE.								

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 5

TENEMENT NAME.................... No. ....

PLAN – MAP REFERENCE....................

CO-ORDINATES.................... AZIMUTH.................... DRILLERS.................... COMMENCED.................... DEPTH.................... HOLE No. TLC 1

RL COLLAR.................... INCLINATION.................... DRILL TYPE.................... COMPLETED.................... CASING LEFT.................... DPO No(s). 26667

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au		
82·4	85·4	2·4	BQ		Contact 50°?														
85·4	88·4	3·0		S/M	80·7 - 82·5 SERPENTINITE WITH MAGNETITE.	Py 5-7% as interstitial blebs	877393	80·7	82·5	1·8	210	30	240	x	100	x			
				↓	Massive black serpentinite matrix, with	, sometimes intergrown with fibrous													
					black crystalline magnetite 20-40%	magnetite. Traces sp.													
					Contact ?45°														
				Css	82·5 - 84·5 CALC SILICATE (SKARN) ROCK	Minor pinkish garnets, epidote veining	394	82·5	84·5	2·0	40	55	175	x	140	x			
				↓	See 71·5 - 80·7 for description.														
					Contact broken.														
				Css/M	84·5 - 86·8 BANDED CALC SILICATE	Mag 20-30%; po/py 3%; dots	395	84·5	86·8	1·7	95	25	1900	0·5	100	x			
				↓	ROCK WITH MAGNETITE.	of ultrafine pale brown sp.													
					Pale grey and white metasomatised														
					breccia - tremolite/actinolite?, silicified														
					with abundant dissem mag, giving the														
					rock a grey colour.														
				S/M	86·8 - 88·4 SERPENTINITE WITH MAGNETITE.	Mag. finely dissem 15-30%; py	396	86·8	88·4	1·6	145	25	360	x	40	x	x		
				↓	Dark green serp. with with incipient	2-3% as interstitial blebs; trace													
					talcose alteration and fibrous bluish grey	dark brown sp.													
					mineral (?tremolite).														
					END OF HOLE 88·4M.														